

2.5 to 10 kW Three Phase Lab and Industrial Power Supplies DCR-T Series

New DCR-T Series high power lab/industrial power supplies are specifically designed to meet today's requirement for sophisticated control and product styling of the high power burn-in market. 10 kW DCR-T Series represents state-of-the-art SCR controlled regulation as well as state-of-the-art features and packaging. Unique DCR-T includes full remote control, full remote monitoring, along with front panel adjustment or remote OVP programming. Features include: OVP shutdown, phase loss and thermal shutdown standard. All features available under remote control or remote read back.

- 9 models, 0-4 to 0-600 Vdc and 16 to 900 Adc, thyristor-controlled and dc regulated
- 480 Vac, 60 Hz, 3 phase input (10 kW units). Optional ac inputs
- Automatic V/I crossover with indicators
- Remote control functions, i.e., V/I, OVP shutdown; external meter/indicator drive
- No programming resistors in contact with output, avoids hi-voltage problems with programming components
- Unique circuit prevents load burn-out should remote programming lines open
- EMI protection on ac line
- OVP shutdown standard, SCR crowbar optional
- Front panel easily removed for customizing
- 0.1% line & load regulation (typical)
- 30-150 mV rms ripple (model dependent)
- 40 msec transient response—50% change (typical)
- Rear panel connector features: ac control, shutdown, voltage set, current set, OVP set, local/remote I meter, remote E meter, OVP indication, thermal/phase indication, remote sense.
- Option M5: SCR crowbar
- Option M50: Digital meters
- Option M51: No meters (discounted)
- 5-year warranty



DC OUTPUT

CONSTANT VOLTAGE MODE

Voltage Regulation:

Line and load combined:
All models 0.1% of the voltage setting or specification in table, whichever is greater.

Temperature Coefficient:

0.02%/°C of E_o max.

Resistive Programming:

100 ohms per 1.0% of rated output.

Voltage Programming:

100 mV per 1.0% of rated output.

Stability:

0.1% E_o max. for 8 hours after 30 minute warm up with fixed line, load and temperature.

Remote Sensing:

3 to 10 V max. drop per load lead but not to exceed 20% of E_o max.

Transient Response:

40 ms (typical) to return to $\pm 1\%$ band for a step load change of 50% to 100% or 100% to 50% of full load.

CONSTANT CURRENT MODE

Current Regulation:

Line and load combined:
All models 0.1% I_o max. of the output current setting or specification in table, whichever is greater.

Temperature Coefficient:

0.04%/°C of I_o max.

Current Programming:

100 mV per 1.0% of rated output.

Resistive Programming:

100 ohms per 1.0% of rated output.

Stability:

0.2% I_o max. for 8 hours after 30 minute warm up with fixed line, load and temperature.

Model	Output Power				Constant Voltage Regulation ¹ Line & Load (mV)	Constant Current Regulation ¹ (mA)	Constant Voltage Ripple (PARD) rms/mV	Constant Current Ripple (PARD) rms/mA	Overvoltage Protection ²	Drift (Typ.)		Temperature Coeff. (Typ.)	
	Voltage (Vdc)	Current (Adc)								% E_o max.	% I_o max.	(mV.°C)	mA/°C)
		50°C	60°C	70°C									
DCR 4-800T1	0-4	800	680	440	2-4	400-900	30	3000	STANDARD	.05%	.05%	1	320
DCR 16-625T5	0-16	625	531	375	8-16	312-625	30	2000	STANDARD	.05%	.05%	3.2	250
DCR 32-310T5	0-32	310	264	186	16-32	155-310	20	1500	STANDARD	.05%	.05%	6.4	124
DCR 55-180T5	0-55	180	153	108	27-55	90-180	20	900	STANDARD	.05%	.05%	11	72
DCR 80-125T5	0-80	125	106	75	40-80	62-125	20	900	STANDARD	.05%	.05%	16	50
DCR 110-90T5	0-110	90	77	54	55-110	45-90	40	800	STANDARD	.05%	.05%	22	36
DCR 160-62T5	0-160	62	53	37	80-160	31-62	60	480	STANDARD	.05%	.05%	32	25
DCR 300-33T5	0-300	33	28	20	150-300	16-33	100	240	STANDARD	.05%	.05%	60	13
DCR 600-16T5	0-600	16	14	9.6	300-600	8-16	150	120	STANDARD	.05%	.05%	120	6

NOTES 1: Regulation range as stated 0.1% of voltage or current, or stated range, whichever is greater. **2.** OVP shutdown is standard, SCR crowbar is optional (specify M5). **3.** Efficiency taken at max. power out and nominal ac volts input. **4.** Line current at min. line voltage.

DCR-T Series Specifications

INPUT

Voltage:
480 Vac \pm 10% for 60-Hz, three-phase, 10-kW models.

Voltage Options:
See chart*

Frequency:
60 Hz all models.
50 Hz available as an option.

OPERATING DATA

Efficiency:¹
58%-67% of full rated output depending on model.

Series Operation:
200 Vdc maximum; consult factory for series operation of more than 2 units.

Parallel Operation:
Direct paralleling of any number of units.

Overvoltage Protection:
Standard. See footnote 2.

Ambient Operating Temperature Range:
0 to +70°C.

Storage Temperature Range:
-45°C to +85°C.

Cooling:
Forced air.

DCR-T ACCESSORIES

Cabinet Style Side Enclosures:
Consult factory.

Chassis Slides:
Part No. 1060247-1 \$300.00

Digital Programmer:

Available for all models in DCR-T Series. IEEE-488 interface to GPIB Bus. Order Model 488 MICRO-DAP.

OPTIONAL EQUIPMENT OVP

OVP shutdown is standard.
Option: SCR crowbar M5 (add \$200.00)

METERING

Analog: standard.
Digital: add M50, no charge.
Delete meters M51 (decrease cost \$100.00)

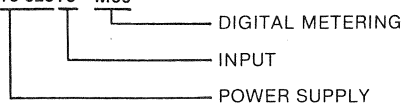
VOLTAGE OPTIONS (see chart)

Model	Transient Response Time ms (Typ.)	Remote Prog. (Typ.)		Efficiency % (Typ.) ³	Input Power				Pwr. Factor (Typ.)		Weight	Case Size
		Ohms/V	Ohms/A		Voltage (Vac)	Current Max(Aac) ⁴	Phase	Frequency (Hz)	Lead	Lag		
DCR 4-800T1	40	2500	12.5	50%	187-229	26	3 ϕ	60 \pm 1 Hz	.9	.2	185	II
DCR 16-625T5	40	625	16	60%	432-528	24.3	3 ϕ	60 \pm 1 Hz	.9	.2	310	III
DCR 32-310T5	40	313	32	61%	432-528	23.9	3 ϕ	60 \pm 1 Hz	.9	.2	310	III
DCR 55-180T5	40	182	56	63%	432-528	23.1	3 ϕ	60 \pm 1 Hz	.9	.2	310	III
DCR 80-125T5	40	125	80	64%	432-528	22.8	3 ϕ	60 \pm 1 Hz	.9	.2	310	III
DCR 110-90T5	40	91	111	65%	432-528	22.4	3 ϕ	60 \pm 1 Hz	.9	.2	310	III
DCR 160-62T5	40	63	161	66%	432-528	22.4	3 ϕ	60 \pm 1 Hz	.9	.2	310	III
DCR 300-33T5	40	33	303	67%	432-528	21.8	3 ϕ	60 \pm 1 Hz	.9	.2	310	III
DCR 600-16T5	40	17	625	67%	432-528	21.8	3 ϕ	60 \pm 1 Hz	.9	.2	310	III

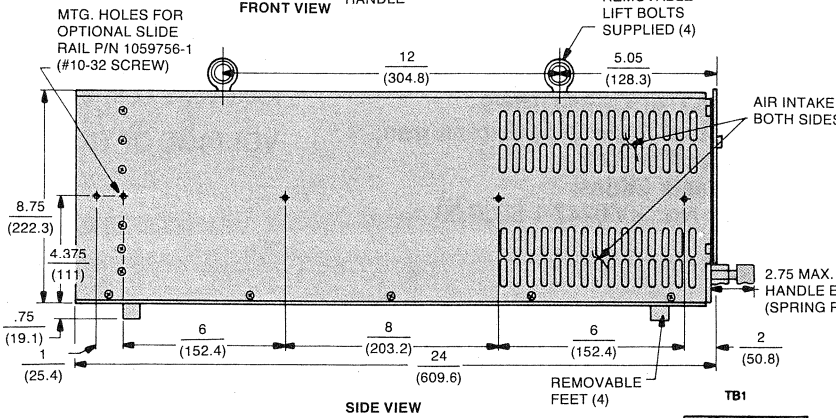
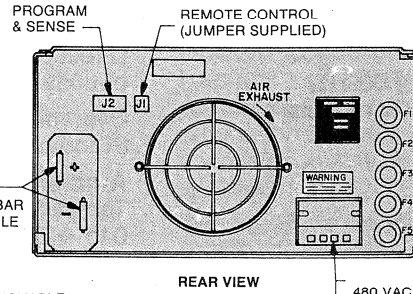
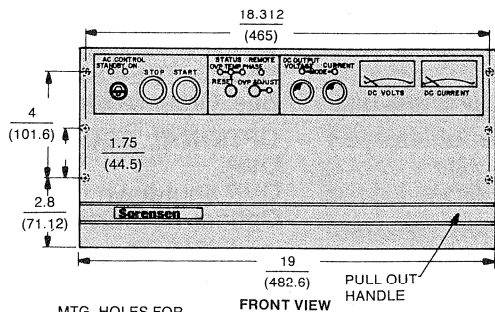
NOTE: The above specifications are subject to change without notice.

* A numeric designation to Model (T5) is standard on all ac inputs.
 T1 — 208 Vac, 60 Hz (N/C) T4 — 440 Vac, 60 Hz (add \$200.00)
 T2 — 380 Vac, 50 Hz (add \$200.00) T5 — 480 Vac, 60 Hz (standard)
 T3 — 415 Vac, 50 Hz (add \$200.00) T6 — 575 Vac, 60 Hz (add \$200.00)

EXAMPLE: DCR16-625T5 - M50

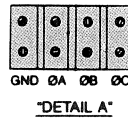


CASE II (8 3/4" High) Fan Cooled

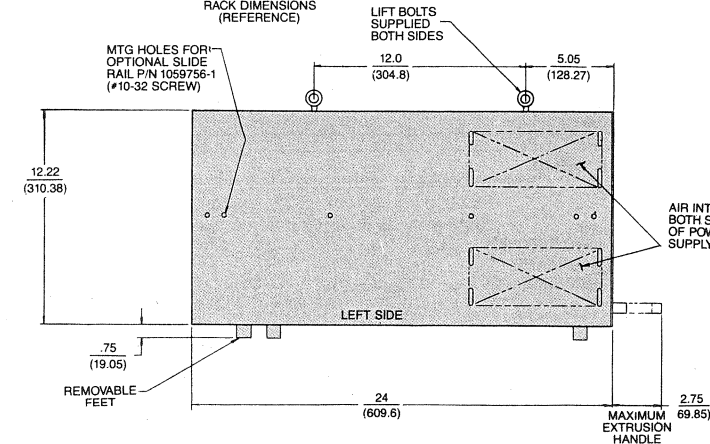
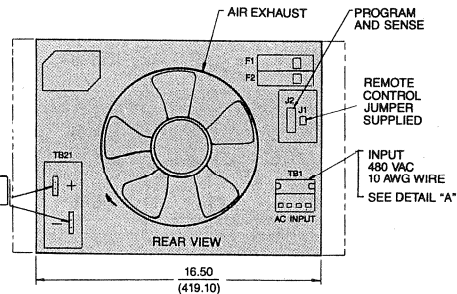
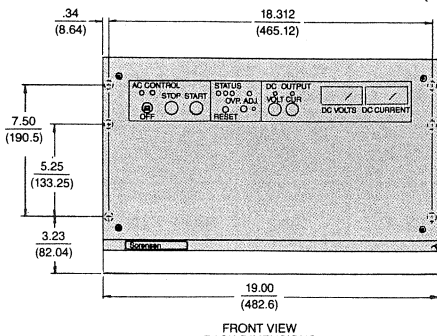


- 1 NC
- 2 LOGIC GND
- 3 RESET
- 4 OVP IND
- 5 THERMAL IND
- 6 PHASE IND
- 7 OPERATOR REMOTE IND
- 8 REMOTE/LOCAL
- 9 (+) OUTPUT
- 10 (-) OUTPUT
- 11 VIRTUAL GND
- 12 REMOTE OVP SET
- 13 REMOTE CURRENT SET
- 14 REMOTE VOLTAGE SET
- 15 SHUTDOWN
- 16 REMOTE VOLTAGE MTR
- 17 REMOTE AMP MTR
- 18 MODE PLS
- 19 MODE DRIVE
- 20 MODE IND
- 21 SENSE (+)
- 22 SENSE (-)

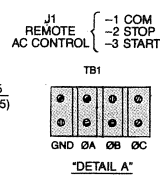
CASE SIZE	DIMENSIONS (In.)			WEIGHT (lb)
	Height	Width	Depth	
II	8 3/4	19	24	
III	12 1/4	19	24	



CASE III (12 1/4 in. High) Fan Cooled



- 1 NC
- 2 LOGIC GND
- 3 RESET
- 4 OVP IND
- 5 THERMAL IND
- 6 PHASE IND
- 7 OPERATE REMOTE IND
- 8 REMOTE/LOCAL
- 9 NC
- 10 NC
- 11 VIRTUAL GND
- 12 REMOTE OVP SET
- 13 REMOTE CURRENT SET
- 14 REMOTE VOLTAGE SET
- 15 SHUTDOWN
- 16 REMOTE VOLTAGE MTR
- 17 REMOTE AMP MTR
- 18 MODE PLS
- 19 MODE DRIVE
- 20 MODE IND
- 21 SENSE (+)
- 22 SENSE (-)



ALL DIMENSION ARE IN INCHES (mm)