

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>Asea EP455 (2003-02)</b>	12V Line	Over-voltage	VDS200x + AutoWave	5.10.1		•	
		Reverse polarity	VDS200x + AutoWave	5.10.3		•	
		Memory retention	VDS200x + AutoWave	5.10.5		•	
		Starting voltage	VDS200x + AutoWave	5.10.6		•	
		Power-up operational requirements	VDS200x + AutoWave	5.10.7		•	
		Accessory noise	VDS200x + AutoWave	5.11.1		•	
		Batteryless operation	VDS200x + AutoWave	5.11.3		•	
<b>Audi Prüfkatalog (2005-10)</b>	12V Line	Impulse 4	VDS200x	2	•	•	
		Impulse 4b	VDS200x	2	•	•	
		Impulse 4b Variation	VDS200x + AutoWave	2	•	•	
		Impulse 4 Ripple	VDS200x	2	•	•	
		Impulse 4b Ripple	VDS200x	2	•	•	
		Impulse 1	UCS200x, MPG200	3	•		
		Impulse 1b	UCS200x, MPG200	4	•		
		Impulse 2	UCS200x, MPG200	4	•		
		Impulse 3a	UCS200x, EFT200	4	•		
		Impulse 3b	UCS200x, EFT200	4	•		
		Sine-Sweep	VDS200x	6	•	•	
		Reset	VDS200x + AutoWave	8	•	•	
		Ramp VW	VDS200x + AutoWave	13	•	•	
		Ramp Fast	VDS200x	13	•	•	
		Overvoltage 26V	VDS200x	14	•	•	
		Overvoltage 17V	VDS200x	15	•	•	
		Prellen 1	VDS200x + AutoWave	17	•	•	
		Prellen 2	VDS200x + AutoWave	17	•	•	
		Prellen 3	VDS200x + AutoWave	17	•	•	
Voltagedrop	VDS200x + AutoWave	18	•	•			
<b>Audi Prüfkatalog (2006-06)</b>	12V Line	Voltage Curve 1	VDS200x	2	•	•	
		Voltage Curve 1 (Variation	VDS200x + AutoWave	2	•	•	
		Voltage Curve 2	VDS200x	2	•	•	
		Voltage Curve 3	VDS200x	2	•	•	
		Voltage Curve 4	VDS200x	2	•	•	
		Voltage Curve 5	VDS200x	2	•	•	
		Impulse 1	UCS200x, MPG200	3	•		
		Impulse 6	UCS200x	4	•		
		Impulse 2	UCS200x, MPG200	4	•		
		Impulse 3a	UCS200x, EFT200	4	•		
		Impulse 3b	UCS200x, EFT200	4	•		
		Sine-Sweep	VDS200x	6	•	•	
		Reset	VDS200x + AutoWave	8	•	•	
		Ramp VW	VDS200x + AutoWave	13	•	•	
		Ramp Fast	VDS200x	13	•	•	
		Overvoltage 26V	VDS200x	14	•	•	
		Overvoltage 17V	VDS200x	15	•	•	
		Prellen 1	VDS200x + AutoWave	17	•	•	
		Prellen 2	VDS200x + AutoWave	17	•	•	
Prellen 3	VDS200x + AutoWave	17	•	•			
Voltagedrop	VDS200x + AutoWave	18	•	•			
<b>Audi Spannungsprüfungen (2003-08)</b>	12V Line	Spannungsbereich 1	VDS200x + AutoWave	2.1.1		•	
		Spannungsbereich 2	VDS200x + AutoWave	2.1.2		•	
		Prüfimpuls 1	VDS200x + AutoWave	2.2.1		•	
		Prüfimpuls 2	VDS200x + AutoWave	2.2.2		•	
		Impulsfolge 1	VDS200x + AutoWave	2.2.3		•	
		Impulsfolge 2	VDS200x + AutoWave	2.2.4		•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Impulsfolge 3	VDS200x + AutoWave	2.2.5		•	
		Spannungsrampen	VDS200x + AutoWave	2.2.6		•	
		Treppenspannung	VDS200x + AutoWave	2.2.7		•	
		Spannungsschwellen	VDS200x + AutoWave	2.2.8		•	
		Resetverhalten	VDS200x + AutoWave	2.2.9		•	
		Zündungsimpuls	VDS200x + AutoWave	2.2.10		•	
		TL Impuls 4 - Prüfverlauf A	VDS200x + AutoWave	2.2.11		•	
		TL Impuls 4b - Prüfverlauf A	VDS200x + AutoWave	2.2.11		•	
		TL Impuls 4 - Prüfverlauf B	VDS200x + AutoWave	2.2.11		•	
		TL Impuls 4b - Prüfverlauf B	VDS200x + AutoWave	2.2.11		•	
		Motorstart (Startimpuls)	VDS200x + AutoWave	2.2.12		•	
		Prellen 1	VDS200x + AutoWave	2.2.13		•	
		Prellen 2	VDS200x + AutoWave	2.2.14		•	
		Prellen 3	VDS200x + AutoWave	2.2.15		•	
		Spannungsrampe 50mV	VDS200x + AutoWave	2.2.16		•	
		Spannungsrampe 14V-4V	VDS200x + AutoWave	2.2.17		•	
		Spannungsdips 12V-0V - Fall A	VDS200x + AutoWave	2.2.18.1		•	
		Spannungsdips 12V-0V - Fall B	VDS200x + AutoWave	2.2.18.1		•	
		Spannungsdips 12V-7V/1V - Fall A	VDS200x + AutoWave	2.2.18.2		•	
		Spannungsdips 12V-7V/1V - Fall B	VDS200x + AutoWave	2.2.18.2		•	
		Spannungsrampe 13V-23V-13V	VDS200x + AutoWave	2.2.19		•	
		Prüfimpuls 3	VDS200x + AutoWave	2.2.20		•	
<b>BMW 600 13.0 (Part 1) (1998-06)</b>	12V Line	Wobble	VDS200x + AutoWave	5.2.1.1	•		
		Ramp Down	VDS200x + AutoWave	5.2.1.2	•		
		Ramp Up	VDS200x + AutoWave	5.2.1.2	•		
		Pulse 4	VDS200x + AutoWave	5.2.1.3	•		
		Pulse 1	VDS200x + AutoWave	5.2.1.4	•		
		Pulse 2	VDS200x + AutoWave	5.2.1.5	•		
		Pulse 3	VDS200x + AutoWave	5.3.1	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	5.3.2	•		
<b>BMW 600 13.0 (Part 2) (1996-05)</b>	12V Line	Pulse 1	UCS200x, MPG200	6.1.1	•		
		Pulse 2	UCS200x, MPG200	6.1.1	•		
		Pulse 3a	UCS200x, EFT200	6.1.1	•		
		Pulse 3b	UCS200x, EFT200	6.1.1	•		
		Pulse 4	VDS200x	6.1.1	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	6.1.1	•		
		Wobble	VDS200x	6.5.2	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	6.1.1	•		
		Pulse 3b	UCS200x, EFT200	6.1.1	•		
<b>BMW BAPP Part 1 (2017-10)</b>	12V Line	E-01 Longtime Voltage	VDS200x	6.1	•	•	
		E-02 Transient Overvoltage	VDS200x + AutoWave	6.2	•	•	
		E-03a Transient Subvoltage	VDS200x + AutoWave	6.3	•	•	
		E-03b Transient Subvoltage	VDS200x + AutoWave	6.3	•	•	
		E-04a Jump Start	VDS200x	6.4	•	•	
		E-04b Jump Start	VDS200x	6.4	•	•	
		E-05 Load Dump	VDS200x	6.5	•	•	
		E-06 Superimposed Voltage (Test Case 1-3)	VDS200x + AutoWave	6.6	•	•	
		E-06 Superimposed Voltage (Test Case 4)	VDS200Qx.1	6.6	•	•	
		E-07a Slow Ramp Down and Ramp Up	VDS200x + AutoWave	6.7	•	•	
		E-07b Slow Ramp Down and Ramp Up	VDS200Qx + AutoWave	6.7	•	•	
		E-08 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	6.8	•	•	
		E-09 Reset Behaviour	VDS200x + AutoWave	6.9	•	•	
E-10 Short Reset	PFS200x + BSM200N100, AutoWave + PFM200Nx	6.10	•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		E-11 Cold Cranking (Normal)	VDS200x	6.11	•	•	
		E-11 Cold Cranking (Severe)	VDS200x + AutoWave	6.11	•	•	
		E-11 Warm Cranking (Short)	VDS200x + AutoWave	6.11	•	•	
		E-11 Warm Cranking (Long)	VDS200x + AutoWave	6.11	•	•	
		E-12 Voltage Curve	VDS200x	6.12	•	•	
		E-13 Pin Break (Test Case 1)	PFS200x (Precom), AutoWave + PFM200Nx	6.13	•	•	
		E-13 Pin Break (Test Case 2)	PFS200x (Precom), AutoWave + PFM200Nx	6.13	•	•	
		E-14 Connector Interruption	AutoWave + PFM200Nx	6.14		•	
		E-15 Reverse Voltage (Test Case 1)	VDS200Qx	6.15	•	•	
		E-15 Reverse Voltage (Test Case 2)	VDS200Qx	6.15	•	•	
		E-23 Compensation currents of several supply voltages	VDS200x	6.23		•	
<b>BMW GS 95002 (1999-10)</b>	12V Line	Pulse 1	UCS200x, MPG200	7.1.3	•		
		Pulse 2a	UCS200x, MPG200	7.1.3	•		
		Pulse 2b	VDS200x	7.1.3	•		
		Pulse 3a	UCS200x, EFT200	7.1.3	•		
		Pulse 3b	UCS200x, EFT200	7.1.3	•		
		Pulse 4	VDS200x	7.1.3	•		
		Pulse 5a	LD200x	7.1.3	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	7.1.3	•		
		Wobble	VDS200x	7.5.2	•		
	12V I/O	Pulse 1	UCS200x, MPG200	7.1.3	•		
		Pulse 2	UCS200x, MPG200	7.1.3	•		
		Pulse 3a	UCS200x, EFT200	7.1.3	•		
		Pulse 3b	UCS200x, EFT200	7.1.3	•		
<b>BMW GS 95002 (2001-10)</b>	12V Line	Pulse 1	UCS200x, MPG200	7.1.3	•		
		Pulse 2a	UCS200x, MPG200	7.1.3	•		
		Pulse 2b	VDS200x	7.1.3	•		
		Pulse 3a	UCS200x, EFT200	7.1.3	•		
		Pulse 3b	UCS200x, EFT200	7.1.3	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	7.1.3	•		
		Pulse 3b	UCS200x, EFT200	7.1.3	•		
<b>BMW GS 95002 (2004-10)</b>	12V Line	Pulse 1	UCS200x, MPG200	7.2.1	•		
		Pulse 2a	UCS200x, MPG200	7.2.1	•		
		Pulse 3a	UCS200x, EFT200	7.2.1	•		
		Pulse 3b	UCS200x, EFT200	7.2.1	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	7.2.2	•		
		Pulse 3b	UCS200x, EFT200	7.2.2	•		
<b>BMW GS 95002 (2010-06)</b>	12V Line	Pulse 1	UCS200x, MPG200	7.2.1	•		
		Pulse 2a	UCS200x, MPG200	7.2.1	•		
		Pulse 3a	UCS200x, EFT200	7.2.1	•		
		Pulse 3b	UCS200x, EFT200	7.2.1	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	7.2.2	•		
		Pulse 3b	UCS200x, EFT200	7.2.2	•		
<b>BMW GS 95002 (2012-09)</b>	12V Line	Pulse 1	UCS200x, MPG200	7.2.1	•		
		Pulse 2a	UCS200x, MPG200	7.2.1	•		
		Pulse 3a	UCS200x, EFT200	7.2.1	•		
		Pulse 3b	UCS200x, EFT200	7.2.1	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	7.2.2	•		
		Pulse 3b	UCS200x, EFT200	7.2.2	•		
<b>BMW GS 95002 -2 (2013-07)</b>		Immunity to magnetic fields (DC)	AutoWave + AMP200Nx + HS 5136	5.6		•	
		Immunity to magnetic fields (0.015 - 30kHz)	AutoWave + AMP200Nx, CWS500N3	5.6		•	•
		Immunity to magnetic fields (Verify H-Field - DC)	AutoWave + AMP200Nx + HS 5136	5.6		•	
		Immunity to magnetic fields (Verify H-Field - 1kHz)	AutoWave + AMP200Nx, CWS500N3	5.6		•	•
	12V Line	Pulse 1	UCS200x, MPG200	5.7	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		Pulse 1b	UCS200x, MPG200	5.7	•				
		Pulse 2a	UCS200x, MPG200	5.7	•				
		Pulse 3a	UCS200x, EFT200	5.7	•				
		Pulse 3b	UCS200x, EFT200	5.7	•				
	24V Line	Pulse 1	UCS200x, MPG200	5.7	•				
		Pulse 1b	UCS200x, MPG200	5.7	•				
		Pulse 2a	UCS200x, MPG200	5.7	•				
		Pulse 3a	UCS200x, EFT200	5.7	•				
	48V Line	Pulse 1	UCS200x, MPG200	5.7	•				
		Pulse 1b	UCS200x, MPG200	5.7	•				
		Pulse 2a	UCS200x, MPG200	5.7	•				
		Pulse 3a	UCS200x, EFT200	5.7	•				
	12V I/O	Pulse 3b	UCS200x, EFT200	5.7	•				
		CCC Fast a	UCS200x, EFT200	5.8	•				
		CCC Fast b	UCS200x, EFT200	5.8	•				
		ICC Slow pos.	UCS200x, MPG200	5.8	•				
	24V I/O	ICC Slow neg.	UCS200x, MPG200	5.8	•				
		CCC Fast a	UCS200x, EFT200	5.8	•				
		CCC Fast b	UCS200x, EFT200	5.8	•				
		ICC Slow pos.	UCS200x, MPG200	5.8	•				
	48V I/O	ICC Slow neg.	UCS200x, MPG200	5.8	•				
		CCC Fast a	UCS200x, EFT200	5.8	•				
		CCC Fast b	UCS200x, EFT200	5.8	•				
		ICC Slow pos.	UCS200x, MPG200	5.8	•				
BMW GS 95003-2 (2000-03)	12V Line	ICC Slow neg.	UCS200x, MPG200	5.8	•				
		Wobble	VDS200x	5.1.1.1	•				
		Ramp Down	VDS200x	5.1.1.2	•				
		Ramp Up	VDS200x	5.1.1.2	•				
		Pulse 4	VDS200x	5.1.1.3	•				
		Pulse 1	VDS200x	5.1.1.4	•				
		Pulse 2	VDS200x	5.1.1.5	•				
		Pulse 3	VDS200x	5.2.1	•				
		Pulse 5a	LD200x	5.2.2	•				
		Pulse 5b	LD200Nx Clip, LD200x + diode	5.2.2	•				
Reversed Voltage	VDS200x	5.2.3	•						
BMW GS 95003-2 (2001-10)	12V Line	Wobble	VDS200x	5.1.1.1	•				
		Ramp Down	VDS200x	5.1.1.2	•				
		Ramp Up	VDS200x	5.1.1.2	•				
		Cranking	VDS200x	5.1.1.3	•				
		Pulse 1	VDS200x	5.1.1.4	•				
		Pulse 2	VDS200x	5.1.1.5	•				
		Switch	PFS200x, VDS200x + AutoWave	5.1.1.8b	•				
		Pulse 3	VDS200x	5.2.1	•				
		Pulse 5a	LD200x	5.2.2	•				
		Pulse 5b	LD200Nx Clip, LD200x + diode	5.2.2	•				
		Reversed Polarity	VDS200x	5.2.3	•				
		BMW GS 95003-2 (2003-06)	12V Line	Wobble	VDS200x	5.1.1.1	•	•	
				Ramp Down	VDS200x	5.1.1.2	•	•	
Ramp Up	VDS200x			5.1.1.2	•	•			
Cranking	VDS200x			5.1.1.3	•	•			
Pulse 1	VDS200x			5.1.1.4	•	•			
Pulse 2	VDS200x			5.1.1.5	•	•			
Switch	PFS200x, VDS200x + AutoWave			5.1.1.8b	•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Pulse 3	VDS200x	5.2.1	•	•	
		Pulse 5a	LD200x	5.2.2	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	5.2.2	•		
		Reversed Polarity	VDS200x	5.2.3	•	•	
<b>BMW GS 95003-2 (2007-03)</b>	12V Line	Overvoltage	VDS200x	5.2.1.1	•	•	
		Wobble	VDS200x	5.2.1.2	•	•	
		Decrease 1	VDS200x + AutoWave	5.2.1.3.1	•	•	
		Decrease 2	VDS200x + AutoWave	5.2.1.3.2	•	•	
		Voltage IGR	VDS200x	5.2.1.3.3	•	•	
		Cranking I, II, III	VDS200x	5.2.1.5	•	•	
		Cranking Ip	VDS200x + AutoWave	5.2.1.5	•	•	
		Cranking lip	VDS200x + AutoWave	5.2.1.5	•	•	
		Very brief dip	VDS200x	5.2.1.6	•	•	
		Brief dip 0.1s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 0.2s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 0.3s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 0.4s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 0.5s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 1s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 2s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 5s	VDS200x + AutoWave	5.2.1.7	•	•	
		Switch	PFS200x, VDS200x + AutoWave	5.1.1.8b	•	•	
		Jump Start	VDS200x	5.3.1	•	•	
		Loaddump	LD200x	5.3.2	•		
		Loadump Clip	LD200Nx Clip, LD200x + diode	5.3.2	•		
		Reverse 1	VDS200x	5.3.3.1	•	•	
Reverse 2	VDS200x	5.3.3.2	•	•			
<b>BMW GS 95003-2 (2010-01)</b>	12V Line	Overvoltage	VDS200x	5.2.1.1	•	•	
		Wobble	VDS200x	5.2.1.2	•	•	
		Decrease 1	VDS200x + AutoWave	5.2.1.3.1	•	•	
		Decrease 2	VDS200x + AutoWave	5.2.1.3.2	•	•	
		Voltage IGR	VDS200x	5.2.1.3.3	•	•	
		Cranking I, II, III	VDS200x	5.2.1.5	•	•	
		Cranking Ip	VDS200x + AutoWave	5.2.1.5	•	•	
		Cranking lip	VDS200x + AutoWave	5.2.1.5	•	•	
		Very brief dip	VDS200x	5.2.1.6	•	•	
		Brief dip 0.1s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 0.2s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 0.3s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 0.4s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 0.5s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 1s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 2s	VDS200x + AutoWave	5.2.1.7	•	•	
		Brief dip 5s	VDS200x + AutoWave	5.2.1.7	•	•	
		Switch	PFS200x, VDS200x + AutoWave	5.1.1.8b	•	•	
		Jump Start	VDS200x	5.3.1	•	•	
		Loaddump	LD200x	5.3.2	•		
		Loadump Clip	LD200Nx Clip, LD200x + diode	5.3.2	•		
		Reverse 1	VDS200x	5.3.3.1	•	•	
Reverse 2	VDS200x	5.3.3.2	•	•			
<b>BMW GS 95024-2-1 (2010-01)</b>	12V Line	E-01 Longtime Voltage	VDS200x	4.1	•	•	
		E-02 Overvoltage 1	VDS200x + AutoWave	4.2	•	•	
		E-02 Overvoltage 2	VDS200x + AutoWave	4.2	•	•	
		E-03 Undervoltage	VDS200x + AutoWave	4.3	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		E-04 Jump Start	VDS200x	4.4	•	•			
		E-05 Load Dump	VDS200x	4.5	•	•			
		E-06 Superimposed Voltage	VDS200x + AutoWave	4.6	•	•			
		E-07 Slow Ramp Down/Up	VDS200x + AutoWave	4.7	•	•			
		E-08 Ramp Down / Fast Up	VDS200x + AutoWave	4.8	•	•			
		E-09 Reset Behaviour	VDS200x + AutoWave	4.9	•	•			
		E-10 Short Reset - Test Case 1	PFS200x + R-Box LV124, AutoWave + PFM200Nx + R-Box LV124x	4.10	•	•			
		E-10 Short Reset - Test Case 2	PFS200x + R-Box LV124x, AutoWave + PFM200Nx + R-Box LV124x	4.10	•	•			
		E-10 Short Reset - Test Case 3	PFS200x + BSM200N100 + R-Box LV124x, AutoWave + PFM200Nx	4.10	•	•			
		E-11 Cold Cranking (Normal)	VDS200x	4.11	•	•			
		E-11 Cold Cranking (Severe)	VDS200x + AutoWave	4.11	•	•			
		E-11 Warm Cranking (Short)	VDS200x + AutoWave	4.11	•	•			
		E-11 Warm Cranking (Long)	VDS200x + AutoWave	4.11	•	•			
		E-12 Voltage Curve	VDS200x	4.12	•	•			
		E-13 Pin Interruption - Test Case 1 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•			
		E-13 Pin Interruption - Test Case 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•			
		E-13 Pin Interruption - Test Case 3 - Contact 1 (Precompliance)	PFS200x (Precom)	4.13	•	•			
		E-13 Pin Interruption - Test Case 3 - Contact 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•			
		E-14 Connector Interruption	AutoWave + PFM200Nx	4.14		•			
		E-15 Reset Voltage 1	VDS200x	4.15		•			
		E-15 Reset Voltage 2	VDS200x	4.15		•	•		
		<b>BMW GS 95024-2-2 (2011-02)</b>	12V Line	E-01 Longtime Voltage	VDS200x	8.1	•	•	
				E-02 Overvoltage 1	VDS200x + AutoWave	8.2	•	•	
				E-02 Overvoltage 2	VDS200x + AutoWave	8.2	•	•	
E-03 Undervoltage	VDS200x + AutoWave			8.3	•	•			
E-04 Jump Start	VDS200x			8.4	•	•			
E-05 Load Dump	VDS200x			8.5	•	•			
E-06 Superimposed Voltage	VDS200x + AutoWave			8.6	•	•			
E-07 Slow Ramp Down/Up	VDS200x + AutoWave			8.7	•	•			
E-08 Ramp Down / Fast Up	VDS200x + AutoWave			8.8	•	•			
E-09 Reset Behaviour	VDS200x + AutoWave			8.9	•	•			
E-10 Short Reset - Test Case 1	PFS200x + R-Box LV124, AutoWave + PFM200Nx + R-Box LV124x			4.10	•	•			
E-10 Short Reset - Test Case 2	PFS200x + R-Box LV124, AutoWave + PFM200Nx + R-Box LV124x			4.10	•	•			
E-10 Short Reset - Test Case 3	PFS200x + BSM200N100 + R-Box LV124x, AutoWave + PFM200Nx			4.10	•	•			
E-11 Cold Cranking (Normal)	VDS200x			8.11	•	•			
E-11 Cold Cranking (Severe)	VDS200x + AutoWave			8.11	•	•			
E-11 Warm Cranking (Short)	VDS200x + AutoWave			8.11	•	•			
E-11 Warm Cranking (Long)	VDS200x + AutoWave			8.11	•	•			
E-12 Voltage Curve	VDS200x			8.12	•	•			
E-13 Pin Interruption - Test Case 1 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx			4.13	•	•			
E-13 Pin Interruption - Test Case 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx			4.13	•	•			
E-13 Pin Interruption - Test Case 3 - Contact 1 (Precompliance)	PFS200x (Precom)			4.13	•	•			
E-13 Pin Interruption - Test Case 3 - Contact 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx			4.13	•	•			
E-14 Connector Interruption	AutoWave + PFM200Nx			4.14		•			
E-15 Reset Voltage 1	VDS200x			8.15	•	•			
E-15 Reset Voltage 2	VDS200x	8.15	•	•					
E-40 Very brief voltage drop	VDS200x	9.1	•	•					
E-41 Brief off / on for bus nodes	AutoWave + PFM200Nx	9.2		•					

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
BMW GS 95025-1 (2012-05)	12V Line	E-42a Negative voltage impulse switched voltage - Pulse 2 (VDS 200Q used as impulsgenerator, switching external)	AutoWave + VDS200x	9.3.1		•	
		E-42b Low-resistance voltage impulse on charge wire	PFS200x, VDS200x + AutoWave	9.3.2	•	•	
		5.1.1 EQ/TI_01 - Pulse 1	UCS200x, MPG200	5.1.1	•		
	12V I/O	5.1.1 EQ/TI_01 - Pulse 2a	UCS200x, MPG200	5.1.1	•		
		5.1.2 EQ/TI_02 - Pulse 1 bis neg.	UCS200x, MPG200	5.1.2	•		
		5.1.2 EQ/TI_02 - Pulse 1 bis pos.	UCS200x, MPG200	5.1.2	•		
		5.1.3 EQ/TI_03 - Pulse 3a	UCS200x, EFT200	5.1.3	•		
		5.1.3 EQ/TI_03 - Pulse 3b	UCS200x, EFT200	5.1.3	•		
		5.1.4 EQ/TI_04 - Pulse 3a	UCS200x, EFT200	5.1.4	•		
		5.1.4 EQ/TI_04 - Pulse 3b	UCS200x, EFT200	5.1.4	•		
		5.3.2 EQ/RI_02 : Immunity to low frequency magnetic fields (DC)	AutoWave + AMP200Nx + HS 5136	5.3.2		•	
		5.3.2 EQ/RI_02 : Immunity to low frequency magnetic fields	AutoWave + AMP200Nx	5.3.2		•	
		5.3.2 EQ/RI_02 : Immunity to low frequency magnetic fields - Verify H-Field - DC	AutoWave + AMP200Nx + HS 5136	5.3.2		•	
		5.3.2 EQ/RI_02 : Immunity to low frequency magnetic fields Verify H-Field - 1kHz	AutoWave + AMP200Nx	5.3.2		•	
		BMW GS 95026 (2011-10)	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	3.1	
E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1			3.3		•	
E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1			3.3		•	
E48-03 Transient process in the lower operating range	VDS200x			3.4		•	
E48-04 Recuperation	VDS200x			3.5		•	
E48-05 Superimposed Voltage - Part 1 - F1 (15Hz-30kHz)	VDS200x			3.6		•	
E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz)	VDS200Qx			3.6		•	
E48-05 Superimposed Voltage - Part1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1			3.6		•	
E48-05 Superimposed Voltage - Part 2 - F1 (15Hz-30kHz)	VDS200x			3.6		•	
E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz)	VDS200Qx			3.6		•	
E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1			3.6		•	
E48-06 Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave			3.7		•	
E48-06 Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave			3.7		•	
E48-06 Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave			3.7		•	
E48-07 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave			3.8		•	
E48-08 Reset Behavior	VDS200x + AutoWave			3.9		•	
E48-09 Short Breaks	PFS200x + BS200N100, AutoWave + PFM200Nx			3.10	•	•	
E48-10 Start Impulses - Cold start (Normal)	VDS200N / VDS200			3.11		•	
E48-10 Start Impulses - Cold start Severe)	VDS200N / VDS200			3.11		•	
E48-13 Internal Voltage Strength	VDS200x			3.14		•	
E48-15 Operating in the area without functional limitation	VDS200x + AutoWave	3.16		•			
E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	3.17		•			
E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	3.18		•			
E48-18 Over-Voltage Range	VDS200x + AutoWave	3.19		•			
E48-19 Under-Voltage Range	VDS200x + AutoWave	3.20		•			
BMW GS 95026 2013-10	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	3.1		•	
		E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1 + AutoWave	3.3		•	
		E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1 + AutoWave	3.3		•	
		E48-03 Transient process in the lower operating range	VDS200x	3.4		•	
		E48-04 Recuperation	VDS200x	3.5		•	
		E48-05 Superimposed Voltage - Part 1 - F1 (30kHz)	VDS200x	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (200kHz)	VDS200x + AMP200Nx + CN200N1	3.6		•	
		E48-05 Superimposed Voltage - Part1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•	
		E48-05 Superimposed Voltage - Part 1 - F1 (30kHz)	VDS200x	3.6		•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		E48-05 Superimposed Voltage - Part 2 - F2 (200kHz)	VDS200x + AMP200Nx + CN200N1	3.6		•			
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•			
		E48-06 Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave	3.7		•			
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave	3.7		•			
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave	3.7		•			
		E48-08 Reset Behavior	VDS200x + AutoWave	3.9		•			
		E48-09 Short Breaks	PFS200x + BS200N100, AutoWave + PFM200Nx	3.10	•	•			
		E48-10 Start Impulses - Cold start (Normal)	VDS200N / VDS200	3.11		•			
		E48-10 Start Impulses - Cold start Severe)	VDS200N / VDS200	3.11		•			
		E48-13 Internal Voltage Strength	VDS200x	3.14		•			
		E48-15 Operating in the area without functional limitation	VDS200x + AutoWave	3.16		•			
		E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	3.17		•			
		E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	3.18		•			
		E48-18 Over-Voltage Range	VDS200x + AutoWave	3.19		•			
		E48-19 Under-Voltage Range	VDS200x + AutoWave	3.20		•			
		<b>BMW GS 95027 (2011-10)</b>	12V Line	4.3.3 Reverse Polarity	VDS200x	4.3.3	•	•	
				4.3.4 Superimposed Voltage	VDS200x + AutoWave	4.3.4	•	•	
				4.3.5 Startimpuls - Cold Cranking (Normal)	VDS200x	4.3.5	•	•	
				4.3.5 Startimpuls - Cold Cranking (Severe)	VDS200x + AutoWave	4.3.5	•	•	
4.3.5 Startimpuls - Warm Cranking (Short)	VDS200x + AutoWave			4.3.5	•	•			
4.3.5 Startimpuls - Warm Cranking (Long)	VDS200x + AutoWave			4.3.5	•	•			
4.3.7.10 Pulse 1	UCS200x, MPG200			4.3.7.10	•				
4.3.7.10 Pulse 1b	UCS200x, MPG200			4.3.7.10	•				
4.3.7.10 Pulse 2a	UCS200x, MPG200			4.3.7.10	•				
4.3.7.10 Pulse 2b	VDS200x			4.3.7.10	•	•			
4.3.7.10 Pulse 3a	UCS200x, EFT200		4.3.7.10	•					
4.3.7.10 Pulse 3b	UCS200x, EFT200		4.3.7.10	•					
12V I/O	4.3.7,11 Fast a (CCC)		UCS200x, EFT200	4.3.7.11	•				
	4.3.7,11 Fast b (CCC)		UCS200x, EFT200	4.3.7.11	•				
	4.3.7.11 DCC Slow pos.		UCS200x, MPG200	4.3.7.11	•				
	4.3.7.11 DCC Slow neg.	UCS200x, MPG200	4.3.7.11	•					
<b>BMW QV 65013 (2010-06)</b>	12V Line	6.2.1.1 Startcurve - Standard	VDS200x	6.2.1.1	•	•			
		6.2.1.2 Startcurve 1 (E63)	VDS200x + AutoWave	6.2.1.2		•			
		6.2.1.3 Startcurve 2 (E83)	VDS200x + AutoWave	6.2.1.3		•			
		6.2.1.4 Startcurve 3 (E85)	VDS200x + AutoWave	6.2.1.4		•			
		6.2.1.5 Startcurve 4 (E87)	VDS200x + AutoWave	6.2.1.5		•			
		6.2.1.6 Startcurve 5 (E90)	VDS200x + AutoWave	6.2.1.6		•			
		6.2.1.7 Startcurve 6 (R56)	VDS200x + AutoWave	6.2.1.7		•			
		6.2.1.8 Motor - Start/Stop - Automatic KSOpt	VDS200x + AutoWave	6.2.1.8		•			
		6.2.1.9 Motor - Start/Stop - Automatic SGR	VDS200x + AutoWave	6.2.1.9		•			
		6.2.2 U_Dip - 1ms Disturbance	VDS200x + AutoWave	6.2.2		•			
		6.2.3 U_Dip for 100ms - Impulse 1	VDS200x + AutoWave	6.2.3		•			
		6.2.4 U_Dip for 150ms	VDS200x + AutoWave	6.2.4		•			
		6.2.5 U_Dip for 5s	VDS200x + AutoWave	6.2.5		•			
		6.2.6 U_Dip Cyclic for 228us	PFM200N100.1 (AW-LIC FAST)	6.2.6		•			
		6.2.7 U_Dip Cyclic for 500ms	VDS200x + AutoWave	6.2.7		•			
		6.2.8 U_Break 50-250ms cyclic	VDS200x + AutoWave	6.2.8		•			
		6.2.9 Voltage Break - Autarky 150ms	VDS200x + AutoWave	6.2.9		•			
		6.2.10 U_Ramp 0-16V	VDS200x + AutoWave	6.2.10		•			
		6.2.11 U_Lowering in 0.5 Steps	VDS200x	6.2.11	•	•			
6.2.12 U_Stair Static	VDS200x + AutoWave	6.2.12		•					
6.2.13 U_Stair Sweep	VDS200x + AutoWave	6.2.13		•					
6.2.14 U_6-10V	VDS200x + AutoWave	6.2.14		•					



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		6.2.15 U_9-16V	VDS200x + AutoWave	6.2.15		•	
		6.2.16 U_Main Power Supply - U_sin superimposed (Wobbeln)	VDS200x	6.2.16	•	•	
		6.2.18 Fast Loading Device (Jump Start)	VDS200x	6.2.18	•	•	
		6.2.19 Load Dump Impulse	LD200x	6.2.19	•		
		6.2.20 Inverse-polarity Protection - general	VDS200x	6.2.20	•	•	
		6.2.21 F_Overvoltage	VDS200x + AutoWave	6.2.21		•	
		6.2.22 F_Undervoltage Detection	VDS200x + AutoWave	6.2.22		•	
		6.2.27 Pulse 1	UCS200x, MPG200	6.2.25	•		
		6.2.29 Pulse 2	UCS200x, MPG200	6.2.26	•		
		6.2.29 Pulse 3a	UCS200x, EFT200	6.2.27	•		
		6.2.29 Pulse 3b	UCS200x, EFT200	6.2.28	•		
		6.2.30 On-Off-Test with communication start	VDS200x + AutoWave	6.2.30			•
		6.2.31 On-Off-Test cyclic 0.5s - 15s	VDS200x + AutoWave	6.2.31			•
		6.2.32 On-Off-Test OC3	VDS200x + AutoWave	6.2.31			•
<b>BMW QV 65013 (2012-06)</b>	12V Line	6.2.1.1 Startcurve - Standard	VDS200x	6.2.1.1	•	•	
		6.2.1.1.2 Startcurve - Coldstart	VDS200x + AutoWave	6.2.1.1.2	•	•	
		6.2.1.1.3 Startcurve - Warmstart	VDS200x + AutoWave	6.2.1.1.3	•	•	
		6.2.1.2 Startcurve 1 (E63)	VDS200x + AutoWave	6.2.1.2		•	
		6.2.1.3 Startcurve 2 (E83)	VDS200x + AutoWave	6.2.1.3		•	
		6.2.1.4 Startcurve 3 (E85)	VDS200x + AutoWave	6.2.1.4		•	
		6.2.1.5 Startcurve 4 (E87)	VDS200x + AutoWave	6.2.1.5		•	
		6.2.1.6 Startcurve 5 (E90)	VDS200x + AutoWave	6.2.1.6		•	
		6.2.1.7 Startcurve 6 (R56)	VDS200x + AutoWave	6.2.1.7		•	
		6.2.1.8 Motor - Start/Stop - Automatic KSOpt	VDS200x + AutoWave	6.2.1.8		•	
		6.2.1.9 Motor - Start/Stop - Automatic SGR	VDS200x + AutoWave	6.2.1.9		•	
		6.2.2 U_Dip - 1ms Disturbance	VDS200x + AutoWave	6.2.2		•	
		6.2.3 U_Dip for 100ms - Impulse 1	VDS200x + AutoWave	6.2.3		•	
		6.2.4 U_Dip for 150ms	VDS200x + AutoWave	6.2.4		•	
		6.2.5 U_Dip for 5s	VDS200x + AutoWave	6.2.5		•	
		6.2.6 U_Dip Cyclic for 228us	PFM200N100.1 (AW-LIC FAST)	6.2.6		•	
		6.2.7 U_Dip Cyclic for 500ms	VDS200x + AutoWave	6.2.7		•	
		6.2.8 U_Break 50-250ms cyclic	VDS200x + AutoWave	6.2.8		•	
		6.2.9 Voltage Break - Autarky 150ms	VDS200x + AutoWave	6.2.9		•	
		6.2.10 U_Ramp 0-16V	VDS200x + AutoWave	6.2.10		•	
		6.2.11 U_Lowering in 0.5 Steps	VDS200x	6.2.11	•	•	
		6.2.12 U_Stair Static	VDS200x + AutoWave	6.2.12		•	
		6.2.13 U_Stair Sweep	VDS200x + AutoWave	6.2.13		•	
		6.2.14 U_6-10V	VDS200x + AutoWave	6.2.14		•	
		6.2.15 U_9-16V	VDS200x + AutoWave	6.2.15		•	
		6.2.16 U_Main Power Supply - U_sin superimposed (Wobbeln)	VDS200x + AutoWave	6.2.16	•	•	
		6.2.18 Fast Loading Device (Jump Start)	VDS200x	6.2.18	•	•	
		6.2.19 Load Dump Impulse	VDS200x	6.2.19		•	
		6.2.20 Inverse-polarity Protection - general	VDS200x	6.2.20	•	•	
		6.2.21 F_Overvoltage	VDS200x + AutoWave	6.2.21		•	
		6.2.22 F_Undervoltage Detection	VDS200x + AutoWave	6.2.22		•	
		6.2.27 Pulse 1	UCS200x, MPG200	6.2.25	•		
6.2.29 Pulse 2	UCS200x, MPG200	6.2.26	•				
6.2.29 Pulse 3a	UCS200x, EFT200	6.2.27	•				
6.2.29 Pulse 3b	UCS200x, EFT200	6.2.28	•				
6.2.30 On-Off-Test with communication start	VDS200x + AutoWave	6.2.30			•		
6.2.31 On-Off-Test cyclic	VDS200x + AutoWave	6.2.31			•		
6.2.32 On-Off-Test OC3	VDS200x + AutoWave	6.2.31			•		
<b>BMW Airbag-Steuergeräte</b>	12V Line	Cranking 1	VDS200x	4.1.1	•	•	
		Cranking 2	VDS200x	4.1.1	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>(Rev.2, 2004-02)</b>		Cranking E83-1	VDS200x + AutoWave	4.1.2	•	•	
		Cranking E83-2	VDS200x + AutoWave	4.1.2	•	•	
		Cranking E87-1	VDS200x + AutoWave	4.1.3	•	•	
		Cranking E87-2	VDS200x + AutoWave	4.1.3	•	•	
		V_Drop 1ms	VDS200x + AutoWave	4.1.4	•	•	
		V_Drop 100ms	VDS200x + AutoWave	4.1.5	•	•	
		V_Drop 150ms	VDS200x + AutoWave	4.1.6	•	•	
		V_Drop 5s	VDS200x + AutoWave	4.1.7	•	•	
		V_Drop 500ms	VDS200x + AutoWave	4.1.9	•	•	
		V_Break 50-250ms	VDS200x + AutoWave	4.1.10	•	•	
		Autarkie 150ms	VDS200x + AutoWave	4.1.11	•	•	
		U_Rampe 0-16V	VDS200x + AutoWave	4.1.12	•	•	
		U_Voltagedrop	VDS200x	4.1.13	•	•	
		U_Step Static	VDS200x + AutoWave	4.1.14	•	•	
		U_Step Sweep	VDS200x + AutoWave	4.1.15	•	•	
		U_6-10V	VDS200x + AutoWave	4.1.16	•	•	
		U_9-16V	VDS200x + AutoWave	4.1.17	•	•	
		U_Bordnetz Wobbe	VDS200x	4.1.18	•	•	
		Jump Start	VDS200x	4.1.20	•	•	
		Load Dump Impulse	LD200x	4.1.21	•		
		Reverse Polarity	VDS200x	4.1.22	•	•	
		F_Overvoltage	VDS200x + AutoWave	4.1.23	•	•	
		F_Undervoltage	VDS200x + AutoWave	4.1.24	•	•	
		Pulse 1	UCS200x, MPG200	4.1.27	•		
		Pulse 2	UCS200x, MPG200	4.1.28	•		
		Pulse 3a	UCS200x, EFT200	4.1.29	•		
		Pulse 3b	UCS200x, EFT200	4.1.30	•		
On-Off-Test	VDS200x + AutoWave	4.1.32	•	•			
<b>Case New Holland ENS0310 (Rev. E, 2006-01)</b>	12V Line	Overvoltage	VDS200x	9.6.1.5	•	•	
		Rev. Polarity	VDS200x	9.6.1.6	•	•	
		Ramp Up	VDS200x	9.6.1.11		•	
		Noise	VDS200x	9.6.2.4	•	•	
		Batteryless	VDS200x + AutoWave	9.6.2.5		•	
		Inductive Load	UCS200x, MPG200	9.6.2.6	•		
		Inductance	UCS200x, MPG200	9.6.2.7	•		
		Neg. Coupling	UCS200x, EFT200	9.6.2.8	•		
		Pos. Coupling	UCS200x, EFT200	9.6.2.8	•		
		Cranking	VDS200x	9.6.2.9	•	•	
	Loaddump	LD200x	9.6.2.10	•			
	24V Line	Overvoltage	VDS200x	9.6.1.5	•	•	
		Rev. Polarity	VDS200x	9.6.1.6	•	•	
		Ramp Up	VDS200x	9.6.1.11		•	
		Noise	VDS200x	9.6.2.4	•	•	
		Batteryless	VDS200x + AutoWave	9.6.2.5		•	
		Inductive Load	UCS200x, MPG200	9.6.2.6	•		
		Inductance	UCS200x, MPG200	9.6.2.7	•		
		Neg. Coupling	UCS200x, EFT200	9.6.2.8	•		
		Pos. Coupling	UCS200x, EFT200	9.6.2.8	•		
Cranking		VDS200x	9.6.2.9	•	•		
Loaddump	LD200x	9.6.2.10	•				
<b>Case New Holland ENS0310 (Rev. F, 2009-03)</b>	12V Line	Overvoltage	VDS200x	9.6.1.5	•	•	
		Rev. Polarity	VDS200x	9.6.1.6	•	•	
		Ramp Up	VDS200x	9.6.1.11		•	
		Noise	VDS200x	9.6.2.4	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Batteryless	VDS200x + AutoWave	9.6.2.5		•		
		Inductive Load	UCS200x, MPG200	9.6.2.6	•			
		Inductance 2a	UCS200x, MPG200	9.6.2.7	•			
		Inductance 2b	VDS200x	9.6.2.7	•			
		Neg. Coupling	UCS200x, EFT200	9.6.2.8	•			
		Pos. Coupling	UCS200x, EFT200	9.6.2.8	•			
		Cranking	VDS200x	9.6.2.9	•	•		
		Loaddump	LD200x	9.6.2.10	•			
		24V Line	Overvoltage	VDS200x	9.6.1.5	•	•	
			Rev. Polarity	VDS200x	9.6.1.6	•	•	
	Ramp Up		VDS200x	9.6.1.11		•		
	Noise		VDS200x	9.6.2.4	•	•		
	Batteryless		VDS200x + AutoWave	9.6.2.5		•		
	Inductive Load		UCS200x, MPG200	9.6.2.6	•			
	Inductance 2a		UCS200x, MPG200	9.6.2.7	•			
	Inductance 2b		VDS200x	9.6.2.7	•			
	Neg. Coupling		UCS200x, EFT200	9.6.2.8	•			
	Pos. Coupling		UCS200x, EFT200	9.6.2.8	•			
	Cranking	VDS200x	9.6.2.9	•	•			
	Loaddump	LD200x	9.6.2.10	•				
Magnetic Field	AutoWave + AMP200Nx + CN200N1, CWS500N3	9.7.1.5		•	•			
<b>Case New Holland ENS0310 (Rev. G, 2010-01)</b>	12V Line	Overvoltage	VDS200x	9.6.5	•	•		
		Rev. Polarity	VDS200x	9.6.6	•	•		
		Ramp Up	VDS200x	9.6.11		•		
		Noise	VDS200x	9.7.2	•	•		
		Batteryless	VDS200x + AutoWave	9.7.3		•		
		Inductive Load	UCS200x, MPG200	9.7.4	•			
		Inductance 2a	UCS200x, MPG200	9.7.5	•			
		Inductance 2b	VDS200x	9.7.5	•			
		Neg. Coupling	UCS200x, EFT200	9.7.6	•			
		Pos. Coupling	UCS200x, EFT200	9.7.6	•			
	Cranking	VDS200x	9.7.7	•	•			
	Loaddump	LD200x	9.7.8	•				
	24V Line	Overvoltage	VDS200x	9.6.5	•	•		
		Rev. Polarity	VDS200x	9.6.6	•	•		
		Ramp Up	VDS200x	9.6.11		•		
		Noise	VDS200x	9.7.2	•	•		
		Batteryless	VDS200x + AutoWave	9.7.3		•		
		Inductive Load	UCS200x, MPG200	9.7.4	•			
		Inductance 2a	UCS200x, MPG200	9.7.5	•			
		Inductance 2b	VDS200x	9.7.5	•			
Neg. Coupling		UCS200x, EFT200	9.7.6	•				
Pos. Coupling		UCS200x, EFT200	9.7.6	•				
Cranking	VDS200x	9.7.7	•	•				
Loaddump	LD200x	9.7.8	•					
Magnetic Field	AutoWave + AMP200Nx + CN200N1, CWS500N3	9.7.18		•	•			
<b>Case New Holland ENS0310 (Rev. J, 2012-12)</b>	12V Line	Overvoltage	VDS200x	9.6.5	•	•		
		Rev. Polarity	VDS200x	9.6.6	•	•		
		Ramp Up	VDS200x	9.6.11		•		
		Noise	VDS200x	9.7.2	•	•		
		Batteryless	VDS200x + AutoWave	9.7.3		•		
		Inductive Load	UCS200x, MPG200	9.7.4	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Inductance 2a	UCS200x, MPG200	9.7.5	•			
		Inductance 2b	VDS200x	9.7.5	•			
		Neg. Coupling	UCS200x, EFT200	9.7.6	•			
		Pos. Coupling	UCS200x, EFT200	9.7.6	•			
		Cranking	VDS200x	9.7.7	•	•		
		Loaddump	LD200x	9.7.8	•			
	24V Line	Overvoltage	VDS200x	VDS200x	9.6.5	•	•	
		Rev. Polarity	VDS200x	VDS200x	9.6.6	•	•	
		Ramp Up	VDS200x	VDS200x	9.6.11		•	
		Noise	VDS200x	VDS200x	9.7.2	•	•	
		Batteryless	VDS200x + AutoWave	VDS200x + AutoWave	9.7.3		•	
		Inductive Load	UCS200x, MPG200	UCS200x, MPG200	9.7.4	•		
		Inductance 2a	UCS200x, MPG200	UCS200x, MPG200	9.7.5	•		
		Inductance 2b	VDS200x	VDS200x	9.7.5	•		
		Neg. Coupling	UCS200x, EFT200	UCS200x, EFT200	9.7.6	•		
		Pos. Coupling	UCS200x, EFT200	UCS200x, EFT200	9.7.6	•		
		Cranking	VDS200x	VDS200x	9.7.7	•	•	
		Loaddump	LD200x	LD200x	9.7.8	•		
		Magnetic Field	AutoWave + AMP200Nx + CN200N1, CWS500N3	AutoWave + AMP200Nx + CN200N1, CWS500N3	9.7.18		•	
		Case New Holland ENS0310 (Rev K, 2013-12)	12V Line	13.3.2 Reverse Polarity Test	VDS200x	13.3.2	•	•
13.3.3 Over Voltage Test	VDS200x			13.3.3	•	•		
13.3.4 Jump Start	VDS200x			13.3.4	•	•		
13.7.2 Power Up Operational Requirements	VDS200x			13.7.2	•	•		
13.7.5 Superimposed Alternating Voltage on Supply lines	AutoWave + VDS200x			13.7.5	•	•		
13.7.6 Start Cycle	VDS200x			13.7.6	•	•		
13.7.7 Sinusoid Changes of Supply Voltage	VDS200x			13.7.7	•	•		
13.7.8 Slow Decrease and Increase of Supply Voltage	AutoWave + VDS200x			13.7.8	•	•		
13.7.9.2 Discontinuities in Voltage Supply - Procedure 1	VDS200x			13.7.9.2	•	•		
13.7.9.3 Discontinuities in Voltage Supply - Procedure 2	PFS200x, VDS200x + AutoWave			13.7.9.3	•	•		
13.7.9.4 Discontinuities in Voltage Supply - Procedure 3	VDS200x			13.7.9.4	•	•		
13.7.9.5 Discontinuities in Voltage Supply - Procedure 4	PFS200x, VDS200x + AutoWave			13.7.9.5	•	•		
13.7.10.2 Load Dump - Procedure 1	LD200x			13.7.10.2	•			
13.7.10.3 Load Dump - Procedure 2	LD200Nx Clip, LD200x + diode			13.7.10.3	•			
13.7.11.1 Accessory Noise Test	VDS200x			13.7.11.1	•	•		
13.7.11.2 Battery less Operation Test	VDS200x + AutoWave			13.7.11.2	•	•		
14.7.2.1 Inductive Load Switching (negative spikes)	UCS200x, MPG200			14.7.2.1	•			
14.7.2.2.2 Positive Inductance Transient Tests - Procedure 1				14.7.2.2.2	•			
14.7.2.2.3 Positive Inductance Transient Tests - Procedure 2	VDS200x			14.7.2.2.3	•	•		
14.7.2.3.2 Positive and Negative Burst Coupling - Procedure 1	UCS200x, EFT200			14.7.2.3.2	•			
14.7.2.3.3 Positive and Negative Burst Coupling - Procedure 2	UCS200x, EFT200		14.7.2.3.3	•				
14.7.2.3.4 Positive and Negative Burst Coupling - Procedure 3	VDS200x		14.7.2.3.4	•	•			
14.7.6 Magnetic Field Immunity Test	AutoWave + AMP200Nx + CN200N1, CWS500N3		14.7.6		•	•		
24V Line	13.3.2 Reverse Polarity Test		VDS200x	VDS200x	13.3.2	•	•	
	13.3.3 Over Voltage Test		VDS200x	VDS200x	13.3.3	•	•	
	13.3.4 Jump Start		VDS200x	VDS200x	13.3.4	•	•	
	13.7.2 Power Up Operational Requirements		VDS200x	VDS200x	13.7.2	•	•	
	13.7.5 Superimposed Alternating Voltage on Supply lines		AutoWave + VDS200x	13.7.5	•	•		
	13.7.6 Start Cycle		VDS200x	13.7.6	•	•		
	13.7.7 Sinusoid Changes of Supply Voltage		VDS200x	13.7.7	•	•		
	13.7.8 Slow Decrease and Increase of Supply Voltage		AutoWave + VDS200x	13.7.8	•	•		
	13.7.9.2 Discontinuities in Voltage Supply - Procedure 1		VDS200x	13.7.9.2	•	•		
	13.7.9.3 Discontinuities in Voltage Supply - Procedure 2	PFS200x, VDS200x + AutoWave	13.7.9.3	•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		13.7.9.4 Discontinuities in Voltage Supply - Procedure 3	VDS200x	13.7.9.4	•	•	
		13.7.9.5 Discontinuities in Voltage Supply - Procedure 4	PFS200x, VDS200x + AutoWave	13.7.9.5	•	•	
		13.7.10.2 Load Dump - Procedure 1	LD200x	13.7.10.2	•		
		13.7.10.3 Load Dump - Procedure 2	LD200Nx Clip, LD200x + diode	13.7.10.3	•		
		13.7.11.1 Accessory Noise Test	VDS200x	13.7.11.1	•	•	
		13.7.11.2 Battery less Operation Test	VDS200x + AutoWave	13.7.11.2	•	•	
		14.7.2.1 Inductive Load Switching (negative spikes)	UCS200x, MPG200	14.7.2.1	•		
		14.7.2.2.2 Positive Inductance Transient Tests - Procedure 1		14.7.2.2.2	•		
		14.7.2.2.3 Positive Inductance Transient Tests - Procedure 2	VDS200x	14.7.2.2.3	•	•	
		14.7.2.3.2 Positive and Negative Burst Coupling - Procedure 1	UCS200x, EFT200	14.7.2.3.2	•		
		14.7.2.3.3 Positive and Negative Burst Coupling - Procedure 2	UCS200x, EFT200	14.7.2.3.3	•		
		14.7.2.3.4 Positive and Negative Burst Coupling - Procedure 3	VDS200x	14.7.2.3.4	•	•	
		14.7.6 Magnetic Field Immunity Test	AutoWave + AMP200Nx + CN200N1, CWS500N3	14.7.6		•	•
		12V I/O	14.7.1 CCC Fast a	UCS200x, EFT200	14.7.1	•	
	14.7.1 CCC Fast b		UCS200x, EFT200	14.7.1	•		
	14.7.1 DCC Fast a		UCS200x, EFT200	14.7.1	•		
	14.7.1 DCC Fast b		UCS200x, EFT200	14.7.1	•		
	14.7.1 DCC Slow pos.		UCS200x, MPG200	14.7.1	•		
	14.7.1 DCC Slow neg.		UCS200x, MPG200	14.7.1	•		
	14.7.1 ICC Slow pos.		UCS200x, MPG200	14.7.1	•		
	14.7.1 ICC Slow neg.		UCS200x, MPG200	14.7.1	•		
	24V I/O	14.7.1 CCC Fast a	UCS200x, EFT200	14.7.1	•		
		14.7.1 CCC Fast b	UCS200x, EFT200	14.7.1	•		
		14.7.1 DCC Fast a	UCS200x, EFT200	14.7.1	•		
		14.7.1 DCC Fast b	UCS200x, EFT200	14.7.1	•		
		14.7.1 DCC Slow pos.	UCS200x, MPG200	14.7.1	•		
		14.7.1 DCC Slow neg.	UCS200x, MPG200	14.7.1	•		
		14.7.1 ICC Slow pos.	UCS200x, MPG200	14.7.1	•		
		14.7.1 ICC Slow neg.	UCS200x, MPG200	14.7.1	•		
<b>Caterpillar EC-42 (Rev.4, 2015-05)</b>	12V Line	Pulse 1 : Inductive Kickback	UCS200x, MPG 200	4.3.8.1	•		
		Pulse 2a : Sudden Interruption of Current	UCS200x, MPG 200	4.3.8.2	•		
		Pulse 2b : DC Motor Field Decay	VDS200x	4.3.8.3	•	•	
		Pulse 3a : Negative Switching Supply	UCS200x, EFT200	4.3.8.4	•		
		Pulse 3b : Positive Switching Supply	UCS200x, EFT200	4.3.8.5	•	•	
		Pulse 4 : Cranking Waveform	VDS200x	4.3.8.6	•		
		Pulse 5a : Voltage Mode Load Dump	LD200Nx, LD200M	4.3.8.7	•		
	24V Line	Pulse 1 : Inductive Kickback	UCS200x, MPG 200	4.3.8.1	•		
		Pulse 2a : Sudden Interruption of Current	UCS200x, MPG 200	4.3.8.2	•		
		Pulse 2b : DC Motor Field Decay	VDS200x	4.3.8.3	•	•	
		Pulse 3a : Negative Switching Supply	UCS200x, EFT200	4.3.8.4	•		
		Pulse 3b : Positive Switching Supply	UCS200x, EFT200	4.3.8.5	•	•	
		Pulse 4 : Cranking Waveform	VDS200x	4.3.8.6	•		
		Pulse 5a : Voltage Mode Load Dump	LD200Nx, LD200M	4.3.8.7	•		
<b>Chrysler PF 9326 (Rev. C, 1998-01)</b>	12V Line	Volt Extremes	VDS200x	3.4.2	•		
		Reverse Voltage	VDS200x	3.4.2	•		
		Pulse 1	UCS200x, MPG200	3.5.2	•		
		Pulse 2	UCS200x, MPG200	3.5.2	•		
		Pulse 3a	UCS200x, EFT200	3.5.2	•		
		Pulse 3b	UCS200x, EFT200	3.5.2	•		
		Pulse 5a	LD200xB1	3.5.3	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	3.5.3	•		
		Dips	PFS200x + RDS200	3.5.5	•		
		Dropouts	PFS200x	3.5.5	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Ramp Up	VDS200x	3.5.6	•			
		Ramp Down	VDS200x + AutoWave	3.5.7	•			
		Cranking	VDS200x	3.5.8	•			
	12V I/O	Pulse 2 neg	UCS200x, MPG200	3.6.3	•			
		Pulse 2 pos	UCS200x, MPG200	3.6.3	•			
		Pulse 3a	UCS200x, EFT200	3.6.3	•			
		Pulse 3b	UCS200x, EFT200	3.6.3	•			
		Mech. Swit. 1	PFS200x	3.6.2	•			
	Chrysler LLC PF 9236 (Rev. D, 2001-07)	12V Line	Mech. Swit. 2	PFS200x	3.6.2	•		
			Volt Extremes	VDS200x	3.4.2	•		
			Reverse Voltage	VDS200x	3.4.2	•		
			Pulse 1	UCS200x, MPG200	3.5.2	•		
			Pulse 2	UCS200x, MPG200	3.5.2	•		
			Pulse 3a	UCS200x, EFT200	3.5.2	•		
Pulse 3b			UCS200x, EFT200	3.5.2	•			
Pulse 5a Ramp			LD200Nx, LD200B1	3.5.3	•			
Pulse 5a			LD200Nx, LD200B1	3.5.3	•			
Pulse 5b Ramp			LD200Nx Clip, LD200x + diode	3.5.3	•			
Pulse 5b			LD200Nx Clip, LD200x + diode	3.5.3	•			
Dips			PFS200x + RDS200	3.5.5	•			
Dropouts			PFS200x	3.5.5	•			
Ramp Up		VDS200x	3.5.6	•				
Ramp Down	VDS200x + AutoWave	3.5.7	•					
Cranking	VDS200x	3.5.8	•					
12V I/O	Pulse 2 neg	UCS200x, MPG200	3.6.3	•				
	Pulse 2 pos	UCS200x, MPG200	3.6.3	•				
	Pulse 3a	UCS200x, EFT200	3.6.3	•				
	Pulse 3b	UCS200x, EFT200	3.6.3	•				
	Chrysler LLC CS-11809 (2009-05)	12V Line	Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	4.1.3		•	•
Supply Voltage Ripple (Verify Source Impedance)			AutoWave + AMP200Nx + CN200N1, CWS500N3	4.1.3		•	•	
Supply Voltage Drop Out			PFS200x, AutoWave + PFM200Nx	4.2.2	•	•		
Voltage Dips			PFS200x + RDS200, VDS200 + AutoWave	4.2.3	•	•		
Cold Cranking			VDS200x	4.2.4	•	•		
Warm Cranking			VDS200x + AutoWave	4.2.5	•	•		
Ramp Up			VDS200x + AutoWave	4.2.6	•	•		
Ramp Down			VDS200x + AutoWave	4.2.7	•	•		
Defective Regulation			VDS200x	4.3.1	•	•		
Jump Start			VDS200x	4.3.2	•	•		
Load Dump			VDS200N, VDS200B	4.3.3	•	•		
Transient Overvoltage			VDS200N, VDS200B	4.3.4	•	•		
Reverse Supply Voltage			VDS200x	4.3.5	•	•		
Magnetic Field Immunity			AutoWave + AMP200Nx, CWS500N3	6.3		•	•	
Magnetic Field Immunity (Verify H-Field)			AutoWave + AMP200Nx, CWS500N3	6.3		•	•	
Pulse 1			UCS200x, MPG200	6.4.1	•			
Pulse 1b			UCS200x, MPG200	6.4.1	•			
Pulse 2			UCS200x, MPG200	6.4.1	•			
Pulse 3a			UCS200x, EFT200	6.4.1	•			
Pulse 3b			UCS200x, EFT200	6.4.1	•			
24V Line		Pulse 1	UCS200x, MPG200	6.4.1	•			
		Pulse 1b	UCS200x, MPG200	6.4.1	•			
		Pulse 2	UCS200x, MPG200	6.4.1	•			
		Pulse 3a	UCS200x, EFT200	6.4.1	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
	12V I/O	Pulse 3b	UCS200x, EFT200	6.4.1	•			
		Pulse a	UCS200x, EFT200	6.4.2	•			
		Pulse b	UCS200x, EFT200	6.4.2	•			
		Pulse 2 pos	UCS200x, MPG200	6.4.3	•			
		Pulse 2 neg	UCS200x, MPG200	6.4.3	•			
		LED Transient Test a	UCS200x, EFT200	6.4.4	•			
		LED Transient Test b	UCS200x, EFT200	6.4.4	•			
	24V I/O	Pulse a	UCS200x, EFT200	6.4.2	•			
		Pulse b	UCS200x, EFT200	6.4.2	•			
		Pulse 2 pos	UCS200x, MPG200	6.4.3	•			
		Pulse 2 neg	UCS200x, MPG200	6.4.3	•			
		LED Transient Test a	UCS200x, EFT200	6.4.4	•			
		LED Transient Test b	UCS200x, EFT200	6.4.4	•			
	42V I/O	Pulse 2 pos	UCS200x, MPG200	6.4.3	•			
		Pulse 2 neg	UCS200x, MPG200	6.4.3	•			
	<b>Chrysler LLC CS-11979 (Change A, 2010-04)</b>	12V Line	Supply Voltage Ripple	VDS200x + AutoWave	4.1.3	•	•	
			Supply Voltage Ripple (Verify Source Impedance)	VDS200x	4.1.3	•	•	
			Supply Voltage Drop Out	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	4.2.2	•	•	
Reset Behavior at Voltage Drop			VDS200x + AutoWave	4.2.4	•	•		
Supply Voltage Dips			PFS200x	4.2.5	•	•		
Cold Cranking			VDS200x	4.2.6	•	•		
Warm Cranking			VDS200x	4.2.7	•	•		
Slow decrease and increase			VDS200x	4.2.8	•	•		
Defective Regulation			VDS200x	4.3.1	•	•		
Jump Start			VDS200x	4.3.1	•	•		
Reverse Voltage			VDS200x	4.3.2	•	•		
Magnetic Field Immunity			AutoWave + AMP200Nx, CWS500N3	6.3		•	•	
Pulse 1			UCS200x, MPG200	6.4.1	•			
Pulse 1b			UCS200x, MPG200	6.4.1	•			
Pulse 2		UCS200x, MPG200	6.4.1	•				
Pulse 3a		UCS200x, EFT200	6.4.1	•				
Pulse 3b		UCS200x, EFT200	6.4.1	•				
Pulse 5b		LD200Nx Clip, LD200x + diode	6.4.1	•				
24V Line		Pulse 1	UCS200x, MPG200	6.4.1	•			
		Pulse 1b	UCS200x, MPG200	6.4.1	•			
		Pulse 2	UCS200x, MPG200	6.4.1	•			
		Pulse 3a	UCS200x, EFT200	6.4.1	•			
		Pulse 3b	UCS200x, EFT200	6.4.1	•			
		Pulse 5b	LD200Nx Clip, LD200x + diode	6.4.1	•			
12V I/O		Fast Pulse a	UCS200x, EFT200	6.4.2	•			
		Fast Pulse b	UCS200x, EFT200	6.4.2	•			
		Pulse 2 pos	UCS200x, MPG200	6.4.3	•			
	Pulse 2 neg	UCS200x, MPG200	6.4.3	•				
	LED Transient Test a	UCS200x, EFT200	6.4.4	•				
	LED Transient Test b	UCS200x, EFT200	6.4.4	•				
24V I/O	Fast Pulse a	UCS200x, EFT200	6.4.2	•				
	Fast Pulse b	UCS200x, EFT200	6.4.2	•				
	Pulse 2 pos	UCS200x, MPG200	6.4.3	•				
	Pulse 2 neg	UCS200x, MPG200	6.4.3	•				
	LED Transient Test a	UCS200x, EFT200	6.4.4	•				
	LED Transient Test b	UCS200x, EFT200	6.4.4	•				
<b>China Motor Company ES-X82010</b>	12V Line	Electric Load 1	VDS200x + AutoWave	4.2.1	•	•		
		Electric Load 2	VDS200x	4.2.1	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
<b>(Rev. 0, 2005-10)</b>		Electric Load 3	VDS200x	4.2.1	•	•		
		Engine Start 1	VDS200x + AutoWave	4.2.2	•	•		
		Engine Start 2	VDS200x	4.2.2	•	•		
		Engine Start 3	VDS200x	4.2.3	•	•		
		Chattering	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	4.3	•	•		
		Key Switch	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	4.3	•	•		
		Inverse Polarity	VDS200x	4.4	•	•		
		Overvoltage A	VDS200x	4.5	•	•		
		Overvoltage B	VDS200x	4.5	•	•		
		Interruption	VDS200x	4.6	•	•		
		Pulse 1	UCS200x, MPG200	4.7.1	•			
		Pulse 2	UCS200x, MPG200	4.7.1	•			
		Pulse 3a	UCS200x, EFT200	4.7.1	•			
		Pulse 3b	UCS200x, EFT200	4.7.1	•			
		Pulse 5	LD200x	4.7.1	•			
		12V I/O	Pulse 3a	UCS200x, EFT200	4.7.2	•		
			Pulse 3b	UCS200x, EFT200	4.7.2	•		
		<b>Claas CN 05 0215 (2004-12)</b>	12V Line	Overvoltage	VDS200x	4.1.1	•	•
Jumpstart	VDS200x			4.1.1	•	•		
Reversed Polarity	VDS200x			4.1.1	•	•		
Slow decrease	VDS200x			4.1.2	•	•		
Slow increase	VDS200x			4.1.2	•	•		
Voltage Drop	VDS200x			4.1.3	•	•		
Superimp. Voltage	VDS200x			4.1.6	•	•		
Pulse 1	UCS200x, MPG200			4.5.1	•			
Pulse 2	UCS200x, MPG200			4.5.1	•			
Pulse 3a	UCS200x, EFT200			4.5.1	•			
Pulse 3b	UCS200x, EFT200			4.5.1	•			
Pulse 4	VDS200x			4.5.1	•			
Pulse 5 Clip.	LD200x			4.5.1	•			
Pulse 5	LD200x			4.5.1	•			
24V Line	Overvoltage			VDS200x	4.2.2	•	•	
	Jumpstart		VDS200x	4.1.1	•	•		
	Reversed Polarity		VDS200x	4.1.1	•	•		
	Slow decrease		VDS200x	4.1.2	•	•		
	Slow increase		VDS200x	4.1.2	•	•		
	Voltage Drop		VDS200x	4.1.3	•	•		
	Superimp. Voltage		VDS200x	4.1.6	•	•		
	Pulse 1		UCS200x, MPG200	4.5.1	•			
	Pulse 2		UCS200x, MPG200	4.5.1	•			
	Pulse 3a		UCS200x, EFT200	4.5.1	•			
	Pulse 3b		UCS200x, EFT200	4.5.1	•			
	Pulse 4		VDS200x	4.5.1	•			
	Pulse 5 Clip.		LD200x	4.5.1	•			
	Pulse 5		LD200x	4.5.1	•			
	12V I/O		Pulse 3a	UCS200x, EFT200	3.5.3	•		
	Pulse 3b		UCS200x, EFT200	3.5.3	•			
24V I/O	Pulse 3a		UCS200x, EFT200	3.5.3	•			
	Pulse 3b		UCS200x, EFT200	3.5.3	•			
<b>CTCT EMC-1 (Rev.1, 2016-04)</b>	12V Line		Pulse 1 : Inductive Kickback	UCS200x, MPG 200	3.1.5	•		
		Pulse 2a : Sudden Interruption of Current	UCS200x, MPG 200	3.1.5	•			
		Pulse 2b : DC Motor Field Decay	VDS200x	3.1.5	•	•		



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 3a : Negative Switching Supply	UCS200x, EFT200	3.1.5	•			
		Pulse 3b : Positive Switching Supply	UCS200x, EFT200	3.1.5	•	•		
		Pulse 4 : Cranking Waveform	VDS200x	3.1.5	•			
		Pulse 5a : Voltage Mode Load Dump	LD200Nx, LD200M	3.1.5	•			
	24V Line	Pulse 1 : Inductive Kickback	UCS200x, MPG 200	3.1.5	•			
		Pulse 2a : Sudden Interruption of Current	UCS200x, MPG 200	3.1.5	•			
		Pulse 2b : DC Motor Field Decay	VDS200x	3.1.5	•	•		
		Pulse 3a : Negative Switching Supply	UCS200x, EFT200	3.1.5	•			
		Pulse 3b : Positive Switching Supply	UCS200x, EFT200	3.1.5	•	•		
		Pulse 4 : Cranking Waveform	VDS200x	3.1.5	•			
		Pulse 5a : Voltage Mode Load Dump	LD200Nx, LD200M	3.1.5	•			
		Cummins 14269 (982022-026)	12V Line	Overvoltage	VDS200x	4.1	•	•
	Reverse Voltage			VDS200x	4.2	•	•	
	Power Interrupts			PFS200N, VDS200x + AutoWave	4.5	•	•	
Key Switch Decay	VDS200x + AutoWave			4.6	•	•		
Pulse 1	UCS200x, MPG200			5.7	•			
Pulse 2	UCS200x, MPG200			5.7	•			
Pulse 3a	UCS200x, EFT200			5.7	•			
Pulse 3b	UCS200x, EFT200			5.7	•			
Pulse 4	VDS200x			5.7	•	•		
Pulse 5	LD200x			5.7	•			
Pulse 6	UCS200x S5, MPG200			5.7	•			
Pulse 7	LD200x			5.7	•			
Key Switch A	UCS200x, MPG200			5.8	•			
Key Switch B	UCS200x, MPG200			5.8	•			
24V Line	Overvoltage		VDS200x	4.1	•	•		
	Reverse Voltage		VDS200x	4.2	•	•		
	Power Interrupts		PFS200x, VDS200x + AutoWave	4.5	•	•		
	Key Switch Decay		VDS200x + AutoWave	4.6	•	•		
	Pulse 1		UCS200x, MPG200	5.7	•			
	Pulse 1b		UCS200x, MPG200	5.7	•			
	Pulse 2		UCS200x, MPG200	5.7	•			
	Pulse 3a		UCS200x, EFT200	5.7	•			
	Pulse 3b	UCS200x, EFT200	5.7	•				
	Pulse 4	VDS200x	5.7	•	•			
Pulse 5	LD200x	5.7	•					
Pulse 6	UCS200x S5, MPG200	5.7	•					
Pulse 7	LD200x	5.7	•					
Key Switch A	UCS200x, MPG200	5.8	•					
Key Switch B	UCS200x, MPG200	5.8	•					
I/O	Pulse 1	UCS200x, MPG200 S15	5.9	•				
	Pulse 2	UCS200x, MPG200 S15	5.9	•				
Cummins 14269 (982022-028)	12V Line	Overvoltage	VDS200x	4.1	•	•		
		Reverse Voltage	VDS200x	4.2	•	•		
		Power Interrupts - Test A/B - 100us Interrupt	PFM200N100.1 (AW-LIC FAST)	4.5	•	•		
		Power Interrupts	PFS200N, PFM200Nx	4.5	•	•		
		Key Switch Decay	VDS200x + AutoWave	4.6	•	•		
		Pulse 1	UCS200x, MPG200	5.7	•			
		Pulse 2	UCS200x, MPG200	5.7	•			
		Pulse 3a	UCS200x, EFT200	5.7	•			
		Pulse 3b	UCS200x, EFT200	5.7	•			
		Pulse 4	VDS200x	5.7	•	•		
		Pulse 5	LD200x	5.7	•			
		Pulse 6	UCS200x S5, MPG200	5.7	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Pulse 7	LD200x	5.7	•		
		Key Switch A	UCS200x, MPG200	5.8	•		
		Key Switch B	UCS200x, MPG200	5.8	•		
	24V Line	Overvoltage	VDS200x	4.1	•	•	
		Reverse Voltage	VDS200x	4.2	•	•	
		Power Interrupts	PFS200x, PFM200Nx	4.5	•	•	
		Key Switch Decay	VDS200x + AutoWave	4.6	•	•	
		Pulse 1	UCS200x, MPG200	5.7	•		
		Pulse 1b	UCS200x, MPG200	5.7	•		
		Pulse 2	UCS200x, MPG200	5.7	•		
		Pulse 3a	UCS200x, EFT200	5.7	•		
		Pulse 3b	UCS200x, EFT200	5.7	•		
		Pulse 4	VDS200x	5.7	•	•	
		Pulse 5	LD200x	5.7	•		
		Pulse 6	UCS200x S5, MPG200	5.7	•		
		Pulse 7	LD200x	5.7	•		
		Key Switch A	UCS200x, MPG200	5.8	•		
	Key Switch B	UCS200x, MPG200	5.8	•			
	I/O	Pulse 1	UCS200x, MPG200 S15	5.9	•		
		Pulse 2	UCS200x, MPG200 S15	5.9	•		
<b>DAF BSL 0006-100 (2006-07)</b>	24V Line	Damage level or Jump start	VDS200x	2.2	•	•	
		Voltage drain	VDS200x + AutoWave	2.3		•	
		Reversing polarity	VDS200x	4.1	•	•	
		Pulse 1	UCS200x, MPG200	5.1	•		
		Pulse 2A	UCS200x, MPG200	5.1	•		
		Pulse 2B	VDS200x	5.1	•	•	
		Pulse 3A	UCS200x, EFT200	5.1	•		
		Pulse 3B	UCS200x, EFT200	5.1	•		
		Pulse 4	VDS200x	5.1	•	•	
		Pulse 5B	LD200Nx Clip, LD200x + diode	5.1	•		
I/O	Pulse A	UCS200x, EFT200	4.7.2	•			
	Pulse B	UCS200x, EFT200	4.7.2	•			
<b>DAF BSL 0006-100 (2009-04)</b>	24V Line	Damage level or Jump start	VDS200x	2.2	•	•	
		Voltage drain	VDS200x + AutoWave	2.3		•	
		Reversing polarity	VDS200x	4.1	•	•	
		Pulse 1	UCS200x, MPG200	5.1	•		
		Pulse 2A	UCS200x, MPG200	5.1	•		
		Pulse 2B	VDS200x	5.1	•	•	
		Pulse 3B	UCS200x, EFT200	5.1	•		
		Pulse 3A	UCS200x, EFT200	5.1	•		
		Pulse 4	VDS200x	5.1	•	•	
		Pulse 5A	LD200x	5.1	•		
Pulse 5B	LD200Nx Clip, LD200x + diode	5.1	•				
I/O	Pulse A	UCS200x, EFT200	4.7.2	•			
	Pulse B	UCS200x, EFT200	4.7.2	•			
<b>DIN 72300-2 (1998-10)</b>	12V Line	Overvoltage 1	VDS200x	4.2.1.1	•		
		Overvoltage 2	VDS200x	4.2.1.2	•		
		Wobble	VDS200x	4.3	•		
		Ramp Down	VDS200x	4.4	•		
		Ramp Up	VDS200x	4.4	•		
		Drop	VDS200x	4.5.1	•		
		Dips	VDS200x	4.5.2	•		
		Start	VDS200x	4.5.3	•		
		Reversed Voltage	VDS200x	4.6.1	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
	24V Line	Overvoltage	VDS200x	4.2.2	•		
		Wobble	VDS200x	4.3	•		
		Ramp Down	VDS200x	4.4	•		
		Ramp Up	VDS200x	4.4	•		
		Start	VDS200x	4.5.3	•		
		Reversed Voltage	VDS200x	4.6.2	•		
		<b>DIN</b> <b>72300-2</b> <b>(2000-07)</b>	12V Line	Overvoltage 1	VDS200x	5.3.1.1	•
Overvoltage 2	VDS200x			5.3.1.2	•	•	
Wobble	VDS200x			5.4	•	•	
Ramp Down	VDS200x			5.5	•	•	
Ramp Up	VDS200x			5.5	•	•	
Start	VDS200x			5.6.1	•	•	
Dips	VDS200x			5.6.2	•	•	
Drop	VDS200x			5.6.3	•	•	
Reversed Voltage	VDS200x		5.7	•	•		
24V Line	Overvoltage		VDS200x	5.3.2	•	•	
	Wobble		VDS200x	5.4	•	•	
	Ramp Down		VDS200x	5.5	•	•	
	Ramp Up		VDS200x	5.5	•	•	
	Start		VDS200x	5.6.1	•	•	
	Dips	VDS200x	5.6.2	•	•		
	Reversed Voltage	VDS200x	5.7	•	•		
<b>Daihatsu</b> <b>DTSC 7034G</b> <b>(Rev. 2, 2016-09)</b>	12V Line	Test 1	UCS200x, MPG200	5.2.4	•		
		Test 2-1	UCS200x, MPG200	5.2.4	•		
		Test 2-2	VDS200x	5.2.4	•	•	
		Test 3-1	UCS200x, EFT200	5.2.4	•		
		Test 3-2	UCS200x, EFT200	5.2.4	•		
		Test 4	VDS200x	5.2.4	•	•	
		Test 5-1	LD200x	5.2.4	•		
		Test 5-2	LD200Nx Clip, LD200x + diode	5.2.4	•		
	24V Line	Test 1	UCS200x, MPG200	5.2.4	•		
		Test 2-1	UCS200x, MPG200	5.2.4	•		
		Test 2-2	VDS200x	5.2.4	•	•	
		Test 3-1	UCS200x, EFT200	5.2.4	•		
		Test 3-2	UCS200x, EFT200	5.2.4	•		
		Test 4	VDS200x	5.2.4	•	•	
Test 5-1		LD200x	5.2.4	•			
12V I/O	Pulse 3a	UCS200x, EFT200	5.3.4	•			
	Pulse 3b	UCS200x, EFT200	5.3.4	•			
24V I/O	Pulse 3a	UCS200x, EFT200	5.3.4	•			
	Pulse 3b	UCS200x, EFT200	5.3.4	•			
<b>DaimlerChrysler</b> <b>PF-10540</b> <b>(Rev. A, 2003-10)</b>	12V Line	Pulse 1	UCS200x, MPG200	3.5.2	•		
		Pulse 2	UCS200x, MPG200	3.5.2	•		
		Pulse 3a	UCS200x, EFT200	3.5.2	•		
		Pulse 3b	UCS200x, EFT200	3.5.2	•		
		Pulse 5a Ramp	LD200xB1	3.5.3	•		
		Pulse 5a	LD200xB1	3.5.3	•		
		Pulse 5b Ramp	LD200Nx Clip, LD200x + diode	3.5.3	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	3.5.3	•		
	12V I/O	Pulse 2 neg	UCS200x, MPG200	3.6.3	•		
		Pulse 2 pos	UCS200x, MPG200	3.6.3	•		
Pulse 3a		UCS200x, EFT200	3.6.3	•			
Pulse 3b		UCS200x, EFT200	3.6.3	•			
<b>DaimlerChrysler</b>	12V Line	Ramp Up	VDS200x	3.4.2	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>PF-10541</b> <b>(Rev. A, 2003-12)</b>		Voltage Extremes	VDS200x	3.4.2	•	•	
		Reverse Voltage	VDS200x	3.4.2	•	•	
		Dips	PFS200x + RDS200, VDS200 + AutoWave	3.5.5	•	•	
		Dropouts	PFS200x	3.5.5	•		
		Ramp Up	VDS200x	3.5.6	•	•	
		Ramp Down	VDS200x + AutoWave	3.5.7	•	•	
		Cranking	VDS200x	3.5.8	•	•	
<b>DaimlerChrysler</b> <b>DC-10614</b> <b>(2002-09)</b>	12V Line	Pulse 1 Ramp	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	24V Line	Pulse 1 Ramp	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	42V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
	12V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse a	UCS200x, EFT200	9.2.5.1	•		
		Pulse b	UCS200x, EFT200	9.2.5.1	•		
	24V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse a	UCS200x, EFT200	9.2.5.1	•		
		Pulse b	UCS200x, EFT200	9.2.5.1	•		
	42V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
Pulse a		UCS200x, EFT200	9.2.5.1	•			
Pulse b		UCS200x, EFT200	9.2.5.1	•			
<b>DaimlerChrysler</b> <b>DC-10614</b> <b>(Rev. A, 2004-01)</b>	12V Line	Magnetic Field Immunity	CWS500N3	8.0			•
		Pulse 1 Ramp	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
		24V Line	Pulse 1 Ramp	UCS200x, MPG200	9.1.4.1	•	
Pulse 1	UCS200x, MPG200		9.1.4.1	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	42V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	12V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse a	UCS200x, EFT200	9.2.5.1	•		
		Pulse b	UCS200x, EFT200	9.2.5.1	•		
	24V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse a	UCS200x, EFT200	9.2.5.1	•		
		Pulse b	UCS200x, EFT200	9.2.5.1	•		
	42V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
Pulse a		UCS200x, EFT200	9.2.5.1	•			
Pulse b		UCS200x, EFT200	9.2.5.1	•			
<b>DaimlerChrysler DC-10614 (Rev. B, 2005-03)</b>	12V Line	Pulse 1 Ramp	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	24V Line	Pulse 1 Ramp	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	42V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2 Ramp	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b Ramp	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
12V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•			
	Pulse 2 neg	UCS200x, MPG200	9.2.5	•			
	Pulse a	UCS200x, EFT200	9.2.5.1	•			
	Pulse b	UCS200x, EFT200	9.2.5.1	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
	24V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse a	UCS200x, EFT200	9.2.5.1	•		
		Pulse b	UCS200x, EFT200	9.2.5.1	•		
	42V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse a	UCS200x, EFT200	9.2.5.1	•		
		Pulse b	UCS200x, EFT200	9.2.5.1	•		
<b>DaimlerChrysler DC-10615 (2002-11)</b>	12V Line	Reverse Battery	VDS200x	6.4	•		
		Drop Out	PFS200x	7.1	•		
		Switch On	VDS200x + AutoWave	7.2.2	•		
		Voltage Dips	PFS200x + RDS200	7.3	•		
		Memory Test	VDS200x	7.4.1	•		
		Cranking	VDS200x	7.4.2	•		
		Initialisation	VDS200x	7.4.3	•		
		Ramp Up	VDS200x	7.5	•		
		Ramp Down	VDS200x	7.6	•		
		Defective Regulation	VDS200x	8.1	•		
		Jump Start	VDS200x	8.2	•		
		Load Dump	VDS200N, VDS200B	8.3	•		
<b>DaimlerChrysler DC-10615 (Rev. A, 2003-05)</b>	12V Line	Drop Out	PFS200x	7.2	•		
		Voltage Dips	PFS200x + RDS200, VDS200 + AutoWave	7.3	•		
		Low Voltage	VDS200x	7.4	•		
		Ramp Up	VDS200x	7.5	•		
		Ramp Down	VDS200x	7.6	•		
		Defective Regulation	VDS200x	8.1	•		
		Jump Start	VDS200N, VDS200B	8.2	•		
		Load Dump	VDS200 B	8.3	•		
		Reverse Battery	VDS200x	8.4	•		
		<b>DaimlerChrysler DC-10615 (Rev. B, 2004-08)</b>	12V Line	Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3	
Supply Voltage Ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1, CWS500N3			6.3		•	•
Supply Voltage Drop Out	PFS200x, AutoWave + PFM200Nx			7.2	•	•	
Voltage Dips	PFS200x + RDS200, VDS200 + AutoWave			7.3	•	•	
Low Voltage	VDS200x			7.4	•	•	
Ramp Up	VDS200x			7.5	•	•	
Ramp Down	VDS200x			7.6	•	•	
Defective Regulation	VDS200x			8.1	•	•	
Jump Start	VDS200N, VDS200B			8.2	•	•	
Load Dump	VDS200N, VDS200B			8.3	•	•	
Reverse Battery	VDS200x			8.4	•	•	
Operating and Voltage Stress	VDS200x			10.1		•	
<b>DaimlerChrysler DC-10615 (Rev. C, 2006-04)</b>	12V Line	Supply Voltage Ripple	CWS500N3	6.3			•
		Supply Voltage Ripple (Verify Source Impedance)	CWS500N3	6.3			•
		Drop Out	PFS200x	7.2	•		
		Voltage Dips	PFS200x + RDS200	7.3	•		
		Low Voltage	VDS200x	7.4	•		
		Ramp Up	VDS200x	7.5	•		
		Ramp Down	VDS200x	7.6	•		
		Defective Regulation	VDS200x	8.1	•		
		Jump Start	VDS200x	8.2	•		
		Load Dump	VDS200N, VDS200B	8.3	•		
		Reverse Battery	VDS200x	8.4	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>DaimlerChrysler DC-10615 (Rev. D, 2007-05)</b>	12V Line	Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3		•	•
		Supply Voltage Ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3		•	•
		Supply Voltage Drop Out	PFS200x, AutoWave + PFM200Nx	7.2	•	•	
		Voltage Dips	PFS200x + RDS200, VDS200 + AutoWave	7.3	•	•	
		Cold Cranking	VDS200x	7.4	•	•	
		Warm Cranking	VDS200x + AutoWave	7.4	•	•	
		Ramp Up	VDS200x + AutoWave	7.6	•	•	
		Ramp Down	VDS200x + AutoWave	7.7	•	•	
		Defective Regulation	VDS200x	8.1	•	•	
		Jump Start	VDS200x	8.2	•	•	
		Load Dump	VDS200N, VDS200B	8.3	•	•	
		Transient Overvoltage	VDS200N, VDS200B	8.4	•	•	
		Reverse Supply Voltage	VDS200x	8.5	•	•	
		Operating and Voltage Stress	VDS200x	10.1		•	
<b>DaimlerChrysler DC-10615 (Rev. E, 2007-12)</b>	12V Line	Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	7.1		•	•
		Supply Voltage Ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1, CWS500N3	7.1		•	•
		Supply Voltage Drop Out	PFS200x, AutoWave + PFM200Nx	7.2	•	•	
		Voltage Dips	PFS200x + RDS200, VDS200 + AutoWave	7.3	•	•	
		Cold Cranking	VDS200x	7.4	•	•	
		Warm Cranking	VDS200x + AutoWave	7.4	•	•	
		Ramp Up	VDS200x + AutoWave	7.6	•	•	
		Ramp Down	VDS200x + AutoWave	7.7	•	•	
		Defective Regulation	VDS200x	8.1	•	•	
		Jump Start	VDS200x	8.2	•	•	
		Load Dump	VDS200N, VDS200B	8.3	•	•	
		Transient Overvoltage	VDS200N, VDS200B	8.4	•	•	
		Reverse Supply Voltage	VDS200x	8.5	•	•	
		Operating and Voltage Stress	VDS200x	10.1		•	
<b>DaimlerChrysler DC-11224 (2006-10)</b>	12V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1b	UCS200x, MPG200	9.1.4.2	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	24V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 1b	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	42V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•		
		Pulse 2	UCS200x, MPG200	9.1.4.2	•		
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•		
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•		
	12V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse 3a	UCS200x, EFT200	9.2.5.1	•		
		Pulse 3b	UCS200x, EFT200	9.2.5.1	•		
	24V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
Pulse 3a		UCS200x, EFT200	9.2.5.1	•			
Pulse 3b		UCS200x, EFT200	9.2.5.1	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
<b>DaimlerChrysler DC-11224 (Rev A, 2007-05)</b>	42V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•			
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•			
		Pulse 3a	UCS200x, EFT200	9.2.5.1	•			
		Pulse 3b	UCS200x, EFT200	9.2.5.1	•			
			Magnetic Field Immunity	AutoWave + AMP200Nx, CWS500N3	8.0		•	•
			Magnetic Field Immunity (Verify H-Field)	AutoWave + AMP200Nx, CWS500N3	8.0		•	•
	12V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•			
		Pulse 1b	UCS200x, MPG200	9.1.4.2	•			
		Pulse 2	UCS200x, MPG200	9.1.4.2	•			
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•			
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•			
	24V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•			
		Pulse 1b	UCS200x, MPG200	9.1.4.1	•			
		Pulse 2	UCS200x, MPG200	9.1.4.2	•			
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•			
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•			
42V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•				
	Pulse 2	UCS200x, MPG200	9.1.4.2	•				
	Pulse 3a	UCS200x, EFT200	9.1.4.3	•				
	Pulse 3b	UCS200x, EFT200	9.1.4.3	•				
12V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•				
	Pulse 2 neg	UCS200x, MPG200	9.2.5	•				
	Pulse 3a	UCS200x, EFT200	9.2.5.1	•				
	Pulse 3b	UCS200x, EFT200	9.2.5.1	•				
24V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•				
	Pulse 2 neg	UCS200x, MPG200	9.2.5	•				
	Pulse 3a	UCS200x, EFT200	9.2.5.1	•				
	Pulse 3b	UCS200x, EFT200	9.2.5.1	•				
42V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•				
	Pulse 2 neg	UCS200x, MPG200	9.2.5	•				
	Pulse 3a	UCS200x, EFT200	9.2.5.1	•				
	Pulse 3b	UCS200x, EFT200	9.2.5.1	•				
<b>DaimlerChrysler DC-11224 (Rev. A, Addendum) (2008-04)</b>		Magnetic Field Immunity	AutoWave + AMP200Nx, CWS500N3	8.0		•	•	
		Magnetic Field Immunity (Verify H-Field)	AutoWave + AMP200Nx, CWS500N3	8.0		•	•	
	12V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•			
		Pulse 1b	UCS200x, MPG200	9.1.4.2	•			
		Pulse 2	UCS200x, MPG200	9.1.4.2	•			
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•			
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•			
	24V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•			
		Pulse 1b	UCS200x, MPG200	9.1.4.1	•			
		Pulse 2	UCS200x, MPG200	9.1.4.2	•			
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•			
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•			
	42V Line	Pulse 1	UCS200x, MPG200	9.1.4.1	•			
		Pulse 2	UCS200x, MPG200	9.1.4.2	•			
		Pulse 3a	UCS200x, EFT200	9.1.4.3	•			
		Pulse 3b	UCS200x, EFT200	9.1.4.3	•			
12V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•				
	Pulse 2 neg	UCS200x, MPG200	9.2.5	•				
	Pulse 3a	UCS200x, EFT200	9.2.5.1	•				
	Pulse 3b	UCS200x, EFT200	9.2.5.1	•				
	LED Transient Test a	UCS200x, EFT200		•				
	LED Transient Test b	UCS200x, EFT200		•				



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
	24V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse 3a	UCS200x, EFT200	9.2.5.1	•		
		Pulse 3b	UCS200x, EFT200	9.2.5.1	•		
	42V I/O	Pulse 2 pos	UCS200x, MPG200	9.2.5	•		
		Pulse 2 neg	UCS200x, MPG200	9.2.5	•		
		Pulse 3a	UCS200x, EFT200	9.2.5.1	•		
		Pulse 3b	UCS200x, EFT200	9.2.5.1	•		
<b>DaimlerChrysler DC-10842 (2003-12)</b>	12V Line	Overvoltage	VDS200x	4.3.1	•	•	
		Series Changing	VDS200x	4.3.2	•	•	
		Wobble	VDS200x + AutoWave	4.4	•	•	
		Drop Out	PFS200x	4.5.2	•		
		Dips	VDS200x	4.5.3	•		
		Start	VDS200x	4.5.4	•		
		Reversed Voltage	VDS200x	4.6	•		
		Ramp Up	VDS200x	4.12	•		
		Ramp Down	VDS200x	4.13	•		
		Load Dump 1	VDS200x	4.14.1	•		
	Load Dump 2	LD200Nx, LD200 S2	4.14.2	•			
	24V Line	Overvoltage	VDS200x	4.3.1	•	•	
		Series Changing	VDS200x	4.3.2	•	•	
		Wobble	VDS200x	4.4	•	•	
		Drop Out	PFS200x	4.5.2	•		
		Dips	VDS200x	4.5.3	•		
		Start	VDS200x	4.5.4	•		
		Ramp Up	VDS200x	4.12	•		
Ramp Down		VDS200x	4.13	•			
Load Dump 1	VDS200x	4.14.1	•				
Load Dump 2	LD200Nx, LD200 S2	4.14.2	•				
<b>ECE R10 (Rev 4, 2012-03)</b>	12V Line	Pulse 1	UCS200x, MPG200		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•	•	
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•	•	
	24V Line	Pulse 1	UCS200x, MPG200		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•	•	
		Pulse 3a	UCS200x, EFT200		•		
Pulse 3b	UCS200x, EFT200		•				
Pulse 4	VDS200x		•	•			
<b>ECE R10 (Rev 5, 2014-10)</b>	12V Line	Pulse 1	UCS200x, MPG200		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•	•	
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•	•	
	24V Line	Pulse 1	UCS200x, MPG200		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•	•	
		Pulse 3a	UCS200x, EFT200		•		
Pulse 3b	UCS200x, EFT200		•				
Pulse 4	VDS200x		•	•			
<b>ETS</b>	12V Line	Pulse 1	UCS200x, MPG200		•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
<b>300 329</b> <b>(1994-06)</b>		Pulse 2	UCS200x, MPG200		•			
		Pulse 3a	UCS200x, EFT200		•			
		Pulse 3b	UCS200x, EFT200		•			
		Pulse 4	VDS200x		•			
		Pulse 7	LD200x		•			
		24V Line	Pulse 1a	UCS200x, MPG200		•		
			Pulse 1b	UCS200x, MPG200		•		
	Pulse 2		UCS200x, MPG200		•			
	Pulse 3a		UCS200x, EFT200		•			
	Pulse 3b		UCS200x, EFT200		•			
	Pulse 4		VDS200x		•			
	<b>ETS</b> <b>300 340</b> <b>(1994-06)</b>		12V Line	Pulse 1	UCS200x, MPG200		•	
		Pulse 2		UCS200x, MPG200		•		
		Pulse 3a		UCS200x, EFT200		•		
Pulse 3b		UCS200x, EFT200			•			
Pulse 4		VDS200x			•			
Pulse 7		LD200x			•			
24V Line		Pulse 1a		UCS200x, MPG200		•		
		Pulse 1b	UCS200x, MPG200		•			
		Pulse 2	UCS200x, MPG200		•			
		Pulse 3a	UCS200x, EFT200		•			
		Pulse 3b	UCS200x, EFT200		•			
		Pulse 4	VDS200x		•			
		<b>ETS</b> <b>300 342-1</b> <b>(1994-06)</b>	12V Line	Pulse 1	UCS200x, MPG200		•	
Pulse 2				UCS200x, MPG200		•		
Pulse 3a	UCS200x, EFT200				•			
Pulse 3b	UCS200x, EFT200				•			
Pulse 4	VDS200x				•			
Pulse 7	LD200x				•			
24V Line	Pulse 1a			UCS200x, MPG200		•		
	Pulse 1b		UCS200x, MPG200		•			
	Pulse 2		UCS200x, MPG200		•			
	Pulse 3a		UCS200x, EFT200		•			
	Pulse 3b		UCS200x, EFT200		•			
	Pulse 4		VDS200x		•			
	<b>ETSI EN</b> <b>301 489-1</b> <b>(2002-04)</b>		12V Line	Pulse 1	UCS200x, MPG200		•	
Pulse 2				UCS200x, MPG200		•		
Pulse 3a		UCS200x, EFT200			•			
Pulse 3b		UCS200x, EFT200			•			
Pulse 4		VDS200x			•			
Pulse 7		LD200x			•			
24V Line		Pulse 1a		UCS200x, MPG200		•		
		Pulse 1b	UCS200x, MPG200		•			
		Pulse 2	UCS200x, MPG200		•			
		Pulse 3a	UCS200x, EFT200		•			
		Pulse 3b	UCS200x, EFT200		•			
		Pulse 4	VDS200x		•			
		<b>EN</b> <b>prEN 50498</b> <b>(2008-03)</b>	12V Line	Pulse 1	UCS200x, MPG200	4.6.1	•	
Pulse 2a				UCS200x, MPG200	4.6.2	•		
Pulse 2b	VDS200x			4.6.2	•	•		
Pulse 3a	UCS200x, EFT200			4.6.3	•			
Pulse 3b	UCS200x, EFT200			4.6.3	•			
Pulse 4	VDS200x			4.6.4	•	•		
24V Line	Pulse 1			UCS200x, MPG200	4.6.1	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
FAW Diesel ECU MY06.0 (Rev.7)		Pulse 2a	UCS200x, MPG200	4.6.2	•				
		Pulse 2b	VDS200x	4.6.2	•				
		Pulse 3a	UCS200x, EFT200	4.6.3	•	•			
		Pulse 3b	UCS200x, EFT200	4.6.3	•				
		Pulse 4	VDS200x	4.6.4	•	•			
	12V Line	Pulse 1	UCS200x	UCS200x	6.8	•			
		Pulse 2a	UCS200x	UCS200x	6.8	•			
		Pulse 3a	UCS200x	UCS200x	6.8	•			
		Pulse 3b	UCS200x	UCS200x	6.8	•			
		Pulse 4	VDS200x	VDS200x	6.8	•	•		
		Pulse 5	LD200Nx, LD200M	LD200Nx, LD200M	6.8	•			
		Pulse 7	LD200Nx, LD200M	LD200Nx, LD200M	6.8	•			
		Reverse Voltage	VDS200x	VDS200x	6.11	•	•		
		Overvoltage	VDS200x	VDS200x	6.12	•	•		
		Open Circuits	VDS200x	VDS200x	6.13	•	•		
		Keyswitch Decay	VDS200x + AutoWave	VDS200x + AutoWave	6.14	•	•		
		Power Interruption	VDS200x + AutoWave	VDS200x + AutoWave	6.15	•	•		
		24V Line	Pulse 1a	UCS200x	UCS200x	6.8	•		
			Pulse 1b	UCS200x	UCS200x	6.8	•		
			Pulse 2a	UCS200x	UCS200x	6.8	•		
Pulse 3a	UCS200x		UCS200x	6.8	•				
Pulse 3b	UCS200x		UCS200x	6.8	•				
Pulse 4	VDS200x		VDS200x	6.8	•	•			
Pulse 5	LD200x		LD200x	6.8	•				
Pulse 7	LD200Nx, LD200M		LD200Nx, LD200M	6.8	•				
Keyswitch 1	UCS200x		UCS200x	6.8	•				
Reverse Voltage	VDS200x		VDS200x	6.11	•	•			
Overvoltage	VDS200x		VDS200x	6.12	•	•			
Open Circuits	VDS200x		VDS200x	6.13	•	•			
Keyswitch Decay	VDS200x + AutoWave		VDS200x + AutoWave	6.14	•	•			
Power Interruption	VDS200x + AutoWave		VDS200x + AutoWave	6.15	•	•			
24V I/O	Pulse 1		UCS200x	UCS200x	6.9	•			
	Pulse 2	UCS200x	UCS200x	6.9	•				
FCA CS.00054 (2015-01)	12V Line	Supply Voltage Range	VDS200x	5.2.1	•	•			
		Supply Voltage Ripple (Superimposed Alternating Voltage)	VDS200x + AutoWave	5.2.3	•	•			
		Supply Voltage Drop Out	PFS200x, VDS200x + AutoWave, AutoWave + PFM200Nx	5.3.2	•	•			
		Reset Behavior at Voltage Drop	VDS200x + AutoWave	5.3.4	•	•			
		Supply Voltage Dips	PFS200x	5.3.5	•	•			
		Engine Cranking Low Voltage - Resembling Cold Cranking	VDS200x	5.3.6	•	•			
		Engine Cranking Low Voltage - Warm cranking /Stop - Start	VDS200x	5.3.7	•	•			
		Slow decrease and increase	VDS200x	5.3.8	•	•			
		Defective Regulation	VDS200x	5.4.1	•	•			
		Jump Start	VDS200x	5.4.1	•	•			
		Reverse Voltage	VDS200x	5.4.2	•	•			
		Motor Stall	VDS200x	5.5.4	•	•			
		Magnetic Field Immunity	AutoWave + AMP200Nx, CWS500N3	5.8.3		•	•		
		Pulse 1	UCS200x, MPG200	5.9.1	•				
		Pulse 1b	UCS200x, MPG200	5.9.1	•				
		Pulse 2	UCS200x, MPG200	5.9.1	•				
		Pulse 3a	UCS200x, EFT200	5.9.1	•				
		Pulse 3b	UCS200x, EFT200	5.9.1	•				
	Loaddump Test B	LD200Nx Clip, LD200x + diode	5.9.1	•					
	24V Line	Pulse 1	UCS200x, MPG200	UCS200x, MPG200	5.9.1	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 1b	UCS200x, MPG200	5.9.1	•			
		Pulse 2	UCS200x, MPG200	5.9.1	•			
		Pulse 3a	UCS200x, EFT200	5.9.1	•			
		Pulse 3b	UCS200x, EFT200	5.9.1	•			
		Pulse 5b	LD200Nx Clip, LD200x + diode	5.9.1	•			
	12V I/O	Fast Pulse a	UCS200x, EFT200	5.9.2	•			
		Fast Pulse b	UCS200x, EFT200	5.9.2	•			
		Pulse 2 pos	UCS200x, MPG200	5.9.3	•			
		Pulse 2 neg	UCS200x, MPG200	5.9.3	•			
		LED Transient Test a	UCS200x, EFT200	5.9.4	•			
		LED Transient Test b	UCS200x, EFT200	5.9.4	•			
	24V I/O	Fast Pulse a	UCS200x, EFT200	5.9.2	•			
		Fast Pulse b	UCS200x, EFT200	5.9.2	•			
		Pulse 2 pos	UCS200x, MPG200	5.9.3	•			
		Pulse 2 neg	UCS200x, MPG200	5.9.3	•			
		LED Transient Test a	UCS200x, EFT200	5.9.4	•			
		LED Transient Test b	UCS200x, EFT200	5.9.4	•			
	FIAT 9.90110 (1999-07)	12V Line	Overvoltage 1	VDS200x	2.7.2	•		
Overvoltage 2			VDS200x	2.7.2	•			
Pulse 1			UCS200x, MPG200	2.7.4	•			
Pulse 2			UCS200x, MPG200	2.7.4	•			
Pulse 3a			UCS200x, EFT200	2.7.4	•			
Pulse 3b			UCS200x, EFT200	2.7.4	•			
Pulse 4			VDS200x	2.7.4	•			
Pulse 5			LD200x	2.7.4	•			
Pulse 5a			LD200Nx Clip, LD200x + diode	2.7.4	•			
Jaso			VDS200x	2.7.4	•			
Micro 1ms/10ms			PFS200x	2.7.4	•			
Micro >1ms			PFS200x	2.7.4	•			
Cycle 1			PFS200x	2.7.4	•			
Cycle 2			PFS200x	2.7.4	•			
12V I/O		Pulse 3a	UCS200x, EFT200	2.7.5	•			
		Pulse 3b	UCS200x, EFT200	2.7.5	•			
FIAT 9.90110 (Rev. 11, 2003-07)		12V Line	Overvoltage 1	VDS200x	2.7.2	•	•	
			Overvoltage 2	VDS200x	2.7.2	•	•	
	Reset 1		VDS200x	2.7.3.1	•	•		
	Reset 2		VDS200x	2.7.3.1	•	•		
	Reset 3		VDS200x	2.7.3.1	•	•		
	Dropout 1		VDS200x + AutoWave	2.7.3.2	•	•		
	Dropout 1		VDS200x + AutoWave	2.7.3.2	•	•		
	Dropout 1		VDS200x + AutoWave	2.7.3.2	•	•		
	Dropout 1		VDS200x + AutoWave	2.7.3.2	•	•		
	Pulse 1		UCS200x, MPG200	2.7.4	•			
	Pulse 2		UCS200x, MPG200	2.7.4	•			
	Pulse 3a		UCS200x, EFT200	2.7.4	•			
	Pulse 3b		UCS200x, EFT200	2.7.4	•			
	Pulse 4		VDS200x	2.7.4	•	•		
	Pulse 5		LD200x	2.7.4	•			
	Pulse 5a		LD200Nx Clip, LD200x + diode	2.7.4	•			
	Jaso		VDS200x	2.7.4	•	•		
	Micro 1ms/10ms		PFS200x, VD200 + AutoWave	2.7.4	•	•		
	Micro >1ms		PFS200x, VD200 + AutoWave	2.7.4	•	•		
	Cycle 1		PFS200x, VD200 + AutoWave	2.7.4	•	•		
	Cycle 2		PFS200x, VD200 + AutoWave	2.7.4	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Immunity to low-frequency magnetic fields	CWS500N3	2.7.12			•	
	12V I/O	Pulse 3a	UCS200x, EFT200	2.7.5	•			
FIAT 9.90110 (Rev. 12, 2006-02)	12V Line	Pulse 3b	UCS200x, EFT200	2.7.5	•			
		Overvoltage 1	VDS200x	2.7.2	•	•		
		Overvoltage 2	VDS200x	2.7.2	•	•		
		Reset 1	VDS200x	2.7.3.1	•	•		
		Reset 2	VDS200x	2.7.3.1	•	•		
		Reset 3	VDS200x	2.7.3.1	•	•		
		Dropout 1	VDS200x + AutoWave	2.7.3.2	•	•		
		Dropout 1	VDS200x + AutoWave	2.7.3.2	•	•		
		Dropout 1	VDS200x + AutoWave	2.7.3.2	•	•		
		Dropout 1	VDS200x + AutoWave	2.7.3.2	•	•		
		Pulse 1	UCS200x, MPG200	2.7.4	•			
		Pulse 2	UCS200x, MPG200	2.7.4	•			
		Pulse 3a	UCS200x, EFT200	2.7.4	•			
		Pulse 3b	UCS200x, EFT200	2.7.4	•			
		Pulse 4	VDS200x	2.7.4	•	•		
		Pulse 5	LD200x	2.7.4	•			
		Pulse 5a	LD200Nx Clip, LD200x + diode	2.7.4	•			
		Jaso	VDS200x	2.7.4	•	•		
		Micro 1ms/10ms	PFS200x, VD200 + AutoWave	2.7.4	•	•		
		Micro >1ms	PFS200x, VD200 + AutoWave	2.7.4	•	•		
		Cycle 1	PFS200x, VD200 + AutoWave	2.7.4	•	•		
		Cycle 2	PFS200x, VD200 + AutoWave	2.7.4	•	•		
			Immunity to low-frequency magnetic fields	CWS500N3	2.7.12			•
		12V I/O	Pulse 3a	UCS200x, EFT200	2.7.5	•		
			Pulse 3b	UCS200x, EFT200	2.7.5	•		
	FIAT 9.90110 (Rev. 13, 2007-03)	12V Line	Overvoltage 1	VDS200x	3.9.4	•	•	
			Overvoltage 2	VDS200x	3.9.4	•	•	
			Reset 1	VDS200x	3.9.5.1	•	•	
Reset 2			VDS200x	3.9.5.1	•	•		
Reset 3			VDS200x	3.9.5.1	•	•		
Dropout 1			VDS200x + AutoWave	3.9.5.2	•	•		
Dropout 1			VDS200x + AutoWave	3.9.5.2	•	•		
Dropout 1			VDS200x + AutoWave	3.9.5.2	•	•		
Dropout 1			VDS200x + AutoWave	3.9.5.2	•	•		
Micro 1ms			PFS200x, VD200 + AutoWave	3.9.5.3	•	•		
Micro 3-30ms			PFS200x, VD200 + AutoWave	3.9.5.3	•	•		
Micro 100-3000ms			PFS200x, VD200 + AutoWave	3.9.5.3	•	•		
Cycle A			PFS200x, VD200 + AutoWave	3.9.5.3	•	•		
Cycle B			PFS200x, VD200 + AutoWave	3.9.5.3	•	•		
Pulse 1			UCS200x, MPG200	3.9.6.1	•			
Pulse 2			UCS200x, MPG200	3.9.6.1	•			
Pulse 3a			UCS200x, EFT200	3.9.6.1	•			
Pulse 3b			UCS200x, EFT200	3.9.6.1	•			
Pulse 5			LD200x	3.9.6.1	•			
Pulse 5a			LD200Nx Clip, LD200x + diode	3.9.6.1	•			
Pulse 4			VDS200x	3.9.6.2	•	•		
Sinusoidal			VDS200x	3.9.6.2	•	•		
			Immunity to low-frequency magnetic fields	CWS500N3	3.9.10			•
		12V I/O	Pulse 3a	UCS200x, EFT200	3.9.7.1	•		
			Pulse 3b	UCS200x, EFT200	3.9.7.1	•		
FIAT 9.90111/01		12V Line	Supply Voltage Range	VDS200x	4.1.1	•	•	
			Supply Voltage Ripple (Superimposed Alternating Voltage)	VDS200x + AutoWave	4.1.3	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
<b>(Rev. 1, 2010-05)</b>		Supply Voltage Drop Out	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	4.2.2	•	•		
		Reset Behavior at Voltage Drop	VDS200x + AutoWave	4.2.4	•	•		
		Supply Voltage Dips	PFS200x	4.2.5	•	•		
		Engine Cranking Low Voltage - Resembling Cold Cranking	VDS200x	4.2.6	•	•		
		Engine Cranking Low Voltage - Warm cranking /Stop - Start	VDS200x	4.2.7	•	•		
		Slow decrease and increase	VDS200x	4.2.8	•	•		
		Defective Regulation	VDS200x	4.3.1	•	•		
		Jump Start	VDS200x	4.3.1	•	•		
		Reverse Voltage	VDS200x	4.3.2	•	•		
		Magnetic Field Immunity	AutoWave + AMP200Nx, CWS500N3	6.3		•		
		Pulse 1	UCS200x, MPG200	6.4.1	•			
		Pulse 1b	UCS200x, MPG200	6.4.1	•			
		Pulse 2	UCS200x, MPG200	6.4.1	•			
		Pulse 3a	UCS200x, EFT200	6.4.1	•			
		Pulse 3b	UCS200x, EFT200	6.4.1	•			
	Pulse 5b	LD200Nx Clip, LD200x + diode	6.4.1	•				
	24V Line	Pulse 1	UCS200x, MPG200	6.4.1	•			
		Pulse 1b	UCS200x, MPG200	6.4.1	•			
		Pulse 2	UCS200x, MPG200	6.4.1	•			
		Pulse 3a	UCS200x, EFT200	6.4.1	•			
		Pulse 3b	UCS200x, EFT200	6.4.1	•			
		Pulse 5b	LD200Nx Clip, LD200x + diode	6.4.1	•			
	12V I/O	Fast Pulse a	UCS200x, EFT200	6.4.2	•			
		Fast Pulse b	UCS200x, EFT200	6.4.2	•			
		Pulse 2 pos	UCS200x, MPG200	6.4.3	•			
		Pulse 2 neg	UCS200x, MPG200	6.4.3	•			
		LED Transient Test a	UCS200x, EFT200	6.4.4	•			
		LED Transient Test b	UCS200x, EFT200	6.4.4	•			
	24V I/O	Fast Pulse a	UCS200x, EFT200	6.4.2	•			
		Fast Pulse b	UCS200x, EFT200	6.4.2	•			
		Pulse 2 pos	UCS200x, MPG200	6.4.3	•			
		Pulse 2 neg	UCS200x, MPG200	6.4.3	•			
		LED Transient Test a	UCS200x, EFT200	6.4.4	•			
		LED Transient Test b	UCS200x, EFT200	6.4.4	•			
	<b>FIAT 9.90111/01 (Change A, 2012-06)</b>	12V Line	Supply Voltage Range	VDS200x	4.1.1	•	•	
			Supply Voltage Ripple (Superimposed Alternating Voltage)	VDS200x + AutoWave	4.1.3	•	•	
Supply Voltage Drop Out			PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	4.2.2	•	•		
Reset Behavior at Voltage Drop			VDS200x + AutoWave	4.2.4	•	•		
Supply Voltage Dips			PFS200x	4.2.5	•	•		
Engine Cranking Low Voltage - Resembling Cold Cranking			VDS200x	4.2.6	•	•		
Engine Cranking Low Voltage - Warm cranking /Stop - Start			VDS200x	4.2.7	•	•		
Slow decrease and increase			VDS200x	4.2.8	•	•		
Defective Regulation			VDS200x	4.3.1	•	•		
Jump Start			VDS200x	4.3.1	•	•		
Reverse Voltage			VDS200x	4.3.2	•	•		
Magnetic Field Immunity			AutoWave + AMP200Nx, CWS500N3	6.3		•	•	
Pulse 1			UCS200x, MPG200	6.4.1	•			
Pulse 1b			UCS200x, MPG200	6.4.1	•			
Pulse 2			UCS200x, MPG200	6.4.1	•			
Pulse 3a	UCS200x, EFT200	6.4.1	•					
Pulse 3b	UCS200x, EFT200	6.4.1	•					
Pulse 5b	LD200Nx Clip, LD200x + diode	6.4.1	•					

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
	24V Line	Pulse 1	UCS200x, MPG200	6.4.1	•		
		Pulse 1b	UCS200x, MPG200	6.4.1	•		
		Pulse 2	UCS200x, MPG200	6.4.1	•		
		Pulse 3a	UCS200x, EFT200	6.4.1	•		
		Pulse 3b	UCS200x, EFT200	6.4.1	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	6.4.1	•		
	12V I/O	Fast Pulse a	UCS200x, EFT200	6.4.2	•		
		Fast Pulse b	UCS200x, EFT200	6.4.2	•		
		Pulse 2 pos	UCS200x, MPG200	6.4.3	•		
		Pulse 2 neg	UCS200x, MPG200	6.4.3	•		
		LED Transient Test a	UCS200x, EFT200	6.4.4	•		
		LED Transient Test b	UCS200x, EFT200	6.4.4	•		
	24V I/O	Fast Pulse a	UCS200x, EFT200	6.4.2	•		
		Fast Pulse b	UCS200x, EFT200	6.4.2	•		
		Pulse 2 pos	UCS200x, MPG200	6.4.3	•		
		Pulse 2 neg	UCS200x, MPG200	6.4.3	•		
		LED Transient Test a	UCS200x, EFT200	6.4.4	•		
		LED Transient Test b	UCS200x, EFT200	6.4.4	•		
<b>Fisker C1.810.EMC.100.01 (2009-03)</b>	12V Line	Pulse 1	UCS200x, MPG200	5.1	•		
		Pulse 1b	UCS200x, MPG200	5.1	•		
		Pulse 2	UCS200x, MPG200	5.1	•		
		Pulse 3a	UCS200x, EFT200	5.1	•		
		Pulse 3b	UCS200x, EFT200	5.1	•		
	12V I/O	Pulse 2+ (DCC)	UCS200x, MPG200	5.2	•		
		Pulse 2- (DCC)	UCS200x, MPG200	5.2	•		
		Pulse a (DCC)	UCS200x, EFT200	5.2	•		
		Pulse b (DCC)	UCS200x, EFT200	5.2	•		
		Pulse a (CCC)	UCS200x, EFT200	5.2	•		
Pulse b (CCC)	UCS200x, EFT200	5.2	•				
<b>Ford WDR 00.00EA (1996-09)</b>	12V Line	CI 01-A-002	VDS200x + AutoWave		•		
		CI 01-A-005	VDS200x		•		
		CI 01-B-040	VDS200x		•		
		CI 01-B-100	VDS200x		•		
		CI02-1A	UCS200x, MPG200		•		
		CI02-1B	UCS200x, MPG200		•		
		CI02-2	MPG200 7SP		•		
		CI02-3A	UCS200x, EFT200		•		
		CI02-3B	UCS200x, EFT200		•		
		CI02-4	VDS200N / VDS200 + Arbitrary		•		
		CI02-5	LD200Nx, LD200B1		•		
		CI02-9A1	PFS200x		•		
		CI02-9A2	PFS200x + RDS200		•		
		CI02-9B	VDS200x		•		
		CI03-1	VDS200x		•		
		CI03-2	VDS200x		•		
CI03-3	VDS200x		•				
CI03-4	VDS200x		•				
<b>Ford ES-W7T-1A278-AB (Rev. B, 1999-04)</b>	12V Line	CI 210-A1	VDS200x + AutoWave		•	•	
		CI 210-A2	VDS200x		•	•	
		CI 210-B1	VDS200x		•	•	
		CI 210-B2	VDS200x		•	•	
		CI 220-A	UCS200x, MPG200		•		
		CI 220-B	UCS200x, MPG200		•		
		CI 220-C	UCS200x, MPG200		•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		CI 220-D	UCS200x, EFT200		•				
		CI 220-E	UCS200x, EFT200		•				
		CI 230-A	PFS200x + RDS200, VDS200x + AutoWave		•	•			
		CI 230-B1	VDS200x / RDS200 + AutoWave		•	•			
		CI 230-B2	VDS200x / RDS200 + AutoWave		•	•			
		CI 230-C	VDS200x / RDS200 + AutoWave		•	•			
		CI 240	LD200Nx, LD200B1		•				
		CI 250	AMP200N + AutoWave			•			
		CI 260-A	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-B	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-C	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-D	PFS200x + RDS200		•	•			
		CI 260-E	VDS200x		•	•			
		CI 270	VDS200x (with minimal 200A)		•	•			
		<b>Ford ES-XW7T-1A278-AC (Update 2006-06) (2003-10)</b>	12V Line	RI 140 - Magnetic Field Immunity	AutoWave + AMP200N1, CWS500N3			•	•
				RI 150 - Coupled Immunity	AutoWave + VDS200			•	
				CI 210-1-1	VDS200x + AutoWave		•	•	
CI 210-1-2 < 1kHz	VDS200x + AutoWave				•	•			
CI 210-1-2 > 1kHz	VDS200x				•	•			
CI 210-2-1	VDS200x				•	•			
CI 210-2-2	VDS200N, VDS200B				•	•			
CI 210-2-3	VDS200N, VDS200B				•	•			
CI 220 - Pulse D	UCS200x, MPG200				•				
CI 220 - Pulse E	UCS200x, MPG200				•				
CI 220 - Pulse F	UCS200x, MPG200				•				
CI 220 - Pulse G	LD200Nx, LD200B1				•				
CI 230 - Pulse A	PFS200x + RDS200, VDS200x + AutoWave				•	•			
CI 230 - Pulse B	VDS200x / RDS200 + AutoWave				•	•			
CI 230 - Pulse C	VDS200x / RDS200 + AutoWave				•	•			
CI 230 - Pulse D	VDS200x / RDS200 + AutoWave				•	•			
CI 250	AMP200N + AutoWave					•			
CI 260 - Pulse A	PFS200x, VDS200x + AutoWave			•	•				
CI 260 - Pulse B	PFS200x, VDS200x + AutoWave			•	•				
CI 260 - Pulse C	PFS200x, VDS200x + AutoWave			•	•				
CI 260 - Pulse D	PFS200x + RDS200, VDS200x + AutoWave			•	•				
CI 260 - Pulse E	VDS200x			•	•				
CI 270	VDS200x (with minimal 200A)			•	•				
5V Line	CI 260 - Pulse A		PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse B		PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse C		PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse D		PFS200x + RDS200, VDS200x + AutoWave		•	•			
3V Line	CI 260 - Pulse A		PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse B		PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse C		PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse D		PFS200x + RDS200, VDS200x + AutoWave		•	•			
<b>Ford EMC-CS-2009 .1 (2010-02)</b>	12V Line		RI 140 - (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•	
			RI 140 - (Magnetic Field Immunity - Verify H-Field)	AutoWave + AMP200Nx, CWS500N3			•	•	
		RI 150 - (Coupled Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•		
		CI 210 - (Immunity from Continuous Power Line Disturbances)	AutoWave + AMP200Nx + VDS200x			•			
		CI 220 - Pulse E	UCS200x, MPG200		•				
		CI 220 - Pulse F1	UCS200x, MPG200		•				
		CI 220 - Pulse F2	VDS200x		•	•			
		CI 220 - Pulse G1	LD200Nx, LD200M		•				
CI 220 - Pulse G2	LD200x + Zehnerdiode		•						



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		CI 230 - Pulse A	PFS200x + RDS200, VDS200 + AutoWave		•	•		
		CI 230 - Pulse B	VDS200x / RDS200 + AutoWave		•	•		
		CI 230 - Pulse C	VDS200x / RDS200 + AutoWave		•	•		
		CI 230 - Pulse D	VDS200x / RDS200 + AutoWave		•	•		
		CI 250 - Continuous (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•		
		CI 250 - Transient (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•		
		CI 260 - Pulse A	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Pulse B	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Pulse C	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Pulse D	PFS200x + RDS200, VDS200x + AutoWave		•	•		
		CI 260 - Pulse E	VDS200x		•	•		
	CI 270	VDS200x (with minimal 100A)		•	•			
	5V Line	CI 260 - Pulse A	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Pulse B	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Pulse C	PFS200x + RDS200, VDS200x + AutoWave		•	•		
		CI 260 - Pulse D	PFS200x + RDS200, VDS200x + AutoWave		•	•		
3V Line	CI 260 - Pulse A	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse B	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse C	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Pulse D	PFS200x + RDS200, VDS200x + AutoWave		•	•			
<b>Ford FMC 1278 (2015-07)</b>	12V Line	RI 140 (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•	
		RI 140 (Magnetic Field Immunity - Verify H-Field)	AutoWave + AMP200Nx, CWS500N3			•	•	
		RI 150 (Coupled Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•	
		CI 210 (Immunity from Continuous Power Line Disturbances)	AutoWave + AMP200Nx + VDS200x, VDS 200Q				•	
		CI 220 - ISO Pulse 1 (Immunity from Transient Disturbances)	UCS200x, MPG200		•			
		CI 221 - ISO Test Pulse 1 (Immunity from Transient Disturbances)	UCS200x, MPG200		•			
		CI 221 - ISO Test Pulse 2a (Immunity from Transient Disturbances)	UCS200x, MPG200		•			
		CI 221 - ISO Test Pulse 2b (Immunity from Transient Disturbances)	VDS200x		•	•		
		CI 221 - ISO Test Pulse 3a (Immunity from Transient Disturbances)	UCS200x, EFT200		•			
		CI 220 - ISO Test Pulse 3b (Immunity from Transient Disturbances)	UCS200x, EFT200		•			
		CI 222 - ISO Test Pulse 5a (Immunity from Load Dump)	LD200Nx, LD200M		•			
		CI 222 - ISO Test Pulse 5b (Immunity from Load Dump)	LD200Nx + Zehnerdiode		•			
		CI 230 - (Immunity from Power Cycling)	VDS200x / RDS200 + AutoWave		•	•		
	CI 230 - Pulse A (Immunity from Power Cycling)	VDS200x / RDS200 + AutoWave			•			
	CI 230 - Pulse B (Immunity from Power Cycling)	VDS200x / RDS200 + AutoWave			•			
	CI 231 (Immunity from Power Cycling)	VDS200x		•	•			
	CI 250 - Continuous (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•			
	CI 250 - Transient (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•			
	CI 260 - Waveform A (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Waveform B (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Waveform C (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Waveform D (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•			
	CI 270 (Immunity to Voltage Overstress)	VDS200x (with minimal 100A)		•	•			
	24V Line	RI 140 - (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•	
		RI 140 - (Magnetic Field Immunity - Verify H-Field)	AutoWave + AMP200Nx, CWS500N3			•	•	
		RI 150 - (Coupled Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•	
		CI 210 - (Immunity from Continuous Power Line Disturbances)	AutoWave + AMP200Nx + VDS200x			•		
CI 221 - ISO Test Pulse 1 (Immunity from Transient Disturbances)		UCS200x, MPG200		•				
CI 221 - ISO Test Pulse 2a (Immunity from Transient Disturbances)		UCS200x, MPG200		•				
CI 221 - ISO Test Pulse 2b (Immunity from Transient Disturbances)		VDS200x		•	•			
CI 221 - ISO Test Pulse 3a (Immunity from Transient Disturbances)		UCS200x, EFT200		•				
CI 220 - ISO Test Pulse 3b (Immunity from Transient Disturbances)		UCS200x, EFT200		•				
CI 222 - ISO Test Pulse 5a (Immunity from Load Dump)		LD200Nx		•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		CI 231 (Immunity from Power Cycling)	VDS200x		•	•		
		CI 250 - Continuous (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•		
		CI 250 - Transient (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1				•	
		CI 260 - Waveform A (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Waveform B (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Waveform C (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•		
	5V Line	CI 260 - Waveform D (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•		
		CI 260 - Waveform A (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Waveform B (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Waveform C (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•		
	3V Line	CI 260 - Waveform D (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•		
		CI 260 - Waveform A (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Waveform B (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Waveform C (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•		
	<b>Ford FMC 1278 (Rev. 2, 2016-10)</b>	12V Line	CI 260 - Waveform D (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•	
			RI 140 (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•
RI 140 (Magnetic Field Immunity - Verify H-Field)			AutoWave + AMP200Nx, CWS500N3			•	•	
RI 150 (Coupled Immunity)			AutoWave + AMP200Nx, CWS500N3			•	•	
CI 210 (Immunity from Continuous Power Line Disturbances)			AutoWave + AMP200Nx + VDS200x, VDS200Q				•	
CI 220 - ISO Pulse 1 (Immunity from Transient Disturbances)			UCS200x, MPG200		•			
CI 222 - ISO Test Pulse 5a (Immunity from Load Dump)			LD200Nx, LD200M		•			
CI 222 - ISO Test Pulse 5b (Immunity from Load Dump)			LD200Nx + Zehnerdiode		•			
CI 230- (Immunity from Power Cycling)			VDS200x / RDS200 + AutoWave		•	•		
CI 230 - Pulse A (Immunity from Power Cycling)			VDS200x / RDS200 + AutoWave			•		
CI 230 - Pulse B (Immunity from Power Cycling)			VDS200x / RDS200 + AutoWave			•		
CI 250 - Continuous (Immunity to Ground Voltage Offset)			AutoWave + AMP200Nx + CN200N1				•	
CI 250 - Transient (Immunity to Ground Voltage Offset)			AutoWave + AMP200Nx + CN200N1				•	
CI 260 - Waveform A (Immunity to Voltage Dropout)			PFS200x, VDS200x + AutoWave		•	•		
CI 260 - Waveform B (Immunity to Voltage Dropout)			PFS200x, VDS200x + AutoWave		•	•		
CI 260 - Waveform C (Immunity to Voltage Dropout)			PFS200x, VDS200x + AutoWave		•	•		
CI 260 - Waveform D (Immunity to Voltage Dropout)		PFS200x + RDS200, VDS200x + AutoWave		•	•			
CI 270 (Immunity to Voltage Overstress)		VDS200x (with minimal 100A)		•	•			
24V Line		RI 140 - (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3				•	•
		RI 140 - (Magnetic Field Immunity - Verify H-Field)	AutoWave + AMP200Nx, CWS500N3				•	•
		RI 150 - (Coupled Immunity)	AutoWave + AMP200Nx, CWS500N3				•	•
		CI 210 - (Immunity from Continuous Power Line Disturbances)	AutoWave + AMP200Nx + VDS200x				•	
		CI 221 - ISO Test Pulse 1 (Immunity from Transient Disturbances)	UCS200x, MPG200		•			
		CI 221 - ISO Test Pulse 2a (Immunity from Transient Disturbances)	UCS200x, MPG200		•			
		CI 221 - ISO Test Pulse 2b (Immunity from Transient Disturbances)	VDS200x		•	•		
		CI 221 - ISO Test Pulse 3a (Immunity from Transient Disturbances)	UCS200x, EFT200		•			
		CI 220 - ISO Test Pulse 3b (Immunity from Transient Disturbances)	UCS200x, EFT200		•			
		CI 222 - ISO Test Pulse 5a (Immunity from Load Dump)	LD200Nx		•			
	CI 231 (Immunity from Power Cycling)	VDS200x		•	•			
	CI 250 - Continuous (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1				•		
	CI 250 - Transient (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1				•		
	CI 260 - Waveform A (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Waveform B (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Waveform C (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•			
CI 260 - Waveform D (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•				
5V Line	CI 260 - Waveform A (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Waveform B (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•			
	CI 260 - Waveform C (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•			
	CI 260 - Waveform D (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
	3V Line	CI 260 - Waveform A (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•	
		CI 260 - Waveform B (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•	
		CI 260 - Waveform C (Immunity to Voltage Dropout)	PFS200x, VDS200x + AutoWave		•	•	
		CI 260 - Waveform D (Immunity to Voltage Dropout)	PFS200x + RDS200, VDS200x + AutoWave		•	•	
<b>Ford FS-0000-00001-AB (Rev. 2)</b>	12V Line	Voltage Curve Start-Stop B+	VDS200x + AutoWave			•	
		Voltage Curve Start-Stop B+ (Boost Mode)	VDS200x + AutoWave			•	
<b>Ford FS-0000-00001-AB (Rev. 4)</b>	12V Line	Voltage Curve Start-Stop B+	VDS200x + AutoWave			•	
		Voltage Curve Start-Stop B+ (Boost Mode)	VDS200x + AutoWave			•	
<b>Freightliner 49-00085 (Rev. B, 2002-07)</b>	12V Line	Reverse Polarity 1	VDS200x	6,2	•	•	
		Reverse Polarity 2	VDS200x	6,2	•	•	
		Jump Start	VDS200x	6,2	•	•	
		Series Charging	VDS200x	6,2	•	•	
		Micro Cuts	PDS200x	6,2	•	•	
		Load Dump	LD200Nx, LD200 S2	6,2	•		
		Ind. neg	UCS200x, MPG200 S15	6,2	•		
		Ind. pos	UCS200x, MPG200 S15	6,2	•		
		Mut. neg.	UCS200x, MPG200 S15	6,2	•		
		Mut. pos.	UCS200x, MPG200 S15	6,2	•		
<b>General Motors GM 9105 P (1996-11)</b>	12V Line	Pulse 1	UCS200x, MPG200		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•		
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•		
		Pulse 5	UCS200x S5, MPG200		•		
		Pulse 6 (Sup.)	VDS200N, VDS200B S3		•		
		Pulse 6 (Non Sup.)	VDS200N, VDS200B S3		•		
<b>General Motors GMW 3097 / 3100 (Rev. 3, 2000-10)</b>	12V Line	Pulse 1	UCS200x, MPG200	3.2.1.3	•		
		Pulse 2a	UCS200x, MPG200	3.2.1.3	•		
		Pulse 2b	VDS200x	3.2.1.3	•		
		Pulse 3a	UCS200x, EFT200	3.2.1.3	•		
		Pulse 3b	UCS200x, EFT200	3.2.1.3	•		
		Pulse 4	VDS200x	3.2.1.3	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	3.2.1.3	•		
		Pulse 6	UCS200N, UCS200 S5, MPG200	3.2.1.3	•		
		Pulse 7a	UCS200x, MPG200	3.2.1.3	•		
		Pulse 7b	UCS200x, MPG200	3.2.1.3	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	3.2.1.3	•		
		Pulse 3b	UCS200x, EFT200	3.2.1.2	•		
<b>General Motors GMW 3097 / 3100 (Rev. C, 2001-08)</b>	12V Line	Pulse 1	UCS200x, MPG200	3.2.1.3	•		
		Pulse 2a	UCS200x, MPG200	3.2.1.3	•		
		Pulse 2b	VDS200x	3.2.1.3	•		
		Pulse 3a	UCS200x, EFT200	3.2.1.3	•		
		Pulse 3b	UCS200x, EFT200	3.2.1.3	•		
		Pulse 4	VDS200x	3.2.1.3	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	3.2.1.3	•		
	Pulse 7	UCS200x, MPG200	3.2.1.3	•			
	12V I/O	Pulse 3a	UCS200x, EFT200	3.2.1.3	•		
		Pulse 3b	UCS200x, EFT200	3.2.1.2	•		
<b>General Motors GMW 3097 (Rev. 4, 2004-02)</b>	12V Line	Immunity to Power Line Magnetic Fields	AutoWave + AMP200Nx, CWS500N3	3.4.4		•	•
		Pulse 1	UCS200x, MPG200	3.5.2	•		
		Pulse 2a	UCS200x, MPG200	3.5.2	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 2b	VDS200x	3.5.2	•	•		
		Pulse 3a	UCS200x, EFT200	3.5.2	•			
		Pulse 3b	UCS200x, EFT200	3.5.2	•			
		Pulse 4	VDS200x	3.5.2	•	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	3.5.2	•			
		Pulse 7	UCS200x, MPG200	3.5.2	•			
		12V I/O	Pulse 3a	UCS200x, EFT200	3.5.3	•		
		Pulse 3b	UCS200x, EFT200	3.5.3	•			
		Pulse 2a -	UCS200x, MPG200	3.5.4	•			
		Pulse 2a +	UCS200x, MPG200	3.5.4	•			
		Pulse 2a -	UCS200x, MPG200	3.5.5	•			
		Pulse 2a	UCS200x, MPG200	3.5.5	•			
	<b>General Motors GMW 3097 (Rev. 5, 2006-07)</b>	12V Line	Immunity to Power Line Magnetic Fields	AutoWave + AMP200Nx, CWS500N3	3.4.4		•	•
			Pulse 1	UCS200x, MPG200	3.5.2	•		
Pulse 2a			UCS200x, MPG200	3.5.2	•			
Pulse 2b			VDS200x	3.5.2	•	•		
Pulse 3a			UCS200x, EFT200	3.5.2	•			
Pulse 3b			UCS200x, EFT200	3.5.2	•			
Pulse 4			VDS200x	3.5.2	•	•		
Pulse 5			LD200Nx Clip, LD200x + diode	3.5.2	•			
		Pulse 7	UCS200x, MPG200	3.5.2	•			
12V I/O		Pulse 3a	UCS200x, EFT200	3.5.3	•			
		Pulse 3b	UCS200x, EFT200	3.5.3	•			
		Pulse 2a -	UCS200x, MPG200	3.5.4	•			
		Pulse 2a +	UCS200x, MPG200	3.5.4	•			
		Pulse 2a -	UCS200x, MPG200	3.5.5	•			
	Pulse 2a	UCS200x, MPG200	3.5.5	•				
<b>General Motors GMW 3097 (Rev. 6, 2012-04)</b>	12V Line	Immunity to Power Line Magnetic Fields	AutoWave + AMP200Nx, CWS500N3	3.4.4		•	•	
		Pulse 1	UCS200x, MPG200	3.5.2	•			
		Pulse 2a	UCS200x, MPG200	3.5.2	•			
		Pulse 3a	UCS200x, EFT200	3.5.2	•			
		Pulse 3b	UCS200x, EFT200	3.5.2	•			
		Pulse 4	VDS200x	3.5.2	•	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	3.5.2	•			
			Pulse 7	UCS200x, MPG200	3.5.2	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	3.5.3	•			
		Pulse 3b	UCS200x, EFT200	3.5.3	•			
		Pulse 2a -	UCS200x, MPG200	3.5.4	•			
		Pulse 2a +	UCS200x, MPG200	3.5.4	•			
		Pulse 2a -	UCS200x, MPG200	3.5.5	•			
		Pulse 2a	UCS200x, MPG200	3.5.5	•			
<b>General Motors GMW 3097 (2015-06)</b>	12V Line	Immunity to Power Line Magnetic Fields - Level 1	AutoWave + AMP200Nx, CWS500N3	3.4.5		•	•	
		Immunity to Power Line Magnetic Fields - Level 2 - DC	AutoWave + AMP200Nx	3.4.5		•		
		Immunity to Power Line Magnetic Fields - Level 2	AutoWave + AMP200Nx	3.4.5		•		
		Pulse 1	UCS200x, MPG200	3.5.2	•			
		Pulse 2a	UCS200x, MPG200	3.5.2	•			
		Pulse 3a	UCS200x, EFT200	3.5.2	•			
		Pulse 3b	UCS200x, EFT200	3.5.2	•			
		Pulse 5	LD200Nx Clip, LD200x + diode	3.5.2	•			
		Pulse 7	UCS200x, MPG200	3.5.2	•			
	12V I/O	Pulse 3a	UCS200x, EFT200	3.5.3	•			
		Pulse 3b	UCS200x, EFT200	3.5.3	•			
		Pulse 2a -	UCS200x, MPG200	3.5.4	•			
		Pulse 2a +	UCS200x, MPG200	3.5.4	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>General Motors GMW 3172 (Rev. B, 2001-12)</b>	12V Line	Pulse 2a -	UCS200x, MPG200	3.5.5	•		
		Pulse 2a	UCS200x, MPG200	3.5.5	•		
		Jump Start	VDS200x	2.1	•		
		Reverse Polarity	VDS200x	2.1	•		
		Overvoltage	VDS200x	2.2	•		
		Reset Behavior	VDS200x	2.4	•		
		Dropout 1	VDS200x + AutoWave	2.5	•		
		Dropout 2	VDS200x + AutoWave	2.5	•		
<b>General Motors GMW 3172 (Rev. C, 2004-08)</b>	12V Line	Dropout 3	VDS200x + AutoWave	2.5	•		
		Dropout 4	VDS200x + AutoWave	2.5	•		
		Jump Start	VDS200x	6.4.2	•		
		Reverse Polarity	VDS200x	6.4.2	•		
		Overvoltage 1	VDS200x	6.4.3	•		
		Overvoltage 2	VDS200x	6.4.3	•		
		Reset Behavior	VDS200x	6.4.5	•		
		Dropout 1	VDS200x + AutoWave	6.4.6	•		
<b>General Motors GMW 3172 (Rev. D, 2005-02)</b>	12V Line	Dropout 2	VDS200x + AutoWave	6.4.6	•		
		Dropout 3	VDS200x + AutoWave	6.4.6	•		
		Dropout 4	VDS200x + AutoWave	6.4.6	•		
		Ripple Sinus	VDS200x	6.4.7	•		
		Jump Start	VDS200x	6.4.2	•		
		Reverse Polarity	VDS200x	6.4.2	•		
		Overvoltage 1	VDS200x	6.4.3	•		
		Overvoltage 2	VDS200x	6.4.3	•		
<b>General Motors GMW 3172 (Rev. E, 2005-12)</b>	12V Line	Reset Behavior	VDS200x	6.4.5	•		
		Dropout 1	VDS200x + AutoWave	6.4.6	•		
		Dropout 2	VDS200x + AutoWave	6.4.6	•		
		Dropout 3	VDS200x + AutoWave	6.4.6	•		
		Dropout 4	VDS200x + AutoWave	6.4.6	•		
		Ripple Sinus	VDS200x	6.4.7	•		
		Jump Start	VDS200x	5.2.2	•	•	
		Reverse Polarity	VDS200x	5.2.3	•	•	
<b>General Motors GMW 3172 (Rev. F, 2007-02)</b>	12V Line	Overvoltage 1	VDS200x	5.2.4	•	•	
		Overvoltage 2	VDS200x	5.2.4	•	•	
		Voltagedrop	VDS200x	5.2.5a	•	•	
		Voltagedrop	PFS200x + RDS200, VDS200x + AutoWave	5.2.5b	•	•	
		Dropout 1	VDS200x + AutoWave	5.2.6	•	•	
		Dropout 2	VDS200x + AutoWave	5.2.6	•	•	
		Dropout 3	VDS200x + AutoWave	5.2.6	•	•	
		Dropout 4	VDS200x + AutoWave	5.2.6	•	•	
<b>General Motors GMW 3172</b>	12V Line	Ripple Sinus	VDS200x	5.2.7	•	•	
		Jump Start	VDS200x	5.2.2	•	•	
		Reverse Polarity	VDS200x	5.2.3	•	•	
		Overvoltage 1	VDS200x	5.2.4	•	•	
		Overvoltage 2	VDS200x	5.2.4	•	•	
		Voltagedrop	VDS200x	5.2.5a	•	•	
		Voltagedrop	PFS200x + RDS200, VDS200x + AutoWave	5.2.5b	•	•	
		Dropout 1	VDS200x + AutoWave	5.2.6	•	•	
Dropout 2	VDS200x + AutoWave	5.2.6	•	•			
<b>General Motors GMW 3172</b>	12V Line	Dropout 3	VDS200x + AutoWave	5.2.6	•	•	
		Dropout 4	VDS200x + AutoWave	5.2.6	•	•	
<b>General Motors GMW 3172</b>	12V Line	Ripple Sinus	VDS200x + AutoWave	5.2.7	•	•	
		Jump Start	VDS200x	8.2.1	•	•	
		Reverse Polarity	VDS200x	8.2.2	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>(Rev. G, 2008-08)</b>		Overvoltage 1	VDS200x	8.2.3	•	•	
		Overvoltage 2	VDS200x	8.2.3	•	•	
		Power Supply Interruptions 1	VDS200x	9.2.2	•	•	
		Power Supply Interruptions 2	PFS200x + RDS200, VDS200x + AutoWave	9.2.2	•	•	
		Battery Voltage Dropout 1	VDS200x + AutoWave	9.2.3	•	•	
		Battery Voltage Dropout 2	VDS200x + AutoWave	9.2.3	•	•	
		Battery Voltage Dropout 3	VDS200x + AutoWave	9.2.3	•	•	
		Battery Voltage Dropout 4	VDS200x + AutoWave	9.2.3	•	•	
		Pulse Superimposed Voltage (Signal Up)	VDS200x + AutoWave	9.2.4	•	•	
		Pulse Superimposed Voltage	VDS200N / VDS200	9.2.5		•	
		Discrete Digital Input Threshold Voltage	AutoWave + AMP200Nx	9.2.13		•	
		<b>General Motors GMW 3172 (Rev. H, 2010-07)</b>	12V Line	Jump Start	VDS200x	8.2.1	•
Reverse Polarity	VDS200x			8.2.2	•	•	
Overvoltage 1	VDS200x			8.2.3	•	•	
Overvoltage 2	VDS200x			8.2.3	•	•	
Power Supply Interruptions 1	VDS200x			9.2.2	•	•	
Power Supply Interruptions 2	PFS200x + RDS200, VDS200x + AutoWave			9.2.2	•	•	
Battery Voltage Dropout 1	VDS200x + AutoWave			9.2.3	•	•	
Battery Voltage Dropout 2	VDS200x + AutoWave			9.2.3	•	•	
Battery Voltage Dropout 3	VDS200x + AutoWave			9.2.3	•	•	
Battery Voltage Dropout 4	VDS200x + AutoWave			9.2.3	•	•	
Sinusoidal Superimposed Voltage	VDS200x + AutoWave			9.2.4	•	•	
Pulse Superimposed Voltage (Signal Up)	VDS200x + AutoWave			9.2.5		•	
Discrete Digital Input Threshold Voltage	AutoWave + AMP200Nx			9.2.13		•	
Crank Waveform 1	VDS200x + AutoWave			9.2.17	•	•	
Crank Waveform 2	VDS200x + AutoWave			9.2.17	•	•	
Crank Waveform 3	VDS200x + AutoWave			9.2.17	•	•	
Crank Waveform 4	VDS200x + AutoWave			9.2.17	•	•	
Crank Waveform 5	VDS200x + AutoWave			9.2.17	•	•	
Crank Waveform 6	VDS200x + AutoWave	9.2.17	•	•			
Crank GMW3097 Pulse 4	VDS200N / VDS200	9.2.17	•	•			
<b>General Motors GMW 3172 (2012-11)</b>	12V Line	Jump Start	VDS200x	8.2.1		•	
		Reverse Polarity	VDS200x	8.2.2		•	
		Overvoltage 1	VDS200x	8.2.3		•	
		Overvoltage 2	VDS200x	8.2.3		•	
		Power Supply Interruptions 1	VDS200x	9.2.2		•	
		Power Supply Interruptions 2	PFS200x + RDS200, VDS200x + AutoWave	9.2.2		•	
		Battery Voltage Dropout 1	VDS200x + AutoWave	9.2.3		•	
		Battery Voltage Dropout 2	VDS200x + AutoWave	9.2.3		•	
		Battery Voltage Dropout 3	VDS200x + AutoWave	9.2.3		•	
		Battery Voltage Dropout 4	VDS200x + AutoWave	9.2.3		•	
		Sinusoidal Superimposed Voltage	VDS200x + AutoWave	9.2.4		•	
		Pulse Superimposed Voltage (Signal Up)	VDS200x + AutoWave	9.2.5		•	
		Discrete Digital Input Threshold Voltage	AutoWave + AMP200Nx	9.2.13		•	
		Crank Pulse Capatability and Durability (Functial Test)	VDS200x + AutoWave	9.2.17		•	
		Crank Pulse Capatability and Durability (Durability Test)	VDS200x + AutoWave	9.2.17		•	
Switched Battery Lines	PFM200N100.1 (LIC-FAST)	9.2.18					
<b>General Motors GMW 3172 (2014-10)</b>	12V Line	Jump Start	VDS200x	8.2.1		•	
		Reverse Polarity	VDS200x	8.2.2		•	
		Overvoltage 1	VDS200x	8.2.3		•	
		Overvoltage 2	VDS200x	8.2.3		•	
		Power Supply Interruptions 1	VDS200x	9.2.2		•	
		Power Supply Interruptions 2	PFS200x + RDS200, VDS200x + AutoWave	9.2.2		•	
		Battery Voltage Dropout 1	VDS200x + AutoWave	9.2.3		•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Battery Voltage Dropout 2	VDS200x + AutoWave	9.2.3		•	
		Battery Voltage Dropout 3	VDS200x + AutoWave	9.2.3		•	
		Battery Voltage Dropout 4	VDS200x + AutoWave	9.2.3		•	
		Sinusoidal Superimposed Voltage	VDS200x + AutoWave	9.2.4		•	
		Pulse Superimposed Voltage (Signal Up)	VDS200x + AutoWave	9.2.5		•	
		Discrete Digital Input Threshold Voltage	AutoWave + AMP200Nx	9.2.13		•	
		Crank Pulse Capatability and Durability (Functial Test)	VDS200x + AutoWave	9.2.17		•	
		Crank Pulse Capatability and Durability (Durability Test)	VDS200x + AutoWave	9.2.17		•	
		Switched Battery Lines	PFM200N100.1 (LIC-FAST)	9.2.18		•	
<b>General Motors GMW 3172 (2015-06)</b>	12V Line	Jump Start	VDS200x	8.2.1		•	
		Reverse Polarity	VDS200x	8.2.2		•	
		Overvoltage 1	VDS200x	8.2.3		•	
		Overvoltage 2	VDS200x	8.2.3		•	
		Power Supply Interruptions 1	VDS200x	9.2.2		•	
		Power Supply Interruptions 2	PFS200x + RDS200, VDS200x + AutoWave	9.2.2		•	
		Battery Voltage Dropout 1	VDS200x + AutoWave	9.2.3		•	
		Battery Voltage Dropout 2	VDS200x + AutoWave	9.2.3		•	
		Battery Voltage Dropout 3	VDS200x + AutoWave	9.2.3		•	
		Battery Voltage Dropout 4	VDS200x + AutoWave	9.2.3		•	
		Sinusoidal Superimposed Voltage	VDS200x + AutoWave	9.2.4		•	
		Pulse Superimposed Voltage (Signal Up)	VDS200x + AutoWave	9.2.5		•	
		Discrete Digital Input Threshold Voltage	AutoWave + AMP200Nx	9.2.13		•	
		Crank Pulse Capatability and Durability (Functial Test)	VDS200x + AutoWave	9.2.17		•	
		Crank Pulse Capatability and Durability (Durability Test)	VDS200x + AutoWave	9.2.17		•	
Switched Battery Lines	PFM200N100.1 (AW-LIC FAST)	9.2.18		•			
<b>Germanischer Lloyd GL VI 7-2 (2003-12)</b>	24V Line	Conducted low frequency interference (harmonics) (Table 3.29)	AutoWave + AMP200Nx + CN200N1	20		•	
<b>Germanischer Lloyd GL VI 7-2 (2012)</b>	24V Line	Conducted low frequency interference (harmonics) (Table 3.30)	AutoWave + AMP200Nx + CN200N1	20		•	
<b>GOST 28751-90 (1990)</b>	12V Line	Pulse 1	UCS200x, MPG200		•		
		Pulse 2	UCS200x, MPG200		•		
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•		
		Pulse 5	LD200x		•		
		Pulse 6	UCS200N, UCS200 S5, MPG200 S20		•		
	Pulse 7	LD200x		•			
	24V Line	Pulse 1a	UCS200x, MPG200		•		
		Pulse 1b	UCS200N, UCS200 S5, MPG200 S20		•		
		Pulse 2	UCS200x, MPG200		•		
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•		
		Pulse 5	LD200x		•		
					•		
<b>Harley-Davidson EG-81222613 (2008-12)</b>	12V Line	303 Jump Start	VDS200x		•		
		304 Reverse Battery	VDS200x		•		
		309 Starting Voltage	VDS200x		•		
		310 Steady State Ripple	VDS200x		•		
		313 Loss of positive battery bus	AutoWave +PFM200Nx		•		
		314 Loss of negative battery bus	AutoWave +PFM200Nx		•		
		322 Voltage Drop	VDS200x		•		
<b>Honda</b>	12V Line	Overvoltage	VDS200x	14	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>3982Z-SDA-0030</b> (2003-02)		Pulse A1	LD200Nx, LD200S16	15	•		
		Pulse A2	UCS200x, MPG200 S13	15	•		
		Pulse B1	LD200N, LD200M, LD200 S16	15	•		
		Pulse B2	UCS200x, MPG200 S13	15	•		
<b>Honda</b> <b>3910Z-SDA-0000</b> (2016-08)	12V Line	Overvoltage	VDS200x	14	•		
		Pulse A1	LD200Nx, LD200S16	15	•		
		Pulse A2	UCS200x, MPG200 S13	15	•		
		Pulse B1	LD200N, LD200M, LD200 S16	15	•		
		Pulse B2	UCS200x, MPG200 S13	15	•		
<b>Honda</b> <b>7794Z-SNAA-0000</b> (2004-12)	12V Line	Instantaneous Voltage Application	VDS200x + AutoWave	3		•	
		Simply Increase Voltage Application	VDS200x + AutoWave	3		•	
		Chattering Voltage Application - A	VDS200x + AutoWave	3		•	
		Chattering Voltage Application - B	VDS200x + AutoWave	3		•	
		Chattering Voltage Application - C	VDS200x + AutoWave	3		•	
		Sine Wave Application - A	VDS200x + AutoWave	3		•	
		Sine Wave Application - B	VDS200x + AutoWave	3		•	
		Sine Wave Application - C	VDS200x + AutoWave	3		•	
		Sine Wave Application - D	VDS200x + AutoWave	3		•	
		Ignition Noise Overriding	VDS200x + AutoWave	3		•	
		Supply Voltage Fluctuation While Cranking - A	VDS200x + AutoWave	3		•	
		Supply Voltage Fluctuation While Cranking - B	VDS200x + AutoWave	3		•	
		Supply Voltage Fluctuation While Cranking - C	VDS200x + AutoWave	3		•	
		Pulse A1	LD200Nx, LD200S16	6.14	•		
		Pulse A2	UCS200x, MPG200 S13	6.14	•		
		Pulse B1	LD200N, LD200M, LD200 S16	6.14	•		
Pulse B2	UCS200x, MPG200 S13	6.14	•				
<b>Honda</b> <b>7794Z-TA0A-0000</b> (2007-01)	12V Line	Instantaneous Voltage Application	VDS200x + AutoWave	3		•	
		Simply Increase Voltage Application	VDS200x + AutoWave	3		•	
		Chattering Voltage Application - A	VDS200x + AutoWave	3		•	
		Chattering Voltage Application - B	VDS200x + AutoWave	3		•	
		Chattering Voltage Application - C	VDS200x + AutoWave	3		•	
		Sine Wave Application - A	VDS200x + AutoWave	3		•	
		Sine Wave Application - B	VDS200x + AutoWave	3		•	
		Sine Wave Application - C	VDS200x + AutoWave	3		•	
		Sine Wave Application - D	VDS200x + AutoWave	3		•	
		Ignition Noise Overriding	VDS200x + AutoWave	3		•	
		Supply Voltage Fluctuation While Cranking - A	VDS200x + AutoWave	3		•	
		Supply Voltage Fluctuation While Cranking - B	VDS200x + AutoWave	3		•	
		Supply Voltage Fluctuation While Cranking - C	VDS200x + AutoWave	3		•	
		Pulse A1	LD200Nx, LD200S16	6.14	•		
		Pulse A2	UCS200x, MPG200 S13	6.14	•		
		Pulse B1	LD200N, LD200M, LD200 S16	6.14	•		
Pulse B2	UCS200x, MPG200 S13	6.14	•				
<b>Honda</b> <b>8129ZSTX-A0901378</b>	12V Line	1.1 Positive Surge 1 (Test A-1)	LD200N, LD200M	1.1	•		
		1.1 Positive Surge 1 (Test A-2)	UCS200x	1.1	•		
		1.2 Positive Surge 2 (Test B-1)	UCS200x	1.2	•		
		1.2 Positive Surge 2 (Test B-2)	LD200N, LD200M	1.2	•		
		1.3 Positive Surge 3 (Test C-1)	UCS200x	1.3	•		
		1.4 Negative Surge 1 (Test D-1)	LD200N, LD200M	1.4	•		
		1.4 Negative Surge 1 (Test D-2)	UCS200x	1.4	•		
		1.5 Negative Surge 2 (Test E-1)	UCS200x	1.5	•		
		1.6 Negative Surge 3 (Test F-1)	UCS200x	1.6	•		
<b>Honda</b> <b>3982Z-SDA-0030</b>	12V Line	Overvoltage	VDS200x	14	•		
		Pulse A1	LD200Nx, LD200S16	15	•		



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
(2003-02)		Pulse A2	UCS200x, MPG200 S13	15	•			
		Pulse B1	LD200N, LD200M, LD200 S16	15	•			
		Pulse B2	UCS200x, MPG200 S13	15	•			
Hyundai/Kia ES 39110-00 (2005-08)	12V Line	CI 210-A1	VDS200x + AutoWave	3.2.210	•	•		
		CI 210-A2	VDS200x	3.2.210	•	•		
		CI 210-B1	VDS200x	3.2.210	•	•		
		CI 210-B2	VDS200x	3.2.210	•	•		
		CI 220-A	UCS200x, MPG200	3.2.220	•			
		CI 220-B	UCS200x, MPG200	3.2.220	•			
		CI 220-C	UCS200x, MPG200	3.2.220	•			
		CI 220-D	UCS200x, EFT200	3.2.220	•			
		CI 220-E	UCS200x, EFT200	3.2.220	•			
		CI 230-A	PFS200x + RDS200, VDS200x + AutoWave	3.2.230	•	•		
		CI 230-B1	VDS200x + AutoWave	3.2.230	•	•		
		CI 230-B2	VDS200x + AutoWave	3.2.230	•	•		
		CI 230-C	VDS200x + AutoWave	3.2.230	•	•		
		CI 240	LD200Nx, LD200B1	3.2.240	•			
		CI 250	VDS200N30.1 / N50.1 / Q + AutoWave			•		
		CI 260-A	PFS200x	3.2.260	•	•		
		CI 260-B	PFS200x	3.2.260	•	•		
		CI 260-C	PFS200x	3.2.260	•	•		
		CI 260-D	PFS200x + RDS200	3.2.260	•	•		
		CI 260-E	VDS200x	3.2.260	•	•		
	CI 270	VDS200N200 + AutoWave	3.2.270	•	•			
	12V I/O	Pulse 1	UCS200x, MPG200	3.2.220	•			
		Pulse 2	UCS200x, MPG200	3.2.220	•			
		Pulse 3a	UCS200x, EFT200	3.2.220	•			
		Pulse 3b	UCS200x, EFT200	3.2.220	•			
	Hyundai/Kia ES 39110-00 (2006-05)	12V Line	CI 210-A1	VDS200x + AutoWave	3.2.210	•	•	
			CI 210-A2	VDS200x	3.2.210	•	•	
CI 210-B1			VDS200x	3.2.210	•	•		
CI 210-B2			VDS200x	3.2.210	•	•		
CI 220-A			UCS200x, MPG200	3.2.220	•			
CI 220-B			UCS200x, MPG200	3.2.220	•			
CI 220-C			UCS200x, MPG200	3.2.220	•			
CI 220-D			UCS200x, EFT200	3.2.220	•			
CI 220-E			UCS200x, EFT200	3.2.220	•			
CI 230-A			PFS200x + RDS200, VDS200x + AutoWave	3.2.230	•	•		
CI 230-B1			VDS200x + AutoWave	3.2.230	•	•		
CI 230-B2			VDS200x + AutoWave	3.2.230	•	•		
CI 230-C			VDS200x + AutoWave	3.2.230	•	•		
CI 240			LD200Nx, LD200B1	3.2.240	•			
CI 250			VDS200N30.1 / N50.1 / Q + AutoWave			•		
CI 260-A			PFS200x	3.2.260	•	•		
CI 260-C			PFS200x	3.2.260	•	•		
CI 260-D			PFS200x + RDS200	3.2.260	•	•		
CI 260-E			VDS200x	3.2.260	•	•		
CI 270			VDS200N200 + AutoWave	3.2.270	•	•		
12V I/O		Pulse 1	UCS200x, MPG200	3.2.220	•			
		Pulse 2	UCS200x, MPG200	3.2.220	•			
		Pulse 3a	UCS200x, EFT200	3.2.220	•			
		Pulse 3b	UCS200x, EFT200	3.2.220	•			
Hyundai/Kia ES-95400 - 10		12V Line	Electric Load 1	VDS200x	4.3.1	•	•	
			Electric Load 2	VDS200x	4.3.1	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
<b>(Rev.A, 2003-10)</b>		Electric Load 3	VDS200x	4.3.1	•	•		
		Engine Start 1	VDS200x + AutoWave	4.3.2	•	•		
		Engine Start 2	VDS200x	4.3.2	•	•		
		Chattering	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	4.4.1	•	•		
		Key Switch	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	4.4.2	•	•		
		Inverse Polarity	VDS200x	4.5	•	•		
		Overvoltage A	VDS200x	4.6	•	•		
		Overvoltage B	VDS200x	4.6	•	•		
		Interruption	PFS200x, VDS200x + AutoWave	4.8.1	•	•		
		Pulse 1	UCS200x, MPG200	4.9.1	•			
		Pulse 2	UCS200x, MPG200	4.9.1	•			
		Pulse 3a	UCS200x, EFT200	4.9.1	•			
		Pulse 3b	UCS200x, EFT200	4.9.1	•			
		Pulse 5	LD200x	4.9.1	•			
		Pulse 5b	LD200Nx Clip, LD200x + diode	4.9.1	•			
		12V I/O	Pulse 3a	UCS200x, EFT200	4.9.2	•		
			Pulse 3b	UCS200x, EFT200	4.9.2	•		
<b>Hyundai /Kia ES-95400 - 10 (Rev.D, 2007-11)</b>	12V Line	Reverse Polarity	VDS200x	3.4.3	•	•		
		Over-voltage test 1	VDS200x	3.4.4	•	•		
		Over voltage test 2	VDS200x	3.4.4	•	•		
		Starting 1	VDS200x + AutoWave	3.4.5	•	•		
		Starting 2	VDS200x	3.4.5	•	•		
		Starting 3	VDS200x	3.4.5	•	•		
		Electric Load 1	VDS200x	3.4.6	•	•		
		Electric Load 2	VDS200x + AutoWave	3.4.6	•	•		
		Electric Load 3	VDS200x	3.4.6	•	•		
		Interruption Test	PFS200x, VDS200x + AutoWave	3.4.7	•	•		
		Intermittent 1	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	3.4.9	•	•		
		Intermittent 2	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	3.4.9	•	•		
		Charge & Discharge	VDS200x + AutoWave	3.4.10	•	•		
<b>Hyundai /Kia ES-95400 - 10 (Rev. J, 2012-08)</b>	12V Line	Reverse Polarity	VDS200x	3.4.3	•	•		
		Over-voltage test 1	VDS200x	3.4.4	•	•		
		Over voltage test 2	VDS200x	3.4.4	•	•		
		Starting 1	VDS200x + AutoWave	3.4.5	•	•		
		Starting 2	VDS200x	3.4.5	•	•		
		Starting 3	VDS200x	3.4.5	•	•		
		Electric Load 1	VDS200x	3.4.6	•	•		
		Electric Load 2	VDS200x + AutoWave	3.4.6	•	•		
		Electric Load 3	VDS200x	3.4.6	•	•		
		Interruption Test	PFS200x, VDS200x + AutoWave	3.4.7	•	•		
		Intermittent 1	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	3.4.9	•	•		
		Intermittent 2	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	3.4.9	•	•		
		Charge & Discharge 1	VDS200x + AutoWave	3.4.10	•	•		
Charge & Discharge 2	VDS200x + AutoWave	3.4.10	•	•				
<b>Hyundai /Kia ES-95400 - 10 (Rev. P, 2015-07)</b>	12V Line	Reverse Polarity	VDS200x	3.4.3	•	•		
		Over-voltage test 1	VDS200x	3.4.4	•	•		
		Over voltage test 2	VDS200x	3.4.4	•	•		
		Starting 1	VDS200x + AutoWave	3.4.5	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Starting 2	VDS200x	3.4.5	•	•		
		Starting 3	VDS200x	3.4.5	•	•		
		Electric Load 1	VDS200x	3.4.6	•	•		
		Electric Load 2	VDS200x + AutoWave	3.4.6	•	•		
		Electric Load 3	VDS200x	3.4.6	•	•		
		Interruption Test	PFS200x, VDS200x + AutoWave	3.4.7	•	•		
		Intermittent 1	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	3.4.9	•	•		
		Intermittent 2	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	3.4.9	•	•		
		Charge & Discharge 1	VDS200x + AutoWave	3.4.10	•	•		
		Charge & Discharge 2	VDS200x + AutoWave	3.4.10	•	•		
<b>Hyundai /Kia ES95682-50 (2012-03)</b>	12V Line	5.1 Overvoltage	VDS200x	5.1	•	•		
		5.2 Cranking Ripple	VDS200x	5.2	•	•		
		5.3 Power voltage intermittent test	VDS200x	5.3	•	•		
		5.4 Reversed Voltage	VDS200N / VDS200	5.4	•	•		
		5.5 High Voltage	VDS200x	5.5	•	•		
		5.8 Supply Ripple	VDS200x	5.8	•	•		
		5.9 Slow discharge	VDS200x + AutoWave	5.9	•	•		
		5.12 Supply Drops	VDS200x	5.12	•	•		
		<b>Hyundai /Kia ES-959910 - 29 (2003-10)</b>	12V Line	Reverse Voltage	VDS200x	2.1	•	
Overvoltage	VDS200x			2.1	•			
Pulse 1	UCS200x, MPG200			2.2	•			
Pulse 2	UCS200x, MPG200			2.2	•			
Pulse 3a	UCS200x, EFT200			2.2	•			
Pulse 3b	UCS200x, EFT200			2.2	•			
Pulse 4	VDS200x			2.2	•			
Pulse 5	LD200x			2.2	•			
12V I/O	Pulse 3a		UCS200x, EFT200	2.3	•			
	Pulse 3b		UCS200x, EFT200	2.3	•			
<b>Hyundai /Kia ES 96100-01</b>	12V Line		Pulse A1	LD200Nx, LD200S16	6.12	•		
			Pulse A2	UCS200x, MPG200 S13	6.12	•		
			Pulse B1	LD200Nx, LD200S16	6.12	•		
		Pulse B2	UCS200x, MPG200 S13	6.12	•			
		Overvoltage	VDS200x	6.13	•	•		
		Inverse	VDS200x	6.13	•	•		
	24V Line	Pulse A1	LD200Nx, LD200S16	6.12	•			
		Pulse A2	UCS200x, MPG200 S13	6.12	•			
		Pulse B1	LD200Nx, LD200S16	6.12	•			
		Pulse B2	UCS200x, MPG200 S13	6.12	•			
		Overvoltage	VDS200x	6.13	•	•		
		Inverse	VDS200x	6.13	•	•		
		<b>Hyundai /Kia ES-96100-02 (2006-11)</b>	12V Line	Reverse Polarity	VDS200x	4.5.3	•	•
Overvoltage 1	VDS200x			4.5.4	•	•		
Overvoltage 2	VDS200x			4.5.4	•	•		
Engine Start 1	VDS200x + AutoWave			4.5.5	•	•		
Engine Start 2	VDS200x			4.5.5	•	•		
Electrical Load	VDS200x			4.5.6	•	•		
Interruption	PFS200x, VDS200x + AutoWave			4.5.7	•	•		
Intermittent 1	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx			4.5.8	•	•		
Intermittent 2	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx			4.5.8	•	•		
Charging	VDS200x			4.5.10	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		Discharging	VDS200x + AutoWave	4.5.10	•	•			
		AC wave inflow	VDS200x	4.5.11	•	•			
		Pulse 1	UCS200x, MPG200	4.5.12	•				
		Pulse 2	UCS200x, MPG200	4.5.12	•				
		Pulse 3a	UCS200x, EFT200	4.5.12	•				
		Pulse 3b	UCS200x, EFT200	4.5.12	•				
		Pulse 5	LD200x	4.5.12	•				
		Pulse 5b	LD200Nx Clip, LD200x + diode	4.5.12	•				
Hyundai /Kia ES 96200-00 (Rev.D, 2005-12)	12V Line	Pulse 1	UCS200x, MPG200	7.3.1	•				
		Pulse 2a	UCS200x, MPG200	7.3.2	•				
		Pulse 2b	VDS200x	7.3.3	•				
		Pulse 3a	UCS200x, EFT200	7.3.4	•				
		Pulse 3b	UCS200x, EFT200	7.3.5	•				
		Pulse 4	VDS200x	7.3.6	•	•			
		Pulse 5a	LD200x	7.3.7	•				
		Pulse 5b	LD200Nx Clip, LD200x + diode	7.3.7	•				
		Reverse Voltage	VDS200x	10	•	•			
		Overvoltage 1	VDS200x	11	•	•			
	Overvoltage 2	VDS200x	11	•	•				
	12V I/O	Pulse 3a	UCS200x, EFT200	8.	•				
		Pulse 3b	UCS200x, EFT200	8.	•				
	Hyundai /Kia ES 96200-00 (Rev. G, 2008-07)	12V Line	Pulse 1	UCS200x, MPG200	7.3.1	•			
Pulse 2a			UCS200x, MPG200	7.3.2	•				
Pulse 2b			VDS200x	7.3.3	•				
Pulse 3a			UCS200x, EFT200	7.3.4	•				
Pulse 3b			UCS200x, EFT200	7.3.5	•				
Pulse 4			VDS200x	7.3.6	•	•			
Pulse 5a			LD200x	7.3.7	•				
Pulse 5b			LD200Nx Clip, LD200x + diode	7.3.7	•				
Reverse Voltage			VDS200x	10	•	•			
Overvoltage 1			VDS200x	11	•	•			
Overvoltage 2		VDS200x	11	•	•				
12V I/O		Pulse 3a	UCS200x, EFT200	8.	•				
		Pulse 3b	UCS200x, EFT200	8.	•				
Hyundai /Kia ES 96200-00 (2012-01)		12V Line	Pulse 1	UCS200x, MPG200	7.3.1	•			
	Pulse 2a		UCS200x, MPG200	7.3.2	•				
	Pulse 2b		VDS200x	7.3.3	•				
	Pulse 3a		UCS200x, EFT200	7.3.4	•				
	Pulse 3b		UCS200x, EFT200	7.3.5	•				
	Pulse 4		VDS200x	7.3.6	•	•			
	Pulse 5a		LD200x	7.3.7	•				
	Pulse 5b		LD200Nx Clip, LD200x + diode	7.3.7	•				
	12V I/O		Pulse 3a	UCS200x, EFT200	8.	•			
			Pulse 3b	UCS200x, EFT200	8.	•			
		Hyundai /Kia ES 96200-00 (Rev. L, 2014-03)	12V Line	Magnetic Field	AutoWave + AMP200Nx, CWS500N3	4.4.5		•	•
				Pulse 1	UCS200x, MPG200	7.4.1	•		
	Pulse 2a			UCS200x, MPG200	7.4.2	•			
	Pulse 2b			VDS200x	7.4.3	•	•		
Pulse 3a	UCS200x, EFT200			7.4.4	•				
Pulse 3b	UCS200x, EFT200			7.4.5	•				
Pulse 4	VDS200x			7.4.6	•	•			
Pulse 5a	LD200x			7.4.7	•				
Pulse 5b	LD200Nx Clip, LD200x + diode	7.4.7	•						
12V I/O	Pulse 3a	UCS200x, EFT200	8.	•					

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
Hyundai /Kia ES 96200-00 (Rev. 0, 2016-03)	12V Line	Pulse 3b	UCS200x, EFT200	8.	•		
		Magnetic Field	AutoWave + AMP200Nx, CWS500N3	6		•	•
		Pulse 1	UCS200x, MPG200	7.1.6	•		
		Pulse 2a	UCS200x, MPG200	7.1.6	•		
		Pulse 2b	VDS200x	7.1.6	•	•	
		Pulse 3a	UCS200x, EFT200	7.1.6	•		
		Pulse 3b	UCS200x, EFT200	7.1.6	•		
	Pulse 5b	LD200Nx Clip, LD200x + diode	7.1.6	•			
12V I/O	Pulse 3a	UCS200x, EFT200	7.2.6	•			
	Pulse 3b	UCS200x, EFT200	7.2.6	•			
Hyundai /Kia ES 96202-01 (2006-04)	12V Line	Pulse 1	UCS200x, MPG200	7.3.1	•		
		Pulse 2a	UCS200x, MPG200	7.3.2	•		
		Pulse 2b	VDS200x	7.3.3	•		
		Pulse 3a	UCS200x, EFT200	7.3.4	•		
		Pulse 3b	UCS200x, EFT200	7.3.5	•		
		Pulse 4	VDS200x	7.3.6	•		
		Pulse 5a	LD200x	7.3.7	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	8.3	•		
Pulse 3b		UCS200x, EFT200	8.3	•			
ISO 7637-1 (1990-06)	12V Line	Pulse 1	UCS200x, MPG200	4.6.1	•		
		Pulse 2	UCS200x, MPG200	4.6.2	•		
		Pulse 3a	UCS200x, EFT200	4.6.3	•		
		Pulse 3b	UCS200x, EFT200	4.6.3	•		
		Pulse 4	VDS200x	4.6.4	•		
		Pulse 5	LD200x	4.6.5	•		
		Pulse 6	UCS200x S5, MPG200	4.6.6	•		
		Pulse 7	LD200x	4.6.7	•		
ISO 7637-2 (1990-06)	24V Line	Pulse 1a	UCS200x, MPG200	4.6.1	•		
		Pulse 1b	UCS200x, MPG200	4.6.1	•		
		Pulse 2	UCS200x, MPG200	4.6.2	•		
		Pulse 3a	UCS200x, EFT200	4.6.3	•		
		Pulse 3b	UCS200x, EFT200	4.6.3	•		
		Pulse 4	VDS200x	4.6.4	•		
		Pulse 5	LD200x	4.6.5	•		
		ISO 7637-3 (1995-07)	12V I/O	Pulse 3a	UCS200x, EFT200	3.5.3	•
Pulse 3b	UCS200x, EFT200			3.5.3	•		
24V I/O	Pulse 3a		UCS200x, EFT200	3.5.3	•		
	Pulse 3b		UCS200x, EFT200	3.5.3	•		
ISO 7637-2 (2004-06)	12V Line	Pulse 1	UCS200x, MPG200	4.6.1	•		
		Pulse 2a	UCS200x, MPG200	4.6.2	•		
		Pulse 2b	VDS200x	4.6.2	•	•	
		Pulse 3a	UCS200x, EFT200	4.6.3	•		
		Pulse 3b	UCS200x, EFT200	4.6.3	•		
		Pulse 4	VDS200x	4.6.4	•	•	
		Pulse 5a	LD200x	4.6.5	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	4.6.5	•		
	24V Line	Pulse 1	UCS200x, MPG200	4.6.1	•		
		Pulse 2a	UCS200x, MPG200	4.6.2	•		
		Pulse 2b	VDS200x	4.6.2	•	•	
		Pulse 3a	UCS200x, EFT200	4.6.3	•		
		Pulse 3b	UCS200x, EFT200	4.6.3	•		
		Pulse 4	VDS200x	4.6.4	•	•	
Pulse 5a	LD200x	4.6.5	•				
Pulse 5b	LD200Nx Clip, LD200x + diode	4.6.5	•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
ISO 7637-2 (2011-03)	12V Line	Pulse 1	UCS200x, MPG200	4.6.1	•			
		Pulse 2a	UCS200x, MPG200	4.6.2	•			
		Pulse 2b	VDS200x	4.6.2	•	•		
		Pulse 3a	UCS200x, EFT200	4.6.3	•			
		Pulse 3b	UCS200x, EFT200	4.6.3	•			
	24V Line	Pulse 1	UCS200x, MPG200	UCS200x, MPG200	4.6.1	•		
		Pulse 2a	UCS200x, MPG200	UCS200x, MPG200	4.6.2	•		
		Pulse 2b	VDS200x	VDS200x	4.6.2	•	•	
		Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	4.6.3	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	4.6.3	•		
ISO 7637-3 (2016-07)	12V I/O	DCC Fast a	UCS200x, EFT200		•			
		DCC Fast b	UCS200x, EFT200		•			
		CCC Fast a	UCS200x, EFT200		•			
		CCC Fast b	UCS200x, EFT200		•			
		DCC Slow pos.	UCS200x, MPG200		•			
		DCC Slow neg.	UCS200x, MPG200		•			
		ICC Slow pos.	UCS200x, MPG200		•			
		ICC Slow neg.	UCS200x, MPG200		•			
	24V I/O	DCC Fast a	UCS200x, EFT200	UCS200x, EFT200		•		
		DCC Fast b	UCS200x, EFT200	UCS200x, EFT200		•		
		CCC Fast a	UCS200x, EFT200	UCS200x, EFT200		•		
		CCC Fast b	UCS200x, EFT200	UCS200x, EFT200		•		
		DCC Slow pos.	UCS200x, MPG200	UCS200x, MPG200		•		
		DCC Slow neg.	UCS200x, MPG200	UCS200x, MPG200		•		
		ICC Slow pos.	UCS200x, MPG200	UCS200x, MPG200		•		
		ICC Slow neg.	UCS200x, MPG200	UCS200x, MPG200		•		
	42V I/O	DCC Fast a	UCS200x, EFT200	UCS200x, EFT200		•		
		DCC Fast b	UCS200x, EFT200	UCS200x, EFT200		•		
		CCC Fast a	UCS200x, EFT200	UCS200x, EFT200		•		
		CCC Fast b	UCS200x, EFT200	UCS200x, EFT200		•		
		DCC Slow pos.	UCS200x, MPG200	UCS200x, MPG200		•		
DCC Slow neg.		UCS200x, MPG200	UCS200x, MPG200		•			
ICC Slow pos.		UCS200x, MPG200	UCS200x, MPG200		•			
ICC Slow neg.		UCS200x, MPG200	UCS200x, MPG200		•			
ISO 7637-3 (2007-07)	12V I/O	DCC Fast a	UCS200x, EFT200		•			
		DCC Fast b	UCS200x, EFT200		•			
		CCC Fast a	UCS200x, EFT200		•			
		CCC Fast b	UCS200x, EFT200		•			
		DCC Slow pos.	UCS200x, MPG200		•			
		DCC Slow neg.	UCS200x, MPG200		•			
		ICC Slow pos.	UCS200x, MPG200		•			
		ICC Slow neg.	UCS200x, MPG200		•			
	24V I/O	DCC Fast a	UCS200x, EFT200	UCS200x, EFT200		•		
		DCC Fast b	UCS200x, EFT200	UCS200x, EFT200		•		
		CCC Fast a	UCS200x, EFT200	UCS200x, EFT200		•		
		CCC Fast b	UCS200x, EFT200	UCS200x, EFT200		•		
		DCC Slow pos.	UCS200x, MPG200	UCS200x, MPG200		•		
		DCC Slow neg.	UCS200x, MPG200	UCS200x, MPG200		•		
		ICC Slow pos.	UCS200x, MPG200	UCS200x, MPG200		•		
42V I/O	DCC Fast a	UCS200x, EFT200	UCS200x, EFT200		•			
	DCC Fast b	UCS200x, EFT200	UCS200x, EFT200		•			
	CCC Fast a	UCS200x, EFT200	UCS200x, EFT200		•			
	CCC Fast b	UCS200x, EFT200	UCS200x, EFT200		•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		DCC Slow pos.	UCS200x, MPG200		•		
		DCC Slow neg.	UCS200x, MPG200		•		
		ICC Slow pos.	UCS200x, MPG200		•		
		ICC Slow neg.	UCS200x, MPG200		•		
<b>ISO TS 7637-4 (2017-03)</b>		Low frequency sinusoidal disturbances (Pulse C) - Level 1	AutoWave + AMP200Nx (LIC AMP HF)	4.4.6		•	
		Low frequency sinusoidal disturbances (Pulse C) - Level 2	AutoWave + AMP200Nx (LIC AMP HF)	4.4.6		•	
		Low frequency sinusoidal disturbances (Pulse C) - Level 3	AutoWave + AMP200Nx (LIC AMP HF)	4.4.6		•	
<b>ISO 11452-8 (2007-07)</b>		Internal Field - Level 1 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		Internal Field - Level 2 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		Internal Field - Level 3 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		Internal Field - Level 4 (Radiating Loop)	AutoWave + AMP200N1, CWS500N3			•	•
		External Field - Level 1 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		External Field - Level 2 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		External Field - Level 3 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		External Field - Level 4 (Radiating Loop)	AutoWave + AMP200N1, CWS500N3			•	•
	Verify H-Field (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•	
<b>ISO/DIS 11452-8 (2015-06)</b>		Internal Field - Level 1	AutoWave + AMP200Nx, CWS500N3			•	•
		Internal Field - Level 2	AutoWave + AMP200Nx, CWS500N3			•	•
		Internal Field - Level 3	AutoWave + AMP200Nx, CWS500N3			•	•
		Internal Field - Level 4	AutoWave + AMP200N1, CWS500N3			•	•
		External Field - Level 1	AutoWave + AMP200Nx, CWS500N3			•	•
		External Field - Level 2	AutoWave + AMP200Nx, CWS500N3			•	•
		External Field - Level 3	AutoWave + AMP200Nx, CWS500N3			•	•
		External Field - Level 4	AutoWave + AMP200N1, CWS500N3			•	•
		Level 1 (DC)	AutoWave + AMP200Nx + HS 5136			•	
		Level 2 (DC)	AutoWave + AMP200Nx + HS 5136			•	
		Level 3 (DC)	AutoWave + AMP200Nx + HS 5136			•	
		Level 4 (DC)					
		Verify H-Field - DC	AutoWave + AMP200Nx + HS 5136			•	
	Verify H-Field - 1kHz	AutoWave + AMP200Nx, CWS500N3			•	•	
<b>ISO 11452-10 (2008-09)</b>		Immunity to conducted disturbances (Closed Loop)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Immunity to conducted disturbances (Verify-Source Impedance Closed Loop)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Immunity to conducted disturbances (Substitution)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
<b>ISO 11452-10 Edition 1 (2009-04)</b>		Immunity to conducted disturbances (Closed Loop)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Immunity to conducted disturbances (Verify-Source Impedance Closed Loop)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Immunity to conducted disturbances (Substitution)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
<b>ISO 14982 (1998-05)</b>	12V Line	Pulse 1	UCS200x, MPG200	4.9.2	•		
		Pulse 2	UCS200x, MPG200	4.9.2	•		
		Pulse 3a	UCS200x, EFT200	4.9.2	•		
		Pulse 3b	UCS200x, EFT200	4.9.2	•		
		Pulse 4	VDS200x	4.9.2	•		
	Pulse 5	LD200x	4.9.2	•			
	24V Line	Pulse 1a	UCS200x, MPG200	4.9.2	•		
		Pulse 2	UCS200x, MPG200	4.9.2	•		
		Pulse 3a	UCS200x, EFT200	4.9.2	•		
		Pulse 3b	UCS200x, EFT200	4.9.2	•		
Pulse 4		VDS200x	4.9.2	•			
Pulse 5	LD200x	4.9.2	•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
ISO 16750-2 Rev. 2 (2006-08)	12V Line	Overvoltage 1	VDS200x	4.2.1	•	•	
		Overvoltage 2	VDS200x	4.2.1	•	•	
		Wobble	VDS200x + AutoWave	4.3	•	•	
		Ramp Down	VDS200x	4.4	•	•	
		Ramp Up	VDS200x	4.4	•	•	
		Drop	VDS200x	4.5.1	•	•	
		Dips	VDS200x	4.5.2	•	•	
		Start	VDS200x	4.5.2	•	•	
	Reversed Voltage	VDS200x	4.6	•	•		
	24V Line	Overvoltage	VDS200x	4.2.2	•	•	
		Wobble	VDS200x + AutoWave	4.3	•	•	
		Ramp Down	VDS200x	4.4	•	•	
		Ramp Up	VDS200x	4.4	•	•	
		Drop	VDS200x	4.5.1	•	•	
Dips		VDS200x	4.5.2	•	•		
Start		VDS200x	4.5.2	•	•		
Reversed Voltage		VDS200x	4.6	•	•		
ISO 16750-2 Rev. 3 (2010-03)	12V Line	Overvoltage 18V	VDS200x	4.3.1.1	•	•	
		Overvoltage 24V	VDS200x	4.3.1.2	•	•	
		Superimposed Alternating Voltage	VDS200x + AutoWave	4.4	•	•	
		Slow decrease and increase	VDS200x + AutoWave	4.5	•	•	
		Momentary Drop	VDS200x	4.6.1	•	•	
		Reset Behaviour	VDS200x	4.6.2	•	•	
		Starting Profile	VDS200x	4.6.3	•	•	
		Pulse 5a	LD200x	4.6.4	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	4.6.4	•		
	Reversed Voltage	VDS200x	4.7	•	•		
	24V Line	Overvoltage	VDS200x	4.3.2	•	•	
		Superimposed Alternating Voltage	VDS200x + AutoWave	4.4	•	•	
		Slow decrease and increase	VDS200x + AutoWave	4.5	•	•	
		Momentary Drop	VDS200x	4.6.1	•	•	
Reset behaviour		VDS200x	4.6.2	•	•		
ISO 16750-2 Rev. 4 (2012-11)	12V Line	Overvoltage 18V	VDS200x	4.3.1.1	•	•	
		Overvoltage 24V	VDS200x	4.3.1.2	•	•	
		Superimposed Alternating Voltage	VDS200x + AutoWave	4.4	•	•	
		Slow decrease and increase	VDS200x + AutoWave	4.5	•	•	
		Momentary Drop	VDS200x	4.6.1	•	•	
		Reset Behaviour	VDS200x	4.6.2	•	•	
		Starting Profile	VDS200x	4.6.3	•	•	
		Pulse 5a	LD200x	4.6.4	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	4.6.4	•		
	Reversed Voltage	VDS200x	4.7	•	•		
	24V Line	Overvoltage	VDS200x	4.3.2	•	•	
		Superimposed Alternating Voltage	VDS200x + AutoWave	4.4	•	•	
		Slow decrease and increase	VDS200x + AutoWave	4.5	•	•	
		Momentary Drop	VDS200x	4.6.1	•	•	
Reset behaviour		VDS200x	4.6.2	•	•		



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
ISO/CD 21848.4 (2003-01)	42V Line	Reversed Voltage	VDS200x	4.7	•	•			
		Overvoltage	VDS200N, VDS200B	4.2	•				
		Wobble 1a	VDS200x	4.3	•				
		Wobble 1b	VDS200x	4.3	•				
		Wobble 2a	VDS200x	4.3	•				
		Wobble 2b	VDS200x	4.3	•				
		Slow decrease	VDS200x	4.4	•				
		Slow increase	VDS200x	4.4	•				
		Drop	VDS200x	4.5.1	•				
		Dips	VDS200x	4.5.1	•				
		Starting	VDS200x	4.5.3	•				
		Reversed Voltage	VDS200x	4.6	•				
		ISO/CD 21848.4 (2005-04)	42V Line	Wobble 1a	VDS200x	4.3	•	•	
Wobble 1b	VDS200x			4.3	•	•			
Wobble 2a	VDS200x			4.3	•	•			
Wobble 2b	VDS200x			4.3	•	•			
Overvoltage	VDS200N, VDS200B			4.4	•	•			
Slow decrease	VDS200x			4.5	•	•			
Slow increase	VDS200x			4.5	•	•			
Drop	VDS200x			4.6.1	•	•			
Dips	VDS200x			4.6.1	•	•			
Starting	VDS200x			4.6.3	•	•			
Reversed Voltage	VDS200x			4.7	•	•			
IVECO 16-2101 (2006-4)	12V I/O			DCC Fast a	UCS200x, EFT200		•		
				DCC Fast b	UCS200x, EFT200		•		
		CCC Fast a	UCS200x, EFT200		•				
		CCC Fast b	UCS200x, EFT200		•				
		DCC Slow pos.	UCS200x, MPG200		•				
		DCC Slow neg.	UCS200x, MPG200		•				
		ICC Slow pos.	UCS200x, MPG200		•				
		ICC Slow neg.	UCS200x, MPG200		•				
		24V I/O	DCC Fast a	UCS200x, EFT200		•			
	DCC Fast b		UCS200x, EFT200		•				
	CCC Fast a		UCS200x, EFT200		•				
	CCC Fast b		UCS200x, EFT200		•				
	DCC Slow pos.		UCS200x, MPG200		•				
	DCC Slow neg.		UCS200x, MPG200		•				
	ICC Slow pos.		UCS200x, MPG200		•				
	ICC Slow neg.		UCS200x, MPG200		•				
	IVECO 16-2101 (2010-05)		12V I/O	DCC Fast a	UCS200x, EFT200		•		
				DCC Fast b	UCS200x, EFT200		•		
		CCC Fast a		UCS200x, EFT200		•			
CCC Fast b		UCS200x, EFT200			•				
DCC Slow pos.		UCS200x, MPG200			•				
DCC Slow neg.		UCS200x, MPG200			•				
ICC Slow pos.		UCS200x, MPG200			•				
ICC Slow neg.		UCS200x, MPG200			•				
24V I/O		DCC Fast a		UCS200x, EFT200		•			
		DCC Fast b	UCS200x, EFT200		•				
		CCC Fast a	UCS200x, EFT200		•				
		CCC Fast b	UCS200x, EFT200		•				
DCC Slow pos.		UCS200x, MPG200		•					
DCC Slow neg.	UCS200x, MPG200		•						
ICC Slow pos.	UCS200x, MPG200		•						

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
<b>IVECO 16-2103 (1993-12)</b>	12V Line	ICC Slow neg.	UCS200x, MPG200		•			
		Pulse 1	UCS200x		•			
		Pulse 2	UCS200x, MPG200		•			
		Pulse 3a	UCS200x, EFT200		•			
		Pulse 3b	UCS200x, EFT200		•			
		Pulse 4	VDS200x		•			
		Pulse 5	LD200x		•			
	12V I/O	Pulse 6	UCS200N, MPG200		•			
		Pulse 1	UCS200x, MPG200		•			
		Pulse 2	UCS200x, MPG200		•			
		Pulse 3a	UCS200x, EFT200		•			
	24V Line	Pulse 3b	UCS200x, EFT200		•			
		Pulse 1	UCS200x		•			
		Pulse 2	UCS200x, MPG200		•			
		Pulse 3a	UCS200x, EFT200		•			
		Pulse 3b	UCS200x, EFT200		•			
	24V I/O	Pulse 4	VDS200x		•			
		Pulse 5	LD200x		•			
		Pulse 1	UCS200x, MPG200		•			
		Pulse 2	UCS200x, MPG200		•			
<b>IVECO 16-2103 (2003-04)</b>	12V Line	Pulse 3a	UCS200x, EFT200		•			
		Pulse 3b	UCS200x, EFT200		•			
		Pulse 4	VDS200x + AutoWave		•	•		
		Pulse 5a	LD200x		•			
		Pulse 5b	LD200Nx Clip, LD200x + diode		•			
		Pulse 6	UCS200N, MPG200		•			
		Micro-Cutoffs	PFS200x, VDS200x + AutoWave		•	•		
		24V Line	Pulse 1	UCS200x		•		
			Pulse 2	UCS200x, MPG200		•		
	Pulse 3a		UCS200x, EFT200		•			
	Pulse 3b		UCS200x, EFT200		•			
	Pulse 4		VDS200x + AutoWave		•	•		
	Pulse 5a		LD200x		•			
	Pulse 5b (42V)		LD200Nx Clip, LD200x + diode		•			
	Pulse 5b (58V)		LD200Nx Clip, LD200x + diode		•			
	Micro-Cutoffs		PFS200x, VDS200x + AutoWave		•	•		
	<b>IVECO 16-2103 (2007-04)</b>		12V Line	Pulse 1	UCS200x		•	
		Pulse 2a		UCS200x, MPG200		•		
		Pulse 2b		VDS200x		•	•	
		Pulse 3a		UCS200x, EFT200		•		
Pulse 3b		UCS200x, EFT200			•			
Pulse 4a		VDS200x + AutoWave			•	•		
Pulse 4b		PFS200x, VDS200x + AutoWave			•	•		
Pulse 5a		LD200x			•			
Pulse 5b		LD200Nx Clip, LD200x + diode			•			
24V Line		Pulse 1	UCS200x		•			
		Pulse 2a	UCS200x, MPG200		•			
		Pulse 2b	VDS200x		•	•		
		Pulse 3a	UCS200x, EFT200		•			
		Pulse 3b	UCS200x, EFT200		•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Pulse 4a	VDS200x + AutoWave		•	•	
		Pulse 4b	PFS200x, VDS200x + AutoWave		•	•	
		Pulse 5a	LD200x		•		
		Pulse 5b	LD200Nx Clip, LD200x + diode		•		
<b>IVECO 16-2103 (2010-07)</b>	12V Line	Pulse 1 (Spike)	UCS200x		•		
		Pulse 2a (Spike)	UCS200x, MPG200		•		
		Pulse 2b (Spike)	VDS200x		•	•	
		Pulse 3a (Burst)	UCS200x, EFT200		•		
		Pulse 3b (Burst)	UCS200x, EFT200		•		
		Pulse 4 Cranking	VDS200x + AutoWave		•	•	
		Starting Profile	VDS200x + AutoWave		•	•	
		Sinusoidal changes of supply voltage	VDS200x		•	•	
		Micro breaks	PFS200x, VDS200x + AutoWave		•	•	
		Drop of supply voltage	VDS200x		•		
		Performance on restoring power supply after voltage drop	VDS200x		•	•	
		Pulse 5a (Load dump without zener)	LD200x		•		
		Pulse 5b (Load dump with zener)	LD200Nx Clip, LD200x + diode		•		
		Key off/on cycle	PFS200x, VDS200x + AutoWave		•	•	
	24V Line	Pulse 1 (Spike)	UCS200x		•		
		Pulse 2a (Spike)	UCS200x, MPG200		•		
		Pulse 2b (Spike)	VDS200x		•	•	
		Pulse 3a (Burst)	UCS200x, EFT200		•		
		Pulse 3b (Burst)	UCS200x, EFT200		•		
		Pulse 4 Cranking	VDS200x + AutoWave		•	•	
		Starting Profile	VDS200x + AutoWave		•	•	
		Sinusoidal changes of supply voltage	VDS200x		•	•	
		Micro breaks	PFS200x, VDS200x + AutoWave		•		
		Drop of supply voltage	VDS200x		•	•	
		Performance on restoring power supply after voltage drop	VDS200x		•	•	
		Pulse 5a (Load dump without zener)	LD200x		•		
		Pulse 5b (Load dump with zener)	LD200Nx Clip, LD200x + diode		•		
		Key off/on cycle 1	PFS200x, VDS200x + AutoWave		•	•	
Key off/on cycle 2	PFS200x, VDS200x + AutoWave		•	•			
<b>IVECO 16-2119 (2008-11)</b>		Immunity to magnetic fields (Radiating Loop) - Calculated	AutoWave + AMP200N1, CWS500N3			•	•
		Immunity to magnetic fields (Radiating Loop) - Substitution	AutoWave + AMP200N1, CWS500N3			•	•
<b>IVECO 16-2119 (2010-05)</b>		Immunity to magnetic fields (Radiating Loop) - Calculated	AutoWave + AMP200N1, CWS500N3			•	•
		Immunity to magnetic fields (Radiating Loop) - Substitution	AutoWave + AMP200N1, CWS500N3			•	•
<b>Jaguar CI265 (2009-05)</b>	12V Line	Waveform A	VDS200x + AutoWave			•	
		Waveform B	VDS200x + AutoWave			•	
		Waveform C	VDS200x + AutoWave			•	
<b>Jaguar / Land Rover EMC-CS-2010JLR (2010-06)</b>	12V Line	RI 140 - (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•
		RI 140 - (Magnetic Field Immunity - Verify H-Field)	AutoWave + AMP200Nx, CWS500N3			•	•
		RI 150 - (Coupled Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•
		CI 210 - (Immunity from Continuous Power Line Disturbances)	AutoWave + AMP200Nx + VDS200x			•	
		CI 220 - Pulse E	UCS200x, MPG200		•		
		CI 220 - Pulse F1	UCS200x, MPG200		•		
		CI 220 - Pulse F2	VDS200x		•	•	
		CI 220 - Pulse G1	LD200Nx, LD200B1		•		
		CI 220 - Pulse G2	LD200x + Zehnerdiode		•		
		CI 230 - Pulse A	PFS200x + RDS 200, VDS200x + AutoWave		•	•	
		CI 230 - Pulse B	VDS200x / RDS200 + AutoWave		•	•	
		CI 230 - Pulse C	VDS200x / RDS200 + AutoWave		•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		CI 230 - Pulse D	VDS200x / RDS200 + AutoWave		•	•		
		CI 250 - Continuous (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•		
		CI 250 - Transient (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•		
		CI 265 - Waveform A (Fast Transient Burst Noise (FTBN))	VDS200x + AutoWave			•		
		CI 265 - Waveform B Random Crank	VDS200x + AutoWave			•		
		CI 265 - Waveform C (Ramp Down/Up)	VDS200x + AutoWave			•		
		CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•		
		CI 270	VDS200x (with minimal 100A)		•	•		
		5V Line	CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•	
		3V Line	CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•	
<b>Jaguar / Land Rover EMC-CS-2010JLR Version 1.1 (2011-01)</b>	12V Line	RI 140 - (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3			•		
		RI 140 - (Magnetic Field Immunity - Verify H-Field)	AutoWave + AMP200Nx, CWS500N3			•		
		RI 150 - (Coupled Immunity)	AutoWave + AMP200Nx, CWS500N3			•		
		CI 210 - (Immunity from Continuous Power Line Disturbances)	AutoWave + AMP200Nx + VDS200x			•		
		CI 220 - Pulse E	UCS200x, MPG200		•			
		CI 220 - Pulse F1	UCS200x, MPG200		•			
		CI 220 - Pulse F2	VDS200x		•	•		
		CI 220 - Pulse G1	LD200Nx, LD200B1		•			
		CI 220 - Pulse G2	LD200x + Zehnerdiode		•			
		CI 230 - Pulse A	PFS200x + RDS 200, VDS200x + AutoWave		•	•		
		CI 230 - Pulse B	VDS200x / RDS200 + AutoWave		•	•		
		CI 230 - Pulse C	VDS200x / RDS200 + AutoWave		•	•		
		CI 230 - Pulse D	VDS200x / RDS200 + AutoWave		•	•		
		CI 250 - Continuous (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•		
		CI 250 - Transient (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•		
		CI 265 - Waveform A (Fast Transient Burst Noise (FTBN))	VDS200x + AutoWave			•		
		CI 265 - Waveform B Random Crank	VDS200x + AutoWave			•		
		CI 265 - Waveform C (Ramp Down/Up)	VDS200x + AutoWave			•		
		CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•		
		CI 270	VDS200x (with minimal 100A)		•	•		
		5V Line	CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•	
		3V Line	CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•	
		<b>Jaguar / Land Rover EMC-CS-2010JLR Version 1.2 (2012-06)</b>	12V Line	RI 140 - (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3			•
RI 140 - (Magnetic Field Immunity - Verify H-Field)	AutoWave + AMP200Nx, CWS500N3					•	•	
RI 150 - (Coupled Immunity)	AutoWave + AMP200Nx, CWS500N3					•	•	
CI 210 - (Immunity from Continuous Power Line Disturbances)	AutoWave + AMP200Nx + VDS200x					•		
CI 220 - Pulse E	UCS200x, MPG200				•			
CI 220 - Pulse F1	UCS200x, MPG200				•			
CI 220 - Pulse F2	VDS200x				•	•		
CI 220 - Pulse G1	LD200Nx, LD200B1				•			
CI 220 - Pulse G2	LD200x + Zehnerdiode				•			
CI 230 - Pulse A	PFS200x + RDS 200, VDS200x + AutoWave				•	•		
CI 230 - Pulse B	VDS200x / RDS200 + AutoWave				•	•		
CI 230 - Pulse C	VDS200x / RDS200 + AutoWave				•	•		
CI 230 - Pulse D	VDS200x / RDS200 + AutoWave				•	•		
CI 250 - Continuous (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1					•		
CI 250 - Transient (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1					•		
CI 265 - Waveform A (Fast Transient Burst Noise (FTBN))	VDS200x + AutoWave					•		
CI 265 - Waveform B Random Crank	VDS200x + AutoWave					•		
CI 265 - Waveform C (Ramp Down/Up)	VDS200x + AutoWave					•		
CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave					•		
CI 270	VDS200x (with minimal 100A)				•	•		
5V Line	CI 265 - Waveform D (Single Voltage Dropout)			VDS200x + AutoWave			•	
3V Line	CI 265 - Waveform D (Single Voltage Dropout)			VDS200x + AutoWave			•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>Jaguar / Land Rover JLR-EMC-CS Version 1.0, Am 4 (2015-02)</b>	12V Line	RI 140 - (Magnetic Field Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•
		RI 140 - (Magnetic Field Immunity - Verify H-Field)	AutoWave + AMP200Nx, CWS500N3			•	•
		RI 150 - (Coupled Immunity)	AutoWave + AMP200Nx, CWS500N3			•	•
		CI 210 - (Immunity from Continuous Power Line Disturbances)	AutoWave + AMP200Nx + VDS200x			•	
		CI 220 - Pulse E	UCS200x, MPG200			•	
		CI 220 - Pulse F1	UCS200x, MPG200			•	
		CI 220 - Pulse F2	VDS200x			•	•
		CI 220 - Pulse G1	LD200Nx, LD200B1			•	
		CI 220 - Pulse G2	LD200x + Zehnerdiode			•	
		CI 230 - Pulse A	PFS200x + RDS 200, VDS200x + AutoWave			•	•
		CI 230 - Pulse B	VDS200x / RDS200 + AutoWave			•	•
		CI 230 - Pulse C	VDS200x / RDS200 + AutoWave			•	•
		CI 230 - Pulse D	VDS200x / RDS200 + AutoWave			•	•
		CI 250 - Continuous (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•	
		CI 250 - Transient (Immunity to Ground Voltage Offset)	AutoWave + AMP200Nx + CN200N1			•	
		CI 265 - Waveform A (Fast Transient Burst Noise (FTBN))	VDS200x + AutoWave			•	
		CI 265 - Waveform B Random Crank	VDS200x + AutoWave			•	
		CI 265 - Waveform C (Ramp Down/Up)	VDS200x + AutoWave			•	
		CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•	
	CI 270	VDS200x (with minimal 100A)			•	•	
	5V Line	CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•	
	3V Line	CI 265 - Waveform D (Single Voltage Dropout)	VDS200x + AutoWave			•	
<b>JASO D 001-94 (1994)</b>	12V Line	Sinus	VDS200x	5.2	•	•	
		Interruption	PFS200x	5.3	•	•	
		Inverse Polarity	VDS200x	5.4	•	•	
		Overtoltage 1	VDS200x	5.5	•	•	
		Overtoltage 2	VDS200x	5.5	•	•	
		Pulse A1	LD200Nx, LD200S16	5.7	•		
		Pulse A2	UCS200x, MPG200 S13	5.7	•		
		Pulse B1	LD200Nx, LD200S16	5.7	•		
		Pulse B2	UCS200x, MPG200 S13	5.7	•		
	24V Line	Sinus	VDS200x	5.2	•	•	
		Interruption	PFS200x	5.3		•	
		Inverse Polarity	VDS200x	5.4	•	•	
		Overtoltage 1	VDS200x	5.5	•	•	
		Overtoltage 2	VDS200x	5.5	•	•	
		Pulse D1	LD200Nx, LD200S16	5.7	•		
		Pulse D2	UCS200x, MPG200 S13	5.7	•		
		Pulse E1	MPG200 S21	5.7	•		
Pulse E2	MPG200 S21	5.7	•				
<b>JASO D 014-2 (2014-03)</b>	12V Line	Overtoltage 18V	VDS200x	4.3.1.1	•	•	
		Overtoltage 24V	VDS200x	4.3.1.2	•	•	
		Superimposed Alternating Voltage	VDS200x + AutoWave	4.4	•	•	
		Slow decrease and increase	VDS200x + AutoWave	4.5	•	•	
		Momentary Drop	VDS200x	4.6.1	•	•	
		Reset Behaviour	VDS200x	4.6.2	•	•	
		Starting Profile	VDS200x	4.6.3	•	•	
		Pulse 5a	LD200x	4.6.4	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	4.6.4	•		
		Reversed Voltage	VDS200x	4.7	•	•	
	24V Line	Overtoltage	VDS200x	4.3.2	•	•	
		Superimposed Alternating Voltage	VDS200x + AutoWave	4.4	•	•	
		Slow decrease and increase	VDS200x + AutoWave	4.5	•	•	
Momentary Drop		VDS200x	4.6.1	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Reset behaviour	VDS200x	4.6.2	•	•		
		Starting Profile	VDS200x	4.6.3	•	•		
		Pulse 5a	LD200x	4.6.4	•			
		Pulse 5b	LD200Nx Clip, LD200x + diode	4.6.4	•			
		Reversed Voltage	VDS200x	4.7	•	•		
<b>JASO D902-95 (1995)</b>	12V Line	Pulse B1	LD200Nx, LD200S16	5	•			
		Pulse B2	UCS200x, MPG200 S13	5	•			
	24V Line	Pulse E1	MPG200 S21	5	•			
		Pulse E2	MPG200 S21	5	•			
<b>JCB STD00140 (2014-04)</b>	12V Line	Overvoltage	VDS200x	12.2	•	•		
		Reversed Polarity	VDS200x	12.2	•	•		
		Power Up	VDS200x	12.2	•	•		
		Pulse 1	UCS200x, MPG200	13.4	•			
		Pulse 2a	UCS200x, MPG200	13.4	•			
		Pulse 2b	VDS200x	13.4	•	•		
		Pulse 3a	UCS200x, EFT200	13.4	•			
		Pulse 3b	UCS200x, EFT200	13.4	•			
		Pulse 4	VDS200x	13.4	•	•		
		Pulse 5	LD200x	13.4	•			
	24V Line	Overvoltage	VDS200x	12.2	•	•		
		Reversed Polarity	VDS200x	12.2	•	•		
		Power Up	VDS200x	12.2	•	•		
		Pulse 1	UCS200x, MPG200	13.4	•			
		Pulse 2a	UCS200x, MPG200	13.4	•			
		Pulse 2b	VDS200x	13.4	•	•		
		Pulse 3a	UCS200x, EFT200	13.4	•			
		Pulse 3b	UCS200x, EFT200	13.4	•			
		Pulse 4	VDS200x	13.4	•	•		
		Pulse 5	LD200x	13.4	•			
	5V Line	Overvoltage	VDS200x	12.2	•	•		
		Reversed Polarity	VDS200x	12.2	•	•		
	<b>John Deere JDQ 53.3 (2005-10)</b>	12V Line	Forward Voltage	VDS200x	9.1.2	•	•	
			Reverse Voltage	VDS200x	9.1.3	•	•	
			Start Profile	VDS200x	9.2.1	•	•	
Load Dump >55A			LD200Nx, LD200M	9.2.3.1	•			
Load Dump <55A			LD200Nx, LD200M	9.2.3.2	•			
Load Dump Clamped >55A			LD200Nx, LD200M	9.2.3.5	•			
Load Dump Clamped <55A			LD200Nx, LD200M	9.2.3.6	•			
Negative Spikes			UCS200x, EFT200	9.2.4	•			
Positive Spikes			UCS200x, EFT200	9.2.4	•			
Inductive Load			UCS200x, MPG200 S15	9.2.5	•			
Negative Mutual			UCS200x, EFT200	9.2.6	•			
Positive Mutual			UCS200x, EFT200	9.2.6	•			
Direct Current			VDS200x	9.2.7	•	•		
Wiring Harness		UCS200x, MPG200	9.2.10	•				
24V Line		Forward Voltage	VDS200x	9.1.2	•	•		
		Reverse Voltage	VDS200x	9.1.3	•	•		
		Load Dump >55A	LD200Nx, LD200M	9.2.3.3	•			
		Load Dump <55A	LD200Nx, LD200M	9.2.3.4	•			
		Load Dump Clamped >55A	LD200Nx, LD200M	9.2.3.7	•			
		Load Dump Clamped <55A	LD200Nx, LD200M	9.2.3.8	•			
	Start Profile	VDS200x	9.2.1	•	•			
Negative Spikes	UCS200x, EFT200	9.2.4	•					
Positive Spikes	UCS200x, EFT200	9.2.4	•					

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
John Deere JDQ 53.3 (2011-08)		Inductive Load	UCS200x	9.2.5	•			
		Negative Mutual	UCS200x, EFT200	9.2.6	•			
		Positive Mutual	UCS200x, EFT200	9.2.6	•			
		Direct Current	VDS200x	9.2.7	•	•		
		Wiring Harness	UCS200x, MPG200	9.2.10	•			
	12V Line	Forward Voltage	VDS200x	9.1.2	•	•		
		Reverse Voltage	VDS200x	9.1.3	•	•		
		Start Profile	VDS200x	9.2.1	•	•		
		Load Dump >55A	LD200Nx, LD200M	9.2.3.1	•			
		Load Dump <55A	LD200Nx, LD200M	9.2.3.2	•			
		Load Dump Clamped >55A	LD200Nx, LD200M	9.2.3.5	•			
		Load Dump Clamped <55A	LD200Nx, LD200M	9.2.3.6	•			
		Negative Spikes	UCS200x, EFT200	9.2.4	•			
		Positive Spikes	UCS200x, EFT200	9.2.4	•			
		Inductive Load	UCS200x, MPG200 S15	9.2.5	•			
		Negative Mutual	UCS200x, EFT200	9.2.6	•			
		Positive Mutual	UCS200x, EFT200	9.2.6	•			
		Direct Current	VDS200x	9.2.7	•	•		
		Wiring Harness	UCS200x, MPG200	9.2.10	•			
		24V Line	Forward Voltage	VDS200x	9.1.2	•	•	
			Reverse Voltage	VDS200x	9.1.3	•	•	
			Load Dump >55A	LD200Nx, LD200M	9.2.3.3	•		
	Load Dump <55A		LD200Nx, LD200M	9.2.3.4	•			
	Load Dump Clamped >55A		LD200Nx, LD200M	9.2.3.7	•			
	Load Dump Clamped <55A		LD200Nx, LD200M	9.2.3.8	•			
	Start Profile		VDS200x	9.2.1	•	•		
	Negative Spikes		UCS200x, EFT200	9.2.4	•			
Positive Spikes	UCS200x, EFT200		9.2.4	•				
Inductive Load	UCS200x		9.2.5	•				
Negative Mutual	UCS200x, EFT200		9.2.6	•				
Positive Mutual	UCS200x, EFT200		9.2.6	•				
Direct Current	VDS200x		9.2.7	•	•			
Wiring Harness	UCS200x, MPG200		9.2.10	•				
John Deere JDQ 202 (2013-12)	12V Line		JDQ 202B - Jump Start Forward Voltage	VDS200x	6	•	•	
		JDQ 202C - Jump Start Reverse Voltage	VDS200x	7	•	•		
		JDQ 202H - Start Profile	VDS200x	12	•	•		
		JDQ 202J - Batteryless Operation	AutoWave + VDS200x	13		•		
		JDQ 202K - Load Dump >55A	LD200Nx, LD200M	14	•			
		JDQ 202K - Load Dump <55A	LD200Nx, LD200M	14	•			
		JDQ 202L - Load Dump Clamped >55A	LD200Nx, LD200M	15	•			
		JDQ 202L - Load Dump Clamped <55A	LD200Nx, LD200M	15	•			
		JDQ 202M - Negative Switching Spikes	UCS200x, EFT200	16	•			
		JDQ 202N - Positive Switching Spikes	UCS200x, EFT200	17	•			
		JDQ 202P - Parallel Inductive Load Switching	UCS200x,	18	•			
		JDQ 202Q - Negative Mutual Coupling	UCS200x, EFT200	19	•			
		JDQ 202P - Positive Mutual Coupling	UCS200x, EFT200	20	•			
		JDQ 202S - Direct Current Motors Acting as a Generator	VDS200x	21	•	•		
		JDQ 202V - Wiring Harness Inductive Switching	UCS200x, MPG200	22	•			
		JDQ 202Y - Power Interruptions	PFS200Nx, PFM200N100	26	•	•		
	JDQ 202Z - Reset Response During Voltage Drop - Level2	AutoWave + VDS200x	27	•	•			
	JDQ 202Z - Reset Response During Voltage Drop - Level3	VDS200x	27	•	•			
	24V Line	JDQ 202B - Jump Start Forward Voltage	VDS200x	6	•	•		
		JDQ 202C - Jump Start Reverse Voltage	VDS200x	7	•	•		
		JDQ 202H - Start Profile	VDS200x	12	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		JDQ 202J - Batteryless Operation	AutoWave + VDS200x	13	•		
		JDQ 202K- Load Dump >55A	LD200Nx, LD200M	14	•		
		JDQ 202K - Load Dump <55A	LD200Nx, LD200M	14	•		
		JDQ 202L - Load Dump Clamped >55A	LD200Nx, LD200M	15	•		
		JDQ 202L - Load Dump Clamped <55A	LD200Nx, LD200M	15	•		
		JDQ 202M - Negative Switching Spikes	UCS200x, EFT200	16	•		
		JDQ 202N - Positive Switching Spikes	UCS200x, EFT200	17	•		
		JDQ 202P - Parallel Inductive Load Switching	UCS200x	18	•		
		JDQ 202Q - Negative Mutual Coupling	UCS200x, EFT200	19	•		
		JDQ 202P - Positive Mutual Coupling	UCS200x, EFT200	20	•		
		JDQ 202S - Direct Current Motors Acting as a Generator	VDS200x	21	•	•	
		JDQ 202V - Wiring Harness Inductive Switching	UCS200x, MPG200	22	•		
		JDQ 202Y - Power Interruptions	PFS200Nx, PFM200N100	26	•	•	
		JDQ 202Z - Reset Response During Voltage Drop - Level2	AutoWave + VDS200x	27	•	•	
JDQ 202Z - Reset Response During Voltage Drop - Level3	VDS200x	27	•	•			
<b>John Deere</b> <b>JDQ 202</b> <b>(2015-03)</b>	12V Line	JDQ 202B - Jump Start Forward Voltage	VDS200x	6	•	•	
		JDQ 202C - Jump Start Reverse Voltage	VDS200x	7	•	•	
		JDQ 202H - Start Profile	VDS200x	12	•	•	
		JDQ 202J - Batteryless Operation	AutoWave + VDS200x	13		•	
		JDQ 202K- Load Dump >55A	LD200Nx, LD200M	14	•		
		JDQ 202K - Load Dump <55A	LD200Nx, LD200M	14	•		
		JDQ 202L - Load Dump Clamped >55A	LD200Nx, LD200M	15	•		
		JDQ 202L - Load Dump Clamped <55A	LD200Nx, LD200M	15	•		
		JDQ 202M - Negative Switching Spikes	UCS200x, EFT200	16	•		
		JDQ 202N - Positive Switching Spikes	UCS200x, EFT200	17	•		
		JDQ 202P - Parallel Inductive Load Switching	UCS200x,	18	•		
		JDQ 202Q - Negative Mutual Coupling	UCS200x, EFT200	19	•		
		JDQ 202P - Positive Mutual Coupling	UCS200x, EFT200	20	•		
		JDQ 202S - Direct Current Motors Acting as a Generator	VDS200x	21	•	•	
	JDQ 202V - Wiring Harness Inductive Switching	UCS200x, MPG200	22	•			
	JDQ 202Y - Power Interruptions	PFS200Nx, PFM200N100	26	•	•		
	JDQ 202Z - Reset Response During Voltage Drop - Level2	AutoWave + VDS200x	27	•	•		
	JDQ 202Z - Reset Response During Voltage Drop - Level3	VDS200x	27	•	•		
	24V Line	JDQ 202B - Jump Start Forward Voltage	VDS200x	6	•	•	
		JDQ 202C - Jump Start Reverse Voltage	VDS200x	7	•	•	
		JDQ 202H - Start Profile	VDS200x	12	•	•	
		JDQ 202J - Batteryless Operation	AutoWave + VDS200x	13	•		
		JDQ 202K- Load Dump >55A	LD200Nx, LD200M	14	•		
		JDQ 202K - Load Dump <55A	LD200Nx, LD200M	14	•		
		JDQ 202L - Load Dump Clamped >55A	LD200Nx, LD200M	15	•		
		JDQ 202L - Load Dump Clamped <55A	LD200Nx, LD200M	15	•		
		JDQ 202M - Negative Switching Spikes	UCS200x, EFT200	16	•		
		JDQ 202N - Positive Switching Spikes	UCS200x, EFT200	17	•		
JDQ 202P - Parallel Inductive Load Switching		UCS200x	18	•			
JDQ 202Q - Negative Mutual Coupling		UCS200x, EFT200	19	•			
JDQ 202P - Positive Mutual Coupling		UCS200x, EFT200	20	•			
JDQ 202S - Direct Current Motors Acting as a Generator		VDS200x	21	•	•		
JDQ 202V - Wiring Harness Inductive Switching	UCS200x, MPG200	22	•				
JDQ 202Y - Power Interruptions	PFS200Nx, PFM200N100	26	•	•			
JDQ 202Z - Reset Response During Voltage Drop - Level2	AutoWave + VDS200x	27	•	•			
JDQ 202Z - Reset Response During Voltage Drop - Level3	VDS200x	27	•	•			
<b>Karma</b> <b>C1800STA0130</b> <b>(Rev. 2, 2010-05)</b>	12V Line	Magnetic Field Immunity	AutoWave + AMP200Nx	4.4		•	
		Pulse 1	UCS200x, MPG200	5.1	•		
		Pulse 1b	UCS200x, MPG200	5.1	•		



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Pulse 2	UCS200x, MPG200	5.1	•		
		Pulse 3a	UCS200x, EFT200	5.1	•		
		Pulse 3b	UCS200x, EFT200	5.1	•		
	12V I/O	Pulse 2+ (DCC)	UCS200x, MPG200	5.2	•		
		Pulse 2- (DCC)	UCS200x, MPG200	5.2	•		
		Pulse a (DCC)	UCS200x, EFT200	5.2	•		
		Pulse b (DCC)	UCS200x, EFT200	5.2	•		
		Pulse a (CCC)	UCS200x, EFT200	5.2	•		
		Pulse b (CCC)	UCS200x, EFT200	5.2	•		
<b>Karma C1800STA0131 (Rev. 2, 2015-07)</b>	12V Line	Operating Voltage Range	VDS200x	3.4	•	•	
		Jump Start	VDS200x	3.5	•	•	
		Reverse Polarity	VDS200x	3.6	•	•	
		Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	3.7		•	
		Supply Voltage Ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1, CWS500N3	3.7		•	
		Supply Voltage Drop Out	PFS200x, VDS200x + AutoWave, AutoWave +PFM200Nx	3.8	•	•	
		Supply Voltage Dips	PFS200x + RDS200, VDS200 + AutoWave	3.9	•	•	
		Supply Voltage Ramp Up	VDS200x + AutoWave	3.10	•	•	
		Supply Voltage Ramp Down	VDS200x + AutoWave	3.11	•	•	
		Motor Stall Test	VDS200x	3.17		•	
<b>Mack Trucks 606GS15 (1999-09)</b>	12V Line	Pulse 1	UCS200x, MPG200 S15	3.4.2	•		
		Pulse 2	UCS200x, MPG200	3.4.2	•		
		Pulse 3a	UCS200x, EFT200	3.4.2	•		
		Pulse 3b	UCS200x, EFT200	3.4.2	•		
		Pulse 4	VDS200x + AutoWave /Arb2714	3.4.2	•	•	
		Pulse 5b	LD200x	3.4.2	•		
		Drops	PFS200x + RDS200	3.4.2	•	•	
<b>MAN 3285 (2001-01)</b>	24V Line	Pulse 1	UCS200x, MPG200		•		
		Pulse 2	UCS200x, MPG200		•		
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•		
		Pulse 5a	LD200x		•		
		Pulse 5b	LD200x		•		
	24V I/O	Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
<b>MAN 3285 (2008-07)</b>	24V Line	Supply voltage waviness	VDS200x	6.1.1	•	•	
		Singular interruption	VDS200x	6.1.2.1	•	•	
		Reset behaviour	VDS200x	6.1.2.2	•	•	
		Start profile	VDS200x	6.1.3	•	•	
		Pulse 1	UCS200x, MPG200	6.2.1	•		
		Pulse 2a	UCS200x, MPG200	6.2.1	•		
		Pulse 2b	VDS200x	6.2.1	•	•	
		Pulse 3a	UCS200x, EFT200	6.2.1	•		
		Pulse 3b	UCS200x, EFT200	6.2.1	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	6.2.1	•		
	Magnetic Field	AutoWave + AMP200Nx, CWS500N3	6.8		•	•	
	24V I/O	Interference Pulse A	UCS200x, EFT200	6.3	•		
		Interference Pulse B	UCS200x, EFT200	6.3	•		
<b>MAN 3565 (2014-02)</b>	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	4.1		•	
		E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1 + AutoWave	4.3		•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1 + AutoWave	4.3		•	
		E48-03 Transient process in the lower operating range	VDS200x	4.4		•	
		E48-04 Recuperation	VDS200x	4.5		•	
		E48-05 Superimposed Voltage - Part 1 - F1 (15Hz-30kHz)	VDS200x	4.6		•	
		E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz)	VDS200Qx	4.6		•	
		E48-05 Superimposed Voltage - Part1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	4.6		•	
		E48-05 Superimposed Voltage - Part 2 - F1 (15Hz-30kHz)	VDS200x	4.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz)	VDS200Qx	4.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	4.6		•	
		E48-06a Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave	4.7		•	
		E48-06b Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave	4.7		•	
		E48-06c Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave	4.7		•	
		E48-07 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	4.9		•	
		E48-08 Reset Behavior	VDS200x + AutoWave	4.9		•	
		E48-09 Short Breaks	PFS200x + BS200, AutoWave + PFM200Nx	4.10		•	
		E48-10 Start Impulses - Cold start (Normal)	VDS200x	4.11		•	
		E48-10 Start Impulses - Cold start Severe)	VDS200x	4.11		•	
		E48-13 Internal Voltage Strength	VDS200x	4.14		•	
		E48-15 Operating in the area without functional limitation	VDS200x + AutoWave	4.16		•	
		E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	4.17		•	
		E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	4.18		•	
		E48-18 Over-Voltage Range	VDS200x + AutoWave	4.19		•	
		E48-19 Under-Voltage Range	VDS200x + AutoWave	4.20		•	
<b>Mazda MES PW 67600 (1995-07)</b>	12V Line	CI 01-1a	VDS200x + AutoWave /Arb2714		•		
		CI 01-1b	VDS200x		•		
		CI 01-1c	VDS200x		•		
		CI 01-2a	VDS200x		•		
		CI 01-2b	VDS200x		•		
		CI02-1a	UCS200x, MPG200		•		
		CI02-1b	UCS200x, MPG200		•		
		CI02-1c	UCS200x, MPG200		•		
		CI02-2	UCS200x		•		
		CI02-3a	UCS200x, EFT200		•		
		CI02-3b	UCS200x, EFT200		•		
		CI02-4	VDS200N / VDS200 + Arb2714		•		
		CI02-5	LD200Nx, LD200B1		•		
		CI03-1	VDS200x		•		
		CI03-2	VDS200x		•		
		CI03-3	VDS200x		•		
CI03-4	VDS200x		•				
<b>Mazda MES PW 67600 (2001-12)</b>	12V Line	CI 210-A1	VDS200x + AutoWave /Arb2714		•	•	
		CI 210-A2	VDS200x		•	•	
		CI 210-B1	VDS200x		•	•	
		CI 210-B2	VDS200x		•	•	
		CI 220-A	UCS200x, MPG200		•		
		CI 220-B	UCS200x, MPG200		•		
		CI 220-C	UCS200x, MPG200		•		
		CI 220-D	UCS200x, EFT200		•		
		CI 220-E	UCS200x, EFT200		•		
		CI 230-A	PFS200x + RDS200, VDS200x + AutoWave		•	•	
		CI 230-B1	VDS200x + AutoWave /Arb2714		•	•	
		CI 230-B2	VDS200x + AutoWave /Arb2714		•	•	
		CI 230-C	VDS200x + AutoWave /Arb2714		•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		CI 260-A	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-B	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-C	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-D	PFS200x + RDS200, VDS200x + AutoWave		•	•			
		CI 260-E	VDS200x		•	•			
		CI 240	LD200Nx, LD200B1		•				
	24V Line	CI 210-A1	VDS200x + AutoWave		•	•			
		CI 210-A3	VDS200x		•	•			
		CI 210-A4	VDS200x		•	•			
		CI 210-B1	VDS200x		•	•			
		CI 210-B2	VDS200x		•	•			
		CI 220-A	UCS200x, MPG200		•				
		CI 220-B	UCS200x, MPG200		•				
		CI 220-C	UCS200x, MPG200		•				
		CI 220-D	UCS200x, EFT200		•				
		CI 220-E	UCS200x, EFT200		•				
		CI 230-A	PFS200x + RDS200, VDS200x + AutoWave		•	•			
		CI 230-B1	VDS200x + AutoWave		•	•			
		CI 230-B2	VDS200x + AutoWave		•	•			
		CI 230-C	VDS200x + AutoWave		•	•			
		CI 260-A	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-B	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-C	PFS200x, VDS200x + AutoWave		•	•			
		CI 260-D	PFS200x + RDS200, VDS200x + AutoWave		•	•			
		CI 260-E	VDS200x		•	•			
		CI 240	LD200Nx, LD200B1		•				
		Mazda MES PW 67602 (2007-04)	12V Line	RI 140 - Magnetic Field Immunity	AutoWave + AMP200N1, CWS500N3			•	•
				RI 150 - Coupled Immunity	AutoWave + VDS200			•	
				CI 210-1-1	VDS200x + AutoWave		•	•	
				CI 210-1-2 < 1kHz	VDS200x + AutoWave		•	•	
CI 210-1-2 > 1kHz	VDS200x				•	•			
CI 210-2-1	VDS200x				•	•			
CI 210-2-2	VDS200N, VDS200B				•	•			
CI 210-2-3	VDS200N, VDS200B				•	•			
CI 220 - Pulse D	UCS200x, MPG200				•				
CI 220 - Pulse E	UCS200x, MPG200				•				
CI 220 - Pulse F	UCS200x, MPG200				•				
CI 220 - Pulse G	LD200Nx, LD200B1				•				
CI 230 - Pulse A	PFS200x + RDS200, VDS200x + AutoWave				•	•			
CI 230 - Pulse B	VDS200x / RDS200 + AutoWave				•	•			
CI 230 - Pulse C	VDS200x / RDS200 + AutoWave				•	•			
CI 230 - Pulse D	VDS200x / RDS200 + AutoWave				•	•			
CI 250	AMP200N + AutoWave					•			
CI 260 - Pulse A	PFS200x, VDS200x + AutoWave				•	•			
CI 260 - Pulse B	PFS200x, VDS200x + AutoWave				•	•			
CI 260 - Pulse C	PFS200x, VDS200x + AutoWave				•	•			
CI 260 - Pulse D	PFS200x + RDS200, VDS200x + AutoWave				•	•			
CI 260 - Pulse E	VDS200x				•	•			
CI 270	VDS200x (with minimal 200A)				•	•			
5V Line	CI 260 - Pulse A			PFS200x, VDS200x + AutoWave		•	•		
	CI 260 - Pulse B			PFS200x, VDS200x + AutoWave		•	•		
	CI 260 - Pulse C			PFS200x, VDS200x + AutoWave		•	•		
	CI 260 - Pulse D			PFS200x + RDS200, VDS200x + AutoWave		•	•		
3V Line	CI 260 - Pulse A		PFS200x, VDS200x + AutoWave		•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		CI 260 - Pulse B	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Pulse C	PFS200x, VDS200x + AutoWave		•	•		
		CI 260 - Pulse D	PFS200x + RDS200, VDS200x + AutoWave		•	•		
	24V Line	CI 220 - Pulse E	UCS200x, MPG200		•			
		CI 220 - Pulse G	LD200Nx, LD200B1		•			
CI 270		VDS200x (with minimal 200A)		•	•			
<b>Mazda MES PW 67602 (2015-11)</b>	12V Line	RI 150 (Coupling Noise)	AutoWave + AMP200Nx	7.6.3.2		•		
		RI 140 (Magnetic Field)	AutoWave + AMP200N1, CWS500N3	7.6.4		•		
		CI 210-1-1 (Continious Noise)	VDS200x + AutoWave	7.7.1		•		
		CI 210-1-2 < 1kHz (Continious Noise)	VDS200x + AutoWave	7.7.1		•		
		CI 210-1-2 > 1kHz (Continious Noise)	VDS200x	7.7.1		•		
		CI 210-2-1 (Continious Noise)	VDS200x	7.7.1		•		
		CI 210-2-2 (Continious Noise)	VDS200N, VDS200B	7.7.1		•		
		CI 210-2-3 (Continious Noise)	VDS200N, VDS200B	7.7.1		•		
		CI 220 - Pulse 1 (Transient Noise)	UCS200x, MPG200	7.7.2	•			
		CI 220 - Pulse 2 (Transient Noise)	UCS200x, MPG200	7.7.2	•			
		CI 220 - Pulse 2b (Transient Noise)	VDS200x	7.7.2	•	•		
		CI 220 - Pulse 3a (Transient Noise)	UCS200x, MPG200	7.7.2	•			
		CI 220 - Pulse 3b (Transient Noise)	UCS200x, MPG200	7.7.2	•			
		CI 220 - Pulse 5a (Transient Noise)	LD200Nx, LD200B1	7.7.2	•			
		CI 220 - Pulse 5b (Transient Noise)	LD200Nx, LD200B1	7.7.2	•			
		CI 230 - Pulse A (Power Cycle)	PFS200x + RDS200, VDS200x + AutoWave	7.7.3.1	•	•		
		CI 230 - Pulse B (Power Cycle)	VDS200x / RDS200 + AutoWave	7.7.3.1	•	•		
		CI 230 - Pulse C (Power Cycle)	VDS200x / RDS200 + AutoWave	7.7.3.1	•	•		
		CI 230 - Pulse D (Power Cycle)	VDS200x / RDS200 + AutoWave	7.7.3.1	•	•		
		CI 260 - Pulse A (Voltage Drop High)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•		
		CI 260 - Pulse B (Voltage Drop Low)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•		
		CI 260 - Pulse C (Single Voltage Drop)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•		
		CI 260 - Pulse D (Voltage Dip)	PFS200x + RDS200, VDS200x + AutoWave	7.7.3.2	•	•		
		CI 250 - Continuous Interference (Voltage Offset)	AutoWave + AMP200Nx + CN200N1	7.7.5		•		
		CI 250 - Transient Interference (Voltage Offset)	AutoWave + AMP200Nx + CN200N1	7.7.5		•		
		CI 270 - Reverse power connection (DC Stress)	VDS200x (with minimal 100A)	7.7.6	•	•		
		CI 270 - Excess voltage (Failed regulator) (DC Stress)	VDS200x (with minimal 100A)	7.7.6	•	•		
		CI 270 - Excess voltage (Battery in series) (DC Stress)	VDS200x (with minimal 100A)	7.7.6	•	•		
		CI 290 (Robustness for Power supply voltage) - A1	VDS200x + AutoWave	7.7.8		•		
		CI 290 (Robustness for Power supply voltage) - A2	VDS200x + AutoWave	7.7.8		•		
		CI 290 (Robustness for Power supply voltage) - A3	VDS200x + AutoWave	7.7.8		•		
		CI 290 (Robustness for Power supply voltage) - B	VDS200x + AutoWave	7.7.8		•		
		24V Line		RI 140 - Magnetic Field	AutoWave + AMP200N1, CWS500N3	7.6.4		•
	CI 210-1-1 (Continious Noise)			VDS200x + AutoWave	7.7.1		•	
	CI 210-1-2 < 1kHz (Continious Noise)			VDS200x + AutoWave	7.7.1		•	
	CI 210-1-2 > 1kHz (Continious Noise)			VDS200x	7.7.1		•	
	CI 210-2-1 (Continious Noise)			VDS200x	7.7.1		•	
	CI 210-2-2 (Continious Noise)			VDS200N, VDS200B	7.7.1		•	
	CI 210-2-3 (Continious Noise)			VDS200N, VDS200B	7.7.1		•	
	CI 220 - Pulse 1 (Transient Noise)			UCS200x, MPG200	7.7.2	•		
	CI 220 - Pulse 2 (Transient Noise)			UCS200x, MPG200	7.7.2	•		
	CI 220 - Pulse 2b (Transient Noise)			VDS200x	7.7.2	•	•	
	CI 220 - Pulse 3a (Transient Noise)	UCS200x, MPG200	7.7.2	•				
CI 220 - Pulse 3b (Transient Noise)	UCS200x, MPG200	7.7.2	•					
CI 220 - Pulse 5a (Transient Noise)	LD200Nx, LD200B1	7.7.2	•					
CI 220 - Pulse 5b (Transient Noise)	LD200Nx, LD200B1	7.7.2	•					
CI 230 - Pulse A (Power Cycle)	PFS200x + RDS200, VDS200x + AutoWave	7.7.3.1	•	•				
CI 230 - Pulse B (Power Cycle)	VDS200x / RDS200 + AutoWave	7.7.3.1	•	•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		CI 230 - Pulse C (Power Cycle)	VDS200x / RDS200 + AutoWave	7.7.3.1	•	•	
		CI 230 - Pulse D (Power Cycle)	VDS200x / RDS200 + AutoWave	7.7.3.1	•	•	
		CI 260 - Pulse A (Voltage Drop High)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 260 - Pulse B (Voltage Drop Low)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 260 - Pulse C (Single Voltage Drop)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 260 - Pulse D (Voltage Dip)	PFS200x + RDS200, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 250 - Continuous Interference (Voltage Offset) - 0.1 kHz	AutoWave + VDS200Nx \ VDS200Qx	7.7.5		•	
		CI 250 - Continuous Interference (Voltage Offset) - 2kHz - 100kHz	AutoWave + AMP200Nx + CN200N1	7.7.5		•	
		CI 250 - Transient Interference (Voltage Offset)	AutoWave + AMP200Nx + CN200N1	7.7.5		•	
	5V Line	CI 270 - Excess voltage (Failed regulator) (DC Stress)	VDS200x (with minimal 50A)	7.7.6	•	•	
		CI 260 - Pulse A (Voltage Drop High)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 260 - Pulse B (Voltage Drop Low)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
	3V Line	CI 260 - Pulse C (Single Voltage Drop)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 260 - Pulse D (Voltage Dip)	PFS200x + RDS200, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 260 - Pulse A (Voltage Drop High)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 260 - Pulse B (Voltage Drop Low)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
McLaren MSL.03.04.0063 (2013-04)	12V Line	CI 260 - Pulse C (Single Voltage Drop)	PFS200x, VDS200x + AutoWave	7.7.3.2	•	•	
		CI 260 - Pulse D (Voltage Dip)	PFS200x + RDS200, VDS200x + AutoWave	7.7.3.2	•	•	
		A4.1 Supply Voltage Range	VDS200x + AutoWave			•	
		A4.3 Supply Voltage Ripple	VDS200x + AutoWave			•	
		A5.1 Supply Voltage Drop Out	PFS200x, VDS200x + AutoWave, AutoWave + PFM200Nx			•	
		A5.2 Supply Voltage Dips	VDS200x + AutoWave			•	
		A5.3 Engine Cranking Low Voltage	VDS200x + AutoWave			•	
		A5.4 Supply Voltage Ramp Up (Short Duration)	VDS200x + AutoWave			•	
		A5.5 Supply Voltage Ramp Up (Long Duration)	VDS200x + AutoWave			•	
		A5.5 Supply Voltage Ramp Down	VDS200x + AutoWave			•	
		A5.7 Supply Overvoltage - Defective Regulation	VDS200x + AutoWave			•	
		A5.7 Supply Overvoltage - Jump Start	VDS200x + AutoWave			•	
		A5.7 Reverse Supply Voltage	VDS200x + AutoWave			•	
A5.8 Load Dump	VDS200x + AutoWave			•			
A7.1 Operating and Voltage Stress	VDS200x + AutoWave			•			
B10 Magnetic Field Immunity	AutoWave + AMP200N1, CWS500N3				•	•	
Mercedes-Benz AV EMV (1993-11)	12V Line	Pulse 1	UCS200x, MPG200	2.3.2	•		
		Pulse 2	UCS200x, MPG200	2.3.2	•		
		Pulse 3a	UCS200x, EFT200	2.3.2	•		
		Pulse 3b	UCS200x, EFT200	2.3.2	•		
		Pulse 4	VDS200x	2.3.2	•		
		Jump	VDS200x	2.4	•		
		Wobble	VDS200x	2.3.3	•		
		12V I/O	Pulse 1	UCS200x, MPG200	2.3.3	•	
	Pulse 2		UCS200x, MPG200	2.3.3	•		
	Pulse 3a		UCS200x, EFT200	2.3.3	•		
	Pulse 3b		UCS200x, EFT200	2.3.3	•		
	Mercedes-Benz MBN 22 100-2 (1999-08)	12V Line	Overvoltage	VDS200x	1.3	•	
Interruption 1			VDS200x	1.5	•		
Interruption 2			VDS200x	1.5	•		
Pulse 1			UCS200x, MPG200	2.4.1	•		
Pulse 2			UCS200x, MPG200	2.4.1	•		
Pulse 3a			UCS200x, EFT200	2.4.1	•		
Pulse 3b			UCS200x, EFT200	2.4.1	•		
Pulse 5			LD200Nx, LD200B1 S2	2.4.2	•		
Jump			VDS200N, VDS200B	2.4.3	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Start S1	VDS200x + AutoWave	5.1	•			
		Start S2	VDS200x + AutoWave	5.1	•			
		Start S3	VDS200x + AutoWave	5.1	•			
		Start S4	VDS200x + AutoWave	5.1	•			
		Start S5	VDS200x + AutoWave	5.1	•			
	24V Line	Overvoltage	VDS200x	VDS200x	1.3	•		
		Interruption 1	VDS200x	VDS200x	1.5	•		
		Interruption 2	VDS200x	VDS200x	1.5	•		
		Pulse 1	UCS200x	UCS200x	2.4.1	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	2.4.1	•		
		Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	2.4.1	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	2.4.1	•		
		Pulse 5	LD200Nx, LD200B1 S2	LD200Nx, LD200B1 S2	2.4.2	•		
		Jump	VDS200N, VDS200B	VDS200N, VDS200B	2.4.3	•		
		Start S1	VDS200x + AutoWave	VDS200x + AutoWave	5.1	•		
		Start S2	VDS200x + AutoWave	VDS200x + AutoWave	5.1	•		
		Start S3	VDS200x + AutoWave	VDS200x + AutoWave	5.1	•		
		Start S4	VDS200x + AutoWave	VDS200x + AutoWave	5.1	•		
		Start S5	VDS200x + AutoWave	VDS200x + AutoWave	5.1	•		
	12V I/O	Pulse 1	UCS200x, MPG200	UCS200x, MPG200	2.4.4	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	2.4.4	•		
		Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	2.4.4	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	2.4.4	•		
	24V I/O	Pulse 1	UCS200x	UCS200x	2.4.4	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	2.4.4	•		
		Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	2.4.4	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	2.4.4	•		
	<b>Mercedes-Benz MBN 10 615 (Draft3, 2008-09)</b>	12V Line	E-02 Longtime Voltage	VDS200x		•	•	
			E-03 Transient Overvoltage	VDS200x + AutoWave		•	•	
			E-04 Jump Start	VDS200x		•	•	
			E-05 Load Dump	VDS200x		•	•	
			E-06 Superimposed Voltage	VDS200N, VDS200B		•	•	
E-07 Slow Ramp Down/Up			VDS200x + AutoWave		•	•		
E-08 Ramp Down / Fast Up			VDS200x + AutoWave		•	•		
E-09 Reset Behaviour (Test 1)			VDS200x + AutoWave		•	•		
E-09 Reset Behaviour (Test 2)			PFS200x		•	•		
E-10 Short Reset			VDS200x + AutoWave		•	•		
E-11 Cold Cranking (Normal)			VDS200x		•	•		
E-11 Cold Cranking (Relevant)			VDS200x		•	•		
E-11 Warm Cranking			VDS200x + AutoWave		•	•		
E-12 Voltage Curve			VDS200x		•	•		
E-13 Pin Break (Contact 1) (Precompliance)			PFS200x		•	•		
E-13 Pin Break (Contact 2) (Precompliance)			PFS200x, VDS200 + AutoWave		•	•		
E-15 Reset Voltage 1	VDS200x		•	•				
E-15 Reset Voltage 2	VDS200x		•	•				
<b>Mercedes-Benz MBN 10 615 (Draft 4, 2009-09)</b>	12V Line	E-02 Longtime Voltage	VDS200x	5.2	•	•		
		E-03 Transient Overvoltage	VDS200x + AutoWave	5.3	•	•		
		E-04 External Start	VDS200x	5.4	•	•		
		E-05 Load Shedding	VDS200x	5.5	•	•		
		E-06 Superimposed Voltage	VDS200N, VDS200B	5.6	•	•		
		E-07 Slow Ramp Down/Up	VDS200x + AutoWave	5.7	•	•		
		E-08 Ramp Down / Fast Up	VDS200x + AutoWave	5.8	•	•		
		E-09 Reset Behaviour	VDS200x + AutoWave	5.9	•	•		
		E-10 Short Reset	PFS200x, AutoWave + PFM200Nx	5.10	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		E-11 Cold Cranking (Normal)	VDS200x	5.11	•	•	
		E-11 Cold Cranking (Relevant)	VDS200x + AutoWave	5.11	•	•	
		E-11 Warm Cranking	VDS200x + AutoWave	5.11	•	•	
		E-12 Voltage Curve	VDS200x	5.12	•	•	
		E-13 Pin Interruption - Test Case 1 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	5.13	•	•	
		E-13 Pin Interruption - Test Case 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	5.13	•	•	
		E-13 Pin Interruption - Test Case 3 - Contact 1 (Precompliance)	PFS200x (Precom)	5.13	•		
		E-13 Pin Interruption - Test Case 3 - Contact 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	5.13	•	•	
		E-14 Connector Interruption	AutoWave + PFM200Nx	5.14		•	
		E-15 Reset Voltage 1	VDS200x	5.15	•	•	
		E-15 Reset Voltage 2	VDS200x	5.15	•	•	
		<b>Mercedes-Benz MBN 10 615 (2010-06)</b>	12V Line	E-02 Longtime Voltage	VDS200x	5.2	•
E-03 Transient Overvoltage	VDS200x + AutoWave			5.3	•	•	
E-04 External Start	VDS200x			5.4	•	•	
E-05 Load Shedding	VDS200x			5.5	•	•	
E-06 Superimposed Voltage	VDS200N, VDS200B			5.6	•	•	
E-07 Slow Ramp Down/Up	VDS200x + AutoWave			5.7	•	•	
E-08 Ramp Down / Fast Up	VDS200x + AutoWave			5.8	•	•	
E-09 Reset Behaviour	VDS200x + AutoWave			5.9	•	•	
E-10 Short Reset	PFS200x, AutoWave + PFM200Nx			5.10	•	•	
E-11 Cold Cranking (Normal)	VDS200x			5.11	•	•	
E-11 Cold Cranking (Relevant)	VDS200x + AutoWave			5.11	•	•	
E-11 Warm Cranking	VDS200x + AutoWave			5.11	•	•	
E-12 Voltage Curve	VDS200x			5.12	•	•	
E-13 Pin Interruption - Test Case 1 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx			5.13	•	•	
E-13 Pin Interruption - Test Case 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx			5.13	•	•	
E-13 Pin Interruption - Test Case 3 - Contact 1 (Precompliance)	PFS200x (Precom)			5.13	•		
E-13 Pin Interruption - Test Case 3 - Contact 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx			5.13	•	•	
E-14 Connector Interruption	AutoWave + PFM200Nx			5.14		•	
E-15 Reset Voltage 1	VDS200x	5.15	•	•			
E-15 Reset Voltage 2	VDS200x	5.15	•	•			
<b>Mercedes-Benz MBN LV 124-1 (2011-03)</b>	12V Line	E-01 Longtime Voltage	VDS200x	4.1	•	•	
		E-02 Overvoltage 1	VDS200x + AutoWave	4.2	•	•	
		E-02 Overvoltage 2	VDS200x + AutoWave	4.2	•	•	
		E-03 Undervoltage	VDS200x + AutoWave	4.3	•	•	
		E-04 Jump Start	VDS200x	4.4	•	•	
		E-05 Load Dump	VDS200x	4.5	•	•	
		E-06 Superimposed Voltage	VDS200x + AutoWave	4.6	•	•	
		E-07 Slow Ramp Down/Up	VDS200x + AutoWave	4.7	•	•	
		E-08 Ramp Down / Fast Up	VDS200x + AutoWave	4.8	•	•	
		E-09 Reset Behaviour	VDS200x + AutoWave	4.9	•	•	
		E-10 Short Reset - Test Case 1	PFS200x + R-Box LV124x, AutoWave + PFM200Nx + R-Box LV124x	4.10	•	•	
		E-10 Short Reset - Test Case 2	PFS200x + R-Box LV124x, AutoWave + PFM200Nx + R-Box LV124x	4.10	•	•	
		E-10 Short Reset - Test Case 3	PFS200x + BSM200N100 + R-Box LV124x, AutoWave + PFM200Nx	4.10	•	•	
		E-11 Cold Cranking (Normal)	VDS200x	4.11	•	•	
		E-11 Cold Cranking (Severe)	VDS200x + AutoWave	4.11	•	•	
		E-11 Warm Cranking (Short)	VDS200x + AutoWave	4.11	•	•	
		E-11 Warm Cranking (Long)	VDS200x + AutoWave	4.11	•	•	
		E-12 Voltage Curve	VDS200x	4.12	•	•	
		E-13 Pin Interruption - Test Case 1 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-13 Pin Interruption - Test Case 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		E-13 Pin Interruption - Test Case 3 - Contact 1 (Precompliance)	PFS200x (Precom)	4.13	•		
		E-13 Pin Interruption - Test Case 3 - Contact 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-14 Connector Interruption	AutoWave + PFM200Nx	4.14		•	
		E-15 Reset Voltage 1	VDS200x	4.15	•	•	
		E-15 Reset Voltage 2	VDS200x	4.15	•	•	
<b>Mercedes-Benz MBN LV 124-1 (2013-03)</b>	12V Line	E-01 Longtime Voltage	VDS200x	4.1	•	•	
		E-02 Transient Overvoltage	VDS200x + AutoWave	4.2	•	•	
		E-03 Transient Subvoltage	VDS200x + AutoWave	4.3	•	•	
		E-04 Jump Start	VDS200x	4.4	•	•	
		E-05 Load Dump	VDS200x	4.5	•	•	
		E-06 Superimposed Voltage	VDS200x + AutoWave	4.6	•	•	
		E-07 Slow Ramp Down and Ramp Up	VDS200x + AutoWave	4.7	•	•	
		E-08 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	4.8	•	•	
		E-09 Reset Behaviour	VDS200x + AutoWave	4.9	•	•	
		E-10 Short Reset	PFS200x + BSM200N100, AutoWave + PFM200Nx	4.10	•	•	
		E-11 Cold Cranking (Normal)	VDS200x	4.11	•	•	
		E-11 Cold Cranking (Severe)	VDS200x + AutoWave	4.11	•	•	
		E-11 Warm Cranking (Short)	VDS200x + AutoWave	4.11	•	•	
		E-11 Warm Cranking (Long)	VDS200x + AutoWave	4.11	•	•	
		E-12 Voltage Curve	VDS200x	4.12	•	•	
		E-13 Pin Break (Test Case 1)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-13 Pin Break (Test Case 2)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-14 Connector Interruption	AutoWave + PFM200Nx	4.14		•	
		E-15 Reverse Voltage (Test Case 1)	VDS200Qx	4.15		•	
		E-15 Reverse Voltage (Test Case 2)	VDS200Qx	4.15		•	
<b>Mercedes-Benz MBN LV 148 (2013-09)</b>	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	3.1		•	
		E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•	
		E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•	
		E48-03 Transient process in the lower operating range	VDS200x	3.4		•	
		E48-04 Recuperation	VDS200x	3.5		•	
		E48-05 Superimposed Voltage - Part 1 - F1 (15Hz-30kHz)	VDS200x	3.6		•	
		E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz)	VDS200Qx	3.6		•	
		E48-05 Superimposed Voltage - Part1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F1 (15Hz-30kHz)	VDS200x	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz)	VDS200Qx	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•	
		E48-06 Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave	3.7		•	
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave	3.7		•	
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave	3.7		•	
		E48-08 Reset Behavior	VDS200x + AutoWave	3.9		•	
		E48-09 Short Breaks	PFS200x + BS200, AutoWave + PFM200Nx	3.10	•		
		E48-10 Start Impulses - Cold start (Normal)	VDS200N / VDS200	3.11		•	
		E48-10 Start Impulses - Cold start Severe)	VDS200N / VDS200	3.11		•	
		E48-13 Internal Voltage Strength	VDS200x	3.14		•	
		E48-15 Operating in the area without functional limitation	VDS200x + AutoWave	3.16		•	
E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	3.17		•			
E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	3.18		•			
E48-18 Over-Voltage Range	VDS200x + AutoWave	3.19		•			
E48-19 Under-Voltage Range	VDS200x + AutoWave	3.20		•			
<b>Mercedes-Benz MBN 10 284-2 (2002-03)</b>	12V Line	Pulse 1	UCS200x, MPG200	4.1.1.2.1	•		
		Pulse 2	UCS200x, MPG200	4.1.1.2.2	•		
		Pulse 3a	UCS200x, EFT200	4.1.1.2.3	•		
		Pulse 3b	UCS200x, EFT200	4.1.1.2.3	•		



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 4	VDS200x	4.1.1.2.4	•	•		
		Pulse 5a	LD200Nx, LD200B1 S2	4.1.1.2.5	•			
		Pulse 5b	VDS200N, VDS200B	4.1.1.2.5	•	•		
		Pulse Jump Start	VDS200x	4.1.1.2.6	•	•		
		Pulse Ripple	VDS200x	4.1.2	•	•		
	24V Line	Pulse 1	UCS200x, MPG200	4.1.1.2.1	•			
		Pulse 2	UCS200x, MPG200	4.1.1.2.2	•			
		Pulse 3a	UCS200x, EFT200	4.1.1.2.3	•			
		Pulse 3b	UCS200x, EFT200	4.1.1.2.3	•			
		Pulse 4	VDS200x	4.1.1.2.4	•	•		
		Pulse 5a	LD200Nx, LD200B1 S2	4.1.1.2.5	•			
		Pulse 5b	VDS200N, VDS200B	4.1.1.2.5	•	•		
	42V Line	Pulse Ripple	VDS200x	4.1.2	•	•		
		Pulse 1 (Scen. 1)	UCS200x, MPG200 S14	4.1.1.2.1	•			
		Pulse 1 (Scen. 2)	UCS200x, MPG200	4.1.1.2.1	•			
		Pulse 2 (Scen. 1)	UCS200x, MPG200 S14	4.1.1.2.2	•			
		Pulse 2 (Scen. 2)	UCS200x, MPG200	4.1.1.2.2	•			
		Pulse 3a	UCS200x, EFT200	4.1.1.2.3	•			
		Pulse 3b	UCS200x, EFT200	4.1.1.2.3	•			
		Pulse 4	VDS200N, VDS200B	4.1.1.2.4	•	•		
		Pulse 5a	LD200Nx, LD200B1 S2	4.1.1.2.5	•			
		Pulse 5b	VDS200N, VDS200B	4.1.1.2.5	•	•		
	12V I/O	Pulse Jump Start	VDS200N, VDS200B	4.1.1.2.6	•	•		
		Pulse Ripple	VDS200N, VDS200B	4.1.2	•	•		
	24V I/O	Pulse 3a	UCS200x, EFT200	4.1.3.1.2	•			
		Pulse 3b	UCS200x, EFT200	4.1.3.2.2	•			
	42V I/O	Pulse 3a	UCS200x, EFT200	4.1.3.1.2	•			
		Pulse 3b	UCS200x, EFT200	4.1.3.2.2	•			
	<b>Mercedes-Benz MBN 10 284-2 (2008-03)</b>		Magnetic Field Immunity (LFM-Test)	AutoWave + AMP200N1, CWS500N3	14		•	•
		12V Line	Pulse 1	UCS200x, MPG200	15	•		
			Pulse 1b	UCS200x	15	•		
			Pulse 2a	UCS200x, MPG200	15	•		
Pulse 3a			UCS200x, EFT200	15	•			
Pulse 3b			UCS200x, EFT200	15	•			
24V Line		Pulse 1	UCS200x, MPG200	15	•			
		Pulse 1b	UCS200x, MPG200	15	•			
		Pulse 2a	UCS200x, MPG200	15	•			
		Pulse 3a	UCS200x, EFT200	15	•			
		Pulse 3b	UCS200x, EFT200	15	•			
12V I/O		Pulse a (CCC)	UCS200x, EFT200	16	•			
		Puse b (CCC)	UCS200x, EFT200	16	•			
24V I/O		Pulse a (CCC)	UCS200x, EFT200	16	•			
		Puse b (CCC)	UCS200x, EFT200	16	•			
<b>Mercedes-Benz MBN 10 284-2 (2011-04)</b>		Magnetic Field Immunity - DC (LFM-Test)	AutoWave + AMP200N1.1	14		•		
		Magnetic Field Immunity (LFM-Test)	AutoWave + AMP200N1, CWS500N3	14		•	•	
	12V Line	Pulse 1	UCS200x, MPG200	15.2	•			
		Pulse 1b	UCS200x	15.2	•			
		Pulse 2a	UCS200x, MPG200	15.2	•			
		Pulse 3a	UCS200x, EFT200	15.2	•			
		Pulse 3b	UCS200x, EFT200	15.2	•			
	12V I/O	Fast a (CCC)	UCS200x, EFT200	16.4	•			
		Fast b (CCC)	UCS200x, EFT200	16.4	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
<b>Mercedes-Benz MBN 10 284-2 (2015-07)</b>		ICC Slow positive	UCS200x, MPG200	16.4	•			
		ICC Slow negative	UCS200x, MPG200	16.4	•			
	12V Line	Magnetic Field Immunity - DC (LFM-Test)		AutoWave + AMP200N1.1	14		•	
		Magnetic Field Immunity (LFM-Test)		AutoWave + AMP200N1, CWS500N3	14		•	
		Pulse 1	UCS200x, MPG200	15.2	•			
		Pulse 1b	UCS200x	15.2	•			
		Pulse 2a	UCS200x, MPG200	15.2	•			
		Pulse 3a	UCS200x, EFT200	15.2	•			
		Pulse 3b	UCS200x, EFT200	15.2	•			
		12V I/O	Fast a (CCC)	UCS200x, EFT200	16.4	•		
Fast b (CCC)	UCS200x, EFT200		16.4	•				
ICC Slow positive	UCS200x, MPG200		16.4	•				
ICC Slow negative	UCS200x, MPG200		16.4	•				
<b>Mercedes-Benz MBN 10 284-4 (2011-04)</b>		Magnetic Field Immunity - DC (LFM-Test)		AutoWave + AMP200N1.1	13		•	
		Magnetic Field Immunity (LFM-Test)		AutoWave + AMP200N1, CWS500N3	13		•	•
	12V Line	Pulse 1	UCS200x, MPG200	14.2	•			
		Pulse 1b	UCS200x	14.2	•			
		Pulse 2a	UCS200x, MPG200	14.2	•			
		Pulse 3a	UCS200x, EFT200	14.2	•			
		Pulse 3b	UCS200x, EFT200	14.2	•			
		24V Line	Pulse 1	UCS200x, MPG200	14.2	•		
	Pulse 1b		UCS200x, MPG200	14.2	•			
	Pulse 2a		UCS200x, MPG200	14.2	•			
	Pulse 3a		UCS200x, EFT200	14.2	•			
	Pulse 3b		UCS200x, EFT200	14.2	•			
	12V I/O		Pulse a (CCC)	UCS200x, EFT200	15.4	•		
		Pulse b (CCC)	UCS200x, EFT200	15.4	•			
	24V I/O	Pulse a (CCC)	UCS200x, EFT200	15.4	•			
		Pulse b (CCC)	UCS200x, EFT200	15.4	•			
	<b>Mercedes-Benz MBN 10 284-4 (2017-05)</b>		Magnetic Field Immunity - DC (LFM-Test)		AutoWave + AMP200N1.1	14		•
			Magnetic Field Immunity (LFM-Test)		AutoWave + AMP200N1, CWS500N3	14		•
12V Line		Pulse 1	UCS200x, MPG200	15	•			
		Pulse 1b	UCS200x	15	•			
		Pulse 2a	UCS200x, MPG200	15	•			
		Pulse 3a	UCS200x, EFT200	15	•			
		Pulse 3b	UCS200x, EFT200	15	•			
		24V Line	Pulse 1	UCS200x, MPG200	15	•		
Pulse 1b			UCS200x, MPG200	15	•			
Pulse 2a			UCS200x, MPG200	15	•			
Pulse 3a			UCS200x, EFT200	15	•			
Pulse 3b			UCS200x, EFT200	15	•			
48V Line			Pulse 1	UCS200x, MPG200	15	•		
		Pulse 1b	UCS200x, MPG200	15	•			
		Pulse 2a	UCS200x, MPG200	15	•			
		Pulse 3a	UCS200x, EFT200	15	•			
		Pulse 3b	UCS200x, EFT200	15	•			
		12V I/O	Pulse a (CCC)	UCS200x, EFT200	16	•		
Pulse b (CCC)			UCS200x, EFT200	16	•			
24V I/O		Pulse a (CCC)	UCS200x, EFT200	16	•			
	Pulse b (CCC)	UCS200x, EFT200	16	•				
48V I/O	Pulse a (CCC)	UCS200x, EFT200	16	•				
	Pulse b (CCC)	UCS200x, EFT200	16	•				
<b>Mercedes-Benz MBN 10 567</b>	12V Line	Operating voltage range	VDS200x	7.1	•	•		
		Longtime Overvoltage	VDS200x	7.2	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
<b>(2018-03)</b>		Transient Overvoltage	VDS200x + AutoWave	7.3	•	•			
		Transient Subvoltage	VDS200x + AutoWave	7.4	•	•			
		Jump Start	VDS200x	7.5	•	•			
		Load Dump	VDS200x	7.6	•	•			
		Superimposed Voltage (Test Case 1-3)	VDS200x + AutoWave	7.7	•	•			
		Superimposed Voltage (Test Case 4)	VDS200Qx.1	7.7	•	•			
		Slow Ramp Down and Ramp Up - Test Case 1	VDS200x + AutoWave	7.8	•	•			
		Slow Ramp Down and Ramp Up - Test Case 2	VDS200Qx + AutoWave	7.8	•	•			
		Cold Cranking (Normal)	VDS200x	7.9	•	•			
		Cold Cranking (Severe)	VDS200x + AutoWave	7.9	•	•			
		Warm Cranking	VDS200x + AutoWave	7.9	•	•			
		Reset Behaviour	VDS200x + AutoWave	7.10	•	•			
		Short Reset	PFS200x + BSM200N100, AutoWave + PFM200Nx	7.11	•	•			
		Pin Break	PFS200x (Precom), AutoWave + PFM200Nx	7.12	•	•			
		Connector Interruption	AutoWave + PFM200Nx	7.13		•			
		Reverse Voltage	VDS200Qx	7.14	•	•			
		Compensation currents of several supply voltages	VDS200x	7.19		•			
		<b>Mercedes-Benz 211 000 42 99 (2002-03)</b>	12V Line	Reverse Voltage	VDS200x	3.2.1	•	•	
				Overvoltage	VDS200x	3.2.2	•	•	
Ramp Down	VDS200x			3.3.1	•	•			
Ramp Up	VDS200x			3.3.1	•	•			
Switch On	VDS200x			3.3.1.2	•	•			
Drop	VDS200x			3.3.1.3	•	•			
Short Drop	VDS200x			3.3.1.4	•	•			
42V Line	Ramp Down		VDS200N, VDS200B	3.3.1	•	•			
	Ramp Up		VDS200N, VDS200B	3.3.1	•	•			
	Switch On		VDS200N, VDS200B	3.3.1.2	•	•			
	Short Drop		VDS200N, VDS200B	3.3.1.4	•	•			
<b>Mitsubishi ES-X82010 (Rev. M, 1999-09)</b>	12V Line	Power 10	VDS200x	4.1	•				
		Power 18	VDS200x	4.1	•				
		Electric Load 1	VDS200x + AutoWave /Arb2714	4.2.1	•				
		Electric Load 2	VDS200x	4.2.1	•				
		Electric Load 3	VDS200x	4.2.1	•				
		Engine Start 1	VDS200x + AutoWave /Arb2714	4.2.2	•				
		Engine Start 2	VDS200x	4.2.2	•				
		Engine Start 3	VDS200x	4.2.3	•				
		Chattering	PFS200x	4.3	•				
		Key Switch	PFS200x	4.3	•				
		Inverse Polarity	VDS200x	4.4	•				
		Overvoltage A	VDS200x	4.5	•				
		Overvoltage B	VDS200x	4.5	•				
		Interruption	PFS200x	4.6	•				
		Pulse 1	UCS200x, MPG200	4.7.1	•				
		Pulse 2	UCS200x, MPG200	4.7.1	•				
		Pulse 3a	UCS200x, EFT200	4.7.1	•				
		Pulse 3b	UCS200x, EFT200	4.7.1	•				
		Pulse 5	LD200x	4.7.1	•				
	12V I/O	Pulse 3a	UCS200x, EFT200	4.7.2	•				
		Pulse 3b	UCS200x, EFT200	4.7.2	•				
	<b>Mitsubishi ES-X+A263682010 (Rev. N, 2000-10)</b>	12V Line	Power 10	VDS200x	4.1	•			
			Power 18	VDS200x	4.1	•			
Electric Load 1			VDS200x + AutoWave /Arb2714	4.2.1	•				
Electric Load 2			VDS200x	4.2.1	•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Electric Load 3	VDS200x	4.2.1	•			
		Engine Start 1	VDS200x + AutoWave /Arb2714	4.2.2	•			
		Engine Start 2	VDS200x	4.2.2	•			
		Engine Start 3	VDS200x	4.2.3	•			
		Chattering	PFS200x	4.3	•			
		Key Switch	PFS200x	4.3	•			
		Inverse Polarity	VDS200x	4.4	•			
		Overvoltage A	VDS200x	4.5	•			
		Overvoltage B	VDS200x	4.5	•			
		Interruption	PFS200x	4.6	•			
		Pulse 1	UCS200x, MPG200	4.7.1	•			
		Pulse 2	UCS200x, MPG200	4.7.1	•			
		Pulse 3a	UCS200x, EFT200	4.7.1	•			
		Pulse 3b	UCS200x, EFT200	4.7.1	•			
		Pulse 5	LD200x	4.7.1	•			
		12V I/O	Pulse 3a	UCS200x, EFT200	4.7.2	•		
			Pulse 3b	UCS200x, EFT200	4.7.2	•		
<b>Mitsubishi ES-X82010 (Rev. O, 2001-12)</b>	12V Line	Electric Load 1	VDS200x + AutoWave	4.2.1	•	•		
		Electric Load 2	VDS200x	4.2.1	•	•		
		Electric Load 3	VDS200x	4.2.1	•	•		
		Engine Start 1	VDS200x + AutoWave	4.2.2	•	•		
		Engine Start 2	VDS200x	4.2.2	•	•		
		Engine Start 3	VDS200x	4.2.3	•	•		
		Chattering	PFS200x, VDS200x + AutoWave, AutoWave + PFM200Nx	4.3	•	•		
		Key Switch	PFS200x, VDS200x + AutoWave, AutoWave + PFM200Nx	4.3	•	•		
		Inverse Polarity	VDS200x	4.4	•	•		
		Overvoltage A	VDS200x	4.5	•	•		
		Overvoltage B	VDS200x	4.5	•	•		
		Interruption	PFS200x, VDS200x + AutoWave	4.6	•	•		
		Pulse 1	UCS200x, MPG200	4.7.1	•			
		Pulse 2	UCS200x, MPG200	4.7.1	•			
		Pulse 3a	UCS200x, EFT200	4.7.1	•			
		Pulse 3b	UCS200x, EFT200	4.7.1	•			
		Pulse 5	LD200x	4.7.1	•			
12V I/O	Pulse 3a	UCS200x, EFT200	4.7.2	•				
	Pulse 3b	UCS200x, EFT200	4.7.2	•				
<b>Mitsubishi ES-X82010 (Rev. Q, 2007-01)</b>	12V Line	Electric Load 1	VDS200x + AutoWave	4.2.1	•	•		
		Electric Load 2	VDS200x	4.2.1	•	•		
		Electric Load 3	VDS200x	4.2.1	•	•		
		Engine Start 1	VDS200x + AutoWave	4.2.2	•	•		
		Engine Start 2	VDS200x	4.2.2	•	•		
		Engine Start 3	VDS200x	4.2.3	•	•		
		Chattering	PFS200x, VDS200x + AutoWave, AutoWave + PFM200Nx	4.3	•	•		
		Key Switch	PFS200x, VDS200x + AutoWave, AutoWave + PFM200Nx	4.3	•	•		
		Inverse Polarity	VDS200x	4.4	•	•		
		Overvoltage A	VDS200x	4.5	•	•		
		Overvoltage B	VDS200x	4.5	•	•		
		Interruption	PFS200x, VDS200x + AutoWave	4.6	•	•		
		Pulse 1	UCS200x, MPG200	4.7.1	•			
		Pulse 2	UCS200x, MPG200	4.7.1	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 3a	UCS200x, EFT200	4.7.1	•			
		Pulse 3b	UCS200x, EFT200	4.7.1	•			
		Pulse 5	LD200x	4.7.1	•			
	12V I/O	Pulse 3a	UCS200x, EFT200	4.7.2	•			
		Pulse 3b	UCS200x, EFT200	4.7.2	•			
	<b>Mitsubishi ES-X82114 (Rev. C, 2007-04)</b>		Magnetic Field Immunity	AutoWave + AMP200Nx, CWS500N3	8		•	•
			Magnetic Field Immunity (Verify H-Field)	AutoWave + AMP200Nx, CWS500N3	8		•	•
		12V Line	Test Pulse 1 Ramp	UCS200x, MPG200	9.1.4			
			Test Pulse 1	UCS200x, MPG200	9.1.4	•		
			Test Pulse 2a Ramp	UCS200x, MPG200	9.1.4			
Test Pulse 2a			UCS200x, MPG200	9.1.4	•			
Test Pulse 2b			VDS200x	9.1.4	•	•		
Test Pulse 3a Ramp			UCS200x, EFT200	9.1.4				
Test Pulse 3a			UCS200x, EFT200	9.1.4	•			
Test Pulse 3b Ramp			UCS200x, EFT200	9.1.4				
Test Pulse 3b			UCS200x, EFT200	9.1.4	•			
Test Pulse 4			VDS200x	9.1.4	•	•		
24V Line		Test Pulse 1 Ramp	UCS200x, MPG200	9.1.4				
		Test Pulse 1	UCS200x, MPG200	9.1.4	•			
		Test Pulse 2a Ramp	UCS200x, MPG200	9.1.4				
		Test Pulse 2a	UCS200x, MPG200	9.1.4	•			
		Test Pulse 2b	VDS200x	9.1.4	•	•		
		Test Pulse 3a Ramp	UCS200x, EFT200	9.1.4				
		Test Pulse 3a	UCS200x, EFT200	9.1.4	•			
		Test Pulse 3b Ramp	UCS200x, EFT200	9.1.4				
		Test Pulse 3b	UCS200x, EFT200	9.1.4	•			
		Test Pulse 4	VDS200x	9.1.4	•	•		
12V I/O		CCC - Pulse a	UCS200x, EFT200	9.2.3	•			
		CCC - Pulse b	UCS200x, EFT200	9.2.3	•			
		DCC - Pulse 2+	UCS200x, MPG200	9.2.5	•			
		DCC - Pulse 2-	UCS200x, MPG200	9.2.5.1	•			
		DCC - Pulse a	UCS200x, EFT200	9.2.5.2	•			
		DCC - Pulse b	UCS200x, EFT200	9.2.5.3	•			
24V I/O		CCC - Pulse a	UCS200x, EFT200	9.2.3	•			
		CCC - Pulse b	UCS200x, EFT200	9.2.3	•			
		DCC - Pulse 2+	UCS200x, MPG200	9.2.5	•			
		DCC - Pulse 2-	UCS200x, MPG200	9.2.5.1	•			
		DCC - Pulse a	UCS200x, EFT200	9.2.5.2	•			
		DCC - Pulse b	UCS200x, EFT200	9.2.5.3	•			
42V I/O		CCC - Pulse a	UCS200x, EFT200	9.2.3	•			
		CCC - Pulse b	UCS200x, EFT200	9.2.3	•			
		DCC - Pulse 2+	UCS200x, MPG200	9.2.5	•			
		DCC - Pulse 2-	UCS200x, MPG200	9.2.5.1	•			
		DCC - Pulse a	UCS200x, EFT200	9.2.5.2	•			
		DCC - Pulse b	UCS200x, EFT200	9.2.5.3	•			
<b>Mitsubishi ES-X82114 (Rev. D, 2009-03)</b>		Magnetic Field Immunity	AutoWave + AMP200Nx, CWS500N3	8		•	•	
		Magnetic Field Immunity (Verify H-Field)	AutoWave + AMP200Nx, CWS500N3	8		•	•	
	12V Line	Test Pulse 1 Ramp	UCS200x, MPG200	9.1.4				
		Test Pulse 1	UCS200x, MPG200	9.1.4	•			
		Test Pulse 2a Ramp	UCS200x, MPG200	9.1.4				
		Test Pulse 2a	UCS200x, MPG200	9.1.4	•			
		Test Pulse 2b	VDS200x	9.1.4	•	•		
		Test Pulse 3a Ramp	UCS200x, EFT200	9.1.4				
		Test Pulse 3a	UCS200x, EFT200	9.1.4	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Test Pulse 3b Ramp	UCS200x, EFT200	9.1.4				
		Test Pulse 3b	UCS200x, EFT200	9.1.4	•			
		Test Pulse 4	VDS200x	9.1.4	•	•		
	24V Line	Test Pulse 1 Ramp	UCS200x, MPG200	9.1.4				
		Test Pulse 1	UCS200x, MPG200	9.1.4	•			
		Test Pulse 2a Ramp	UCS200x, MPG200	9.1.4				
		Test Pulse 2a	UCS200x, MPG200	9.1.4	•			
		Test Pulse 2b	VDS200x	9.1.4	•	•		
		Test Pulse 3a Ramp	UCS200x, EFT200	9.1.4				
		Test Pulse 3a	UCS200x, EFT200	9.1.4	•			
		Test Pulse 3b Ramp	UCS200x, EFT200	9.1.4				
		Test Pulse 3b	UCS200x, EFT200	9.1.4	•			
		Test Pulse 4	VDS200x	9.1.4	•	•		
	12V I/O	CCC - Pulse a	UCS200x, EFT200	9.2.3	•			
		CCC - Pulse b	UCS200x, EFT200	9.2.3	•			
		DCC - Pulse 2+	UCS200x, MPG200	9.2.5	•			
		DCC - Pulse 2-	UCS200x, MPG200	9.2.5.1	•			
		DCC - Pulse a	UCS200x, EFT200	9.2.5.2	•			
		DCC - Pulse b	UCS200x, EFT200	9.2.5.3	•			
	24V I/O	CCC - Pulse a	UCS200x, EFT200	9.2.3	•			
		CCC - Pulse b	UCS200x, EFT200	9.2.3	•			
		DCC - Pulse 2+	UCS200x, MPG200	9.2.5	•			
		DCC - Pulse 2-	UCS200x, MPG200	9.2.5.1	•			
		DCC - Pulse a	UCS200x, EFT200	9.2.5.2	•			
		DCC - Pulse b	UCS200x, EFT200	9.2.5.3	•			
	42V I/O	CCC - Pulse a	UCS200x, EFT200	9.2.3	•			
		CCC - Pulse b	UCS200x, EFT200	9.2.3	•			
		DCC - Pulse 2+	UCS200x, MPG200	9.2.5	•			
		DCC - Pulse 2-	UCS200x, MPG200	9.2.5.1	•			
		DCC - Pulse a	UCS200x, EFT200	9.2.5.2	•			
		DCC - Pulse b	UCS200x, EFT200	9.2.5.3	•			
	<b>Mitsubishi X82115 (Rev. C, 2007-04)</b>	ES- 12V Line	Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3		•	•
			Supply Voltage Ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3		•	•
Supply Voltage Drop Out			PFS200x, AutoWave + PFM200Nx	7.2	•	•		
Supply Voltage Dips			PFS200x, VDS200x + AutoWave	7.3	•	•		
Engine Cranking Low Voltage			VDS200x + AutoWave	7.4	•	•		
Ramp Down			VDS200x + AutoWave	7.6	•	•		
Defective Regulation			VDS200x	8.1	•	•		
Jump Start			VDS200x	8.2	•	•		
Load Dump			VDS200N, VDS200B	8.3	•	•		
Reverse Voltage			VDS200x	8.4	•	•		
Operating and Voltage Stress	VDS200x	10.1		•				
<b>Mitsubishi X82115 (Rev. D, 2009-03)</b>	ES- 12V Line	Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3		•	•	
		Supply Voltage Ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3		•	•	
		Supply Voltage Drop Out	PFS200x, AutoWave + PFM200Nx	7.2	•	•		
		Supply Voltage Dips	PFS200x, VDS200x + AutoWave	7.3	•	•		
		Engine Cranking Low Voltage	VDS200x + AutoWave	7.4	•	•		
		Ramp Down	VDS200x + AutoWave	7.6	•	•		
		Defective Regulation	VDS200x	8.1	•	•		
		Jump Start	VDS200x	8.2	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
<b>Mitsubishi X82115 (Rev. E, 2011)</b>	ES-12V Line	Load Dump	VDS200N, VDS200B	8.3	•	•			
		Reverse Voltage	VDS200x	8.4	•	•			
		Operating and Voltage Stress	VDS200x	10.1		•			
		Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3		•	•		
		Supply Voltage Ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1, CWS500N3	6.3		•	•		
		Supply Voltage Drop Out	PFS200x, AutoWave + PFM200Nx	7.2	•	•			
		Supply Voltage Dips	PFS200x, VDS200x + AutoWave	7.3	•	•			
		Engine Cranking Low Voltage	VDS200x + AutoWave	7.4	•	•			
		Ramp Down	VDS200x + AutoWave	7.6	•	•			
		Defective Regulation	VDS200x	8.1	•	•			
<b>Nissan 28400 NDS02 [3] (1999-07)</b>	12V Line	Momentary voltage drop waveform (a)	VDS200x + AutoWave	1		•			
		Momentary voltage drop waveform (b)	VDS200x + AutoWave	1		•			
		Momentary voltage drop waveform (c)	VDS200x + AutoWave	1		•			
		Momentary voltage drop waveform (d)	VDS200x + AutoWave	1		•			
		Momentary power supply interruption resistance	VDS200x + AutoWave	1		•			
		esistance to power source voltage fluctuation	VDS200x + AutoWave	3		•			
		<b>Nissan 28400 NDS03 [2] (1997-01)</b>	12V Line	Pulse A1	LD200x S3		•		
				Pulse A2	LD200x S3		•		
				Pulse B1	LD200x S3		•		
				Pulse B2	UCS200x, MPG200 S7		•		
<b>Nissan 28400 NDS03 [3] (2005-08)</b>	12V Line			Pulse AP-1 (Method A)	VDS200x, VDS200B + AutoWave			•	
		Pulse AP-2 (Method A)	VDS200x, VDS200B + AutoWave			•			
		Pulse B1	LD200Nx, LD200M		•				
		Pulse B2	UCS200x, MPG200 S7		•				
<b>Nissan 28400 NDS07 [4] (1998-01)</b>	12V Line	Pulse C8	UCS200x, MPG200 S7		•				
		Pulse C50	UCS200x, MPG200 S7		•				
		Pulse C300	UCS200x, MPG200 S7		•				
<b>Nissan 28401 NDS02 [1] (2002-05)</b>	12V Line	Voltage Check Min	VDS200x	6.1.1	•				
		Voltage Check Max	VDS200x	6.1.1	•				
		Decrease	VDS200x	6.1.2	•				
		Increase	VDS200x	6.1.2	•				
		Profile	PFS200x + RDS200	6.1.3	•				
		Overvoltage	VDS200x	6.1.4	•				
		Reverse Volt.	VDS200x	6.1.4	•				
		Ground	VDS200x	6.1.5	•				
		Pulse 1	UCS200x, MPG200	6.1.6	•				
		Pulse 1 bis	UCS200x, MPG200	6.1.6	•				
		Pulse 2a	UCS200x, MPG200	6.1.6	•				
		Pulse 3a Train	UCS200x, EFT200B	6.1.7	•				
		Pulse 3b Train	UCS200x, EFT200B	6.1.7	•				
		Pulse 1 bis	UCS200x, MPG200	6.1.8	•				
		Pulse 2a	UCS200x, MPG200	6.1.8	•				
		Pulse 3a	UCS200x, EFT200	6.1.8	•				
		Pulse 3b	UCS200x, EFT200	6.1.8	•				
		Pulse 5a	LD200x	6.1.9	•				
		Pulse 5b	VDS200N, VDS200B	6.1.9	•				
		Micro Drops	PFS200x	6.1.10	•				
		Start	VDS200x	6.1.11	•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
	12V I/O	Sweep 20kHz	VDS200x	6.1.12	•				
		Pulse 3a	UCS200x, EFT200	6.2.1	•				
		Pulse 3b	UCS200x, EFT200	6.2.1	•				
<b>Nissan 28401 NDS02 [2] (2003-10)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•			
		EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•			
		EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•			
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•			
		EQ/TE 03 : Re-initialization test	PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•			
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•			
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4	•	•			
		EQ/TE 05 : Ground	VDS200x	6.1.5	•	•			
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6	•				
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6	•				
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•				
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 03 : Pulse 5a	LD200x	6.1.9	•				
		EQ/IC 03 : Pulse 5b	VDS200N, VDS200B	6.1.9	•	•			
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•			
		EQ/IC 05 : Start	VDS200x	6.1.11	•	•			
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•			
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•			
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3	6.3.2		•	•		
			12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•		
				EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•		
		<b>Nissan 28401 NDS02 [3] (2006-03)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
				EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•	
EQ/TE 02 : Decrease	VDS200x			6.1.2	•	•			
EQ/TE 02 : Increa+C3139se	VDS200x			6.1.2	•	•			
EQ/TE 03 : Re-initialization test	PFS200x + RDS200, VDS200x + AutoWave			6.1.3	•	•			
EQ/TE 04 : Overvoltage	VDS200x			6.1.4	•	•			
EQ/TE 04 : Reverse Voltage	VDS200x			6.1.4	•	•			
EQ/TE 05 : Ground	VDS200x			6.1.5	•	•			
EQ/IC 01 : Pulse 1	UCS200x, MPG200			6.1.6	•				
EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200			6.1.6	•				
EQ/IC 01 : Pulse 2a	UCS200x, MPG200			6.1.6	•				
EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B			6.1.7	•				
EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B			6.1.7	•				
EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200			6.1.8	•				
EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200			6.1.8	•				
EQ/IC 03 : Pulse 5a	LD200x			6.1.9	•				
EQ/IC 03 : Pulse 5b	LD200x			6.1.9	•				
EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))			6.1.10	•	•			
EQ/IC 05 : Start	VDS200x			6.1.11	•	•			
EQ/IC 06 : Sweep 50kHz	VDS200x			6.1.12	•	•			
EQ/IC 06 : Sweep 20kHz	VDS200x			6.1.12	•	•			
EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3			6.3.2		•	•		
	12V I/O			EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•		
				EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•		
<b>Nissan 28401 NDS02 [4] (2008-08)</b>	12V Line			EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
				EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•	
		EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•			



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•	
		EQ/TE 03 : Re-initialization test	PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•	
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•	
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4	•	•	
		EQ/TE 05 : Ground	VDS200x	6.1.5	•	•	
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6	•		
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6	•		
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•		
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•		
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•		
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•		
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•		
		EQ/IC 03 : Pulse 5a	LD200x	6.1.9	•		
		EQ/IC 03 : Pulse 5b	LD200x	6.1.9	•		
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•	
		EQ/IC 05 : Start	VDS200x	6.1.11	•	•	
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•	
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•	
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3	6.3.2		•	•
		12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•	
EQ/IC 07 : Pulse 3b	UCS200x, EFT200		6.2.1	•			
<b>Nissan 28401 NDS02 [5] (2010-12)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
		EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•	
		EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•	
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•	
		EQ/TE 03 : Re-initialization test	PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•	
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•	
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4	•	•	
		EQ/TE 05 : Ground	VDS200x	6.1.5	•	•	
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6	•		
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6	•		
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•		
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•		
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•		
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•		
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•		
		EQ/IC 03 : Pulse 5b	LD200x	6.1.9	•		
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•	
		EQ/IC 05 : Start No.1 (S&S)	VDS200x + AutoWave	6.1.11	•	•	
		EQ/IC 05 : Start No.1*	VDS200x	6.1.11	•	•	
		EQ/IC 05 : Start No.2	VDS200x	6.1.11	•	•	
EQ/IC 05 : Start No.3	VDS200x	6.1.11	•	•			
EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•			
EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•			
EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3	6.3.2		•	•		
12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•			
	EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•			
<b>Nissan 28401 NDS02 [6] (2013-01)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
		EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•	
		EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•	
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•	
		EQ/TE 03 : Re-initialization test	PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•	
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•	
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		EQ/TE 05 : Ground	VDS200x	6.1.5	•	•		
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6	•			
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6	•			
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•			
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•			
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•			
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•			
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•			
		EQ/IC 03 : Pulse 5b	LD200x	6.1.9	•			
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•		
		EQ/IC 05 : Start No.1 (S&S)	VDS200x + AutoWave	6.1.11	•			
		EQ/IC 05 : Start No.1*	VDS200x	6.1.11	•	•		
		EQ/IC 05 : Start No.2	VDS200x	6.1.11	•	•		
		EQ/IC 05 : Start No.3	VDS200x	6.1.11	•	•		
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•		
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•		
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1	6.3.2		•		
		12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•		
			EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•		
	<b>Nissan 28401 NDS02 [7] (2014-09)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
EQ/TE 01 : Voltage Check Max			VDS200x	6.1.1	•	•		
EQ/TE 02 : Decrease			VDS200x	6.1.2	•	•		
EQ/TE 02 : Increa+C3139se			VDS200x	6.1.2	•	•		
EQ/TE 03 : Re-initialization test			PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•		
EQ/TE 04 : Overvoltage			VDS200x	6.1.4	•	•		
EQ/TE 04 : Reverse Voltage			VDS200x	6.1.4	•	•		
EQ/TE 05 : Ground			VDS200x	6.1.5	•	•		
EQ/IC 01 : Pulse 1			UCS200x, MPG200	6.1.6	•			
EQ/IC 01 : Pulse 1 bis			UCS200x, MPG200	6.1.6	•			
EQ/IC 01 : Pulse 2a			UCS200x, MPG200	6.1.6	•			
EQ/IC 02 : Pulse 3a Train			UCS200x, EFT200B	6.1.7	•			
EQ/IC 02 : Pulse 3b Train			UCS200x, EFT200B	6.1.7	•			
EQ/IC 10 : Pulse 1 bis neg.			UCS200x, MPG200	6.1.8	•			
EQ/IC 10 : Pulse 1 bis pos.			UCS200x, MPG200	6.1.8	•			
EQ/IC 03 : Pulse 5b			LD200x	6.1.9	•			
EQ/IC 04 : Micro Drops			PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•		
EQ/IC 05 : Start No.1 (S&S)			VDS200x + AutoWave	6.1.11	•			
EQ/IC 05 : Start No.1*			VDS200x	6.1.11	•	•		
EQ/IC 05 : Start No.2		VDS200x	6.1.11	•	•			
EQ/IC 05 : Start No.3	VDS200x	6.1.11	•	•				
EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•				
EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•				
EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1	6.3.2		•				
12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•				
	EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•				
<b>Nissan 28401 NDS02 [8] (2016-03)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•		
		EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•		
		EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•		
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•		
		EQ/TE 03 : Re-initialization test	VDS200x + AutoWave	6.1.3	•	•		
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•		
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4	•	•		
		EQ/TE 05 : Ground	VDS200x	6.1.5	•	•		
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6	•				
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•				
		EQ/IC 01 : Pulse 2b	VDS200x	6.1.6	•	•			
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 03 : Pulse 5b	LD200x	6.1.9	•				
		EQ/IC 03 : Pulse 5c	LD200x	6.1.9	•				
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•			
		EQ/IC 05 : Start No.1 (S&S)	VDS200x + AutoWave	6.1.11	•				
		EQ/IC 05 : Start No.1*	VDS200x	6.1.11	•	•			
		EQ/IC 05 : Start No.2	VDS200x	6.1.11	•	•			
		EQ/IC 05 : Start No.3	VDS200x	6.1.11	•	•			
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•			
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•			
		EQ/IR 02 : Immunity to audio frequency magnetic field - DC	AutoWave + AMP200N1.1	6.3.2			•		
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1	6.3.2			•		
			12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•		
				Pulse 3b	UCS200x, EFT200	6.2.1	•		
<b>Nissan 28402 NDS08 [0] (2001-10)</b>	12V Line	Power Supply Patterns for Power Supply Intermittance	AutoWave + VDS200x,	7.1		•			
<b>Nissan 28558 NDS41 [1] (2013-03)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1		•			
		EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1		•			
		EQ/TE 02 : Decrease	VDS200x	6.1.2		•			
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2		•			
		EQ/TE 03 : Re-initialization test	PFS200x + RDS200, VDS200x + AutoWave	6.1.3		•			
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4		•			
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4		•			
		EQ/TE 05 : Ground	VDS200x	6.1.5		•			
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6					
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6					
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6					
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7					
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7					
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8					
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8					
		EQ/IC 03 : Pulse 5b	LD200x	6.1.9					
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10			•		
		EQ/IC 05 : Start No.1 (S&S)	VDS200x + AutoWave	6.1.11					
		EQ/IC 05 : Start No.1*	VDS200x	6.1.11			•		
		EQ/IC 05 : Start No.2	VDS200x	6.1.11			•		
		EQ/IC 05 : Start No.3	VDS200x	6.1.11			•		
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12			•		
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12			•		
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3	6.3.2			•	•	
			12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1			
				EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1			
		<b>OEM LV 124 (2009-10)</b>	12V Line	E-01 Longtime Voltage	VDS200x	4.1	•	•	
				E-02 Overvoltage 1	VDS200x + AutoWave	4.2	•	•	
E-02 Overvoltage 2	VDS200x + AutoWave			4.2	•	•			
E-03 Undervoltage	VDS200x + AutoWave			4.3	•	•			
E-04 Jump Start	VDS200x			4.4	•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		E-05 Load Dump	VDS200x	4.5	•	•	
		E-06 Superimposed Voltage	VDS200x + AutoWave	4.6	•	•	
		E-07 Slow Ramp Down/Up	VDS200x + AutoWave	4.7	•	•	
		E-08 Ramp Down / Fast Up	VDS200x + AutoWave	4.8	•	•	
		E-09 Reset Behaviour	VDS200x + AutoWave	4.9	•	•	
		E-10 Short Reset - Test Case 1	PFS200x + R-Box LV124x, AutoWave + PFM200Nx + R-Box LV124x	4.10	•	•	
		E-10 Short Reset - Test Case 2	PFS200x + R-Box LV124, AutoWave + PFM200Nx + R-Box LV124x	4.10	•	•	
		E-10 Short Reset - Test Case 3	PFS200x + BSM200N100 + R-Box LV124x, AutoWave + PFM200Nx	4.10	•	•	
		E-11 Cold Cranking (Normal)	VDS200x	4.11	•	•	
		E-11 Cold Cranking (Severe)	VDS200x + AutoWave	4.11	•	•	
		E-11 Warm Cranking (Short)	VDS200x + AutoWave	4.11	•	•	
		E-11 Warm Cranking (Long)	VDS200x + AutoWave	4.11	•	•	
		E-12 Voltage Curve	VDS200x	4.12	•	•	
		E-13 Pin Interruption - Test Case 1 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-13 Pin Interruption - Test Case 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-13 Pin Interruption - Test Case 3 - Contact 1 (Precompliance)	PFS200x (Precom)	4.13	•	•	
		E-13 Pin Interruption - Test Case 3 - Contact 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-14 Connector Interruption	AutoWave + PFM200Nx	4.14		•	
		E-15 Reset Voltage 1	VDS200x	4.15	•	•	
		E-15 Reset Voltage 2	VDS200x	4.15	•	•	
<b>OEM LV 124 (2013-02)</b>	12V Line	E-01 Longtime Voltage	VDS200x	4.1	•	•	
		E-02 Transient Overvoltage	VDS200x + AutoWave	4.2	•	•	
		E-03 Transient Subvoltage	VDS200x + AutoWave	4.3	•	•	
		E-04 Jump Start	VDS200x	4.4	•	•	
		E-05 Load Dump	VDS200x	4.5	•	•	
		E-06 Superimposed Voltage	VDS200x + AutoWave	4.6	•	•	
		E-07 Slow Ramp Down and Ramp Up	VDS200x + AutoWave	4.7	•	•	
		E-08 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	4.8	•	•	
		E-09 Reset Behaviour	VDS200x + AutoWave	4.9	•	•	
		E-10 Short Reset	PFS200x + BSM200N100, AutoWave + PFM200Nx	4.10	•	•	
		E-11 Cold Cranking (Normal)	VDS200x	4.11	•	•	
		E-11 Cold Cranking (Severe)	VDS200x + AutoWave	4.11	•	•	
		E-11 Warm Cranking (Short)	VDS200x + AutoWave	4.11	•	•	
		E-11 Warm Cranking (Long)	VDS200x + AutoWave	4.11	•	•	
		E-12 Voltage Curve	VDS200x	4.12	•	•	
		E-13 Pin Break (Test Case 1)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-13 Pin Break (Test Case 2)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•	
		E-14 Connector Interruption	AutoWave + PFM200Nx	4.14		•	
E-15 Reverse Voltage (Test Case 1)	VDS200Qx	4.15		•			
E-15 Reverse Voltage (Test Case 2)	VDS200Qx	4.15		•			
<b>OEM LV 148 (2011-08)</b>	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	3.1		•	
		E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•	
		E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•	
		E48-03 Transient process in the lower operating range	VDS200x	3.4		•	
		E48-04 Recuperation	VDS200x	3.5		•	
		E48-05 Superimposed Voltage - Part 1 - F1 (15Hz-30kHz)	VDS200x	3.6		•	
		E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz)	VDS200Qx	3.6		•	
		E48-05 Superimposed Voltage - Part1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F1 (15Hz-30kHz)	VDS200x	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz)	VDS200Qx	3.6		•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•			
		E48-06 Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave	3.7		•			
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave	3.7		•			
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave	3.7		•			
		E48-07 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	3.9		•			
		E48-08 Reset Behavior	VDS200x + AutoWave	3.9		•			
		E48-09 Short Breaks	PFS200x + BS200, AutoWave + PFM200Nx	3.10	•	•			
		E48-10 Start Impulses - Cold start (Normal)	VDS200x	3.11		•			
		E48-10 Start Impulses - Cold start Severe)	VDS200x	3.11		•			
		E48-13 Internal Voltage Strength	VDS200x	3.14		•			
		E48-15 Operating in the area without functional limitation	VDS200x + AutoWave	3.16		•			
		E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	3.17		•			
		E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	3.18		•			
		E48-18 Over-Voltage Range	VDS200x + AutoWave	3.19		•			
		E48-19 Under-Voltage Range	VDS200x + AutoWave	3.20		•			
		<b>OEM LV 148 (2013-07)</b>	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	3.1		•	
				E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•	
				E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•	
				E48-03 Transient process in the lower operating range	VDS200x	3.4		•	
E48-04 Recuperation	VDS200x			3.5		•			
E48-05 Superimposed Voltage - Part 1 - F1 (15Hz-30kHz)	VDS200x			3.6		•			
E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz)	VDS200Qx			3.6		•			
E48-05 Superimposed Voltage - Part1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1			3.6		•			
E48-05 Superimposed Voltage - Part 2 - F1 (15Hz-30kHz)	VDS200x			3.6		•			
E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz)	VDS200Qx			3.6		•			
E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1			3.6		•			
E48-06 Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave			3.7		•			
E48-06 Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave			3.7		•			
E48-06 Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave			3.7		•			
E48-08 Reset Behavior	VDS200x + AutoWave			3.9		•			
E48-09 Short Breaks	PFS200x + BS200, AutoWave + PFM200Nx			3.10	•	•			
E48-10 Start Impulses - Cold start (Normal)	VDS200N / VDS200			3.11		•			
E48-10 Start Impulses - Cold start Severe)	VDS200N / VDS200			3.11		•			
E48-13 Internal Voltage Strength	VDS200x			3.14		•			
E48-15 Operating in the area without functional limitation	VDS200x + AutoWave			3.16		•			
E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	3.17		•					
E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	3.18		•					
E48-18 Over-Voltage Range	VDS200x + AutoWave	3.19		•					
E48-19 Under-Voltage Range	VDS200x + AutoWave	3.20		•					
<b>Paccar CS0016 (1996-07)</b>	12V Line	Load Dump	LD200Nx, LD200 S2		•				
		Inductive pos.	UCS200x, MPG200 S15		•				
		Inductive neg.	UCS200x, MPG200 S15		•				
		Mutual pos.	UCS200x, MPG200 S15		•				
		Mutual neg.	UCS200x, MPG200 S15		•				
<b>Paccar CPP0016 (2011-10)</b>	12V Line	Load Dump	LD200Nx, LD200 S2	6.2	•				
		Inductive switching +Vs	UCS200x, MPG200 S15	6.3	•				
		Inductive switching -Vs	UCS200x, MPG200 S15	6.3	•				
		Mutual coupling +Vs	UCS200x, MPG200 S15	6.4	•				
		Mutual coupling -Vs	UCS200x, MPG200 S15	6.4	•				
		Conducted noise immunity	AutoWave + AMP200N1	6.6		•			
<b>Paccar CS0013 (2003-11)</b>	12V Line	Minimum voltage test	VDS200x	7.2	•	•			
		Maximum voltage test	VDS200x	7.3	•	•			
		Reverse voltage test	VDS200x	7.4	•	•			
		Start voltage test	VDS200x	7.5	•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Voltage drain test	VDS200x	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
	24V Line	Minimum voltage test	VDS200x	7.2	•	•	
		Maximum voltage test	VDS200x	7.3	•	•	
		Reverse voltage test	VDS200x	7.4	•	•	
		Start voltage test	VDS200x	7.5	•	•	
		Voltage drain test	VDS200x + AutoWave	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
	36V Line	Minimum voltage test	VDS200x	7.2	•	•	
		Maximum voltage test	VDS200x	7.3	•	•	
		Reverse voltage test	VDS200x	7.4	•	•	
		Start voltage test	VDS200x	7.5	•	•	
		Voltage drain test	VDS200x + AutoWave	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
<b>Paccar CS0013 (2009-09)</b>	12V Line	Minimum voltage test	VDS200x	7.2	•	•	
		Maximum voltage test	VDS200x	7.3	•	•	
		Reverse voltage test	VDS200x	7.4	•	•	
		Start voltage test	VDS200x	7.5	•	•	
		Voltage drain test	VDS200x + AutoWave	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
	24V Line	Minimum voltage test	VDS200x	7.2	•	•	
		Maximum voltage test	VDS200x	7.3	•	•	
		Reverse voltage test	VDS200x	7.4	•	•	
		Start voltage test	VDS200x	7.5	•	•	
		Voltage drain test	VDS200x + AutoWave	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
	36V Line	Minimum voltage test	VDS200x	7.2	•	•	
		Maximum voltage test	VDS200x	7.3	•	•	
		Reverse voltage test	VDS200x	7.4	•	•	
		Start voltage test	VDS200x	7.5	•	•	
		Voltage drain test	VDS200x + AutoWave	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
<b>Paccar CS0013 (2014-03)</b>	12V Line	Minimum voltage test	VDS200x	7.2	•	•	
		Maximum voltage test	VDS200x	7.3	•	•	
		Reverse voltage test	VDS200x	7.4	•	•	
		Start voltage test	VDS200x	7.5	•	•	
		Voltage drain test	VDS200x + AutoWave	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
	24V Line	Minimum voltage test	VDS200x	7.2	•	•	
		Maximum voltage test	VDS200x	7.3	•	•	
		Reverse voltage test	VDS200x	7.4	•	•	
		Start voltage test	VDS200x	7.5	•	•	
		Voltage drain test	VDS200x + AutoWave	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
	36V Line	Minimum voltage test	VDS200x	7.2	•	•	
		Maximum voltage test	VDS200x	7.3	•	•	
		Reverse voltage test	VDS200x	7.4	•	•	
		Start voltage test	VDS200x	7.5	•	•	
		Voltage drain test	VDS200x + AutoWave	7.6	•	•	
		Jump voltage test	VDS200x	7.7	•	•	
<b>Piaggio 7431 (2002-01)</b>	12V Line	Dips	VDS200x	3.6	•	•	
		Overvoltage 1	VDS200x	3.7	•	•	
		Overvoltage 2	VDS200x	3.7	•	•	
		Pulse 1	UCS200x, MPG200	3.9	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 2	UCS200x, MPG200	3.9	•			
		Pulse 4a	UCS200x, EFT200	3.9	•			
		Pulse 4b	UCS200x, EFT200	3.9	•			
		Pulse 5	UCS200x	3.9	•			
		Pulse 6	VDS200x	3.9	•	•		
		12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•		
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
<b>Piaggio 7431 (Edition 5, 2009-07)</b>	12V Line	Performance under low voltage	VDS200x	3.10	•	•		
		Resistance to overvoltage power supply 18V	VDS200x	3.11	•	•		
		Resistance to overvoltage power supply 24V	VDS200x	3.11	•	•		
		Pulse 1	UCS200x, MPG200	3.13	•			
		Pulse 2	UCS200x, MPG200	3.13	•			
		Pulse 3	AutoWave + VDS200Qx	3.13		•		
		Pulse 4 Pos	UCS200x, EFT200	3.13	•			
		Pulse 4 Neg	UCS200x, EFT200	3.13	•			
		Pulse 5b	AutoWave + VDS200x,	3.13		•		
		Pulse 5c	AutoWave + VDS200x,	3.13		•		
		Pulse 6	VDS200x,	3.13	•	•		
		Pulse 7 (Precompliance)	AutoWave + PFM200Nx	3.13		•		
		Immunity against low frequency magnetic fields	AutoWave + AMP200Nx, CWS500N3	3.21		•	•	
		12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•		
	Pulse 3b	UCS200x, EFT200	6.2.1	•				
<b>Polaris ENG-SPEC-0183 (Revision 2, 2015-11)</b>	12V Line	Overvoltage	VDS200x	8.3	•	•		
		Jump Starting	VDS200x	8.4	•	•		
		Reverse Polarity	VDS200x	8.5	•	•		
		Power Interrupts	VDS200x	8.9	•	•		
		Starting Voltage	VDS200x	8.10	•	•		
		Inductive Load Switching	UCS200x, MPG200	9.2	•			
		Load Dump	LD200Nx Clip, LD200x + diode	9.3	•			
		Alternator Field Decay	UCS200x, MPG200	9.4	•			
		12V I/O	DCC Fast a	UCS200x, EFT200	9.5	•		
		DCC Fast b	UCS200x, EFT200	9.5	•			
		CCC Fast a	UCS200x, EFT200	9.5	•			
		CCC Fast b	UCS200x, EFT200	9.5	•			
		DCC Slow pos.	UCS200x, MPG200	9.5	•			
		DCC Slow neg.	UCS200x, MPG200	9.5	•			
		ICC Slow pos.	UCS200x, MPG200	9.5	•			
		ICC Slow neg.	UCS200x, MPG200	9.5	•			
	<b>Porsche EMV-Anforderungen (2001-09)</b>	12V Line	Pulse 1	UCS200x, MPG200	2.1.1	•		
			Pulse 1z	UCS200x, MPG200	2.1.1	•		
Pulse 2			UCS200x, MPG200	2.1.1	•			
Pulse 2z			UCS200x, MPG200	2.1.1	•			
Pulse 3a			UCS200x, EFT200	2.1.1	•			
Pulse 3b			UCS200x, EFT200	2.1.1	•			
Pulse 4			VDS200x	2.1.1	•			
Pulse 5			LD200Nx Clip, LD200x + diode	2.1.1	•			
Pulse 6			VDS200x	2.1.1	•			
Wobble			VDS200x	2.3	•			
12V I/O		Pulse 3a	UCS200x, EFT200	2.2	•			
		Pulse 3b	UCS200x, EFT200	2.2	•			
<b>Porsche EMV-Anforderungen (Ver. 2.0, 2004-08)</b>		12V Line	Pulse 1	UCS200x, MPG200	2.1.1	•		
			Pulse 1z	UCS200x, MPG200	2.1.1	•		
	Pulse 2		UCS200x, MPG200	2.1.1	•			
	Pulse 2z		UCS200x, MPG200	2.1.1	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Pulse 3a	UCS200x, EFT200	2.1.1	•		
		Pulse 3b	UCS200x, EFT200	2.1.1	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	2.1.1	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	2.2	•		
		Pulse 3b	UCS200x, EFT200	2.2	•		
<b>Porsche EMV-Anforderungen (Ver. 2.2, 2010-02)</b>	12V Line	Pulse 1	UCS200x, MPG200	2.1.1	•		
		Pulse 1z	UCS200x, MPG200	2.1.1	•		
		Pulse 2	UCS200x, MPG200	2.1.1	•		
		Pulse 2z	UCS200x, MPG200	2.1.1	•		
		Pulse 3a	UCS200x, EFT200	2.1.1	•		
		Pulse 3b	UCS200x, EFT200	2.1.1	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	2.1.1	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	2.2	•		
		Pulse 3b	UCS200x, EFT200	2.2	•		
<b>Porsche EMV Lastenheft 2007 (2005-04)</b>	12V Line	Pulse 1	UCS200x, MPG200	2.1.1	•		
		Pulse 1z	UCS200x, MPG200	2.1.1	•		
		Pulse 2	UCS200x, MPG200	2.1.1	•		
		Pulse 2z	UCS200x, MPG200	2.1.1	•		
		Pulse 3a	UCS200x, EFT200	2.1.1	•		
		Pulse 3b	UCS200x, EFT200	2.1.1	•		
		Pulse 5	LD200Nx Clip, LD200x + diode	2.1.1	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	2.2	•		
		Pulse 3b	UCS200x, EFT200	2.2	•		
<b>Porsche Hardware Lastenheft 2007 (Rev. 1.65, 2005-09)</b>	12V Line	Overvoltage 1	VDS200x	4.1.2	•		
		Overvoltage 2	VDS200x	4.1.2	•		
		Wobble	VDS200x	4.1.2	•		
		Ramp Down-Up	VDS200x + AutoWave	4.1.3	•		
		Reversed Voltage	VDS200x	4.1.4	•		
		Dips	PFS200x	4.1.5	•		
		Pulse 4	VDS200x	4.1.8.1	•		
		Pulse 6	VDS200x	4.1.8.2	•		
		Reset	VDS200x	4.1.8.3	•		
<b>Porsche Hardware Lastenheft 2007 (Rev. 2.0, 2007-10)</b>	12V Line	Overvoltage 1	VDS200x	4.1.2	•	•	
		Overvoltage 2	VDS200x	4.1.2	•	•	
		Wobble	VDS200x	4.1.3	•	•	
		Ramp Down-Up	VDS200x + AutoWave	4.1.4	•	•	
		Reversed Voltage	VDS200x	4.1.5	•	•	
		Dips / Interruption	PFS200x, (PFM200N100.1 (LIC-FAST))	4.1.6	•		
		Pulse 4	VDS200x	4.1.9.1	•	•	
		Restart Start/Stop	VDS200x + AutoWave	4.1.9.2	•	•	
		Pulse 6	VDS200x	4.1.9.3	•	•	
		Reset	VDS200x	4.1.9.4	•	•	
<b>Pronton PES-6022 (2010-10)</b>	12V Line	4.2.1 Supply Voltage Fluctuation Test (Figure 1)	VDS200x + AutoWave	4.2.1	•	•	
		4.2.1 Supply Voltage Fluctuation Test (Figure 3)	VDS200x	4.2.1	•	•	
		4.2.2 Supply Voltage Fluctuation Test (Figure 4a)	VDS200x + AutoWave	4.2.2	•	•	
		4.2.2 Supply Voltage Fluctuation Test (Figure 4b)	VDS200x + AutoWave	4.2.2	•	•	
		4.2.3 Memory Contents	VDS200x	4.2.3	•	•	
		4.3 Supply Voltage Intermittent Test	PFS200x, AutoWave + PFM200Nx	4.3	•	•	
		4.4 Supply Voltage Reverse Connection Test	VDS200x	4.4	•	•	
		4.5 Overvoltage Test A (18V)	VDS200x	4.5	•	•	
		4.5 Overvoltage Test A (24V)	VDS200x	4.5	•	•	
		4.6 Supply Voltage Instantaneous Interruption	PFS200x	4.6	•		
		4.7 Pulse 1	UCS200x, MPG200	4.7	•		
		4.7 Pulse 2a	UCS200x, MPG200	4.7	•		



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		4.7 Pulse 2b	VDS200x	4.7	•	•		
		4.7 Pulse 3a	UCS200x, EFT200	4.7	•			
		4.7 Pulse 3b	UCS200x, EFT200	4.7	•			
		4.7 Pulse 4	VDS200x	4.7	•	•		
		4.7 Pulse 5a	LD200x	4.7	•			
		4.7 Pulse 5b	LD200Nx Clip, LD200x + diode	4.7	•			
	12V I/O	4.7 Transient Pulse a	UCS200x, EFT200	4.7	•			
		4.7 Transient Pulse b	UCS200x, EFT200	4.7	•			
<b>PSA B21 7090 (Rev. F, 1998-01)</b>	12V Line	Sinus	VDS200x	4.1.2	•			
		Sweep	VDS200x	4.1.3	•			
		Overstress 18	VDS200x	4.2.1	•			
		Overstress 24	VDS200x	4.2.2	•			
		Micro Drop	PFS200x	4.3	•			
		Pulse 1	UCS200x, MPG200B1	4.4.1	•			
		Pulse S1	MPG200B1	4.4.1	•			
		Pulse S2	MPG200B1	4.4.1	•			
		Pulse 2	UCS200x, MPG200B1	4.4.1	•			
		Pulse 3a	UCS200x, EFT200	4.4.1	•			
		Pulse 3b	UCS200x, EFT200	4.4.1	•			
		Pulse 5a	VDS200N, VDS200B	4.4.1	•			
		Pulse 5	LD200x	4.4.1	•			
<b>PSA B21 7110 (2001-07)</b>	12V Line	Voltage Check	VDS200x	7.1.1	•			
		Decrease	VDS200x	7.1.2	•			
		Increase	VDS200x	7.1.2	•			
		Profile	PDS200x + RDS200	7.1.3	•			
		Stress 1	VDS200x	7.1.4	•			
		Stress 2	VDS200x	7.1.4	•			
		Ground	VDS200x	7.1.5	•			
		Pulse 1	UCS200x, MPG200	7.1.6	•			
		Pulse 1 bis	UCS200x, MPG200	7.1.6	•			
		Pulse 2a	UCS200x, MPG200	7.1.6	•			
		Pulse 3a	UCS200x, EFT200	7.1.7	•			
		Pulse 3b	UCS200x, EFT200	7.1.7	•			
		Pulse 5b	VDS200N, VDS200B	7.1.8	•			
		Micro Drops	PFS200x	7.1.9	•			
		Pulse 4 -C	VDS200x	7.1.10	•			
		Pulse 4 -M	VDS200x	7.1.10	•			
		Pulse 4b -C	VDS200x	7.1.10	•			
		Pulse 4b -M	VDS200x	7.1.10	•			
		Sinus	VDS200x	7.1.11	•			
		42V Line	Voltage Check	VDS200x	7.1.1	•		
			Decrease	VDS200x	7.1.2	•		
			Increase	VDS200x	7.1.2	•		
			Profile	PFS200x + RDS200	7.1.3	•		
			Pulse 1	UCS200x, MPG200	7.1.6	•		
			Pulse 1 bis	UCS200x, MPG200	7.1.6	•		
Pulse 2a	UCS200x, MPG200		7.1.6	•				
Pulse 3a	UCS200x, EFT200		7.1.7	•				
Pulse 3b	UCS200x, EFT200		7.1.7	•				
Pulse 5b	VDS200N, VDS200B		7.1.8	•				
Micro Drops	PFS200x		7.1.9	•				
Pulse 4	VDS200x		7.1.10	•				
Sinus	VDS200x		7.1.11	•				
12V I/O	Pulse 3a		UCS200x, EFT200	7.2.1	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
PSA B21 7110 (Rev. A, 2004-07)	42V I/O	Pulse 3b	UCS200x, EFT200	7.2.1	•		
		Pulse 3a	UCS200x, EFT200	7.2.1	•		
		Pulse 3b	UCS200x, EFT200	7.2.1	•		
	12V Line	Voltage Check	VDS200x	6.1.1	•	•	
		Decrease	VDS200x	6.1.2	•	•	
		Increase	VDS200x	6.1.2	•	•	
		Profile	PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•	
		Stress 1	VDS200x	6.1.4	•	•	
		Stress 2	VDS200x	6.1.4	•	•	
		Ground	VDS200x	6.1.5	•	•	
		Pulse 1	UCS200x, MPG200	6.1.7	•		
		Pulse 1 bis	UCS200x, MPG200	6.1.7	•		
		Pulse 2a	UCS200x, MPG200	6.1.7	•		
		Pulse 3a	UCS200x, EFT200	6.1.8	•		
		Pulse 3b	UCS200x, EFT200	6.1.8	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	6.1.9	•		
		Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•	
		Pulse 4	VDS200x	6.1.11	•	•	
		Pulse 4b	VDS200x	6.1.11	•	•	
		Sinus	VDS200x	6.1.12	•	•	
		42V Line	Voltage Check	VDS200x	6.1.1	•	•
	Decrease		VDS200x	6.1.2	•	•	
	Increase		VDS200x	6.1.2	•	•	
	Profile		PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•	
	Stress		VDS200x	6.1.4	•	•	
	Ground		VDS200x	6.1.5	•	•	
	Pulse 1		UCS200x, MPG200	6.1.7	•		
	Pulse 1 bis		UCS200x, MPG200	6.1.7	•		
	Pulse 2a		UCS200x, MPG200	6.1.7	•		
	Pulse 3a		UCS200x, EFT200	6.1.8	•		
Pulse 3b	UCS200x, EFT200		6.1.8	•			
Pulse 5b	VDS200N, VDS200B		6.1.9	•	•		
Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))		7.1.13	•	•		
Pulse 4	VDS200x		6.1.11	•	•		
Sinus	VDS200x	6.1.12	•	•			
Immunity to low frequency magnetic field	CWS500N3	6.3.1			•		
12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
	Pulse 3b	UCS200x, EFT200	6.2.1	•			
42V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
	Pulse 3b	UCS200x, EFT200	6.2.1	•			
PSA B21 7110 (Rev. B, 2005-05)	12V Line	Voltage Check	VDS200x	6.1.1	•	•	
		Decrease	VDS200x	6.1.2	•	•	
		Increase	VDS200x	6.1.2	•	•	
		Profile	PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•	
		Stress 1	VDS200x	6.1.4	•	•	
		Stress 2	VDS200x	6.1.4	•	•	
		Ground	VDS200x	6.1.5	•	•	
		Pulse 1	UCS200x, MPG200	6.1.7	•		
		Pulse 1 bis	UCS200x, MPG200	6.1.7	•		
		Pulse 2a	UCS200x, MPG200	6.1.7	•		
		Pulse 3a	UCS200x, EFT200	6.1.8	•		
		Pulse 3b	UCS200x, EFT200	6.1.8	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	6.1.9	•		
		Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 4	VDS200x	6.1.11	•	•		
		Pulse 4b	VDS200x	6.1.11	•	•		
		Sinus	VDS200x	6.1.12	•	•		
	42V Line	Voltage Check	VDS200x	6.1.1	•	•		
		Decrease	VDS200x	6.1.2	•	•		
		Increase	VDS200x	6.1.2	•	•		
		Profile	PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•		
		Stress	VDS200x	6.1.4	•	•		
		Ground	VDS200x	6.1.5	•	•		
		Pulse 1	UCS200x, MPG200	6.1.7	•			
		Pulse 1 bis	UCS200x, MPG200	6.1.7	•			
		Pulse 2a	UCS200x, MPG200	6.1.7	•			
		Pulse 3a	UCS200x, EFT200	6.1.8	•			
		Pulse 3b	UCS200x, EFT200	6.1.8	•			
		Pulse 5b	VDS200N, VDS200B	6.1.9	•	•		
		Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	7.1.13	•	•		
		Pulse 4	VDS200x	6.1.11	•	•		
		Sinus	VDS200x	6.1.12	•	•		
	Immunity to low frequency magnetic field	AutoWave + AMP200Nx, CWS500N3	6.3.1		•	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
	42V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
	<b>PSA B21 7110 (Rev. C, 2008-03)</b>	12V Line	Voltage Check	VDS200x	6.1.1	•	•	
			Decrease	VDS200x	6.1.3	•	•	
			Increase	VDS200x	6.1.3	•	•	
			Profile	VDS200x	6.1.4	•	•	
			Overvoltage	VDS200x	6.1.5	•	•	
			Reverse Voltage	VDS200x	6.1.5	•	•	
			Ground	VDS200x	6.1.6	•	•	
			Pulse 1	UCS200x, MPG200	6.1.8	•		
			Pulse 2a	UCS200x, MPG200	6.1.8	•		
			Pulse 1 bis (high)	UCS200x, MPG200	6.1.9	•		
Pulse 1 bis (high) U=0			UCS200x, MPG200	6.1.9	•			
Pulse 1 bis (low) U=0			UCS200x, MPG200	6.1.9	•			
Pulse 1 bis (low)			UCS200x, MPG200	6.1.9	•			
Pulse 3a			UCS200x, EFT200	6.1.10	•			
Pulse 3b			UCS200x, EFT200	6.1.10	•			
Pulse 5b			LD200Nx Clip, LD200x + diode	6.1.11	•			
Micro Drops			PFS200x, (PFM200N100.1 (LIC-FAST))	7.1.13	•	•		
Pulse 4			VDS200x	6.1.13	•	•		
Pulse 4b		VDS200x	6.1.13	•	•			
Reboot (sans DMT)		VDS200x + AutoWave	6.1.14	•	•			
Reboot (with DMT)		VDS200x + AutoWave	6.1.14	•	•			
Sinus		VDS200x	6.1.15	•	•			
42V Line		Voltage Check	VDS200x	6.1.1	•	•		
		Decrease	VDS200x	6.1.3	•	•		
		Increase	VDS200x	6.1.3	•	•		
		Profile	PFS200x + RDS200, VDS200x + AutoWave	6.1.4	•	•		
		Reverse Voltage	VDS200x	6.1.5	•	•		
		Ground	VDS200x	6.1.6	•	•		
		Pulse 1	UCS200x, MPG200	6.1.8	•			
		Pulse 2a	UCS200x, MPG200	6.1.8	•			
		Pulse 3a	UCS200x, EFT200	6.1.10	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 3b	UCS200x, EFT200	6.1.10	•			
		Pulse 5b	VDS200N, VDS200B	6.1.11	•	•		
		Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST)	7.1.13	•	•		
		Pulse 4	VDS200x	6.1.13	•	•		
		Sinus	VDS200x	6.1.15	•	•		
		Immunity to low frequency magnetic field	AutoWave + AMP200Nx, CWS500N3	6.3.3		•	•	
	12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
	42V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
	<b>PSA B21 7110 (Addendum Rev. C) (2010-05)</b>	12V Line	EQ/TE 01 : Resistance to usual supply overvoltages	VDS200x	2.1.1	•	•	
			EQ/TE 08 : Resistance to the voltage variations	VDS200x	2.1.2	•	•	
EQ/TE 02 : Resistance to slow increase and decrease			VDS200x	2.1.4	•	•		
EQ/TE 03 : Reinitialisation test			VDS200x	2.1.5		•		
EQ/TE 04 : Resistance to unusual supply voltage			VDS200x	2.1.6	•	•		
EQ/TE 05 : Resistance to grounding			VDS200x	2.1.7	•	•		
EQ/IC 01 : Resistance to pulses 1			UCS200x, MPG200	2.1.9	•			
EQ/IC 01 : Resistance to pulses 2a			UCS200x, MPG200	2.1.9	•			
EQ/IC 10 : Resistance to pulses on outputs - Pulse 1 bis high			UCS200x, MPG200	2.1.10	•			
EQ/IC 10 : Resistance to pulses on outputs - Pulse 1 bis low			UCS200x, MPG200	2.1.10	•			
EQ/IC 02 : Resistance to pulses 3a			UCS200x, EFT200	2.1.11	•			
EQ/IC 02 : Resistance to pulses 3b			UCS200x, EFT200	2.1.11	•			
EQ/IC 03 : Resistance to pulses 5b			LD200Nx Clip, LD200x + diode	2.1.12	•			
EQ/IC 04 : Resistance to supply micro interruptions			PFS200x, (PFM200N100.1 (LIC-FAST)	7.1.13	•	•		
EQ/IC 05 : Resistance to pulses 4			VDS200x	2.1.14	•	•		
EQ/IC 05 : Resistance to pulses 4 bis			VDS200x	2.1.14	•	•		
EQ/IC 12 : Resistance to re-start pulse			VDS200x + AutoWave	2.1.15	•	•		
EQ/IC 13 : Resistance to the "volt control" voltage pulse			VDS200x	2.1.16	•	•		
EQ/IC 06: Resistance to ripple voltages of the on-board network			VDS200x	2.1.17	•	•		
Immunity to low frequency magnetic field		AutoWave + AMP200N	2.3.3					
12V I/O		Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
<b>PSA B21 7110 (Rev. D) (2012-10)</b>		12V Line	EQ/TE 01 : Resistance to usual power supply voltages	VDS200x	7.1.1	•	•	
			EQ/TE 08 : Resistance to the variations of supply voltage	VDS200x	7.1.2	•	•	
			EQ/TE 07 : Resistance to exceptional supply voltage	VDS200x	7.1.3	•	•	
			EQ/TE 02 : Resistance to drop and slow increase	VDS200x	7.1.4	•	•	
			EQ/TE 03 : Reinitialisation test	VDS200x + AutoWave	7.1.5	•	•	
	EQ/TE 04 : Resistance to unusual power supply voltage		VDS200x	7.1.6	•	•		
	EQ/TE 05 : Resistance to grounding		VDS200x	7.1.7	•	•		
	EQ/IC 01 : Resistance to pulses 1		UCS200x, MPG200	7.1.9	•			
	EQ/IC 01 : Resistance to pulses 2a		UCS200x, MPG200	7.1.9	•			
	EQ/IC 10 : Resistance to pulses on outputs - Pulse 1 bis high		UCS200x, MPG200	7.1.10	•			
	EQ/IC 10 : Resistance to pulses on outputs - Pulse 1 bis low		UCS200x, MPG200	7.1.10	•			
	EQ/IC 02 : Resistance to pulses 3a		UCS200x, EFT200	7.1.11	•			
	EQ/IC 02 : Resistance to pulses 3b		UCS200x, EFT200	7.1.11	•			
	EQ/IC 03 : Resistance to pulses 5b		LD200Nx Clip, LD200x + diode	7.1.12	•			
	EQ/IC 04 : Resistance to short interruptions		PFS200x, (PFM200N100.1 (LIC-FAST)	7.1.13	•	•		
	EQ/IC 05 : Resistance to pulses 4		VDS200x	7.1.14	•	•		
	EQ/IC 05 : Resistance to pulses 4 bis		VDS200x	7.1.14	•	•		
	EQ/IC 12 : Resistance to re-start pulse		VDS200x + AutoWave	7.1.15	•	•		
	EQ/IC 13 : Resistance to the "volt control" voltage pulse		VDS200x	7.1.16	•	•		
	EQ/IC 06: Resistance to voltage ripples		VDS200x	7.1.17	•	•		
	EQ/IR 02: Immunity to low frequency magnetic field - DC		AutoWave + AMP200N1.1	7.3.6		•		
	EQ/IR 02: Immunity to low frequency magnetic field		AutoWave + AMP200Nx	7.3.6		•		
	12V I/O		EQ/IC 07 : Immunity to the transients - Pulse 3a	UCS200x, EFT200	7.3.1	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
<b>PSA B21 7110 (Rev. E) (2015-09)</b>	12V Line	EQ/IC 07 : Immunity to the transients - Pulse 3b	UCS200x, EFT200	7.3.1	•			
		EQ/TE 01 : Resistance to usual power supply voltages	VDS200x	7.1.1	•	•		
		EQ/TE 08 : Resistance to the variations of supply voltage	VDS200x	7.1.2	•	•		
		EQ/TE 07 : Resistance to exceptional supply voltage	VDS200x	7.1.3	•	•		
		EQ/TE 02 : Resistance to drop and slow increase	VDS200x	7.1.4	•	•		
		EQ/TE 03 : Reinitialisation test	VDS200x + AutoWave	7.1.5	•	•		
		EQ/TE 04 : Resistance to unusual power supply voltage	VDS200x	7.1.6	•	•		
		EQ/TE 05 : Resistance to grounding	VDS200x	7.1.7	•	•		
		EQ/IC 01 : Resistance to pulses 1	UCS200x, MPG200	7.1.9	•			
		EQ/IC 01 : Resistance to pulses 2a	UCS200x, MPG200	7.1.9	•			
		EQ/IC 10 : Resistance to pulses on outputs - Pulse 1 bis high	UCS200x, MPG200	7.1.10	•			
		EQ/IC 10 : Resistance to pulses on outputs - Pulse 1 bis low	UCS200x, MPG200	7.1.10	•			
		EQ/IC 02 : Resistance to pulses 3a	UCS200x, EFT200	7.1.11	•			
		EQ/IC 02 : Resistance to pulses 3b	UCS200x, EFT200	7.1.11	•			
		EQ/IC 03 : Resistance to pulses 5b	LD200Nx Clip, LD200x + diode	7.1.12	•			
		EQ/IC 04 : Resistance to short interruptions	PFS200x, (PFM200N100.1 (LIC-FAST)	7.1.13	•	•		
		EQ/IC 05 : Resistance to pulses 4	VDS200x	7.1.14	•	•		
		EQ/IC 05 : Resistance to pulses 4 bis	VDS200x	7.1.14	•	•		
		EQ/IC 12 : Resistance to re-start pulse	VDS200x + AutoWave	7.1.15	•	•		
		EQ/IC 13 : Resistance to the "volt control" voltage pulse	VDS200x	7.1.16	•	•		
		EQ/IC 06: Resistance to voltage ripples	VDS200x	7.1.17	•	•		
		EQ/IR 02: Immunity to low frequency magnetic field - DC	AutoWave + AMP200N1.1	7.3.6		•		
		EQ/IR 02: Immunity to low frequency magnetic field	AutoWave + AMP200Nx	7.3.6		•		
	12V I/O	EQ/IC 07 : Immunity to the transients - Pulse 3a	UCS200x, EFT200	7.3.1	•			
		EQ/IC 07 : Immunity to the transients - Pulse 3b	UCS200x, EFT200	7.3.1	•			
	<b>Renault 36.00.808/--C (1999-01)</b>	12V Line	Check	VDS200x	6.1.1	•		
			Pulse 1	UCS200x, MPG200	6.1.2	•		
Pulse 2			UCS200x, MPG200	6.1.2	•			
Pulse 3a			UCS200x, EFT200	6.1.3	•			
Pulse 3b			UCS200x, EFT200	6.1.3	•			
Pulse 5			LD200x	6.1.4	•			
Pulse 5 bis			VDS200N, VDS200B	6.1.4	•			
Micro Drops			PFS200x	6.1.5	•			
Pulse 4 (Car)			VDS200x	6.1.6	•			
Pulse 4 (Mot)			VDS200x	6.1.6	•			
Pulse 4 bis (Car)			VDS200x	6.1.6	•			
Pulse 4 bis (Mot)			VDS200x	6.1.6	•			
12V I/O			Pulse 3a	UCS200x, EFT200	6.2.1	•		
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
<b>Renault 36.00.808/--D (2000-10)</b>		12V Line	Voltage Check	VDS200x	6.1.1	•		
	Decrease		VDS200x	6.1.2	•			
	Increase		VDS200x	6.1.2	•			
	Profile		PFS200x + RDS200	6.1.3	•			
	Stress 1		VDS200x	6.1.4	•			
	Stress 2		VDS200x	6.1.4	•			
	Ground		VDS200x	6.1.5	•			
	Pulse 1		UCS200x, MPG200	6.1.6	•			
	Pulse 1 bis		UCS200x, MPG200	6.1.6	•			
	Pulse 2a		UCS200x, MPG200	6.1.6	•			
	Pulse 3a		UCS200x, EFT200	6.1.7	•			
	Pulse 3b		UCS200x, EFT200	6.1.7	•			
	Pulse 5 bis		VDS200N, VDS200B	6.1.8	•			
	Micro Drops		PFS200x	6.1.9	•			
	Pulse 4 -C		VDS200x	6.1.10	•			
Pulse 4 -M	VDS200x	6.1.10	•					

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 4b -C	VDS200x	6.1.10	•			
		Pulse 4b -M	VDS200x	6.1.10	•			
		Sinus	VDS200x	6.1.11	•			
	42V Line	Voltage Check	VDS200x	6.1.1	•			
		Decrease	VDS200x	6.1.2	•			
		Increase	VDS200x	6.1.2	•			
		Profile	PFS200x + RDS200	6.1.3	•			
		Pulse 1	UCS200x, MPG200	6.1.6	•			
		Pulse 1 bis	UCS200x, MPG200	6.1.6	•			
		Pulse 2a	UCS200x, MPG200	6.1.6	•			
		Pulse 3a	UCS200x, EFT200	6.1.7	•			
		Pulse 3b	UCS200x, EFT200	6.1.7	•			
		Pulse 5b	VDS200N, VDS200B	6.1.8	•			
		Micro Drops	PFS200x	6.1.9	•			
		Pulse 4	VDS200x	6.1.10	•			
		Sinus	VDS200x	6.1.11	•			
	12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
	42V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
<b>Renault 36.00.808/--E (2001-06)</b>	12V Line	Voltage Check Min	VDS200x	6.1.1	•			
		Voltage Check Max	VDS200x	6.1.1	•			
		Decrease	VDS200x	6.1.2	•			
		Increase	VDS200x	6.1.2	•			
		Profile	PFS200x + RDS200	6.1.3	•			
		Overvoltage	VDS200x	6.1.4	•			
		Reverse Volt.	VDS200x	6.1.4	•			
		Ground	VDS200x	6.1.5	•			
		Pulse 1	UCS200x, MPG200	6.1.6	•			
		Pulse 1 bis	UCS200x, MPG200	6.1.6	•			
		Pulse 2a	UCS200x, MPG200	6.1.6	•			
		Pulse 3a	UCS200x, EFT200	6.1.7	•			
		Pulse 3b	UCS200x, EFT200	6.1.7	•			
		Pulse 1 bis	UCS200x, MPG200	6.1.8	•			
		Pulse 2a	UCS200x, MPG200	6.1.8	•			
		Pulse 3a	UCS200x, EFT200	6.1.8	•			
		Pulse 3b	UCS200x, EFT200	6.1.8	•			
		Pulse 5a	LD200x	6.1.9	•			
		Pulse 5b	VDS200N, VDS200B	6.1.9	•			
		Micro Drops	PFS200x	6.1.10	•			
	Start	VDS200x	6.1.11	•				
	Sweep	VDS200x	6.1.12	•				
	12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
	<b>Renault 36.00.808/--F (2002-05)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•		
			EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•		
			EQ/TE 02 : Decrease	VDS200x	6.1.2	•		
EQ/TE 02 : Increa+C3139se			VDS200x	6.1.2	•			
EQ/TE 03 : Re-initialization test			PFS200x + RDS200	6.1.3	•			
EQ/TE 04 : Overvoltage			VDS200x	6.1.4	•			
EQ/TE 04 : Reverse Voltage			VDS200x	6.1.4	•			
EQ/TE 05 : Ground			VDS200x	6.1.5	•			
EQ/IC 01 : Pulse 1			UCS200x, MPG200	6.1.6	•			
EQ/IC 01 : Pulse 1 bis			UCS200x, MPG200	6.1.6	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•				
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 03 : Pulse 5a	UCS200x, EFT200	6.1.8	•				
		EQ/IC 03 : Pulse 5b	UCS200x, EFT200	6.1.8	•				
		EQ/IC 04 : Micro Drops	LD200x	6.1.9	•				
		EQ/IC 05 : Start	VDS200N, VDS200B	6.1.9	•				
		EQ/IC 04 : Micro Drops	PFS200x	6.1.10	•				
		EQ/IC 05 : Start	VDS200x	6.1.11	•				
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•				
		12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•			
EQ/IC 07 : Pulse 3b	UCS200x, EFT200		6.2.1	•					
<b>Renault 36.00.808/--G (2004-02)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•			
		EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•			
		EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•			
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•			
		EQ/TE 03 : Re-initialization test	PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•			
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•			
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4	•	•			
		EQ/TE 05 : Ground	VDS200x	6.1.5	•				
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6	•				
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6	•				
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•				
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 03 : Pulse 5a	LD200x	6.1.9	•				
		EQ/IC 03 : Pulse 5b	VDS200N, VDS200B	6.1.9	•	•			
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•			
		EQ/IC 05 : Start	VDS200x	6.1.11	•	•			
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•			
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•			
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3	6.3.2		•	•		
		12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•			
			EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•			
		<b>Renault 36.00.808/--H (2007-06)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
				EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•	
				EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•	
EQ/TE 02 : Increa+C3139se	VDS200x			6.1.2	•	•			
EQ/TE 03 : Re-initialization test	PFS200x + RDS200, VDS200x + AutoWave			6.1.3	•	•			
EQ/TE 04 : Overvoltage	VDS200x			6.1.4	•	•			
EQ/TE 04 : Reverse Voltage	VDS200x			6.1.4	•	•			
EQ/TE 05 : Ground	VDS200x			6.1.5	•	•			
EQ/IC 01 : Pulse 1	UCS200x, MPG200			6.1.6	•				
EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200			6.1.6	•				
EQ/IC 01 : Pulse 2a	UCS200x, MPG200			6.1.6	•				
EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B			6.1.7	•				
EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B			6.1.7	•				
EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200			6.1.8	•				
EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200			6.1.8	•				
EQ/IC 03 : Pulse 5a	LD200x			6.1.9	•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		EQ/IC 03 : Pulse 5b	LD200x	6.1.9	•			
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•		
		EQ/IC 05 : Start	VDS200x	6.1.11	•	•		
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•		
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•		
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3	6.3.2		•	•	
	12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•			
		EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•			
	<b>Renault 36.00.808/--J (2008-04)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
			EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•	
EQ/TE 02 : Decrease			VDS200x	6.1.2	•	•		
EQ/TE 02 : Increa+C3139se			VDS200x	6.1.2	•	•		
EQ/TE 03 : Re-initialization test			PFS200x + RDS200, VDS200x + AutoWave	6.1.3	•	•		
EQ/TE 04 : Overvoltage			VDS200x	6.1.4	•	•		
EQ/TE 04 : Reverse Voltage			VDS200x	6.1.4	•	•		
EQ/TE 05 : Ground			VDS200x	6.1.5	•	•		
EQ/IC 01 : Pulse 1			UCS200x, MPG200	6.1.6	•			
EQ/IC 01 : Pulse 1 bis			UCS200x, MPG200	6.1.6	•			
EQ/IC 01 : Pulse 2a			UCS200x, MPG200	6.1.6	•			
EQ/IC 02 : Pulse 3a Train			UCS200x, EFT200B	6.1.7	•			
EQ/IC 02 : Pulse 3b Train			UCS200x, EFT200B	6.1.7	•			
EQ/IC 10 : Pulse 1 bis neg.			UCS200x, MPG200	6.1.8	•			
EQ/IC 10 : Pulse 1 bis pos.			UCS200x, MPG200	6.1.8	•			
EQ/IC 03 : Pulse 5a			LD200x	6.1.9	•			
EQ/IC 03 : Pulse 5b			LD200x	6.1.9	•			
EQ/IC 04 : Micro Drops			PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•		
EQ/IC 05 : Start			VDS200x	6.1.11	•	•		
EQ/IC 06 : Sweep 50kHz			VDS200x	6.1.12	•	•		
EQ/IC 06 : Sweep 20kHz		VDS200x	6.1.12	•	•			
EQ/IR 02 : Immunity to audio frequency magnetic field		AutoWave + AMP200N1, CWS500N3	6.3.2		•	•		
12V I/O		EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•			
		EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•			
<b>Renault 36.00.808/--K (2009-03)</b>		12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
			EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•	
			EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•	
			EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•	
			EQ/TE 03 : Re-initialization test	VDS200x + AutoWave	6.1.3	•	•	
			EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•	
	EQ/TE 04 : Reverse Voltage		VDS200x	6.1.4	•	•		
	EQ/TE 05 : Ground		VDS200x	6.1.5	•	•		
	EQ/IC 01 : Pulse 1		UCS200x, MPG200	6.1.6	•			
	EQ/IC 01 : Pulse 1 bis		UCS200x, MPG200	6.1.6	•			
	EQ/IC 01 : Pulse 2a		UCS200x, MPG200	6.1.6	•			
	EQ/IC 02 : Pulse 3a Train		UCS200x, EFT200B	6.1.7	•			
	EQ/IC 02 : Pulse 3b Train		UCS200x, EFT200B	6.1.7	•			
	EQ/IC 10 : Pulse 1 bis neg.		UCS200x, MPG200	6.1.8	•			
	EQ/IC 10 : Pulse 1 bis pos.		UCS200x, MPG200	6.1.8	•			
	EQ/IC 03 : Pulse 5b		LD200x	6.1.9	•			
	EQ/IC 04 : Micro Drops		LD200x	6.1.9	•			
	EQ/IC 05 : Start No.1 (S&S)		PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•		
	EQ/IC 05 : Start No.1*		VDS200x + AutoWave	6.1.11	•	•		
	EQ/IC 05 : Start No.2		VDS200x	6.1.11	•	•		
	EQ/IC 05 : Start No.3	VDS200x	6.1.11	•	•			
	EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•			



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•			
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3	6.3.2		•	•		
	12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•				
		EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•				
<b>Renault 36.00.808/--L (2010-12)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•			
		EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•			
		EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•			
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•			
		EQ/TE 03 : Re-initialization test	VDS200x + AutoWave	6.1.3	•	•			
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•			
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4	•	•			
		EQ/TE 05 : Ground	VDS200x	6.1.5	•	•			
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6	•				
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6	•				
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•				
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•				
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•				
		EQ/IC 03 : Pulse 5b	LD200x	6.1.9	•				
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•			
		EQ/IC 05 : Start No.1 (S&S)	VDS200x + AutoWave	6.1.11	•				
		EQ/IC 05 : Start No.1*	VDS200x	6.1.11	•	•			
		EQ/IC 05 : Start No.2	VDS200x	6.1.11	•	•			
		EQ/IC 05 : Start No.3	VDS200x	6.1.11	•	•			
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•			
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•			
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1, CWS500N3	6.3.2		•	•		
			12V I/O	EQ/IC 07 : Pulse 3a	UCS200x, EFT200	6.2.1	•		
				EQ/IC 07 : Pulse 3b	UCS200x, EFT200	6.2.1	•		
		<b>Renault 36.00.808/--M (2012-07)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•	
				EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•	
				EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•	
				EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•	
				EQ/TE 03 : Re-initialization test	VDS200x + AutoWave	6.1.3	•	•	
				EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•	
EQ/TE 04 : Reverse Voltage	VDS200x			6.1.4	•	•			
EQ/TE 05 : Ground	VDS200x			6.1.5	•	•			
EQ/IC 01 : Pulse 1	UCS200x, MPG200			6.1.6	•				
EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200			6.1.6	•				
EQ/IC 01 : Pulse 2a	UCS200x, MPG200			6.1.6	•				
EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B			6.1.7	•				
EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B			6.1.7	•				
EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200			6.1.8	•				
EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200			6.1.8	•				
EQ/IC 03 : Pulse 5b	LD200x			6.1.9	•				
EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))			6.1.10	•	•			
EQ/IC 05 : Start No.1 (S&S)	VDS200x + AutoWave			6.1.11	•				
EQ/IC 05 : Start No.1*	VDS200x			6.1.11	•	•			
EQ/IC 05 : Start No.2	VDS200x			6.1.11	•	•			
EQ/IC 05 : Start No.3	VDS200x			6.1.11	•	•			
EQ/IC 06 : Sweep 50kHz	VDS200x			6.1.12	•	•			
EQ/IC 06 : Sweep 20kHz	VDS200x			6.1.12	•	•			
EQ/IR 02 : Immunity to audio frequency magnetic field - DC	AutoWave + AMP200N1.1			6.3.2		•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
	12V I/O	EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1	6.3.2		•		
		Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
<b>Renault 36.00.808/--N (2016-03)</b>	12V Line	EQ/TE 01 : Voltage Check Min	VDS200x	6.1.1	•	•		
		EQ/TE 01 : Voltage Check Max	VDS200x	6.1.1	•	•		
		EQ/TE 02 : Decrease	VDS200x	6.1.2	•	•		
		EQ/TE 02 : Increa+C3139se	VDS200x	6.1.2	•	•		
		EQ/TE 03 : Re-initialization test	VDS200x + AutoWave	6.1.3	•	•		
		EQ/TE 04 : Overvoltage	VDS200x	6.1.4	•	•		
		EQ/TE 04 : Reverse Voltage	VDS200x	6.1.4	•	•		
		EQ/TE 05 : Ground	VDS200x	6.1.5	•	•		
		EQ/IC 01 : Pulse 1	UCS200x, MPG200	6.1.6	•			
		EQ/IC 01 : Pulse 1 bis	UCS200x, MPG200	6.1.6	•			
		EQ/IC 01 : Pulse 2a	UCS200x, MPG200	6.1.6	•			
		EQ/IC 01 : Pulse 2b	VDS200x	6.1.6	•	•		
		EQ/IC 02 : Pulse 3a Train	UCS200x, EFT200B	6.1.7	•			
		EQ/IC 02 : Pulse 3b Train	UCS200x, EFT200B	6.1.7	•			
		EQ/IC 10 : Pulse 1 bis neg.	UCS200x, MPG200	6.1.8	•			
		EQ/IC 10 : Pulse 1 bis pos.	UCS200x, MPG200	6.1.8	•			
		EQ/IC 03 : Pulse 5b	LD200x	6.1.9	•			
		EQ/IC 03 : Pulse 5c	LD200x	6.1.9	•			
		EQ/IC 04 : Micro Drops	PFS200x, (PFM200N100.1 (LIC-FAST))	6.1.10	•	•		
		EQ/IC 05 : Start No.1 (S&S)	VDS200x + AutoWave	6.1.11	•			
		EQ/IC 05 : Start No.1*	VDS200x	6.1.11	•	•		
		EQ/IC 05 : Start No.2	VDS200x	6.1.11	•	•		
		EQ/IC 05 : Start No.3	VDS200x	6.1.11	•	•		
		EQ/IC 06 : Sweep 50kHz	VDS200x	6.1.12	•	•		
		EQ/IC 06 : Sweep 20kHz	VDS200x	6.1.12	•	•		
		EQ/IR 02 : Immunity to audio frequency magnetic field - DC	AutoWave + AMP200N1.1	6.3.2			•	
		EQ/IR 02 : Immunity to audio frequency magnetic field	AutoWave + AMP200N1	6.3.2			•	
		5V	EQ/IC 04 : Micro Drops	PFS200x, PFM200N100.1	6.1.10	•	•	
	12V I/O	Pulse 3a	UCS200x, EFT200	6.2.1	•			
		Pulse 3b	UCS200x, EFT200	6.2.1	•			
<b>Renault 36.00.400/B (1993-03)</b>	24V Line	Pulse 1	MPG200 S5	3.4.2.1.1	•			
		Pulse 2	UCS200x, MPG200	3.4.2.1.2	•			
		Pulse 3a	UCS200x, EFT200	3.4.2.1.3	•			
		Pulse 3b	UCS200x, EFT200	3.4.2.1.3	•			
		Pulse 4	VDS200x + AutoWave	3.4.2.1.4	•			
		Pulse 5b	LD200x	3.4.2.1.5	•			
		Pulse 5c	LD200x	3.4.2.1.5	•			
		Power Supply 1	VDS200x + AutoWave	3.4.2.3.1	•			
		Power Supply 2	VDS200x + AutoWave	3.4.2.3.1	•			
	24V I/O	Pulse 1	UCS200x, MPG200	3.4.2.2	•			
		Pulse 2	UCS200x, MPG200	3.4.2.2	•			
		Pulse 3a	UCS200x, EFT200	3.4.2.2	•			
		Pulse 3b	UCS200x, EFT200	3.4.2.2	•			
<b>Renault 36.00.400/C (1998-01)</b>	24V Line	Pulse 1	UCS200x, MPG200	3.4.2.1.1	•			
		Pulse 2	UCS200x, MPG200	3.4.2.1.2	•			
		Pulse 3a	UCS200x, EFT200	3.4.2.1.3	•			
		Pulse 3b	UCS200x, EFT200	3.4.2.1.3	•			
		Pulse 4	VDS200x + AutoWave	3.4.2.1.4	•	•		
		Pulse 5b	LD200x	3.4.2.1.5	•			
		Power Supply 1	VDS200x + AutoWave	3.4.2.3.1	•	•		
		Power Supply 2	VDS200x + AutoWave	3.4.2.3.1	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
	24V I/O	Pulse 1	UCS200x, MPG200	3.4.2.2	•		
		Pulse 2	UCS200x, MPG200	3.4.2.2	•		
		Pulse 3a	UCS200x, EFT200	3.4.2.2	•		
		Pulse 3b	UCS200x, EFT200	3.4.2.2	•		
SAE 1113 - 2 (1996-09)	J	Conducted Immunity (Closed Loop)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Conducted Immunity (Verify Source Impedance - Closed Loop)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Conducted Immunity (Substitution)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
SAE 1113 - 2 (2004-07)	J	Conducted Immunity (Closed Loop)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Conducted Immunity (Verify Source Impedance - Closed Loop)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Conducted Immunity (Substitution)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
SAE J 1113 - 11 (1996-06)	12V Line	Pulse 1a	UCS200x, MPG200		•		
		Pulse 1b	UCS200x, MPG200 S15		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•		
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•		
	24V Line	Pulse 5	VDS200N, VDS200B S3		•		
		Pulse 1c	UCS200x, MPG200 S15		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•		
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•		
SAE J 1113 - 11 (Rev.2, 2000-03)	12V Line	Pulse 1a	UCS200x, MPG200		•		
		Pulse 1b	UCS200x, MPG200 S15		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•	•	
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
		Pulse 4	VDS200x		•	•	
	24V Line	Pulse 5a	LD200x		•		
		Pulse 5b	LD200Nx Clip, LD200x + diode		•		
		Pulse 1c	UCS200x, MPG200		•		
		Pulse 2a	UCS200x, MPG200		•		
		Pulse 2b	VDS200x		•	•	
		Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
SAE J 1113 - 11 (Rev.4, 2006-01)	12V Line	Pulse 4	VDS200x		•	•	
		Pulse 5a	LD200x		•		
		Pulse 5b	LD200Nx Clip, LD200x + diode		•		
		Pulse 1a	UCS200x, MPG200		•		
		Pulse 1b	UCS200x, MPG200 S15		•		
		Pulse 2a	UCS200x, MPG200		•		
	24V Line	Pulse 2b	VDS200x		•	•	
Pulse 3a	UCS200x, EFT200		•				
Pulse 3b	UCS200x, EFT200		•				
Pulse 1c	UCS200x, MPG200		•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		Pulse 2a	UCS200x, MPG200		•				
		Pulse 2b	VDS200x		•	•			
		Pulse 3a	UCS200x, EFT200		•				
		Pulse 3b	UCS200x, EFT200		•				
	SAE J 1113 - 11 (Rev.5, 2007-06)	12V Line	Pulse 1a	UCS200x, MPG200		•			
			Pulse 1b	UCS200x, MPG200 S15		•			
			Pulse 2a	UCS200x, MPG200		•			
			Pulse 2b	VDS200x		•			
			Pulse 3a	UCS200x, EFT200		•			
			Pulse 3b	UCS200x, EFT200		•			
Pulse 4			VDS200x		•				
Pulse 5a			LD200x		•				
Pulse 5b			LD200Nx Clip, LD200x + diode		•				
24V Line			Pulse 1c	UCS200x, MPG200		•			
		Pulse 2a	UCS200x, MPG200		•				
		Pulse 2b	VDS200x		•				
		Pulse 3a	UCS200x, EFT200		•				
		Pulse 3b	UCS200x, EFT200		•				
	Pulse 4	VDS200x		•					
	Pulse 5a	LD200x		•					
	Pulse 5c	LD200Nx Clip, LD200x + diode		•					
SAE J 1113 - 11 (Rev.6, 2012-01)	12V Line	Pulse 1a	UCS200x, MPG200		•				
		Pulse 1b	UCS200x, MPG200 S15		•				
		Pulse 2a	UCS200x, MPG200		•				
		Pulse 2b	VDS200x		•				
		Pulse 3a	UCS200x, EFT200		•				
		Pulse 3b	UCS200x, EFT200		•				
		Pulse 4	VDS200x		•				
		Pulse 5a	LD200x		•				
		Pulse 5b	LD200Nx Clip, LD200x + diode		•				
		Pulse 5c	LD200Nx, LD200 S2		•				
	24V Line	Pulse 1c	UCS200x, MPG200		•				
		Pulse 2a	UCS200x, MPG200		•				
		Pulse 2b	VDS200x		•				
		Pulse 3a	UCS200x, EFT200		•				
		Pulse 3b	UCS200x, EFT200		•				
		Pulse 4	VDS200x		•				
		Pulse 5a	LD200x		•				
		Pulse 5b	LD200Nx Clip, LD200x + diode		•				
SAE J 1113 - 12 (1994-12)	12V I/O	Pulse 3a	UCS200x, EFT200		•				
		Pulse 3b	UCS200x, EFT200		•				
	24V I/O	Pulse 3a	UCS200x, EFT200		•				
		Pulse 3b	UCS200x, EFT200		•				
		SAE J 1113 - 12 (2006-08)	12V I/O	CCC Pulse a	UCS200x, EFT200		•		
				CCC Pulse b	UCS200x, EFT200		•		
DCC Pulse a	UCS200x, EFT200				•				
DCC Pulse b	UCS200x, EFT200				•				
DCC Pulse c	UCS200x, MPG200				•				
DCC Pulse d	UCS200x, MPG200				•				
ICC Pulse c	UCS200x, MPG200				•				
ICC Pulse d	UCS200x, MPG200				•				
24V I/O	CCC Pulse a	UCS200x, EFT200		•					

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		CCC Pulse b	UCS200x, EFT200		•		
		DCC Pulse a	UCS200x, EFT200		•		
		DCC Pulse b	UCS200x, EFT200		•		
SAE J 1113 - 12 (1994-12)	12V I/O	Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
	24V I/O	Pulse 3a	UCS200x, EFT200		•		
		Pulse 3b	UCS200x, EFT200		•		
SAE J 1113 - 22 (2003-11)		Immunity to radiated magnetic fields (Radating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
SAE J 2139 (2005-09)	12V Line	Minimum Voltage	VDS200x	4.8.2.2	•		
		Jumper Starts	VDS200x	4.8.2.2	•		
		Reverse Polarity	VDS200x	4.8.2.2	•		
		Load Dump	LD200Nx, LD200 S2	4.9.1	•		
	24V Line	Minimum Voltage	VDS200x	4.8.2.3	•		
		Jumper Starts	VDS200x	4.8.2.3	•		
		Reverse Polarity	VDS200x	4.8.2.3	•		
		Load Dump	LD200Nx, LD200 S2	4.9.1	•		
	12V I/O	Ind. neg	UCS200x, MPG200 S15	4.9.1	•		
		Ind. pos	UCS200x, MPG200 S15	4.9.1	•		
		Mut. neg.	UCS200x, MPG200 S15	4.9.1	•		
		Mut. pos.	UCS200x, MPG200 S15	4.9.1	•		
	24V I/O	Ind. neg	UCS200x, MPG200 S15	4.9.1	•		
		Ind. pos	UCS200x, MPG200 S15	4.9.1	•		
		Mut. neg.	UCS200x, MPG200 S15	4.9.1	•		
		Mut. pos.	UCS200x, MPG200 S15	4.9.1	•		
SAE J 2628 (2007-07)		Test A (Voltage Dropout A)	PFS200x, VDS200x + AutoWave		•	•	
		Test B (Voltage Dropout B)	PFS200x, VDS200x + AutoWave		•	•	
		Test C (Voltage Dropout C)	PFS200x, VDS200x + AutoWave		•	•	
		Test D (Voltage Dip D)	PFS200x + RDS200, VDS200x + AutoWave		•	•	
SAE J 1455 (1994-07)	12V Line	Load Dump	LD200Nx, LD200 S2	4.9.1	•		
	24V Line	Load Dump	LD200Nx, LD200 S2	4.9.1	•		
	12V I/O	Ind. neg	UCS200x, MPG200 S15	4.9.1	•		
		Ind. pos	UCS200x, MPG200 S15	4.9.1	•		
		Mut. neg.	UCS200x, MPG200 S15	4.9.1	•		
		Mut. pos.	UCS200x, MPG200 S15	4.9.1	•		
	24V I/O	Ind. neg	UCS200x, MPG200 S15	4.9.1	•		
		Ind. pos	UCS200x, MPG200 S15	4.9.1	•		
		Mut. neg.	UCS200x, MPG200 S15	4.9.1	•		
		Mut. pos.	UCS200x, MPG200 S15	4.9.1	•		
SAE J 1455 (2006-06)	12V Line	Pulse 5	LD200Nx, LD200 S2	4.13.2.2.1	•		
		Pulse 1a	UCS200x, MPG200	4.13.2.2.1	•		
		Pulse 1b	UCS200x, MPG200 S15	4.13.2.2.1	•		
		Pulse 2a	UCS200x, MPG200	4.13.2.2.1	•		
		Pulse 2b	VDS200x	4.13.2.2.1	•		
		Pulse 3a	UCS200x, EFT200	4.13.2.2.1	•		
		Pulse 3b	UCS200x, EFT200	4.13.2.2.1	•		
		Pulse 4	VDS200x	4.13.2.2.1	•		
	24V Line	Pulse 5	LD200Nx, LD200 S2	4.13.2.2.1	•		
		Pulse 1c	UCS200x, MPG200	4.13.2.2.1	•		
		Pulse 2a	UCS200x, MPG200	4.13.2.2.1	•		
		Pulse 2b	VDS200x	4.13.2.2.1	•		
		Pulse 3a	UCS200x, EFT200	4.13.2.2.1	•		
		Pulse 3b	UCS200x, EFT200	4.13.2.2.1	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
	12V I/O	Pulse 4	VDS200x	4.13.2.2.1	•		
		CCC Pulse a	UCS200x, EFT200	4.13.2.2.1	•		
		CCC Pulse b	UCS200x, EFT200	4.13.2.2.1	•		
		DCC Pulse a	UCS200x, EFT200	4.13.2.2.1	•		
		DCC Pulse b	UCS200x, EFT200	4.13.2.2.1	•		
	24V I/O	CCC Pulse a	UCS200x, EFT200	4.13.2.2.1	•		
		CCC Pulse b	UCS200x, EFT200	4.13.2.2.1	•		
		DCC Pulse a	UCS200x, EFT200	4.13.2.2.1	•		
		DCC Pulse b	UCS200x, EFT200	4.13.2.2.1	•		
SAE J 1455 (2012-08)	12V Line	Pulse 5c	LD200Nx, LD200 S2	4.13.2.2.1	•		
		Pulse 1a	UCS200x, MPG200	4.13.2.2.1	•		
		Pulse 1b	UCS200x, MPG200 S15	4.13.2.2.1	•		
		Pulse 2a	UCS200x, MPG200	4.13.2.2.1	•		
		Pulse 2b	VDS200x	4.13.2.2.1	•		
		Pulse 3a	UCS200x, EFT200	4.13.2.2.1	•		
		Pulse 3b	UCS200x, EFT200	4.13.2.2.1	•		
		Pulse 4	VDS200x	4.13.2.2.1	•		
	24V Line	Pulse 5c	LD200Nx, LD200 S2	4.13.2.2.1	•		
		Pulse 1c	UCS200x, MPG200	4.13.2.2.1	•		
		Pulse 2a	UCS200x, MPG200	4.13.2.2.1	•		
		Pulse 2b	VDS200x	4.13.2.2.1	•		
		Pulse 3a	UCS200x, EFT200	4.13.2.2.1	•		
		Pulse 3b	UCS200x, EFT200	4.13.2.2.1	•		
		Pulse 4	VDS200x	4.13.2.2.1	•		
	12V I/O	CCC Pulse a	UCS200x, EFT200	4.13.2.2.1	•		
		CCC Pulse b	UCS200x, EFT200	4.13.2.2.1	•		
		DCC Pulse a	UCS200x, EFT200	4.13.2.2.1	•		
		DCC Pulse b	UCS200x, EFT200	4.13.2.2.1	•		
	24V I/O	CCC Pulse a	UCS200x, EFT200	4.13.2.2.1	•		
		CCC Pulse b	UCS200x, EFT200	4.13.2.2.1	•		
		DCC Pulse a	UCS200x, EFT200	4.13.2.2.1	•		
		DCC Pulse b	UCS200x, EFT200	4.13.2.2.1	•		
Scania TB1400 (1995-01)	24V Line	Pulse 1a	UCS200x, MPG200	1.3	•		
		Pulse 3a	UCS200x, EFT200	1.3	•		
		Pulse 3b	UCS200x, EFT200	1.3	•		
		Pulse 4	VDS200x	1.3	•		
		Pulse 5	LD200x	1.3	•		
		Pulse 5b	LD200Nx Clip, LD200x + diode	1.3	•		
Scania TB1700 (2000-01)	24V Line	Pulse 1a	UCS200x, MPG200	1.3	•		
		Pulse 3a	UCS200x, EFT200	1.3	•		
		Pulse 3b	UCS200x, EFT200	1.3	•		
		Pulse 4	VDS200x	1.3	•	•	
		Pulse 5b	LD200Nx Clip, LD200x + diode	1.3	•		
Scania TB1901 (2007-04)	24V Line	Over voltage	VDS200x	6.1.4	•	•	
		Reversed operating voltage	VDS200x	6.1.5	•	•	
		Superimposed voltage ripple	VDS200x	6.1.10	•	•	
		Slow decrease and increase of operating voltage	VDS200x	6.1.11	•	•	
		Supply voltage drops	VDS200x	6.1.12	•	•	
		Supply voltage interruption	PFS200x, AutoWave + PFM200Nx	6.1.13	•	•	
		Transient protection, test pulse 1	UCS200x, MPG200	6.1.14	•		
		Transient protection, test pulse 2a	UCS200N, UCS200M, MPG200	6.1.15	•		
		Transient protection, test pulse 2b	VDS200x	6.1.16	•	•	
		Transient protection, test pulse 3a	UCS200x, EFT200	6.1.17	•		
Transient protection, test pulse 3b	UCS200x, EFT200	6.1.18	•				

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
Smart DE1005B (2001-05)		Transient protection, test pulse 4	VDS200x + AutoWave	6.1.19	•	•		
		Transient protection, test pulse 5b	LD200Nx Clip	6.1.20	•			
	12V Line	Pulse 1	UCS200x, MPG200	1.1.3	•			
		Pulse 2	UCS200x, MPG200	1.1.3	•			
		Pulse 3a	UCS200x, EFT200	1.1.3	•			
		Pulse 3b	UCS200x, EFT200	1.1.3	•			
		Pulse 4	VDS200x	1.1.3	•	•		
		Load Dump	LD200Nx Clip, LD200x + diode	1.1.3	•			
		Wobble	VDS200x	1.1.3	•	•		
	12V I/O	Pulse 1	UCS200x, MPG200	1.1.3	•			
		Pulse 2	UCS200x, MPG200	1.1.3	•			
		Pulse 3a	UCS200x, EFT200	1.1.3	•			
		Pulse 3b	UCS200x, EFT200	1.1.3	•			
	SsangYong SES E 053-12 Revision 4 (2013-08)	12V Line	8.1.1 Alternator Output Overvoltage Test	VDS200x + AutoWave	8.1.1		•	
8.1.2 Jump Start Overvoltage			VDS200x + AutoWave	8.1.2		•		
8.2 Superimposed Alternating Voltage Test			VDS200x + AutoWave	8.2		•		
8.2 Superimposed Alternating Voltage Test			VDS200x + AutoWave	8.2		•		
8.4 Reversed Voltage Test			VDS200x + AutoWave	8.4		•		
SsangYong SES E 922 (2006-05)	12V Line	Test Pulse 1	UCS200x, MPG200	7.2.8	•			
		Test Pulse 2a	UCS200x, MPG200	7.2.8	•			
		Test Pulse 2b	VDS200x	7.2.8	•	•		
		Test Pulse 3a	UCS200x, EFT200	7.2.8	•			
		Test Pulse 3b	UCS200x, EFT200	7.2.8	•			
		Test Pulse 4	VDS200x	7.2.8	•	•		
		Test Pulse 5a	LD200x	7.2.8	•			
		Test Pulse 5b	LD200Nx Clip, LD200x + diode	7.2.8	•			
		Power Supply Voltage Fluctuation Test	VDS200x + AutoWave	7.2.9	•	•		
		24V Line	Test Pulse 1	UCS200x, MPG200	3.2.1	•		
	Test Pulse 2a		UCS200x, MPG200	7.2.8	•			
	Test Pulse 2b		VDS200x	7.2.8	•	•		
	Test Pulse 3a		UCS200x, EFT200	7.2.8	•			
	Test Pulse 3b		UCS200x, EFT200	7.2.8	•			
	Test Pulse 4		VDS200x	7.2.8	•	•		
	Test Pulse 5a		LD200x	7.2.8	•			
	Test Pulse 5b		LD200Nx Clip, LD200x + diode	7.2.8	•			
	Power Supply Voltage Fluctuation Test	VDS200x + AutoWave	7.2.9	•	•			
	12V I/O	Pulse 3a	UCS200x, EFT200	7.3.2	•			
		Pulse 3b	UCS200x, EFT200	7.3.2	•			
	24V I/O	Pulse 3a	UCS200x, EFT200	7.3.2	•			
		Pulse 3b	UCS200x, EFT200	7.3.2	•			
	SsangYong SES E 922 (2008-05)	12V Line	Test Pulse 1	UCS200x, MPG200	7.2.8	•		
			Test Pulse 2a	UCS200x, MPG200	7.2.8	•		
			Test Pulse 2b	VDS200x	7.2.8	•	•	
			Test Pulse 3a	UCS200x, EFT200	7.2.8	•		
			Test Pulse 3b	UCS200x, EFT200	7.2.8	•		
			Test Pulse 4	VDS200x	7.2.8	•	•	
			Test Pulse 5a	LD200x	7.2.8	•		
Test Pulse 5b			LD200Nx Clip, LD200x + diode	7.2.8	•			
Power Supply Voltage Fluctuation Test			VDS200x + AutoWave	7.2.9	•	•		
24V Line			Test Pulse 1	UCS200x, MPG200	3.2.1	•		
		Test Pulse 2a	UCS200x, MPG200	7.2.8	•			
		Test Pulse 2b	VDS200x	7.2.8	•	•		
		Test Pulse 3a	UCS200x, EFT200	7.2.8	•			
		Test Pulse 3b	UCS200x, EFT200	7.2.8	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Test Pulse 4	VDS200x	7.2.8	•	•		
		Test Pulse 5a	LD200x	7.2.8	•			
		Test Pulse 5b	LD200Nx Clip, LD200x + diode	7.2.8	•			
		Power Supply Voltage Fluctuation Test	VDS200x + AutoWave	7.2.9	•	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	7.3.2	•			
		Pulse 3b	UCS200x, EFT200	7.3.2	•			
	24V I/O	Pulse 3a	UCS200x, EFT200	7.3.2	•			
		Pulse 3b	UCS200x, EFT200	7.3.2	•			
	<b>SsangYong SES E 922 (2013-05)</b>	12V Line	Test Pulse 1	UCS200x, MPG200	7.2.8	•		
			Test Pulse 2a	UCS200x, MPG200	7.2.8	•		
Test Pulse 2b			VDS200x	7.2.8	•	•		
Test Pulse 3a			UCS200x, EFT200	7.2.8	•			
Test Pulse 3b			UCS200x, EFT200	7.2.8	•			
Test Pulse 4			VDS200x	7.2.8	•	•		
Test Pulse 5a			LD200x	7.2.8	•			
Test Pulse 5b			LD200Nx Clip, LD200x + diode	7.2.8	•			
Power Supply Voltage Fluctuation Test			VDS200x + AutoWave	7.2.9	•	•		
24V Line			Test Pulse 1	UCS200x, MPG200	3.2.1	•		
		Test Pulse 2a	UCS200x, MPG200	7.2.8	•			
		Test Pulse 2b	VDS200x	7.2.8	•	•		
		Test Pulse 3a	UCS200x, EFT200	7.2.8	•			
		Test Pulse 3b	UCS200x, EFT200	7.2.8	•			
		Test Pulse 4	VDS200x	7.2.8	•	•		
		Test Pulse 5a	LD200x	7.2.8	•			
		Test Pulse 5b	LD200Nx Clip, LD200x + diode	7.2.8	•			
		Power Supply Voltage Fluctuation Test	VDS200x + AutoWave	7.2.9	•	•		
		12V I/O	Pulse 3a	UCS200x, EFT200	7.3.2	•		
Pulse 3b			UCS200x, EFT200	7.3.2	•			
24V I/O		Pulse 3a	UCS200x, EFT200	7.3.2	•			
		Pulse 3b	UCS200x, EFT200	7.3.2	•			
			Magnetic Fields	AutoWave + AMP200Nx, CWS500N3	6.4		•	•
<b>Tata Motors TST/TS/WI/257 (2008-07)</b>		12V Line	Pulse 1	UCS200x, MPG200	3.2.1	•		
			Pulse 2	UCS200x, MPG200	3.2.2	•		
			Pulse 3a	UCS200x, EFT200	3.2.3	•		
			Pulse 3b	UCS200x, EFT200	3.2.4	•		
			Pulse 4	VDS200x	3.2.5	•	•	
	Pulse 4b		VDS200x	3.2.6	•	•		
	Pulse 5a		LD200x	3.2.7	•			
	Immunity to supply voltage ripple		AutoWave + AMP200Nx + CN200N1, CWS500N3	3.2.9		•	•	
	Immunity to supply voltage ripple (Verify Source Impedance)		AutoWave + AMP200Nx + CN200N1, CWS500N3	3.2.9		•	•	
	Voltage Range Min		VDS200x	3.2.10	•	•		
	Voltage Range Max		VDS200x	3.2.10	•	•		
	Immunity Interruption		VDS200x + AutoWave	3.2.11	•	•		
	Reset Behaviour		VDS200x	3.2.12	•	•		
	Immunity Fluctuation		VDS200x	3.2.13	•	•		
	Overvoltage Fail		VDS200x	3.2.14	•	•		
	Overvoltage Jumpstart		VDS200x	3.2.14	•	•		
	Reverse Polarity		VDS200x	3.2.15	•	•		
	Slow Decrease		VDS200x	3.2.18	•	•		
	Slow Increase		VDS200x	3.2.18	•	•		
	Micro Interruptions		PFS200x, (PFM200N100.1 (LIC-FAST))	3.2.22	•	•		
	Immunity to Radiated Magnetic Fields with AMP200N		AutoWave + AMP200Nx	3.4.3		•		



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
	24V Line	Pulse 1	UCS200x, MPG200	3.2.1	•			
		Pulse 2	UCS200x, MPG200	3.2.2	•			
		Pulse 3a	UCS200x, EFT200	3.2.3	•			
		Pulse 3b	UCS200x, EFT200	3.2.4	•			
		Pulse 4	VDS200x	3.2.5	•	•		
		Pulse 4b	VDS200x	3.2.6	•	•		
		Pulse 5a	LD200x	3.2.7	•			
		Immunity to supply voltage ripple	AutoWave + AMP200Nx + CN200N1, CWS500N3	3.2.9			•	•
		Immunity to supply voltage ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1, CWS500N3	3.2.9			•	•
		Voltage Range Min	VDS200x	3.2.10	•	•		
		Voltage Range Max	VDS200x	3.2.10	•	•		
		Immunity Interruption	VDS200x + AutoWave	3.2.11	•	•		
		Reset Behaviour	VDS200x	3.2.12	•	•		
		Immunity Fluctuation	VDS200x	3.2.13	•	•		
		Overvoltage Fail	VDS200x	3.2.14	•	•		
		Overvoltage Jumpstart	VDS200x	3.2.14	•	•		
		Reverse Polarity	VDS200x	3.2.15	•	•		
		Slow Decrease	VDS200x	3.2.18	•	•		
		Slow Increase	VDS200x	3.2.18	•	•		
		Micro Interruptions	PFS200x, (PFM200N100.1 (LIC-FAST))	3.2.22	•	•		
	Immunity to Radiated Magnetic Fields with AMP200N	AutoWave + AMP200Nx	3.4.3			•		
	12V I/O	CCC Fast a	UCS200x, EFT200	3.2.8	•			
		CCC Fast b	UCS200x, EFT200	3.2.8	•			
		DCC Fast a	UCS200x, EFT200	3.2.8	•			
		DCC Fast b	UCS200x, EFT200	3.2.8	•			
		DCC Slow neg.	UCS200x, MPG200	3.2.8	•			
		DCC Slow pos.	UCS200x, MPG200	3.2.8	•			
		ICC Slow neg.		3.2.8				
		ICC Slow pos.	UCS200x, MPG200	3.2.8	•			
	24V I/O	CCC Fast a	UCS200x, EFT200	3.2.8	•			
		CCC Fast b	UCS200x, EFT200	3.2.8	•			
		DCC Fast a	UCS200x, EFT200	3.2.8	•			
		DCC Fast b	UCS200x, EFT200	3.2.8	•			
DCC Slow neg.		UCS200x, MPG200	3.2.8	•				
DCC Slow pos.		UCS200x, MPG200	3.2.8	•				
ICC Slow neg.			3.2.8					
ICC Slow pos.		UCS200x, MPG200	3.2.8	•				
	Immunity to radiated magnetic fields	CWS500N3	3.4.3			•		
<b>Tenneco (Rev 4.3, 2012-02)</b>	12V Line	3.3 Jump Start	VDS200x	3.3	•			
		3.4 Reverse Jump Start	VDS200x	3.4	•			
		3.6 Micro Power Cuts	PDS200N, PFS200	3.6	•			
		3.7 Cranking Voltage	VDS200x	3.7	•			
		3.9 Load Dump (Pulse 5a)	LD200x	3.9	•			
<b>Tesla TS-0000048-03 (2013-05)</b>		Magnetic Field Immunity - DC (LFM-Test)	AutoWave + AMP200N1 + HS 5136	6		•		
		Magnetic Field Immunity (LFM-Test)	AutoWave + AMP200N1	6		•		
	12V Line	Pulse 1	UCS200x, MPG200	15	•			
		Pulse 1b	UCS200x	15	•			
		Pulse 2a	UCS200x, MPG200	15	•			
		Pulse 3a	UCS200x, EFT200	15	•			
		Pulse 3b	UCS200x, EFT200	15	•			
	12V I/O	CCC Pulse a	UCS200x, EFT200	16	•			
		CCC Pulse b	UCS200x, EFT200	16	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
Tesla TS-0000048-06 (2015-08)		Magnetic Field Immunity - DC (LFM-Test)	AutoWave + AMP200N1 + HS 5136	6		•		
		Magnetic Field Immunity (LFM-Test)	AutoWave + AMP200N1	6		•		
	12V Line	Pulse 1	UCS200x, MPG200	15	•			
		Pulse 1b	UCS200x	15	•			
		Pulse 2a	UCS200x, MPG200	15	•			
		Pulse 3a	UCS200x, EFT200	15	•			
		Pulse 3b	UCS200x, EFT200	15	•			
	12V I/O	CCC Pulse a	UCS200x, EFT200	16	•			
		CCC Pulse b	UCS200x, EFT200	16	•			
		ICC Pulse a	UCS200x, EFT200	16	•			
ICC Pulse b		UCS200x, EFT200	16	•				
Tesla TS-0000425-03 (2015-08)	12V Line	Supply Voltage Range	AutoWave + VDS200x	2.1.1		•		
		Supply Voltage Ripple	AutoWave + AMP200Nx + CN200N1	2.3.1		•		
		Supply Voltage Ripple (Verify Source Impedance)	AutoWave + AMP200Nx + CN200N1	2.3.1		•		
		Supply Voltage Drop Out	PFS200x, AutoWave + PFM200Nx	2.4.1		•		
		Supply Voltage Dips	PFS200x + RDS200, VDS200 + AutoWave	2.4.2		•		
		Supply Voltage Ramp Up	VDS200x + AutoWave	2.4.3		•		
		Supply Voltage Ramp Down	VDS200x + AutoWave	2.4.4		•		
		Defective DC/DC Regulation (Supply Overvoltage)	VDS200x	2.5.1		•		
		Jump Start (Supply Overvoltage)	VDS200x	2.5.2		•		
		Load Dump (Supply Overvoltage)	VDS200N, VDS200B	2.5.3		•		
		Reverse Supply Voltage	VDS200x	2.5.4		•		
		Transient Overvoltage (Supply Overvoltage)	VDS200N, VDS200B	2.5.5		•		
		Toyota TSC0506G (Rev. 0, 2014-01)	12V Line	(1-1) Battery terminal connection and disconnection	VDS200x + AutoWave			•
(1-2) Battery terminal connection and disconnection	VDS200x + AutoWave					•		
(2) Battery terminal chattering	VDS200x + AutoWave					•		
(3-1) Switching over ACC, IG1 and IG2	VDS200x + AutoWave					•		
(3-2) Switching over ACC, IG1 and IG2	VDS200x + AutoWave					•		
(3-3) Switching over ACC, IG1 and IG2	VDS200x + AutoWave					•		
(4) Repeated turning ON/OFF of ACC and IG	VDS200x + AutoWave					•		
(5) Instantaneous disconnection of ACC, IG and IG2	VDS200x + AutoWave					•		
(6) Instantaneous disconnection of ACC and IG when switching ON IG switch	VDS200x + AutoWave					•		
(7) OFF and ON of IG after switching on IG	VDS200x + AutoWave					•		
(8-1) IG ON before\after main relay OFF	VDS200x + AutoWave					•		
(8-2) IG ON before\after main relay OFF	VDS200x + AutoWave					•		
(8-3) IG ON before\after main relay OFF	VDS200x + AutoWave					•		
(9-1) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave					•		
(9-2) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave					•		
(9-3) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave					•		
(10-1) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave					•		
(10-2) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave					•		
(10-3) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave					•		
(11-1) Cranking 3 (at normal start)	VDS200x + AutoWave					•		
(11-2) Cranking 3 (at normal start)	VDS200x + AutoWave					•		
(11-3) Cranking 3 (at normal start)	VDS200x + AutoWave					•		
(12) Cranking 4 (at relief of dead battery vehicle with HV, EV and FCV)	VDS200x + AutoWave					•		
(13) Dead battery	VDS200x + AutoWave					•		
(14) ON/OFF of ACC and IG when battery is dead	VDS200x + AutoWave					•		
24V Line	(1-1) Battery terminal connection and disconnection			VDS200x + AutoWave			•	
	(1-2) Battery terminal connection and disconnection			VDS200x + AutoWave			•	
	(2) Battery terminal chattering			VDS200x + AutoWave			•	
	(3-1) Switching over ACC, IG1 and IG2		VDS200x + AutoWave			•		
	(3-2) Switching over ACC, IG1 and IG2		VDS200x + AutoWave			•		
	(3-3) Switching over ACC, IG1 and IG2	VDS200x + AutoWave			•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		(4) Repeated turning ON/OFF of ACC and IG	VDS200x + AutoWave			•	
		(5) Instantaneous disconnection of ACC, IG and IG2	VDS200x + AutoWave			•	
		(6) Instantaneous disconnection of ACC and IG when switching ON IG switch	VDS200x + AutoWave			•	
		(7) OFF and ON of IG after switching on IG	VDS200x + AutoWave			•	
		(8-1) IG ON before\after main relay OFF	VDS200x + AutoWave			•	
		(8-2) IG ON before\after main relay OFF	VDS200x + AutoWave			•	
		(8-3) IG ON before\after main relay OFF	VDS200x + AutoWave			•	
		(9-1) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave			•	
		(9-2) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave			•	
		(9-3) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave			•	
		(10-1) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave			•	
		(10-2) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave			•	
		(10-3) Cranking 1 (IG OFF -> ST ON when battery is dead)	VDS200x + AutoWave			•	
		(11-1) Cranking 3 (at normal start)	VDS200x + AutoWave			•	
(11-2) Cranking 3 (at normal start)	VDS200x + AutoWave			•			
(11-3) Cranking 3 (at normal start)	VDS200x + AutoWave			•			
(12) Cranking 4 (at relief of dead battery vehicle with HV, EV and FCV)	VDS200x + AutoWave			•			
(13) Dead battery	VDS200x + AutoWave			•			
(14) ON/OFF of ACC and IG when battery is dead	VDS200x + AutoWave			•			
<b>Toyota TSC3500G (1998-01)</b>	12V Line	Pulse A - C	PDS200N, PFS200	6.22	•		
		Pulse D - J	PFS200x + RDS200	6.22	•		
		Pulse K, L	VDS200x	6.22	•		
		Pulse M, N	VDS200x	6.22	•		
		Pulse P	VDS200x	6.22	•		
		Pulse R, S	PDS200N, PFS200	6.22	•		
		Pulse T	VDS200x	6.22	•		
		Overvoltage	VDS200x	6.23	•		
		Reverse Power	VDS200x	6.24	•		
		Load Dump 1	LD200 S19	6.26	•		
Load Dump 2	LD200 S19	6.26	•				
<b>Toyota TSC3500G (Rev. 7,2001-07)</b>	12V Line	(1) Line voltage timing errors (IG1, IG2)	VDS200x + AutoWave	6.22		•	
		(2) Line voltage timing errors I (ACC, IG, STA)	VDS200x + AutoWave	6.22		•	
		(3) Line voltage timing errors II (ACC, IG, STA)	VDS200x + AutoWave	6.22		•	
		(4) Momentary interruption (One Time)	VDS200x + AutoWave	6.22		•	
		(5) Momentary interruption (Repeated)	VDS200x + AutoWave	6.22		•	
		(6) Voltage drop	VDS200x + AutoWave	6.22		•	
		(7) Discharged battery (Pattern I)	VDS200x + AutoWave	6.22		•	
		(8) Discharged battery (Pattern II)	VDS200x + AutoWave	6.22		•	
		(9) Cranking	VDS200x + AutoWave	6.22		•	
		(10) Removal of battery with IG on and ACC on (Chattering)	VDS200x + AutoWave	6.22		•	
		(11) Removal of battery with IG on and ACC on (Line)	VDS200x + AutoWave	6.22		•	
		(12) Test condition K, L	VDS200x + AutoWave	6.22		•	
		(13) Test condition P	VDS200x + AutoWave	6.22		•	
		(14) Test condition T	VDS200x + AutoWave	6.22		•	
		Overvoltage	VDS200x	6.23	•	•	
		Reverse Power	VDS200x	6.24	•	•	
		Field Decay	LD200 S18	6.25	•		
Load Dump 1	LD200 S19	6.26	•				
Load Dump 2	LD200 S19	6.26	•				
Load Dump 3	LD200 S19	6.26	•				
<b>Toyota TSC3500G (Rev. 8,2005-05)</b>	12V Line	(A) Test condition K, L	VDS200x + AutoWave	6.22		•	
		(B) Test condition P	VDS200x + AutoWave	6.22		•	
		(C) Test condition T	VDS200x + AutoWave	6.22		•	
		Overvoltage	VDS200x	6.23	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Reverse Power	VDS200x	6.24	•	•	
		Field Decay	LD200 S18	6.25	•		
		Load Dump 1	LD200 S19	6.26	•		
		Load Dump 2	LD200 S19	6.26	•		
		Load Dump 3	LD200 S19	6.26	•		
<b>Toyota TSC3590G (Rev. 7, 2001-06)</b>	12V Line	Load Dump 1	LD200 S19	9.13	•		
		Load Dump 2	LD200 S19	9.13	•		
		Load Dump 3	LD200 S19	9.13	•		
		Field Decay	LD200 S18	9.14	•		
		Voltage Fluctuation	VDS200N, VDS200B	9.16	•	•	
		Overvoltage	VDS200N, VDS200B	9.17	•	•	
		Reverse Connection	VDS200x	9.18	•	•	
		Pulse 1	PFS200x + RDS200, VDS200x + AutoWave	9.19	•	•	
		Pulse 2	PFS200x + RDS200, VDS200x + AutoWave	9.19	•	•	
		Pulse 3	VDS200x + AutoWave	9.19	•	•	
		Pulse 4	VDS200x	9.19	•	•	
		Pulse 5	VDS200x + AutoWave	9.19	•	•	
		Pulse 6	VDS200x + AutoWave	9.19	•	•	
		Pulse 7	PFS200x + RDS200, VDS200x + AutoWave	9.19	•	•	
		Pulse 8	PFS200x + RDS200, VDS200x + AutoWave	9.19	•	•	
		Pulse 9	VDS200x	9.19	•	•	
		Pulse 10	VDS200x	9.19	•	•	
Pulse 11	VDS200x	9.19	•	•			
Power On	VDS200x	9.24	•	•			
<b>Toyota TSC 6203G (Rev. 6, 2001-01)</b>	12V Line	Pulse 1	VDS200x + AutoWave	7.31		•	
		Pulse 2	VDS200x + AutoWave	7.31		•	
		Pulse 3	VDS200x + AutoWave	7.31		•	
		Pulse 4	PFS200x + RDS200, VDS200x + AutoWave	7.31	•	•	
		Pulse 5	PFS200x + RDS200, VDS200x + AutoWave	7.31	•	•	
		Pulse 6	VDS200x + AutoWave	7.31	•	•	
		Pulse 7	VDS200x	7.31	•	•	
		Pulse 8	VDS200x + AutoWave	7.31	•	•	
		Pulse 9	VDS200x + AutoWave	7.31	•	•	
		Pulse 10	PFS200x + RDS200, VDS200x + AutoWave	7.31	•	•	
		Pulse 11	VDS200x + AutoWave	7.31	•	•	
<b>Toyota TSC7001G (Rev. 4, 2000-11)</b>	12V Line	Field Decay	LD200 S18	5.2	•		
		Load Dump 1	LD200 S19	5.5	•		
		Load Dump 2	LD200 S19	5.5	•		
		Load Dump 3	LD200 S19	5.5	•		
		Overvoltage	VDS200x	5.6	•	•	
		Reversed Polarity	VDS200x	5.8	•	•	
	24V Line	Field Decay	LD200 S18	5.2	•		
		Load Dump 1	LD200 S19	5.5	•		
		Load Dump 2	LD200 S19	5.5	•		
		Load Dump 3	LD200 S19	5.5	•		
		Overvoltage	VDS200x	5.6	•		
		Reversed Polarity	VDS200x	5.8	•		
<b>Toyota TSC7001G (Rev. 5, 2004-07)</b>	12V Line	Field Decay	LD200 S18	5.2	•		
		Load Dump 1	LD200 S19	5.5	•		
		Load Dump 2	LD200 S19	5.5	•		
		Load Dump 3	LD200 S19	5.5	•		
		Overvoltage	VDS200x	5.6	•	•	
		Reversed Polarity	VDS200x	5.8	•	•	
24V Line	Field Decay	LD200 S18	5.2	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Load Dump 1	LD200 S19	5.5	•		
		Load Dump 2	LD200 S19	5.5	•		
		Load Dump 3	LD200 S19	5.5	•		
		Overvoltage	VDS200x	5.6	•		
		Reversed Polarity	VDS200x	5.8	•		
		<b>Toyota TSC7001G (Rev. 6, 2007-01)</b>	12V Line	Field Decay	LD200 S18	5.2	•
Load Dump 1	LD200 S19			5.5	•		
Load Dump 2	LD200 S19			5.5	•		
Load Dump 3	LD200 S19			5.5	•		
Overvoltage	VDS200x			5.6	•	•	
Reversed Polarity	VDS200x			5.8	•	•	
24V Line	Field Decay		LD200 S18	5.2	•		
	Load Dump 1		LD200 S19	5.5	•		
	Load Dump 2		LD200 S19	5.5	•		
	Load Dump 3		LD200 S19	5.5	•		
	Overvoltage		VDS200x	5.6	•		
	Reversed Polarity		VDS200x	5.8	•		
<b>Toyota TSC7001G (Rev. 7, 2009-01)</b>	12V Line	Field Decay 1 (Square)	LD200 S18	5.2	•		
		Load Dump 1	LD200 S19	5.5	•		
		Load Dump 2	LD200 S19	5.5	•		
		Load Dump 3	LD200 S19	5.5	•		
		Overvoltage	VDS200x	5.6	•	•	
		Reversed Polarity	VDS200x	5.8	•	•	
	24V Line	Field Decay 1 (Square)	LD200 S18	5.2	•		
		Load Dump 1	LD200 S19	5.5	•		
		Load Dump 2	LD200 S19	5.5	•		
		Load Dump 3	LD200 S19	5.5	•		
		Overvoltage	VDS200x	5.6	•		
		Reversed Polarity	VDS200x	5.8	•		
<b>Toyota TSC7001G (Rev. 8, 2012-01)</b>	12V Line	Power Supply Circuit Negative Surge Test 1 (Square)	LD200 S18	5.3	•		
		Power Supply Circuit Positive Surge Test 1	LD200 S19	5.6	•		
		Power Supply Circuit Positive Surge Test 2	LD200 S19	5.6	•		
		Power Supply Circuit Positive Surge Test 3	LD200 S19	5.6	•		
		Overvoltage	VDS200x	5.7	•	•	
		Reversed Polarity	VDS200x	5.9	•	•	
	24V Line	Power Supply Circuit Negative Surge Test 1 (Square)	LD200 S18	5.2	•		
		Power Supply Circuit Positive Surge Test 1	LD200 S19	5.5	•		
		Power Supply Circuit Positive Surge Test 2	LD200 S19	5.5	•		
		Power Supply Circuit Positive Surge Test 3	LD200 S19	5.5	•		
		Overvoltage	VDS200x	5.6	•		
		Reversed Polarity	VDS200x	5.8	•		
<b>Toyota TSC7021G (Rev. 0, 2002-07)</b>	12V Line	(1) Battery Connection	VDS200x + AutoWave	5.2		•	
		(2) Battery Chattering	VDS200x + AutoWave	5.2		•	
		(3) Switch Repetitive	VDS200x + AutoWave	5.2		•	
		(4) IG Interruption 1	VDS200x + AutoWave	5.2		•	
		(5) IG Interruption 2	VDS200x + AutoWave	5.2		•	
		(6) Inter. by IG Switch.	VDS200x + AutoWave	5.2		•	
		(7) Main Relay OFF	VDS200x + AutoWave	5.2		•	
		(8) Ready State	VDS200x + AutoWave	5.2		•	
		(9) Battery Interruption	VDS200x + AutoWave	5.2		•	
		(10) Cranking 1	VDS200x + AutoWave	5.2		•	
		(11) Cranking 2	VDS200x + AutoWave	5.2		•	
		(12) Cranking 3	VDS200x + AutoWave	5.2		•	
		(13) Battery Flat	VDS200x + AutoWave	5.2		•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
Toyota TSC7021G (Rev. 1, 2003-11)	12V Line	(14) Starting Engine	VDS200x + AutoWave	5.2		•	
		(15) IG Switching	VDS200x + AutoWave	5.2		•	
		(1) Battery Connection	VDS200x + AutoWave	5.2		•	
		(2) Battery Chattering	VDS200x + AutoWave	5.2		•	
		(3) Switch Repetitive	VDS200x + AutoWave	5.2		•	
		(4) IG Interruption 1	VDS200x + AutoWave	5.2		•	
		(5) IG Interruption 2	VDS200x + AutoWave	5.2		•	
		(6) Inter. by IG Switch.	VDS200x + AutoWave	5.2		•	
		(7) Main Relay OFF	VDS200x + AutoWave	5.2		•	
		(8) Ready State	VDS200x + AutoWave	5.2		•	
		(9) Battery Interruption	VDS200x + AutoWave	5.2		•	
		(10) Cranking 1	VDS200x + AutoWave	5.2		•	
		(11) Cranking 2	VDS200x + AutoWave	5.2		•	
		(12) Cranking 3	VDS200x + AutoWave	5.2		•	
		(13) Battery Flat	VDS200x + AutoWave	5.2		•	
		(14) Starting Engine	VDS200x + AutoWave	5.2		•	
(15) IG Switching	VDS200x + AutoWave	5.2		•			
(16) IG 1 to 2 switching	VDS200x + AutoWave	5.2		•			
Toyota TSC7021G (Rev. 2, 2007-06)	12V Line	(1) Battery connection and disconnection I	VDS200x + AutoWave	5.2		•	
		(2) Battery terminal chattering	VDS200x + AutoWave	5.2		•	
		(3) Repeated turning ON/OFF	VDS200x + AutoWave	5.2		•	
		(4) Instantaneous disconnection I	VDS200x + AutoWave	5.2		•	
		(5) Instantaneous disconnection II	VDS200x + AutoWave	5.2		•	
		(6) ON-OFF operation	VDS200x + AutoWave	5.2		•	
		(7) IG before\after main relay OFF	VDS200x + AutoWave	5.2		•	
		(8) Cranking 1	VDS200x + AutoWave	5.2		•	
		(9) Cranking 2	VDS200x + AutoWave	5.2		•	
		(10) Cranking 3	VDS200x + AutoWave	5.2		•	
		(11) Cranking 4	VDS200x + AutoWave	5.2		•	
		(12) Dead battery	VDS200x + AutoWave	5.2		•	
		(13) Jump-start	VDS200x + AutoWave	5.2		•	
		(14) IG operation	VDS200x + AutoWave	5.2		•	
		(15) Switching over	VDS200x + AutoWave	5.2		•	
		(16) Battery connection and disconnection II	VDS200x + AutoWave	5.2		•	
		(17) Repeated turning ON/OFF	VDS200x + AutoWave	5.2		•	
		(18) IG operation before and after switching	VDS200x + AutoWave	5.2		•	
		(19) Cranking 1	VDS200x + AutoWave	5.2		•	
		(20) Cranking 2	VDS200x + AutoWave	5.2		•	
		(21) Cranking 3	VDS200x + AutoWave	5.2		•	
		(22) ST operation	VDS200x + AutoWave	5.2		•	
Toyota TSC7021G (Rev. 3, 2012-02)	12V Line	(1) Battery connection and disconnection	VDS200x + AutoWave	5.2		•	
		(2) Battery terminal chattering	VDS200x + AutoWave	5.2		•	
		(3) Repeated turning ON/OFF of IG switch connector	VDS200x + AutoWave	5.2		•	
		(4) Instantaneous disconnection of IG switch connector	VDS200x + AutoWave	5.2		•	
		(5) Instantaneous disconnection when switching ON	VDS200x + AutoWave	5.2		•	
		(6) ON-OFF operation of IG after switching ON	VDS200x + AutoWave	5.2		•	
		(7) Switching ON IG before and after switching OFF main relay	VDS200x + AutoWave	5.2		•	
		(8) Cranking 1	VDS200x + AutoWave	5.2		•	
		(9) Cranking 2	VDS200x + AutoWave	5.2		•	
		(10) Cranking 3	VDS200x + AutoWave	5.2		•	
		(11) Cranking 4	VDS200x + AutoWave	5.2		•	
		(12) Dead battery + battery instantaneous disconnection	VDS200x + AutoWave	5.2		•	
		(13) Jump-start when battery voltage is dropped	VDS200x + AutoWave	5.2		•	
		(14) ST operation when battery voltage is dropped	VDS200x + AutoWave	5.2		•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		(15) Switching over IG 1 and 2	VDS200x + AutoWave	5.2		•	
		(16) Battery connection and disconnection	VDS200x + AutoWave	5.2		•	
		(17) Repeated turning ON/OFF of IG switch	VDS200x + AutoWave	5.2		•	
		(18) ST operation before and after switching OFF main relay	VDS200x + AutoWave	5.2		•	
		(19) Cranking 1	VDS200x + AutoWave	5.2		•	
		(20) Cranking 2	VDS200x + AutoWave	5.2		•	
		(21) Cranking 3	VDS200x + AutoWave	5.2		•	
		(22) ST operation when battery voltage is dropped	VDS200x + AutoWave	5.2		•	
		(23) Repeated turning ON/OFF of IG switch	VDS200x + AutoWave	5.2		•	
		(24) IG operation before and after switching OFF main relay	VDS200x + AutoWave	5.2		•	
		(25) Cranking 1	VDS200x + AutoWave	5.2		•	
		(26) Cranking 2	VDS200x + AutoWave	5.2		•	
		(27) Cranking 3	VDS200x + AutoWave	5.2		•	
		<b>Toyota TSC 7034G (Rev. 0, 2005-02)</b>	12V Line	Test 1	UCS200x, MPG200	5.2.4	•
Test 2-1	UCS200x, MPG200			5.2.4	•		
Test 2-2	VDS200x			5.2.4	•	•	
Test 3-1	UCS200x, EFT200			5.2.4	•		
Test 3-2	UCS200x, EFT200			5.2.4	•		
Test 4	VDS200x			5.2.4	•	•	
Test 5-1	LD200x			5.2.4	•		
Test 5-2	LD200Nx Clip, LD200x + diode			5.2.4	•		
24V Line	Test 1		UCS200x, MPG200	5.2.4	•		
	Test 2-1		UCS200x, MPG200	5.2.4	•		
	Test 2-2		VDS200x	5.2.4	•	•	
	Test 3-1		UCS200x, EFT200	5.2.4	•		
	Test 3-2		UCS200x, EFT200	5.2.4	•		
	Test 4		VDS200x	5.2.4	•	•	
	Test 5-1		LD200x	5.2.4	•		
12V I/O	Pulse 3a		UCS200x, EFT200	5.3.4	•		
	Pulse 3b		UCS200x, EFT200	5.3.4	•		
24V I/O	Pulse 3a		UCS200x, EFT200	5.3.4	•		
	Pulse 3b	UCS200x, EFT200	5.3.4	•			
<b>Toyota TSC7203G</b>	12V Line	Overvoltage	VDS200x	7.22	•		
		Load Dump	LD200 S19	7.23	•		
		Field Decay	LD200 S18	7.25	•		
		Inverted Connection	VDS200x	7.28	•		
		Voltage Drop 1	VDS200x	7.29.1	•		
		Voltage Drop 2	VDS200x	7.29.2	•		
		Micro Drops	VDS200x	7.29.3	•		
	24V Line	Overvoltage	VDS200N, VDS200B	7.22	•		
		Load Dump	LD200 S19	7.23	•		
		Field Decay	LD200 S18	7.25	•		
		Inverted Connection	VDS200x	7.28	•		
		Voltage Drop 1	VDS200x	7.29.1	•		
		Voltage Drop 2	VDS200x	7.29.2	•		
		Micro Drops	PFS200x	7.29.3	•		
12V Line	Overvoltage	VDS200x	7.22	•	•		
	Load Dump 1	LD200 S19	7.23	•			
	Load Dump 2	LD200 S19	7.23	•			
	Load Dump 3	LD200 S19	7.23	•			
	Field Decay	LD200 S18	7.25	•			
	Inverted Connection	VDS200x	7.28	•	•		
	(1) Power supply timing mismatch I	VDS200x + AutoWave	7.29		•		
	(2) Power supply timing mismatch II	VDS200x + AutoWave	7.29		•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		(3) Power supply timing mismatch III	VDS200x + AutoWave	7.29		•			
		(4) Instantaneous interruption I	VDS200x + AutoWave	7.29		•			
		(5) Instantaneous interruption II	VDS200x + AutoWave	7.29		•			
		(6) Voltage drop	VDS200x + AutoWave	7.29		•			
		(7) Battery discharge I	VDS200x + AutoWave	7.29		•			
		(8) Battery discharge II	VDS200x + AutoWave	7.29		•			
		(9) Cranking	VDS200x + AutoWave	7.29		•			
		(10) Battery connection/disconnection I	VDS200x + AutoWave	7.29		•			
		(11) Battery connection/disconnection II	VDS200x + AutoWave	7.29		•			
		<b>Toyota TSC7203G (Rev. 9, 2003-12)</b>	12V Line	Overvoltage	VDS200x	7.22	•	•	
				Load Dump 1	LD200 S19	7.23	•		
Load Dump 2	LD200 S19			7.23	•				
Load Dump 3	LD200 S19			7.23	•				
Field Decay	LD200 S18			7.25	•				
Inverted Connection	VDS200x			7.28	•	•			
(1) Power supply timing mismatch I	VDS200x + AutoWave			7.29		•			
(2) Power supply timing mismatch II	VDS200x + AutoWave			7.29		•			
(3) Power supply timing mismatch III	VDS200x + AutoWave			7.29		•			
(4) Battery connection/disconnection	VDS200x + AutoWave			7.29		•			
<b>Toyota TSC7306G (Rev. 4, 2002-04)</b>	12V Line			Field Decay	LD200 S18	4.12	•		
		Load Dump 1	LD200 S19	4.15	•				
		Load Dump 2	LD200 S19	4.15	•				
		Load Dump 3	LD200 S19	4.15	•				
		Overvoltage	VDS200x	4.17	•	•			
		Reverse Polarity	VDS200x	4.18	•	•			
		(1) Instantaneous Power Failure I	VDS200x + AutoWave	4.22		•			
		(2) Instantaneous Power Failure II	VDS200x + AutoWave	4.22		•			
		(1) Power Fluctuation I	VDS200x + AutoWave	4.22		•			
		(2) Power Fluctuation II	VDS200x + AutoWave	4.22		•			
		(3) Power Fluctuation III	VDS200x + AutoWave	4.22		•			
		(4) Power Fluctuation IV	VDS200x + AutoWave	4.22		•			
		(5) Power Fluctuation V	VDS200x + AutoWave	4.22		•			
		(6) Power Fluctuation VI	VDS200x + AutoWave	4.22		•			
		(7) Power Fluctuation VII	VDS200x + AutoWave	4.22		•			
		(1) Disconnection of Power I	VDS200x + AutoWave	4.22		•			
		(2) Disconnection of Power II	VDS200x + AutoWave	4.22		•			
		(3) Disconnection of Power III	VDS200x + AutoWave	4.22		•			
		(4) Disconnection of Power IV	VDS200x + AutoWave	4.22		•			
		(5) Disconnection of Power V	VDS200x + AutoWave	4.22		•			
<b>Toyota TSC7544G (Rev.2, 2006-11)</b>	12V Line	(2) Normal cranking waveform	VDS200x + AutoWave	5.13		•			
		(3) Pulsed cranking waveform	VDS200x + AutoWave	5.13		•			
		(4) Cranking waveform	VDS200x + AutoWave	5.13		•			
		(5a) Chattering waveform	VDS200x + AutoWave	5.13		•			
		(5b) Waveform at the time	VDS200x + AutoWave	5.13		•			
		(6a) On-vehicle waveform	VDS200x + AutoWave	5.13		•			
		(6b) On-vehicle waveform	VDS200x + AutoWave	5.13		•			
		(7a) Waveform at time of instant-off	VDS200x + AutoWave	5.13		•			
		(7b) Waveform at time of load fluctuation	VDS200x + AutoWave	5.13		•			
		(8) Ignition switch short duration	VDS200x + AutoWave	5.13		•			
(9) Operation durability test	VDS200x + AutoWave	5.13		•					
<b>VDA 320 (2014-08)</b>	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	4.1		•			
		E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	4.3		•			
		E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	4.3		•			
		E48-03 Transient process in the lower operating range	VDS200x	4.4		•			



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		E48-04 Recuperation	VDS200x	4.5		•	
		E48-05 Superimposed Voltage - Part 1 - F1 (15Hz-30kHz)	VDS200x	4.6		•	
		E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz)	VDS200Qx	4.6		•	
		E48-05 Superimposed Voltage - Part1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	4.6		•	
		E48-05 Superimposed Voltage - Part 2 - F1 (15Hz-30kHz)	VDS200x	4.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz)	VDS200Qx	4.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	4.6		•	
		E48-06a Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave	4.7		•	
		E48-06b Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave	4.7		•	
		E48-06c Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave	4.7		•	
		E48-07 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	4.9		•	
		E48-08 Reset Behavior	VDS200x + AutoWave	4.9		•	
		E48-09 Short Breaks	PFS200x + BS200, AutoWave + PFM200Nx	4.10	•	•	
		E48-10 Start Impulses - Cold start (Normal)	VDS200x	4.11		•	
		E48-10 Start Impulses - Cold start Severe)	VDS200x	4.11		•	
		E48-13 Internal Voltage Strength	VDS200x	4.14		•	
		E48-15 Operating in the area without functional limitation	VDS200x + AutoWave	4.16		•	
		E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	4.17		•	
		E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	4.18		•	
		E48-18 Over-Voltage Range	VDS200x + AutoWave	4.19		•	
E48-19 Under-Voltage Range	VDS200x + AutoWave	4.20		•			
<b>VG 96916-5 (2013-08)</b>	12V Line	Overvoltage	VDS200x	5.2.2	•	•	
		Superimposed Alternating Voltage	VDS200x + AutoWave	5.2.3	•	•	
		Slow decrease and increase	VDS200x + AutoWave	5.2.4	•	•	
		Momentary Drop	VDS200x	5.2.5.1	•	•	
		Reset Behaviour	VDS200x	5.2.5.2	•	•	
		Starting Profile	VDS200x	5.2.5.3	•	•	
		Pulse 5a	LD200x	5.2.5.4	•	•	
		Pulse 5b	LD200Nx Clip, LD200x + diode	5.2.5.4	•		
		Overvoltage	VDS200x	5.3.3			
		Superimposed Alternating Voltage	VDS200x + AutoWave	5.3.4		•	
		Slow decrease and increase	VDS200x + AutoWave	5.3.5		•	
		Momentary Drop	VDS200x	5.3.6.1		•	
	Immunity to ms-pulses	VDS200x + AutoWave	5.3.6.2		•		
	24V Line	Overvoltage	VDS200x	5.2.2	•	•	
		Superimposed Alternating Voltage	VDS200x + AutoWave	5.2.3	•	•	
		Slow decrease and increase	VDS200x + AutoWave	5.2.4	•	•	
		Momentary Drop	VDS200x	5.2.5.1	•	•	
		Reset Behaviour	VDS200x	5.2.5.2	•	•	
		Starting Profile	VDS200x	5.2.5.3	•	•	
		Pulse 5a	LD200x	5.2.5.4	•	•	
		Pulse 5b	LD200Nx Clip, LD200x + diode	5.2.5.4	•		
		Overvoltage	VDS200x	5.3.3			
		Superimposed Alternating Voltage	VDS200x + AutoWave	5.3.4		•	
		Slow decrease and increase	VDS200x + AutoWave	5.3.5		•	
Momentary Drop		VDS200x	5.3.6.1		•		
Immunity to ms-pulses	VDS200x + AutoWave	5.3.6.2		•			
<b>Volvo 1579908 (1995-08)</b>	12V Line	Pulse 1	UCS200x, MPG200 S15	5.1.1	•		
		Pulse 2	UCS200x, MPG200	5.1.2	•		
		Pulse 3a	UCS200x, EFT200	5.1.3	•		
		Pulse 3b	UCS200x, EFT200	5.1.3	•		
		Pulse 4	VDS200x + AutoWave	5.1.4	•		
		Pulse 5a	LD200x	5.1.5	•		
		Pulse 5b	LD200Nx, LD200M	5.1.5	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Pulse 5c	LD200Nx, LD200M	5.1.5	•			
		Power Supply	VDS200x + AutoWave	5.3.1	•			
		Micro Cuts	PFS200x	5.3.2	•			
	24V Line	Pulse 1	MPG200 S5	5.1.1	•			
		Pulse 2	UCS200x, EFT200	5.1.2	•			
		Pulse 3a	UCS200x, EFT200	5.1.3	•			
		Pulse 3b	UCS200x, EFT200	5.1.3	•			
		Pulse 4	VDS200x + AutoWave	5.1.4	•			
		Pulse 5a	LD200x	5.1.5	•			
		Pulse 5b	LD200x	5.1.5	•			
		Pulse 5c	LD200x	5.1.5	•			
		Pulse 5d	LD200Nx, LD200M	5.1.5	•			
		Power Supply	VDS200x + AutoWave	5.3.1	•			
		Micro Cuts	PFS200x	5.3.2	•			
	I/O	Pulse 3a	UCS200x, EFT200	5.2	•			
		Pulse 3b	UCS200x, EFT200	5.2	•			
	<b>Volvo 1579908 (Rev.3, 2002-12)</b>	12V Line	Pulse 1	UCS200x, MPG200 S15	5.1.1	•		
			Pulse 2	UCS200x, MPG200	5.1.2	•		
			Pulse 3a	UCS200x, EFT200	5.1.3	•		
Pulse 3b			UCS200x, EFT200	5.1.3	•			
Pulse 4			VDS200x + AutoWave	5.1.4	•	•		
Pulse 5a			LD200Nx Clip, LD200M + diode	5.1.5	•			
Pulse 5b			LD200x	5.1.5	•			
Power Supply 1			VDS200x + AutoWave	5.3.1		•		
Power Supply 2			VDS200x + AutoWave	5.3.1		•		
Micro Cuts			PFS200x	5.3.2	•			
Overvoltage 1			VDS200x	5.3.3	•	•		
Overvoltage 2			VDS200x	5.3.3	•	•		
24V Line			Pulse 1	UCS200N, MPG200 S15	5.1.1	•		
		Pulse 2	UCS200x, MPG200	5.1.2	•			
		Pulse 3a	UCS200x, EFT200	5.1.3	•			
		Pulse 3b	UCS200x, EFT200	5.1.3	•			
		Pulse 4	VDS200x + AutoWave / Arb	5.1.4	•	•		
		Pulse 5c	LD200Nx Clip, LD200M + diode	5.1.5	•			
		Power Supply 1	VDS200x + AutoWave	5.3.1		•		
		Power Supply 2	VDS200x + AutoWave	5.3.1		•		
		Micro Cuts	PFS200x	5.3.2	•			
		Overvoltage 1	VDS200N, VDS200B	5.3.3	•	•		
Overvoltage 2		VDS200N, VDS200B	5.3.3	•	•			
I/O		Pulse 3a	UCS200x, EFT200	5.2	•			
		Pulse 3b	UCS200x, EFT200	5.2	•			
<b>Volvo 1579908 (Rev.4, 2003-09)</b>		12V Line	Pulse 1	UCS200x, MPG200 S15	5.1.1	•		
	Pulse 2		UCS200x, MPG200	5.1.2	•			
	Pulse 3a		UCS200x, EFT200	5.1.3	•			
	Pulse 3b		UCS200x, EFT200	5.1.3	•			
	Pulse 4		VDS200x + AutoWave	5.1.4	•	•		
	Pulse 5a		LD200Nx Clip, LD200M + diode	5.1.5	•			
	Pulse 5b		LD200x	5.1.5	•			
	Power Supply 1		VDS200x + AutoWave	5.3.1		•		
	Power Supply 2		VDS200x + AutoWave	5.3.1		•		
	Micro Cuts		PFS200x	5.3.2	•			
	Overvoltage 1		VDS200x	5.3.3	•	•		
	Overvoltage 2		VDS200x	5.3.3	•	•		
	24V Line		Pulse 1	UCS200N, MPG200 S15	5.1.1	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		Pulse 2	UCS200x, MPG200	5.1.2	•				
		Pulse 3a	UCS200x, EFT200	5.1.3	•				
		Pulse 3b	UCS200x, EFT200	5.1.3	•				
		Pulse 4	VDS200x + AutoWave / Arb	5.1.4	•	•			
		Pulse 5c	LD200Nx Clip, LD200M + diode	5.1.5	•				
		Power Supply 1	VDS200x + AutoWave	5.3.1		•			
		Power Supply 2	VDS200x + AutoWave	5.3.1		•			
		Micro Cuts	PFS200x	5.3.2	•				
		Overvoltage 1	VDS200N, VDS200B	5.3.3	•	•			
		Overvoltage 2	VDS200N, VDS200B	5.3.3	•	•			
		I/O		Pulse 3a	UCS200x, EFT200	5.2	•		
				Pulse 3b	UCS200x, EFT200	5.2	•		
<b>Volvo STD 515-0003 (Rev.2, 2006-05)</b>	12V Line	Pulse 1	UCS200x, MPG200 S15	5.1.1	•				
		Pulse 2	UCS200x, MPG200	5.1.2	•				
		Pulse 3a	UCS200x, EFT200	5.1.3	•				
		Pulse 3b	UCS200x, EFT200	5.1.3	•				
		Pulse 4	VDS200x + AutoWave	5.1.4	•	•			
		Pulse 5a	LD200Nx Clip, LD200M + diode	5.1.5	•				
		Pulse 5b	LD200x	5.1.5	•				
		Power Supply 1	VDS200x + AutoWave	5.3.1		•			
		Power Supply 2	VDS200x + AutoWave	5.3.1		•			
		Micro Cuts	PFS200x	5.3.2	•				
		Overvoltage 1	VDS200x	5.3.3	•				
		Overvoltage 2	VDS200x	5.3.3	•	•			
	24V Line		Pulse 1	UCS200N, MPG200 S15	5.1.1	•	•		
			Pulse 2	UCS200x, MPG200	5.1.2	•			
			Pulse 3a	UCS200x, EFT200	5.1.3	•			
			Pulse 3b	UCS200x, EFT200	5.1.3	•			
			Pulse 4	VDS200x + AutoWave	5.1.4	•	•		
			Pulse 5c	LD200Nx Clip, LD200M + diode	5.1.5	•			
			Power Supply 1	VDS200x + AutoWave	5.3.1		•		
			Power Supply 2	VDS200x + AutoWave	5.3.1		•		
			Micro Cuts	PFS200x	5.3.2	•			
			Overvoltage 1	VDS200N, VDS200B	5.3.3	•	•		
			Overvoltage 2	VDS200N, VDS200B	5.3.3	•	•		
			I/O		Pulse 3a	UCS200x, EFT200	5.2	•	
Pulse 3b	UCS200x, EFT200	5.2			•				
<b>Volvo STD 515-0003 (Rev.3, 2008-03)</b>	12V Line	Pulse 1	UCS200x, MPG200 S15	5.1.1	•				
		Pulse 2	UCS200x, MPG200	5.1.2	•				
		Pulse 3a	UCS200x, EFT200	5.1.3	•				
		Pulse 3b	UCS200x, EFT200	5.1.3	•				
		Pulse 4	VDS200x + AutoWave	5.1.4	•	•			
		Pulse 5a	LD200Nx Clip, LD200M + diode	5.1.5	•				
		Pulse 5b	LD200x	5.1.5	•				
		Power Supply 1	VDS200x + AutoWave	5.3.1		•			
		Power Supply 2	VDS200x + AutoWave	5.3.1		•			
		Micro Cuts	PFS200x, AutoWave + PFM200Nx	5.3.2	•	•			
		Overvoltage	VDS200x	5.3.3	•	•			
		Immunity to low-frequency magnetic fields	AutoWave + AMP200Nx, CWS500N3	9.1		•	•		
	24V Line		Pulse 1	UCS200N, MPG200 S15	5.1.1	•	•		
			Pulse 2	UCS200x, MPG200	5.1.2	•			
			Pulse 3a	UCS200x, EFT200	5.1.3	•			
			Pulse 3b	UCS200x, EFT200	5.1.3	•			
			Pulse 4	VDS200x + AutoWave	5.1.4	•	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Pulse 5c	LD200Nx Clip, LD200M + diode	5.1.5	•		
		Power Supply 1	VDS200x + AutoWave	5.3.1	•	•	
		Power Supply 2	VDS200x + AutoWave	5.3.1	•	•	
		Micro Cuts	PFS200x, AutoWave + PFM200Nx	5.3.2	•	•	
		Overtoltage	VDS200N, VDS200B	5.3.3	•	•	
		Immunity to low-frequency magnetic fields	AutoWave + AMP200Nx, CWS500N3	9.1		•	•
	12V I/O	Fast-Transient A	UCS200x, EFT200	5.2	•		
		Fast-Transient B	UCS200x, EFT200	5.2	•		
		Slow-Transient 1	UCS200x	5.2	•		
		Slow-Transient 2	UCS200x, MPG200	5.2	•		
	24V I/O	Fast-Transient A	UCS200x, EFT200	5.2	•		
		Fast-Transient B	UCS200x, EFT200	5.2	•		
		Slow-Transient 1	UCS200x	5.2	•		
		Slow-Transient 2	UCS200x, MPG200	5.2	•		
	<b>Volvo</b> <b>STD 515-0003</b> <b>(Rev.4, 2009-10)</b>	12V Line	Pulse 1	UCS200x, MPG200 S15	5.1.1	•	
Pulse 2			UCS200x, MPG200	5.1.2	•		
Pulse 3a			UCS200x, EFT200	5.1.3	•		
Pulse 3b			UCS200x, EFT200	5.1.3	•		
Pulse 4			VDS200x + AutoWave	5.1.4	•	•	
Pulse 5a			LD200Nx Clip, LD200M + diode	5.1.5	•		
Pulse 5b			LD200x	5.1.5	•		
Power Supply 1			VDS200x + AutoWave	5.3.1		•	
Power Supply 2			VDS200x + AutoWave	5.3.1		•	
Micro Cuts			PFS200x, AutoWave + PFM200Nx	5.3.2	•	•	
Overtoltage		VDS200x	5.3.3	•	•		
Immunity to low-frequency magnetic fields		AutoWave + AMP200Nx, CWS500N3	9.1		•	•	
24V Line		Pulse 1	UCS200N, MPG200 S15	5.1.1	•	•	
		Pulse 2	UCS200x, MPG200	5.1.2	•		
		Pulse 3a	UCS200x, EFT200	5.1.3	•		
		Pulse 3b	UCS200x, EFT200	5.1.3	•		
		Pulse 4	VDS200x + AutoWave	5.1.4	•	•	
		Pulse 5c	LD200Nx Clip, LD200M + diode	5.1.5	•		
		Power Supply 1	VDS200x + AutoWave	5.3.1		•	
		Power Supply 2	VDS200x + AutoWave	5.3.1		•	
		Micro Cuts	PFS200x, AutoWave + PFM200Nx	5.3.2	•	•	
		Overtoltage	VDS200N, VDS200B	5.3.3	•	•	
Immunity to low-frequency magnetic fields		AutoWave + AMP200Nx, CWS500N3	9.1		•	•	
12V I/O		Fast-Transient A	UCS200x, EFT200	5.2	•		
		Fast-Transient B	UCS200x, EFT200	5.2	•		
		Slow-Transient 1	UCS200x	5.2	•		
		Slow-Transient 2	UCS200x, MPG200	5.2	•		
24V I/O		Fast-Transient A	UCS200x, EFT200	5.2	•		
		Fast-Transient B	UCS200x, EFT200	5.2	•		
		Slow-Transient 1	UCS200x	5.2	•		
	Slow-Transient 2	UCS200x, MPG200	5.2	•			
<b>Volvo</b> <b>STD 515-0003</b> <b>(Rev.5, 2017-02)</b>	12V Line	Pulse 1	UCS200x, MPG200 S15	5.1.1	•		
		Pulse 2a	UCS200x, MPG200	5.1.2	•		
		Pulse 3a	UCS200x, EFT200	5.1.3	•		
		Pulse 2b	VDS200x	5.1.2	•	•	
		Pulse 3b	UCS200x, EFT200	5.1.3	•		
		Pulse 4	VDS200x + AutoWave	5.1.4	•	•	
		Pulse 5a	LD200Nx Clip, LD200M + diode	5.1.5	•		
		Power Supply 1	VDS200x + AutoWave	5.3.1		•	
		Power Supply 2	VDS200x + AutoWave	5.3.1		•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		Micro Cuts	PFS200x, AutoWave + PFM200Nx	5.3.2	•	•	
		Overvoltage	VDS200x	5.3.3	•	•	
		Immunity to low-frequency magnetic fields	AutoWave + AMP200Nx, CWS500N3	9.1		•	•
	24V Line	Pulse 1	UCS200N, MPG200 S15	5.1.1	•	•	
		Pulse 2a	UCS200x, MPG200	5.1.2	•		
		Pulse 2b	VDS200x	5.1.2	•	•	
		Pulse 3a	UCS200x, EFT200	5.1.3	•		
		Pulse 3b	UCS200x, EFT200	5.1.3	•		
		Pulse 4	VDS200x + AutoWave	5.1.4	•	•	
		Pulse 5c	LD200Nx Clip, LD200M + diode	5.1.5	•		
		Power Supply 1	VDS200x + AutoWave	5.3.1		•	
		Power Supply 2	VDS200x + AutoWave	5.3.1		•	
		Micro Cuts	PFS200x, AutoWave + PFM200Nx	5.3.2	•	•	
		Overvoltage	VDS200N, VDS200B	5.3.3	•	•	
	Immunity to low-frequency magnetic fields	AutoWave + AMP200Nx, CWS500N3	9.1		•	•	
	12V I/O	Fast-Transient 3a	UCS200x, EFT200	5.2	•		
		Fast-Transient 3b	UCS200x, EFT200	5.2	•		
		Slow-Transient 2a positive	UCS200x	5.2	•		
		Slow-Transient 2 negative	UCS200x	5.2	•		
	24V I/O	Fast-Transient 3a	UCS200x, EFT200	5.2	•		
		Fast-Transient 3b	UCS200x, EFT200	5.2	•		
		Slow-Transient 2a positive	UCS200x	5.2	•		
		Slow-Transient 2 negative	UCS200x	5.2	•		
	<b>Volvo</b> <b>REQ-043878</b> <b>(2014-02)</b>	12V Line	Pulse 1	UCS200x, MPG200	2.2	•	
Pulse 2a			UCS200x, MPG200	2.2	•		
Pulse 2b			VDS200x	2.2	•		
Pulse 3a			UCS200x, EFT200	2.2	•		
Pulse 3b			UCS200x, EFT200	2.2	•		
12V I/O		Pulse 3a	UCS200x, EFT200	2.3	•		
	Pulse 3b	UCS200x, EFT200	2.3	•			
<b>Volvo</b> <b>31850329</b> <b>(2014-06)</b>	12V Line	Pulse 1	UCS200x, MPG200	11.2.2	•		
		Pulse 2a	UCS200x, MPG200	11.2.2	•		
		Pulse 2b	VDS200x	11.2.2	•		
		Pulse 3a	UCS200x, EFT200	11.2.2	•		
		Pulse 3b	UCS200x, EFT200	11.2.2	•		
	12V I/O	Pulse 3a	UCS200x, EFT200	11.2.3	•		
	Pulse 3b	UCS200x, EFT200	11.2.3	•			
<b>VW</b> <b>80000</b> <b>(2009-10)</b>	12V Line	E-01 Longtime Voltage	VDS200x	4.1	•	•	
		E-02 Overvoltage 1	VDS200x + AutoWave	4.2	•	•	
		E-02 Overvoltage 2	VDS200x + AutoWave	4.2	•	•	
		E-03 Undervoltage	VDS200x + AutoWave	4.3	•	•	
		E-04 Jump Start	VDS200x	4.4	•	•	
		E-05 Load Dump	VDS200x	4.5	•	•	
		E-06 Superimposed Voltage	VDS200x + AutoWave	4.6	•	•	
		E-07 Slow Ramp Down/Up	VDS200x + AutoWave	4.7	•	•	
		E-08 Ramp Down / Fast Up	VDS200x + AutoWave	4.8	•	•	
		E-09 Reset Behaviour	VDS200x + AutoWave	4.9	•	•	
		E-10 Short Reset - Test Case 1	PFS200x + R-Box LV124x, AutoWave + PFM200Nx + R-Box LV124x	4.10	•	•	
E-10 Short Reset - Test Case 2	PFS200x + R-Box LV124x, AutoWave + PFM200Nx + R-Box LV124x	4.10	•	•			
E-10 Short Reset - Test Case 3	PFS200x + BSM200N100 + R-Box LV124x, AutoWave + PFM200Nx	4.10	•	•			
E-11 Cold Cranking (Normal)	VDS200x	4.11	•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		E-11 Cold Cranking (Severe)	VDS200x + AutoWave	4.11	•	•			
		E-11 Warm Cranking (Short)	VDS200x + AutoWave	4.11	•	•			
		E-11 Warm Cranking (Long)	VDS200x + AutoWave	4.11	•	•			
		E-12 Voltage Curve	VDS200x	4.12	•	•			
		E-13 Pin Interruption - Test Case 1 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•			
		E-13 Pin Interruption - Test Case 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•			
		E-13 Pin Interruption - Test Case 3 - Contact 1 (Precompliance)	PFS200x (Precom)	4.13	•				
		E-13 Pin Interruption - Test Case 3 - Contact 2 (Precompliance)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•			
		E-14 Connector Interruption	AutoWave + PFM200Nx	4.14		•			
		E-15 Reset Voltage 1	VDS200x	4.15	•	•			
		E-15 Reset Voltage 2	VDS200x	4.15	•	•			
		<b>VW 80000 (2013-06)</b>	12V Line	E-01 Longtime Voltage	VDS200x	4.1	•	•	
				E-02 Transient Overvoltage	VDS200x + AutoWave	4.2	•	•	
E-03 Transient Subvoltage	VDS200x + AutoWave			4.3	•	•			
E-04 Jump Start	VDS200x			4.4	•	•			
E-05 Load Dump	VDS200x			4.5	•	•			
E-06 Superimposed Voltage	VDS200x + AutoWave			4.6	•	•			
E-07 Slow Ramp Down and Ramp Up	VDS200x + AutoWave			4.7	•	•			
E-08 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave			4.8	•	•			
E-09 Reset Behaviour	VDS200x + AutoWave			4.9	•	•			
E-10 Short Reset	PFS200x + BSM200N100, AutoWave + PFM200Nx			4.10	•	•			
E-11 Cold Cranking (Normal)	VDS200x			4.11	•	•			
E-11 Cold Cranking (Severe)	VDS200x + AutoWave			4.11	•	•			
E-11 Warm Cranking (Short)	VDS200x + AutoWave			4.11	•	•			
E-11 Warm Cranking (Long)	VDS200x + AutoWave			4.11	•	•			
E-12 Voltage Curve	VDS200x			4.12	•	•			
E-13 Pin Break (Test Case 1)	PFS200x (Precom), AutoWave + PFM200Nx			4.13	•	•			
E-13 Pin Break (Test Case 2)	PFS200x (Precom), AutoWave + PFM200Nx			4.13	•	•			
E-14 Connector Interruption	AutoWave + PFM200Nx			4.14		•			
E-15 Reverse Voltage (Test Case 1)	VDS200Qx			4.15		•			
E-15 Reverse Voltage (Test Case 2)	VDS200Qx			4.15		•			
<b>VW 80000 (2017-10)</b>	12V Line	E-01 Longtime Voltage	VDS200x	4.1	•	•			
		E-02 Transient Overvoltage	VDS200x + AutoWave	4.2	•	•			
		E-03a Transient Subvoltage	VDS200x + AutoWave	4.3	•	•			
		E-03b Transient Subvoltage	VDS200x + AutoWave	4.3	•	•			
		E-04 Jump Start	VDS200x	4.4	•	•			
		E-05 Load Dump	VDS200x	4.5	•	•			
		E-06 Superimposed Voltage (Test Case 1-3)	VDS200x + AutoWave	4.6	•	•			
		E-06 Superimposed Voltage (Test Case 4)	VDS200Qx.1	4.6	•	•			
		E-07a Slow Ramp Down and Ramp Up	VDS200x + AutoWave	4.7	•	•			
		E-07b Slow Ramp Down and Ramp Up	VDS200Qx + AutoWave	4.7	•	•			
		E-08 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	4.8	•	•			
		E-09 Reset Behaviour	VDS200x + AutoWave	4.9	•	•			
		E-10 Short Reset	PFS200x + BSM200N100, AutoWave + PFM200Nx	4.10	•	•			
		E-11 Cold Cranking (Normal)	VDS200x	4.11	•	•			
		E-11 Cold Cranking (Severe)	VDS200x + AutoWave	4.11	•	•			
		E-11 Warm Cranking (Short)	VDS200x + AutoWave	4.11	•	•			
		E-11 Warm Cranking (Long)	VDS200x + AutoWave	4.11	•	•			
		E-12 Voltage Curve	VDS200x	4.12	•	•			
		E-13 Pin Break (Test Case 1)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•			
		E-13 Pin Break (Test Case 2)	PFS200x (Precom), AutoWave + PFM200Nx	4.13	•	•			
E-14 Connector Interruption	AutoWave + PFM200Nx	4.14		•					

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
VW TL 81000 (2013-02)		E-15 Reverse Voltage (Test Case 1)	VDS200Qx	4.15		•		
		E-15 Reverse Voltage (Test Case 2)	VDS200Qx	4.15		•		
		Magnetic Fields - Strength 2 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•		
		Magnetic Fields - Strength 2 (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•		
		Magnetic Fields - Strength 3 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•		
		Magnetic Fields - Strength 3 (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•		
		Magnetic Fields - Strength 4 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•		
		Magnetic Fields - Strength 4 (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•		
		Magnetic Fields - Verify H-Field DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•		
		Magnetic Fields - Verify H-Field 1kHz (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•		
		12V Line	Pulse 3a	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 3b	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 6	UCS200x	3.4.4.1.3	•		
			Pulse 2	UCS200x, MPG200	3.4.4.1.3	•		
			Pulse 1	UCS200x, MPG200	3.4.4.1.3	•		
		24V Line	Pulse 3a	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 3b	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 6	UCS200x	3.4.4.1.3	•		
			Pulse 2	UCS200x, MPG200	3.4.4.1.3	•		
			Pulse 1	UCS200x, MPG200	3.4.4.1.3	•		
		42V Line	Pulse 3a	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 3b	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 6	UCS200x	3.4.4.1.3	•		
			Pulse 2	UCS200x, MPG200	3.4.4.1.3	•		
			Pulse 1	UCS200x, MPG200	3.4.4.1.3	•		
		48V Line	Pulse 3a	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 3b	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 6	UCS200x	3.4.4.1.3	•		
			Pulse 2	UCS200x, MPG200	3.4.4.1.3	•		
			Pulse 1	UCS200x, MPG200	3.4.4.1.3	•		
		I/O	Pulse 3a	UCS200x, EFT200	3.4.5.4.1	•		
			Pulse 3b	UCS200x, EFT200	3.4.5.4.1	•		
			Pulse 1	UCS200x, MPG200	3.4.5.4.1	•		
	Pulse 2		UCS200x, MPG200	3.4.5.4.1	•			
			Pulse 5b	VDS200N, VDS200B	3.4.4.1.3	•		
VW TL 81000 (2014-04)		Magnetic Fields - Strength 2 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•		
		Magnetic Fields - Strength 2 (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•		
		Magnetic Fields - Strength 3 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•		
		Magnetic Fields - Strength 3 (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•		
		Magnetic Fields - Strength 4 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•		
		Magnetic Fields - Strength 4 (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•		
		Magnetic Fields - Verify H-Field DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•		
		Magnetic Fields - Verify H-Field 1kHz (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•		
		12V Line	Pulse 3a	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 3b	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 6	UCS200x	3.4.4.1.3	•		
			Pulse 2	UCS200x, MPG200	3.4.4.1.3	•		
			Pulse 1	UCS200x, MPG200	3.4.4.1.3	•		
		24V Line	Pulse 3a	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 3b	UCS200x, EFT200	3.4.4.1.3	•		
			Pulse 6	UCS200x	3.4.4.1.3	•		
			Pulse 2	UCS200x, MPG200	3.4.4.1.3	•		
			Pulse 1	UCS200x, MPG200	3.4.4.1.3	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
	42V Line	Pulse 3a	UCS200x, EFT200	3.4.4.1.3	•			
		Pulse 3b	UCS200x, EFT200	3.4.4.1.3	•			
		Pulse 6	UCS200x	3.4.4.1.3	•			
		Pulse 2	UCS200x, MPG200	3.4.4.1.3	•			
		Pulse 1	UCS200x, MPG200	3.4.4.1.3	•			
		Pulse 5b	VDS200N, VDS200B	3.4.4.1.3	•			
	48V Line	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•		
		Pulse 6	UCS200x	UCS200x	3.4.4.1.3	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•		
		Pulse 5b	VDS200N, VDS200B	VDS200N, VDS200B	3.4.4.1.3	•		
	I/O	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	3.4.5.4.1	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	3.4.5.4.1	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	3.4.5.4.1	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	3.4.5.4.1	•		
	<b>VW TL 81000 (2016-02)</b>	Magnetic Fields - Strength 2 - DC (Radiating Loop)	Magnetic Fields - Strength 2 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	3.2.5		•	
			Magnetic Fields - Strength 2 (Radiating Loop)	AutoWave + AMP200Nx	3.2.5		•	
Magnetic Fields - Strength 3 - DC (Radiating Loop)			AutoWave + AMP200Nx + HS 5136	3.2.5		•		
Magnetic Fields - Strength 3 (Radiating Loop)			AutoWave + AMP200Nx	3.2.5		•		
Magnetic Fields - Strength 4 - DC (Radiating Loop)			AutoWave + AMP200Nx + HS 5136	3.2.5		•		
Magnetic Fields - Strength 4 (Radiating Loop)			AutoWave + AMP200Nx	3.2.5		•		
Magnetic Fields - Verify H-Field DC (Radiating Loop)			AutoWave + AMP200Nx + HS 5136	3.2.5		•		
Magnetic Fields - Verify H-Field 1kHz (Radiating Loop)			AutoWave + AMP200Nx	3.2.5		•		
12V Line		Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•		
		Pulse 6	UCS200x	UCS200x	3.4.4.1.3	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•		
24V Line		Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•		
		Pulse 6	UCS200x	UCS200x	3.4.4.1.3	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•		
42V Line		Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•		
		Pulse 6	UCS200x	UCS200x	3.4.4.1.3	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•		
		Pulse 5b	VDS200N, VDS200B	VDS200N, VDS200B	3.4.4.1.3	•		
48V Line	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•			
	Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	3.4.4.1.3	•			
	Pulse 6	UCS200x	UCS200x	3.4.4.1.3	•			
	Pulse 2	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•			
	Pulse 1	UCS200x, MPG200	UCS200x, MPG200	3.4.4.1.3	•			
	Pulse 5b	VDS200N, VDS200B	VDS200N, VDS200B	3.4.4.1.3	•			
I/O	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	3.4.5.4.1	•			
	Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	3.4.5.4.1	•			
	Pulse 1	UCS200x, MPG200	UCS200x, MPG200	3.4.5.4.1	•			
	Pulse 2	UCS200x, MPG200	UCS200x, MPG200	3.4.5.4.1	•			
<b>VW TL 81000 (2018-03)</b>	Magnetic Fields - Strength 2 - Level 1 - DC (Radiating Loop)	Magnetic Fields - Strength 2 - Level 1 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 2 - Level 1 (Radiating Loop)	AutoWave + AMP200Nx	5.2.6		•		
		Magnetic Fields - Strength 2 - Level 2- DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 2 - Level 2 (Radiating Loop)	AutoWave + AMP200Nx	5.2.6		•		



Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD	
		Magnetic Fields - Strength 3 - Level 1 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 3 - Level 1 (Radiating Loop)	AutoWave + AMP200Nx	5.2.6		•		
		Magnetic Fields - Strength 3- Level 2- DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 3 - Level 2 (Radiating Loop)	AutoWave + AMP200Nx	5.2.6		•		
		Magnetic Fields - Strength 4 - Level 1 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 4 - Level 1 (Radiating Loop)	AutoWave + AMP200Nx	5.2.6		•		
		Magnetic Fields - Strength 4- Level 2- DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 4 - Level 2 (Radiating Loop)	AutoWave + AMP200Nx	5.2.6		•		
		Magnetic Fields - Strength 5 - Level 1 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 5 - Level 1 (Radiating Loop)	AutoWave + AMP200Nx	5.2.6		•		
		Magnetic Fields - Strength 5- Level 2- DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 5 - Level 2 (Radiating Loop)	AutoWave + AMP200Nx + FESP 5133-1330	5.2.6		•		
		Magnetic Fields - Strength 6 - Level 1 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Strength 6 - Level 1 (Radiating Loop)	AutoWave + AMP200Nx + FESP 5133-1330	5.2.6		•		
		Magnetic Fields - Verify H-Field DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136	5.2.6		•		
		Magnetic Fields - Verify H-Field 1kHz (Radiating Loop)	AutoWave + AMP200Nx	5.2.6		•		
	12V Line	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	5.4.2	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	5.4.2	•		
		Pulse 6	UCS200x	UCS200x	5.4.2	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	5.4.2	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	5.4.2	•		
	24V Line	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	5.4.2	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	5.4.2	•		
		Pulse 6	UCS200x	UCS200x	5.4.2	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	5.4.2	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	5.4.2	•		
	42V Line	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	5.4.2	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	5.4.2	•		
		Pulse 6	UCS200x	UCS200x	5.4.2	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	5.4.2	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	5.4.2	•		
		Pulse 5b	VDS200N, VDS200B	VDS200N, VDS200B	5.4.2	•		
	48V Line	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	5.4.2	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	5.4.2	•		
		Pulse 6	UCS200x	UCS200x	5.4.2	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	5.4.2	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	5.4.2	•		
		Pulse 5b	VDS200N, VDS200B	VDS200N, VDS200B	5.4.2	•		
	I/O	Pulse 3a	UCS200x, EFT200	UCS200x, EFT200	5.4.5	•		
		Pulse 3b	UCS200x, EFT200	UCS200x, EFT200	5.4.5	•		
		Pulse 1	UCS200x, MPG200	UCS200x, MPG200	5.4.5	•		
		Pulse 2	UCS200x, MPG200	UCS200x, MPG200	5.4.5	•		
<b>VW 82148 (2011-09)</b>	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	3.1		•		
		E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•		
		E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•		
		E48-03 Transient process in the lower operating range	VDS200x	3.4		•		
		E48-04 Recuperation	VDS200x	3.5		•		
		E48-05 Superimposed Voltage - Part 1 - F1 (15Hz-30kHz)	VDS200x	3.6		•		
		E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz)	VDS200Qx	3.6		•		
		E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•		
		E48-05 Superimposed Voltage - Part 2 - F1 (15Hz-30kHz)	VDS200x	3.6		•		
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz)	VDS200Qx	3.6		•		
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•		
		E48-06 Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave	3.7		•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave	3.7		•	
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave	3.7		•	
		E48-07 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	3.9		•	
		E48-08 Reset Behavior	VDS200x + AutoWave	3.9		•	
		E48-09 Short Breaks	PFS200x + BS200, AutoWave + PFM200Nx	3.10	•	•	
		E48-10 Start Impulses - Cold start (Normal)	VDS200x	3.11		•	
		E48-10 Start Impulses - Cold start (Severe)	VDS200x	3.11		•	
		E48-13 Internal Voltage Strength	VDS200x	3.14		•	
		E48-15 Operating in the area without functional limitation	VDS200x + AutoWave	3.16		•	
		E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	3.17		•	
		E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	3.18		•	
		E48-18 Over-Voltage Range	VDS200x + AutoWave	3.19		•	
		E48-19 Under-Voltage Range	VDS200x + AutoWave	3.20		•	
<b>VW 82148 (2013-09)</b>	48V Line	E48-01a Long-term overvoltage (not voltage-limiting components)	VDS200x	3.1		•	
		E48-02 Transient overvoltage (load-dump) - Short Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•	
		E48-02 Transient overvoltage (load-dump) -Long Test (70V)	VDS200N100.2 / 100.6 / VDS200Qx.1	3.3		•	
		E48-03 Transient process in the lower operating range	VDS200x	3.4		•	
		E48-04 Recuperation	VDS200x	3.5		•	
		E48-05 Superimposed Voltage - Part 1 - F1 (15Hz-30kHz)	VDS200x	3.6		•	
		E48-05 Superimposed Voltage - Part 1 - F2 (30kHz - 200kHz)	VDS200Qx	3.6		•	
		E48-05 Superimposed Voltage - Part1 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F1 (15Hz-30kHz)	VDS200x	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz)	VDS200Qx	3.6		•	
		E48-05 Superimposed Voltage - Part 2 - F2 (30kHz - 200kHz) (Coupled)	VDS200x + AMP200Nx + CN200N1	3.6		•	
		E48-06 Slow Ramp Down and Ramp Up - Memory-free	VDS200x + AutoWave	3.7		•	
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 1	VDS200x + AutoWave	3.7		•	
		E48-06 Slow Ramp Down and Ramp Up - With memory - Part 2	VDS200x + AutoWave	3.7		•	
		E48-07 Slow Ramp Down and Fast Ramp Up	VDS200x + AutoWave	3.9		•	
		E48-08 Reset Behavior	VDS200x + AutoWave	3.9		•	
		E48-09 Short Breaks	PFS200x + BS200, AutoWave + PFM200Nx	3.10	•	•	
		E48-10 Start Impulses - Cold start (Normal)	VDS200x	3.11		•	
		E48-10 Start Impulses - Cold start (Severe)	VDS200x	3.11		•	
		E48-13 Internal Voltage Strength	VDS200x	3.14		•	
		E48-15 Operating in the area without functional limitation	VDS200x + AutoWave	3.16		•	
		E48-16 Operating in the upper area with functional limitation	VDS200x + AutoWave	3.17		•	
		E48-17 Operating in the lower area with functional limitation	VDS200x + AutoWave	3.18		•	
		E48-18 Over-Voltage Range	VDS200x + AutoWave	3.19		•	
		E48-19 Under-Voltage Range	VDS200x + AutoWave	3.20		•	
<b>VW 80300 (2016-10)</b>	HV	6.16 EHV-16 HV pulse	AutoWave + SNG 200P / + PFM 200N	6.16		•	
<b>VW 80101 (1999-06)</b>	12V Line	Overvoltage L	VDS200x	5.1.2	•		
		Overvoltage K	VDS200x	5.1.3	•		
		Wobble	VDS200x	5.5	•		
		Dips	VDS200x	5.6	•		
<b>VW 80101 (2000-09)</b>	12V Line	Overvoltage L	VDS200x	5.1.2	•		
		Overvoltage K	VDS200x	5.1.3	•		
		Wobble	VDS200x	5.5	•		
		Dips	VDS200x	5.6	•		
<b>VW 80101 (2001-04)</b>	12V Line	Overvoltage L	VDS200x	5.1.2	•		
		Overvoltage K	VDS200x	5.1.3	•		
		Wobble	VDS200x	5.5	•		
		Dips	VDS200x	5.6	•		
<b>VW</b>	12V Line	Reversed Upa	VDS200x	3.7	•		

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>80101</b> <b>(2003-05)</b>		Reversed Upc	VDS200x	3.7	•		
		Overvoltage L	VDS200x	3.9	•		
		Overvoltage K	VDS200x	3.10	•		
		Wobble	VDS200x	3.11	•		
		Ramp Down	VDS200x	3.12	•		
		Ramp Up	VDS200x	3.12	•		
		Dips	VDS200x	3.13	•		
<b>VW</b> <b>80101</b> <b>(2004-07)</b>	12V Line	Reversed Upa	VDS200x	3.7	•		
		Reversed Upc	VDS200x	3.7	•		
		Overvoltage L	VDS200x	3.9	•		
		Overvoltage K	VDS200x	3.10	•		
		Wobble	VDS200x	3.11	•		
		Ramp Down	VDS200x	3.12	•		
		Ramp Up	VDS200x	3.12	•		
Dips	VDS200x	3.13	•				
<b>VW</b> <b>80101</b> <b>(2005-06)</b>	12V Line	Dip Kl.15,30 - 1	VDS200x	3,2	•	•	
		Dip Kl.15,30 - 2	VDS200x	3,2	•	•	
		Dip Kl.15,30 - 3	VDS200x	3,2	•	•	
		Dip Kl.15,30 - 4	VDS200x	3,2	•	•	
		Dip Kl.15,30 - 5	VDS200x	3,2	•	•	
		Dip Kl.15,30 - 6	VDS200x	3,2	•	•	
		Dip Kl.15,30 - 7	VDS200x	3,2	•	•	
		Dip Kl.15,30 - 8	VDS200x	3,2	•	•	
		Dip Kl.75 - 1	VDS200x + AutoWave	3,2	•	•	
		Dip Kl.75 - 2	VDS200x + AutoWave	3,2	•	•	
		Dip Kl.75 - 3	VDS200x + AutoWave	3,2	•	•	
		Dip Kl.75 - 4	VDS200x + AutoWave	3,2	•	•	
		Dip Kl.75 - 5	VDS200x + AutoWave	3,2	•	•	
		Dip Kl.75 - 6	VDS200x + AutoWave	3,2	•	•	
		Dip Kl.75 - 7	VDS200x + AutoWave	3,2	•	•	
		Dip Kl.75 - 8	VDS200x + AutoWave	3,2	•	•	
		Reversed Upa	VDS200x	3.8	•	•	
		Reversed Upc	VDS200x	3.8	•	•	
		Overvoltage L	VDS200x	3.10	•	•	
		Overvoltage K	VDS200x	3.11	•	•	
		Wobble	VDS200x	3.12	•	•	
		Ramp Down	VDS200x	3.13	•	•	
		Ramp Up	VDS200x	3.13	•	•	
Dips	VDS200x	3.14	•	•			
<b>VW</b> <b>80101</b> <b>(2006-10)</b>	12V Line	Dip 1	VDS200x	3,2	•	•	
		Dip 2	VDS200x	3,2	•	•	
		Dip 3	VDS200x	3,2	•	•	
		Dip 4	VDS200x	3,2	•	•	
		Dip 5	VDS200x	3,2	•	•	
		Dip 6	VDS200x	3,2	•	•	
		Dip 7	VDS200x	3,2	•	•	
		Dip 8	VDS200x	3,2	•	•	
		Reversed Upa	VDS200x	3.8	•	•	
		Reversed Upc	VDS200x	3.8	•	•	
		Overvoltage L	VDS200x	3.10	•	•	
		Overvoltage K	VDS200x	3.11	•	•	
		Wobble	VDS200x	3.12	•	•	
		Ramp Down	VDS200x	3.13	•	•	
		Ramp Up	VDS200x	3.13	•	•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>VW 80101 (2009-03)</b>	12V Line	Dips	VDS200x	3.14	•	•	
		Dip 1	VDS200x	3,2	•	•	
		Dip 2	VDS200x	3,2	•	•	
		Dip 3	VDS200x	3,2	•	•	
		Dip 4	VDS200x	3,2	•	•	
		Dip 5	VDS200x	3,2	•	•	
		Dip 6	VDS200x	3,2	•	•	
		Dip 7	VDS200x	3,2	•	•	
		Dip 8	VDS200x	3,2	•	•	
		Dip 9	VDS200x + AutoWave	3,2	•	•	
		Dip 10	VDS200x + AutoWave	3,2	•	•	
		Reversed Upa	VDS200x	3.8	•	•	
		Reversed Upc	VDS200x	3.8	•	•	
		Overvoltage L	VDS200x	3.10	•	•	
		Overvoltage K	VDS200x	3.11	•	•	
		Wobble	VDS200x + AutoWave	3.12	•	•	
		Wobble (KL29)	VDS200x + AutoWave	3.12	•	•	
		Ramp Down	VDS200x	3.13	•	•	
		Ramp Up	VDS200x	3.13	•	•	
		Dips	VDS200x	3.14	•	•	
<b>VW TL 82066 (1997-05)</b>	12V Line	Pulse 4	VDS200x	4.1.1	•		
		Pulse 4b	VDS200x	4.1.1	•		
		Pulse 3a	UCS200x, EFT200	4.1.1	•		
		Pulse 3b	UCS200x, EFT200	4.1.1	•		
		Pulse 1b	UCS200x, MPG200	4.1.1	•		
		Pulse 2	UCS200x, MPG200	4.1.1	•		
		Pulse 1	UCS200x, MPG200	4.1.1	•		
	24V Line	Pulse 4	VDS200x	4.1.2	•		
		Pulse 3a	UCS200x, EFT200	4.1.2	•		
		Pulse 3b	UCS200x, EFT200	4.1.2	•		
		Pulse 1b	UCS200x, MPG200	4.1.2	•		
		Pulse 2	UCS200x, MPG200	4.1.2	•		
		Pulse 1	UCS200x, MPG200	4.1.2	•		
		<b>VW TL 82066 (2001-09)</b>	12V Line	Pulse 4	VDS200x	5.2	•
Pulse 4b	VDS200x			5.2	•		
Pulse 3a	UCS200x, EFT200			5.2	•		
Pulse 3b	UCS200x, EFT200			5.2	•		
Pulse 1b	UCS200x, MPG200			5.2	•		
Pulse 2	UCS200x, MPG200			5.2	•		
Pulse 1	UCS200x, MPG200			5.2	•		
24V Line	Pulse 4		VDS200x	5.2	•		
	Pulse 3a		UCS200x, EFT200	5.2	•		
	Pulse 3b		UCS200x, EFT200	5.2	•		
	Pulse 1b		UCS200x, MPG200	5.2	•		
	Pulse 2		UCS200x, MPG200	5.2	•		
	Pulse 1		UCS200x, MPG200	5.2	•		
	42V Line		Pulse 4	VDS200x	5.2	•	
Pulse 3a			UCS200x, EFT200	5.2	•		
Pulse 3b			UCS200x, EFT200	5.2	•		
Pulse 1b			UCS200x, MPG200	5.2	•		
Pulse 2			UCS200x, MPG200	5.2	•		
Pulse 1			UCS200x, MPG200	5.2	•		
Pulse 5b			VDS200N, VDS200B	5.2	•		
<b>VW</b>	12V Line		Pulse 4	VDS200x	5.2	•	•

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>TL 82066</b> <b>(2004-10)</b>		Pulse 4b	VDS200x	5.2	•	•	
		Pulse 3a	UCS200x, EFT200	5.2	•		
		Pulse 3b	UCS200x, EFT200	5.2	•		
		Pulse 6	UCS200x	5.2	•		
		Pulse 2	UCS200x, MPG200	5.2	•		
		Pulse 1	UCS200x, MPG200	5.2	•		
	24V Line	Pulse 4	VDS200x	5.2	•	•	
		Pulse 3a	UCS200x, EFT200	5.2	•		
		Pulse 3b	UCS200x, EFT200	5.2	•		
		Pulse 6	UCS200x	5.2	•		
		Pulse 2	UCS200x, MPG200	5.2	•		
		Pulse 1	UCS200x, MPG200	5.2	•		
	42V Line	Pulse 4	VDS200x	5.2	•	•	
		Pulse 3a	UCS200x, EFT200	5.2	•		
		Pulse 3b	UCS200x, EFT200	5.2	•		
		Pulse 6	UCS200x	5.2	•		
		Pulse 2	UCS200x, MPG200	5.2	•		
		Pulse 1	UCS200x, MPG200	5.2	•		
Pulse 5b		VDS200N, VDS200B	5.2	•	•		
<b>VW</b> <b>TL 82066</b> <b>(2006-10)</b>	12V Line	Pulse 3a	UCS200x, EFT200	5.2	•		
		Pulse 3b	UCS200x, EFT200	5.2	•		
		Pulse 6	UCS200x	5.2	•		
		Pulse 2	UCS200x, MPG200	5.2	•		
		Pulse 1	UCS200x, MPG200	5.2	•		
	24V Line	Pulse 3a	UCS200x, EFT200	5.2	•		
		Pulse 3b	UCS200x, EFT200	5.2	•		
		Pulse 6	UCS200x	5.2	•		
		Pulse 2	UCS200x, MPG200	5.2	•		
		Pulse 1	UCS200x, MPG200	5.2	•		
	42V Line	Pulse 3a	UCS200x, EFT200	5.2	•		
		Pulse 3b	UCS200x, EFT200	5.2	•		
		Pulse 6	UCS200x	5.2	•		
		Pulse 2	UCS200x, MPG200	5.2	•		
		Pulse 1	UCS200x, MPG200	5.2	•		
<b>VW</b> <b>TL 82366</b> <b>(2002-03)</b>	I/O	Pulse 1	UCS200x, MPG200	6.4.1	•		
		Pulse 2	UCS200x, MPG200	6.4.1	•		
		Pulse 3a	UCS200x, EFT200	6.4.1	•		
		Pulse 3b	UCS200x, EFT200	6.4.1	•		
		Pulse 1	UCS200x, MPG200	6.4.2	•		
		Pulse 2	UCS200x, MPG200	6.4.2	•		
<b>VW</b> <b>TL 82366</b> <b>(2013-02)</b>	I/O	Pulse 3a	UCS200x, EFT200	5.4.1	•		
		Pulse 3b	UCS200x, EFT200	5.4.1	•		
		Pulse 1	UCS200x, MPG200	5.4.2	•		
		Pulse 2	UCS200x, MPG200	5.4.2	•		
<b>VW</b> <b>TL 82366</b> <b>(2008-02)</b>	I/O	Pulse 3a	UCS200x, EFT200	5.4.1	•		
		Pulse 3b	UCS200x, EFT200	5.4.1	•		
		Pulse 1	UCS200x, MPG200	5.4.2	•		
		Pulse 2	UCS200x, MPG200	5.4.2	•		
<b>VW</b> <b>TL 82566</b> <b>(2006-02)</b>		Immunity to Magnetic Fields - Strength 1 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		Immunity to Magnetic Fields - Strength 2 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		Immunity to Magnetic Fields - Strength 3 (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•
		Immunity to Magnetic Fields - Strength 4 (Radiating Loop)	AutoWave + AMP200N1, CWS500N3			•	•
		Immunity to Magnetic Fields - Verify H-Field (Radiating Loop)	AutoWave + AMP200Nx, CWS500N3			•	•

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
<b>VW TL 82566 (2011-05)</b>		Immunity to Magnetic Fields - Strength 2 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136			•	
		Immunity to Magnetic Fields - Strength 2 (Radiating Loop)	AutoWave + AMP200Nx			•	
		Immunity to Magnetic Fields - Strength 3 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136			•	
		Immunity to Magnetic Fields - Strength 3 (Radiating Loop)	AutoWave + AMP200Nx			•	
		Immunity to Magnetic Fields - Strength 4 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136			•	
		Immunity to Magnetic Fields - Strength 4 (Radiating Loop)	AutoWave + AMP200Nx			•	
		Immunity to Magnetic Fields - Verify H-Field DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136			•	
		Immunity to Magnetic Fields - Verify H-Field 1kHz (Radiating Loop)	AutoWave + AMP200Nx			•	
<b>VW TL 82566 (2013-05)</b>		Immunity to Magnetic Fields - Strength 2 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136			•	
		Immunity to Magnetic Fields - Strength 2 (Radiating Loop)	AutoWave + AMP200Nx			•	
		Immunity to Magnetic Fields - Strength 3 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136			•	
		Immunity to Magnetic Fields - Strength 3 (Radiating Loop)	AutoWave + AMP200Nx			•	
		Immunity to Magnetic Fields - Strength 4 - DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136			•	
		Immunity to Magnetic Fields - Strength 4 (Radiating Loop)	AutoWave + AMP200Nx			•	
		Immunity to Magnetic Fields - Verify H-Field DC (Radiating Loop)	AutoWave + AMP200Nx + HS 5136			•	
		Immunity to Magnetic Fields - Verify H-Field 1kHz (Radiating Loop)	AutoWave + AMP200Nx			•	
<b>Yamaha ETS-Y-11-07 (Part) (2005-08)</b>	12V Line	Starting-time source voltage test	VDS200N / VDS200	8.1	•		
		Surge voltage tests - Impulse type a	UCS200x	8.2.1	•		
		Surge voltage tests - Impulse type b	UCS200x	8.2.2	•		
<b>DO RCTA DO-160E RCTA DO-160E (Chapter 16)</b>	14V Line	Voltage (Average Value dc)	VDS200x + AutoWave			•	
		Ripple Voltage (dc)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Momentary Power Interruptions (dc)	VDS200x + AutoWave			•	
		Normal Surge Voltage (dc)	VDS200x + AutoWave			•	
		Voltage Steady State (dc)	VDS200x + AutoWave			•	
		Low Voltage Conditions (dc)	VDS200x + AutoWave			•	
		Momentary Undervoltage Operation (dc)	VDS200x + AutoWave			•	
		Abnormal Surge Voltage (dc)	VDS200x + AutoWave			•	
	28V Line	Voltage (Average Value dc)	VDS200x + AutoWave			•	
		Ripple Voltage (dc)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Momentary Power Interruptions (dc)	VDS200x + AutoWave			•	
		Normal Surge Voltage (dc)	VDS200x + AutoWave			•	
		Engine Starting Under Voltage (dc)	VDS200x + AutoWave			•	
		Voltage Steady State (dc)	VDS200x + AutoWave			•	
		Low Voltage Conditions (dc)	VDS200x + AutoWave			•	
		Momentary Undervoltage Operation (dc)	VDS200x + AutoWave			•	
<b>DO RCTA DO-160E (Chapter 18)</b>	14V Line	Audio Frequency Conducted Susceptibility - Power Inputs	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
	28V Line	Audio Frequency Conducted Susceptibility - Power Inputs	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
<b>DO RCTA DO-160F (Chapter 16)</b>	14V Line	Voltage (Average Value dc)	VDS200x + AutoWave			•	
		Ripple Voltage (dc)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•
		Momentary Power Interruptions (dc)	VDS200x + AutoWave			•	
		Normal Surge Voltage (dc)	VDS200x + AutoWave			•	
		Voltage Steady State (dc)	VDS200x + AutoWave			•	
		Low Voltage Conditions (dc)	VDS200x + AutoWave			•	
		Momentary Undervoltage Operation (dc)	VDS200x + AutoWave			•	
		Abnormal Surge Voltage (dc)	VDS200x + AutoWave			•	
	28V Line	Voltage (Average Value dc)	VDS200x + AutoWave			•	

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD		
		Ripple Voltage (dc)	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•		
		Momentary Power Interruptions (dc)	VDS200x + AutoWave			•			
		Normal Surge Voltage (dc)	VDS200x + AutoWave			•			
		Engine Starting Under Voltage (dc)	VDS200x + AutoWave			•			
		Voltage Steady State (dc)	VDS200x + AutoWave			•			
		Low Voltage Conditions (dc)	VDS200x + AutoWave			•			
		Momentary Undervoltage Operation (dc)	VDS200x + AutoWave			•			
		Abnormal Surge Voltage (dc)	VDS200x + AutoWave			•			
	270V Line	Voltage (Average Value dc)	AutoWave + externe Quelle				•		
		Ripple Voltage (dc)	AutoWave + AMP200Nx + CN200N1, CWS500N3				•	•	
		Momentary Power Interruptions (dc)	AutoWave + externe Quelle				•		
		Normal Surge Voltage (dc)	AutoWave + externe Quelle				•		
		Voltage Steady State (dc)	AutoWave + externe Quelle				•		
		Momentary Undervoltage Operation (dc)	AutoWave + externe Quelle				•		
<b>DO</b> <b>RCTA DO-160F</b> <b>(Chapter 18)</b>	14V Line	Audio Frequency Conducted Susceptibility - Power Inputs	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•		
	28V Line	Audio Frequency Conducted Susceptibility - Power Inputs	AutoWave + AMP200Nx + CN200N1, CWS500N3			•	•		
	270V Line	Audio Frequency Cond. Susc. - Power Inputs (Differential Mode)	AutoWave + AMP200Nx + CN200N1, CWS500N3				•	•	
		Audio Frequency Cond. Susc. - Power Inputs (Common Mode)							
<b>DO</b> <b>RCTA DO-160G</b> <b>(Chapter 16)</b>	14V Line	Voltage (Average Value dc)	VDS200x + AutoWave			•			
		Ripple Voltage (dc)	AutoWave + AMP200Nx + CN200N1			•			
		Momentary Power Interruptions (dc)	VDS200x + AutoWave			•			
		Normal Surge Voltage (dc)	VDS200x + AutoWave			•			
		Voltage Steady State (dc)	VDS200x + AutoWave			•			
		Low Voltage Conditions (dc)	VDS200x + AutoWave			•			
		Momentary Undervoltage Operation (dc)	VDS200x + AutoWave			•			
		Abnormal Surge Voltage (dc)	VDS200x + AutoWave			•			
	28V Line	Voltage (Average Value dc)	VDS200x + AutoWave				•		
		Ripple Voltage (dc)	AutoWave + AMP200Nx + CN200N1				•		
		Momentary Power Interruptions (dc)	VDS200x + AutoWave				•		
		Normal Surge Voltage (dc)	VDS200x + AutoWave				•		
		Engine Starting Under Voltage (dc)	VDS200x + AutoWave				•		
		Voltage Steady State (dc)	VDS200x + AutoWave				•		
		Low Voltage Conditions (dc)	VDS200x + AutoWave				•		
		Momentary Undervoltage Operation (dc)	VDS200x + AutoWave				•		
	270V Line	Voltage (Average Value dc)	AutoWave + externe Quelle				•		
		Ripple Voltage (dc)	AutoWave + AMP200Nx + CN200N1				•		
		Momentary Power Interruptions (dc)	AutoWave + externe Quelle				•		
		Normal Surge Voltage (dc)	AutoWave + externe Quelle				•		
		Voltage Steady State (dc)	AutoWave + externe Quelle				•		
		Momentary Undervoltage Operation (dc)	AutoWave + externe Quelle				•		
		Abnormal Surge Voltage (dc)	AutoWave + externe Quelle				•		
		<b>DO</b> <b>RCTA DO-160G</b> <b>(Chapter 18)</b>	14V Line	Audio Frequency Conducted Susceptibility - Power Inputs	AutoWave + AMP200N1 + CN200N1			•	
			28V Line	Audio Frequency Conducted Susceptibility - Power Inputs	AutoWave + AMP200N1 + CN200N1			•	
			270V Line	Audio Frequency Cond. Susc. - Power Inputs (Differential Mode)	AutoWave + AMP200N1 + CN200N1				•
		Audio Frequency Cond. Susc. - Power Inputs (Common Mode)							
<b>Defance Standard</b> <b>61-5 Part 6</b>	12V Line	B.8 DIT04.B Cranking	VDS200x + AutoWave		•	•			
		B.10 DIT06.B Under and Over-Voltage	VDS200x + AutoWave		•	•			

Standard	Application	SW Pulse Name	Device	Paragr.	Iso	Auto	ICD
		DIT07.B Short Transients Pulse A	UCS200x, EFT200		•		
		DIT07.B Short Transients Pulse B	UCS200x, EFT200		•		
		DIT08.B Load Dump	LD200x		•		
	24V Line	B.8 DIT04.B Cranking	VDS200x + AutoWave		•	•	
		B.10 DIT06.B Under and Over-Voltage	VDS200x + AutoWave		•	•	
		DIT07.B Short Transients Pulse A	UCS200x, EFT200		•		
		DIT07.B Short Transients Pulse B	UCS200x, EFT200		•		
	DIT08.B Load Dump	LD200x		•			
<b>Defance Standard 59-411 Part 3 (Issue 1, Amend. 1)</b>		DRS01-A Radiated Susceptibility Magnetic (H)	CWS500N3				•
<b>MIL-STD-461E (1999-08)</b>		CS101, conducted susceptibility, power leads	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.7		•	•
		CS109, conducted susceptibility, structure current	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.12		•	•
		CS114, conducted susceptibility, bulk cable injection	CWS500N2	5.13			•
		RS101, radiated susceptibility, magnetic field	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.14		•	•
<b>MIL-STD-461F (2007-12)</b>		CS101, conducted susceptibility, power leads	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.7		•	•
		CS109, conducted susceptibility, structure current	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.12		•	•
		CS114, conducted susceptibility, bulk cable injection	CWS500N2	5.13			•
		RS101, radiated susceptibility, magnetic field	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.14		•	•
<b>MIL-STD-461G (2015-12)</b>		CS101, conducted susceptibility, power leads	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.7		•	
		CS109, conducted susceptibility, structure current	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.12		•	
		CS114, conducted susceptibility, bulk cable injection	CWS500N2	5.13			
		RS101, radiated susceptibility, magnetic field	AutoWave + AMP200N1 + CN200N1, CWS500N3	5.14		•	