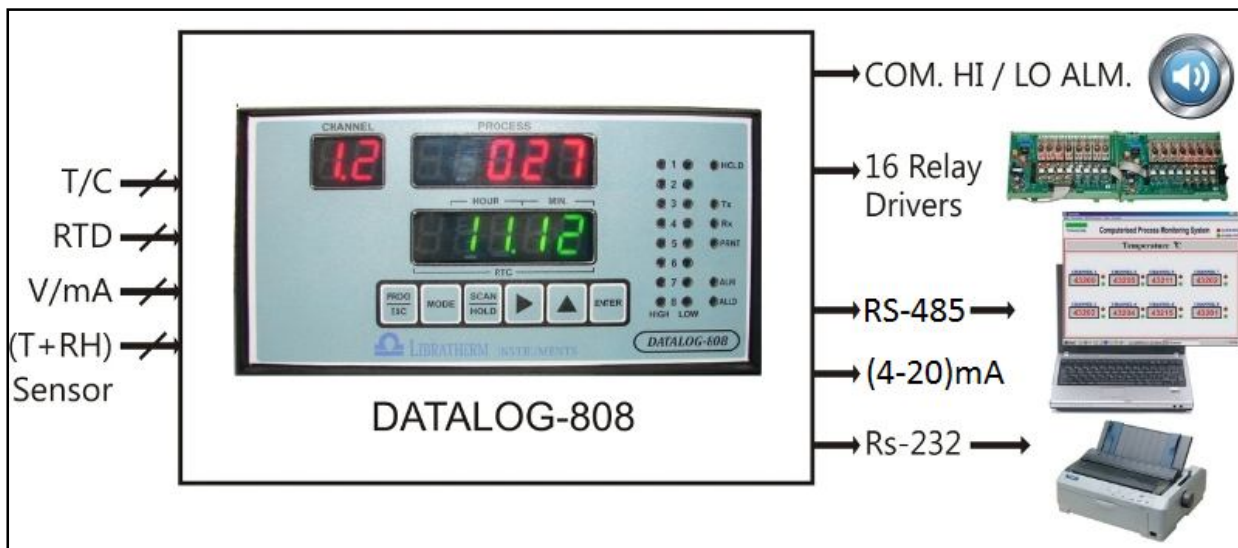


Microcontroller Based 8 CHANNEL Temperature/ Process DATA LOGGER

(Product Code 8.11 to 8.12)



Model Wise Description:

Sr. No	Model	Product Description	Size (wxhxd) (mm.)
8.11	DATALOG-808-U	8 Channel Temperature/Process Data logger with user selectable Thermocouple and other process inputs / 2 common relay outputs and 8 or 16 independent relay drivers / Real time clock/ Data storage and RS 485 serial interface.	192 X 96 X 200
8.12	DATALOG-808-F	8 Channel Temperature/Process Data logger with factory set Fixed inputs / 2 common relay outputs and 8 or 16 independent relay drivers/ Real time clock/ Data storage and RS 485 serial interface	192 X 96 X 200

Description:

Libratherm offers Microcontroller based Temperature / Process Data logger Model DATALOG-808 which is designed for continuous, simultaneous and very accurate monitoring and logging of temperature or process values at maximum 8 different locations. The logged data's are stored in the internal memory with real time and date. The logged data's can also be monitored in the on-line mode on to the PC screen and can also be down loaded to the PC in the off-line mode. Facility is also available through additional serial port to directly print the logged or stored data with real time/date at the programmable PRINT INTERVAL on EPSON or equivalent serial dot matrix printer.

This Model accepts universal input of standard thermocouples or RTD(Pt-100)/3 wire sensors or voltage or current signals. The type of input for each channel is user selectable from the keyboard, i.e. all 8 channels can be selected for different type of inputs. Datalog-808 incorporates 16 bit ADC and offers 5 digits display having the range of 0 to 20000 counts or -10000 to +10000 counts. Such wide display range makes it possible to display the temperature or process value with the highest degree of accuracy and resolution. For example, using R type thermocouple the temperature can be

displayed with 0.1°C resolution from 0.0 to 1768.0°C. Similarly, any other process value can be precisely displayed with desired resolution within the specified range.

Other hardware features includes, 2 nos. of common for all channels high or low relay outputs, 16 nos. of transistor drivers – available to the user on 20 pin FRC connector and cable. FRC compatible 8 channel relay cards are also available. The respective front panel dual colour LEDs shows the status of each channel – whether it is High (Red) or Low (green), when compared to their respective set values.

Standard features include programmable display SCAN time, channel SKIP and HOLD facility with manual increment of the channel number using front panel membrane keyboard.

Grouping of Channels: Special feature of grouping of channels for common high and low relay output is possible through front panel keyboard. For example, three groups of channel 1 to 3, 4 to 6 and 7 to 8 can be configured. Six relay outputs are assigned for these 3 groups. Whenever, any of the channel of particular group goes either high or low with reference to the set temperature, then relay of that group will be activated. This is a useful feature for activating the relay outputs for any one channel of the group crosses the safe limits.

Common Analog output: Additional feature of common 4-20mA retransmission signal output proportional to the highest temperature value is provided for user interface. This is an optional feature and is made available only on customer's requirement.

Technical specifications:

No. Of channels	1 to 8
Universal Input	J, K, R, S, B, RTD (Pt-100)/2 or 3 wire, (4-20) mA, (0-1) VDC, (0-5) VDC etc. (user configurable or factory fixed - as specified)
Input Selection	Factory set for each channel or User selectable for each channel (Model dependent)
Range	0 to 20000 or -10000 to +10000 UOM – Subject to the specified input (Refer the Input and range selection table given below)
Accuracy	Better than $\pm 0.1\text{ }^{\circ}\text{C}$, $\pm 1\text{ }^{\circ}\text{C}$ (Software linearized for temperature)
Display	5 digit each 0.5" 7-segment Red to indicate Process, 5 digit each 0.5" 7-segment Green to indicate Real Time Clock, 2 digit 0.5" 7-segment Red LED for channel no.
Scan Rate	1 to 99 sec (programmable through front panel keyboard)
Data Storage Interval	1 to 99 minutes (user programmable).
Data Storage	8000 records. (512KB).
Print Interval	1 to 99 minutes (User programmable)
Skip/Hold Facility	Available through key board in configuration mode
High / Low Alarm	Common or individual Settable using key pad - with grouping facility.
Common Relay output	2 nos. potential free change over contacts (1 each for high and low output but common for all the channels)
Common Analog output	4-20mA proportional to highest value of all the channels (Optional)
Alarms Outputs	8 x 2 open collector outputs to drive external relay cards.
LED Indication	8 Red/ Green color LED's in the front indicating status of each alarm output for High or Low.

Serial Interface	RS485 MODBUS RTU protocol in slave mode for PC interface and RS232 serial port for dot matrix printer interface
Supply	90V - 260VAC / 110 VAC \pm 10% (10VA), 50/60Hz or 24VDC @ 200mA
Enclosure	Metallic with ABS bezel and polycarbonate front.
Size	192 x 96 x 200 mm.
Panel cut out	188 x 92 mm +/- 0.5 mm.

Data storage table with reference to storage interval:

Data Storage Interval	No. of Channels	Total Storage Duration	No. of Channels	Total Storage Duration
1 min	4	9 days	8	5 days
5 min	4	45 days	8	28 days
10 min	4	90 days	8	56 days
15 min	4	136 days	8	84 days
30 min	4	273 days	8	168 days
60 min	4	546 days	8	336 days

Input and Range Selection Table:

Code	Input	Range
A1	Factory set to std. universal inputs marked (*) below : A2,A3,A4,A5,A6,A13,A15 & A17	As given below
A2	J type : Fe/Con thermocouple (*)	0 to 760 °C
A3	K type : Cr/Al thermocouple (*)	0 to 1372 °C
A4	R type : Pt/PtRh13% thermocouple (*)	0 to 1768 °C
A5	S type : Pt/PtRh10% - thermocouple (*)	0 to 1768 °C
A6	B type : Pt30%Rh/Pt6%Rh thermocouple (*)	200 to 1820 °C
A7	T type : Cu/Con thermocouple	0 to 350 °C
A8	E type : NiCr/CuNi thermocouple	0 to 900 °C
A9	C type : W5%Re/W26%Re thermocouple	0 to 2300 °C
A10	D type : W3%Re/W25%Re thermocouple	0 to 2300 °C
A11	G type : W/W26%Re thermocouple	0 to 2000 °C
A12	N type : Ni-Cr-Si/Ni-Si-Mg	0 to 1300 °C
A13	Pt-100 (Alpha = 0.00385) DIN 43760 (*)	0.0 to 400.0 °C
A14	Pt-100 (Alpha = 0.00385) DIN 43760	-100.0 to 200.0 °C
A15	4-20mA (*)	-9999 to +9999 UOM
A16	0-1VDC	-9999 to +9999 UOM
A17	0-5VDC (*)	-9999 to +9999 UOM

Ordering Information for Model DATALOG -808-U:

Model	No. of channels (X)	A- Channel Input (Use above table)	B- EXTERNAL RELAY CARD	C – Serial Interface
DATALOG -808-U-X	2	CH-1- CH 8 (Pre- selected A2,A3,A4,A5,A6,A13,A15,A17)	B1- 16 CHANNEL RELAY CARD (8 HI + 8 LOW) B2- NONE	C1 – RS 485 C2 – RS 232 C3 – Both
	4			
	6			
	8			

Ordering Information for Model DATALOG-808-F:

Model	No. of channels(X)	A- Channel Input (Use above table)	B- EXTERNAL RELAY CARD	C – Serial Interface
DATALOG -808-F-X	2	CH-1- CH 8 (To Select from A2 to A17)	B1- 16 CHANNEL RELAY CARD (8 HI + 8 LOW) B2- NONE	C1 – RS 485 C2 – RS 232 C3 – Both
	4			
	6			
	8			

Handheld portable panel:

We offer ready to use panel as shown below, which can be used for validation purpose and can be carried from one laboratory to other. User can connect any type of thermocouple, Pt-100 or 4-20mA signal. It becomes universal to carry out data logging of high temperature furnaces, ovens and low temperature freezers or any other process whose, signal is generated from process transmitter. The datas can be logged and stored on-line. The stored data can be down loaded to Serial dot matrix printer or to PC through com port or usb port. Libratherm provides suitable printer and PC accessories and down loading software.

