8 Analog & 8 Digital Channel
Data Loggers
Models DL-1080 & DL-1081

Versatile, Powerful & Cost Effective Data Loggers

- Eight universal analog input channels: Thermocouples, V, mV, mA, Pt100 and Pt1000
- Eight digital I/Os (individually configured as input or output)
- Sample rates up to 1000/sec
- 24VDC output to power up to eight 4 to 20mA transmitters/ transducers
- Two relay outputs with NO, NC and common connections
- RS485 interface (Modbus master or slave) When acting as a master, it can read up to 64 registers from other slaves
- Ethernet and USB interface
- Up to 32 configurable alarms
- Up to 128 virtual channels
- Detachable, color TFT QVGA display (Model DL-1081)
- Up to 100 channels can be logged at a configurable rate

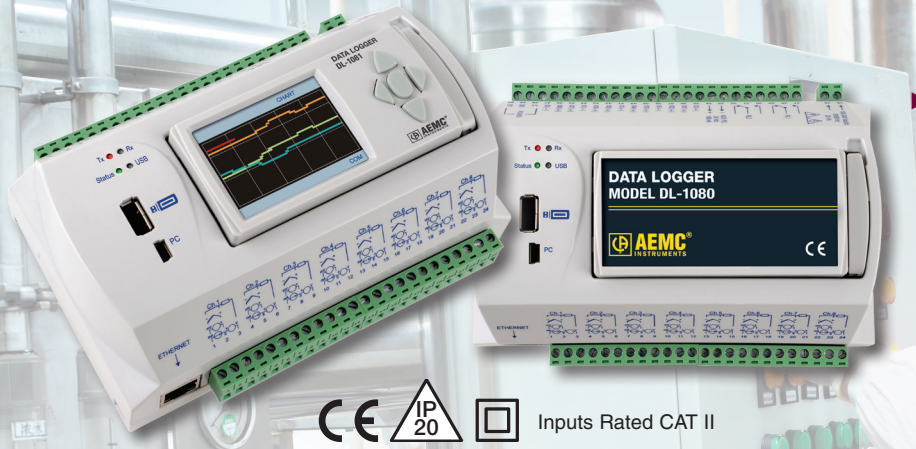
CE
Inputs Rated CAT II
IP 20

Our products are backed by over 100 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.

Technical Hotline: (800) 343-1391
www.aemc.com

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Models DL-1080 & DL-1081



IP 20 Inputs Rated CAT II

The DL-1080 and DL-1081 loggers are versatile, powerful and cost effective data loggers handling analog, digital and other types of variables with high resolution and speed. They offer high performance and are easy to configure and operate.

They have eight configurable analog inputs that can read thermocouples, Pt100, Pt1000, DC voltage and DC current signals. The DL-1080 and DL-1081 have two relay outputs and eight digital ports individually configurable as inputs or outputs.

Up to 128 math channels can be used to perform operations on the measured values. Up to 32 alarm events can be detected, allowing output activations, e-mails and SNMP traps sending.

Their RS485 interface can operate as a Modbus RTU master or slave. As a master, it can read and log up to 64 external channels. A 10/100 Mbps Ethernet interface allows access through a browser (HTTP), FTP (client and server), e-mails sending (SMTP), SNMP and Modbus TCP.

The DL-1080 and DL-1081 each have a USB interface for connecting to a computer for configuration, monitoring and data download and a second USB port for plugging in a flash drive for data retrieval. The 512k internal basic memory is used to store data. It can be greatly expanded with an optional SD card up to 16GB.

The Model DL-1081 incorporates a color display that can be attached or remotely installed for local indication and configuration. A user-friendly configuration software program included can be accessed by Ethernet, USB or RS485 and also provides means for online monitoring, logged data downloading, printing and exporting to spread sheets and other formats.

FEATURES

- Eight universal analog input channels: Thermocouples, V, mV, mA, Pt100 and Pt1000
- Sample rates up to 1000/second
- 24 bit A/D conversion resolution
- Eight digital I/Os (individually configured as input or output)
- Two relay outputs (with NO, NC and common connections)
- RS485 interface (Modbus master or slave). When acting as a master, it can read up to 64 registers from other slaves.
- Ethernet interface:
  - Sends alarm warning e-mails (SMTP)
  - Provides web pages with channels and status information (HTTP)
  - Allows logged data download via FTP (client and server)
  - Accesses status and channels values through network management software (SNMP and traps)
  - Allows Modbus communication by Ethernet interface (Modbus TCP)
- USB-device interface for configuring, monitoring and downloading
- USB-host interface for logged data retrieval through a USB flash drive
- Up to 32 configurable alarm actions, including:
  - Activating relays
  - Activating digital outputs
  - E-mails sending to multiple receivers
  - Sending SNMP traps
  - Starting and/or stopping loggings
- Up to 128 virtual channels
  - Basic mathematical functions to be applied on other channels: sum, subtraction, multiplication, division, logic (AND, OR and exclusive OR), square root and power
- 24VDC output for powering up to eight 4-20mA transmitters
- Detachable, color TFT QVGA display and keypad (Model DL-1081)
- RS485 communication with data logger
- Log up to 100 channels at a configurable rate
- 4 input channel types: analog, digital, remote and virtual

APPLICATIONS

- Process monitoring and recording
- Remote temperature logging
- Environmental monitoring

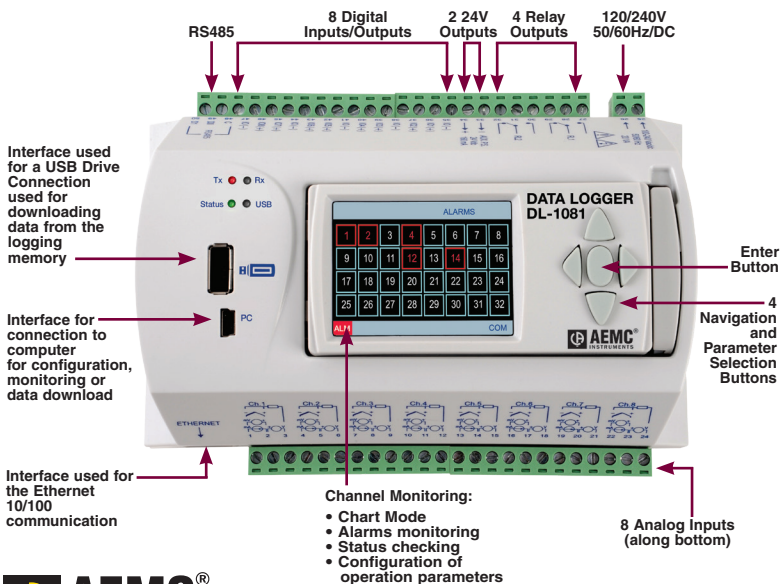
SPECIFICATIONS & INPUTS

SPECIFICATIONS

MODELS	DL-1080	DL-1081
ELECTRICAL		
Internal Memory	512k Expandable up to 16GB via removable SD card	
Power	100 to 240VAC, 50/60Hz, 20VA (Max)	
Analog Channels Input Impedance: Thermocouples	Pt100 / Pt1000 / mV: > 2MΩ mA: 15Ω + 1.5V / V: 1.1MΩ	
Accuracy: Thermocouples	J, K, T, E and N: 0.2% of the span ±1°C R, S and B: 0.2% of the span ±3°C Pt100, Pt1000, 0 to 20mA, 4 to 20mA, 0 to 20mV, 0 to 50mV, 0 to 60mV, -20 to 20mV, 0 to 5V, 0 to 10V: 0.15% of the span	
Power	Operating Voltage 100 to 240VAC	
Excitation Current	Pt100s: 360µA; Pt1000s: 320µA	
Maximum Pt100 / Pt1000 Compensated Cable Resistance	40Ω	
Digital Inputs	Logic level "0": from 0 to 0.8VDC Logic level "1": from 2 to 30VDC	
Maximum Input Voltage	30VDC	
Input Current at 30VDC (typical)	3mA	
Digital Outputs	Maximum output voltage: 30VDC Maximum output current: 200mA Maximum relay current: 3A at 250VAC; 3A at 30VDC	
Configurable Logging Rate	1ms to 24 hours	
Maximum Channel Logged	100	
Supported Modbus Commands	Read Coil Status (01h) Read Holding Registers (03h) Write Single Coil (05h) Write Single Register (06h) Write Multiple Registers (0Fh)	
DISPLAY	No	Color QVGA 2.4"
DIMENSIONS	4.6 x 6.4 x 2.75" (117 x 162.5 x 70mm)	
ENVIRONMENTAL CONDITIONS		
Operating Temperature	32° to 122°F (0° to 50°C)	
Relative Humidity	80% up to 30°C for temperatures higher than 30°C/decrease 3% for °C	
Altitude	< 2000m	
Protection	IP20	

Front Panel Features For Model DL-1081

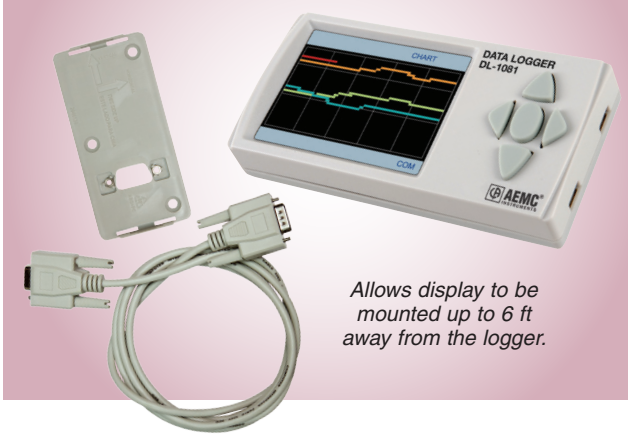
With Optional Display/Interface Module



Display/Interface Module

OPTIONAL DISPLAY SCREEN FOR DL-1081
Color QVGA screen 2.4"
96 x 48mm format
Shows the current channel values or a historical chart
Indicates status and alarms information
Allows parameter checking and configuration
Local and remote installation with RS485 communication
Uses standard serial cable for remote screen connection

Optional Remote Display Mounting Kit for Model DL-1081



Allows display to be mounted up to 6 ft away from the logger.

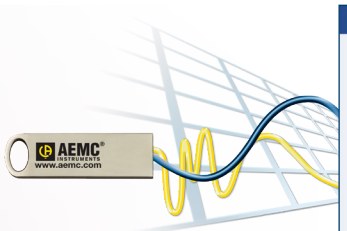
Programmable Inputs

INPUT	MEASURING RANGE
Thermocouple J	-184 to 1832°F (-120 to 1000°C)
Thermocouple K	-202 to 2501.6°F (-130 to 1372°C)
Thermocouple T	-202 to 752°F (-130 to 400°C)
Thermocouple E	-202 to 1436°F (-130 to 780°C)
Thermocouple N	-202 to 2372°F (-130 to 1300°C)
Thermocouple R	68 to 3214.4°F (20 to 1768°C)
Thermocouple S	68 to 3214.4°F (20 to 1768°C)
Thermocouple B	212 to 3308°F (100 to 1820°C)
Pt100	-328 to 1562°F (-200 to 850°C)
Pt1000	-328 to 1562°F (-200 to 850°C)
Linear 0 to 20mA	Configurable
Linear 4 to 20mA	Configurable
Linear 0 to 20mV	Configurable
Linear 0 to 50mV	Configurable
Linear 0 to 60mV	Configurable
Linear -20 to 20mV	Configurable
Linear 0 to 5V	Configurable
Linear 0 to 10V	Configurable

SOFTWARE/ANALYSIS SCREENS & ORDERING INFO

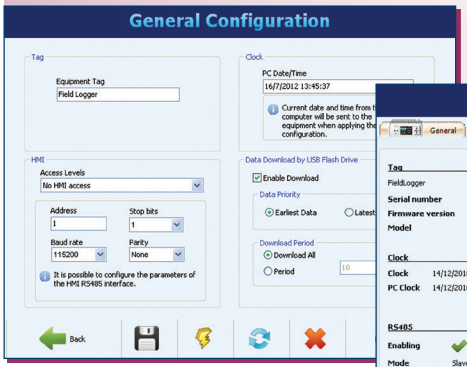
Configuration, Download and Diagnostics

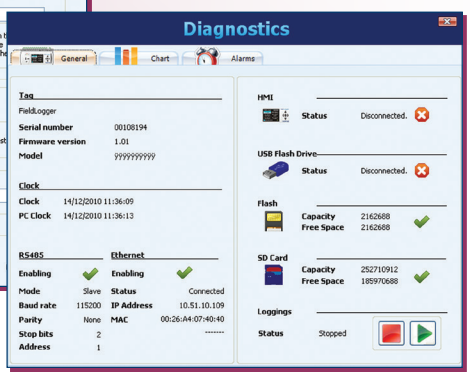
- **User friendly interface to:**
  - Download, real-time view and export data
  - Configure instrument
- **USB, RS485 or Ethernet Communications**
- **"Wizard" format (step-by-step guide)**

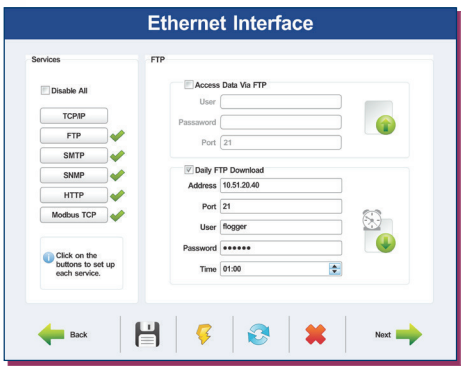


DL-1080 & DL-1081 Software

User manual and Modbus communication also on USB stick







USB Interface

- USB Device: connecting with a computer
  - Configuration and data download
  - Uses a standard Mini-B USB cable (included)
  - Computer USB port is seen as a virtual serial (COM) port
  - Communication using Modbus RTU protocol
- USB Host: flash drive
  - When a flash drive is plugged in, data download is started automatically

RS485 Interface

- Modbus RTU protocol
- Can act as a master or slave (communicating with SCADA systems)
  - Communication with multiple Modbus RTU slave devices
  - Allows acquisition of up to 64 external channels (remote channels)

Ethernet Interface

- Ethernet 10/100 Mbps
- Services and protocols available:
  - DHCP: Search network parameters automatically
  - HTTP: Server of basic pages with information of the equipment, its alarms and channels readings
  - FTP (Client and Server): Download of the logged data
  - SNMP: Allows monitoring via network management software
  - SMTP (Client): Sends e-mail messages on alarm conditions
  - Modbus TCP: Communication with SCADA systems
- Can serve pages in XML format,which allows data to be worked externally (example: creation of customized web pages)

ORDERING INFORMATION	CATALOG NO.
Data Logger Model DL-1080 (8 Analog & 8 Digital Channels, No Display) One Data Logger module, USB cable, Quick Start Guide and USB stick with software and product documentation.	**Cat. #2134.61**
Data Logger Model DL-1081 (8 Analog & 8 Digital Channels, Display) One Data Logger module, USB cable, Quick Start Guide and USB stick with software and product documentation.	**Cat. #2134.62**
Display for Data Logger Model DL-1080 (Upgrade and Replacement for DL-1081)	**Cat. #2134.76**
Accessories (Optional)	
Remote Mounting Display Kit (Mounting adapter and cable)	**Cat. #2134.77**

AEMC ONE SOURCE®
For All Your Electrical Test & Measurement Instruments

Call the AEMC® Instruments Technical Assistance Hotline for immediate consultation with an applications engineer: **(800) 343-1391**

Chauvin Arnoux®, Inc. d.b.a AEMC® Instruments • 200 Foxborough Blvd. • Foxborough, MA 02035 USA • (800) 343-1391 • (508) 698-2115 • Fax (508) 698-2118
Export Department: (603) 749-6434 (ext 520) • Fax (603) 742-2346 • E-mail: export@aemc.com
Visit our website at www.aemc.com

950.BR-DL-1080-81_1118 Printed in the USA