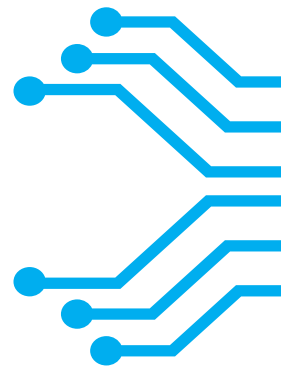# MICROCONTROLLER BASED LARGE DISPLAY PROCESS INDICATOR
(Model DPI-4000-M & DPI-8000-M)

DPI - 4000-M

DPI - 8000-M

MODEL WISE DESCRIPTION

Model	Product Description	Size (mm.)
DPI-4000-M	Microcontroller based Large Display (4 digit 4" height) Process Indicator (Part no. 120X-4)	500 x 250 x 150
DPI-8000-M	Microcontroller based Large Display (4 digit 8" height) Process Indicator (Part no.120X-8)	760 x 360 x 150

DESCRIPTION

Libratherm offers large display digital indicator to monitor the temperature / process value / Event or object counts from long distance or at a height. The indicator is housed in a sturdy and heavy duty MS powder coated enclosure and can be easily mounted on a wall, or on a shelf or on the ceiling. It accepts universal analog signal from thermocouple, Pt-100, DC voltage or current signals which can be scaled and calibrated by user in the range of (-1999 to 9999) count with selection facility for decimal point. The decimal point and desired display range selection is accessible through front panel heavy duty 4 push buttons. The input selection can also be done using front key board.

In order to match the point to point display reading with respect to source, it is always recommended to opt for the digital communication over an RS-485 MODBUS. User can send data over this line in the specific MODBUS protocol with the chosen slave ID address.

FEATURES

- Microcontroller based design
- User selectable input, scalable range and selectable decimal point
- Accepts input from Analog source, Digital Serial port and Digital Pulse
- Choice of 4" and 8" digit size for long distance visibility
- Single side or Dual side display arrangements.
- Analog Retransmission output
- Serial interface port RS-485 on MODBUS RTU protocol

TECHNICAL SPECIFICATIONS

Design	Based on 8 bit microcontroller and 12 bit ADC
Analog / Digital Signal Input	1) Thermocouple: J, K, E, T, B, R, S types (any one user selectable) RTD: Pt-100 2 or 3 wire, or Variable Resistance (Any one to specify) Voltage: 0-1V,0-5V,1-5V,0-10V, +/-10V, Current: 0-20mA, 4-20mA, +/-25mA 2) Digital Serial Input: RS-485 over MODBUS RTU protocol. 3) Digital Input: NPN / PNP or potential free contact.
Factory Set Input	User may specify at the time of placing order.
Display	4 digit – 4" seven segment red LED display (DPI-4000-M) 4 digit – 8" seven segment red LED display (DPI-8000-M) 4 digit – 1" seven segment red LED display for SET Point / for Unit display (optional)
Display Range	0 to 4000 counts (for only positive process value) – 12 bit ADC -1999 to 1999 counts (for negative going process value) – 12 bit ADC
Decimal Point	User settable through keyboard
Calibration Range	User can calibrate or scale the desired range as per requirement using front panel 4 push buttons.

Resolution	1 ^{O}C for thermocouple input and 0.1^{O}C for Pt-100 input. For other process input as per the user requirement. 1 count, 0.1 count, 0.01 count or 0.001 count (user selectable – through front panel push buttons – only for process inputs)
Accuracy	+/-0.1% of the specified range for Process Input +/-0.1^{O}C or +/-1^{O}C for Input from Temperature sensors
Distance between 2 digits	Sufficient to identify each digit from long distance.
Aux. Power Supply	230AC +/- 10%, 50/60 Hz (110VAC or 24AC / 24VDC – optional)
Settings	Range selection, Calibration and Decimal point selection facility is provided through push button / keys which is fixed on the display unit – as shown in the picture.
Re-transmission Output	(4-20)mA Retransmission output proportional to the selected type of input and its calibrated range RL max = 400 Ohm.
Serial Interface ports (Optional Feature)	2 nos. of independent – RS-485 2 wire port – with programmable SLAVE ID Selectable baud rate of: 4800, 9600, 19200, 38400 bps. Parity: odd, even, no parity user selectable. Ports can be configured as Master or Slave as per the application.
Relay Output	2 independent sets of relay change over contacts (NO-C-NC) rated for 5A @ 230VAC (Relay1 and Relay2)
Loop Supply	24VDC @ 100mA to power external loop powered or direct powered transmitters/sensors.
Enclosure	Dust free – Metallic powder coated (IP 64)
Size (mm.)	500(W) x 250(H) x 150(D)- 4" LED display / 760(W) x 340(H) x 150(D)- 8" LED display
Operating conditions	Temperature: 60 ^{O}C, RH 90% max. (noncondensing)
Weight	6.0kg (approx.) for DPI-4000-M and 10.0 Kg (approx.) for DPI-8000-M
Enclosure Colour	Standard Siemens gray or User may specify required color for MOQ 10 nos.
Mounting	Wall mounting key holes, Ceiling mounted hooks or can be placed on a shelf on integrated Nylon bush at the base.
Technical Documents	Each display unit will be supplied along with the detail user's manual, wiring diagram, calibration report and MODBUS protocol.

We also offer double sided display – to enable viewing from either side, when the display is hanged on the center of the roof / ceiling.
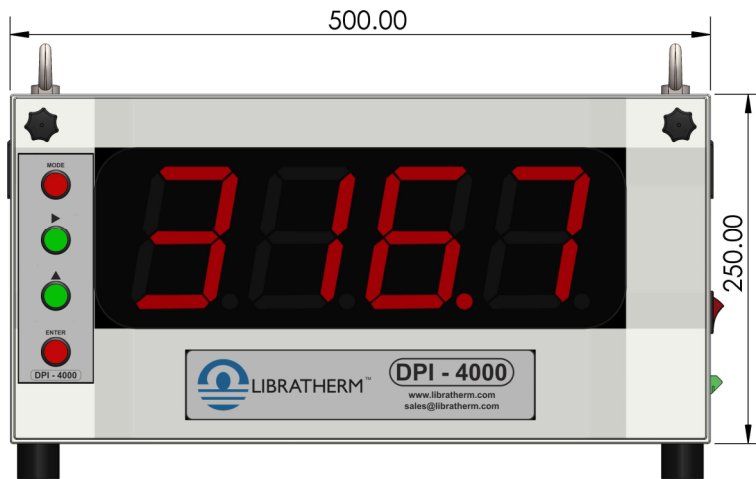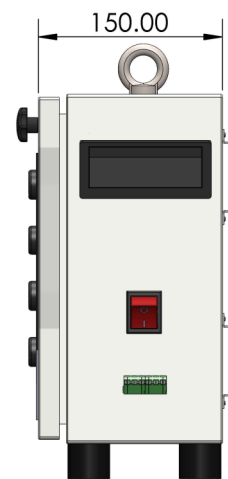
ORDERING INFORMATION

Sr. Nos.	Model No.	Description	Part No.
1	DPI-4000	Process Indicator with 4 Inch Display size -accepting Universal Analog Input (Single Sided Display)	1201-4
2	DPI-4000	Process Indicator with 4 Inch Display size -accepting Serial interface on 2 wire RS-485 bus over MODBUS RTU protocol - In Slave mode. (Single Sided Display)	1202-4
3	DPI-4000	Event Counter with 4 Inch Display size -accepting input from NPN/PNP driver or from potential free contact from Relay or Micro-switch. (Single Sided Display)	1203-4
4	DPI-4000	Process Indicator with 4 Inch Display size - accepting Universal Analog Input. (Double Sided Display)	1204-4
5	DPI-4000	Process Indicator with 4 Inch Display size - accepting Serial interface on 2 wire RS-485 bus over MODBUS RTU protocol - In Slave mode. (Double Sided Display)	1205-4
6	DPI-4000	Event Counter with 4 Inch Display size - accepting input from NPN/PNP driver or from potential free contact from Relay or Micro-switch. (Double Sided Display)	1206-4
7	DPI-8000	Process Indicator with 8 Inch Display size - accepting Universal Analog Input (Single Sided Display)	1201-8
8	DPI-8000	Process Indicator with 8 Inch Display size - accepting Serial interface on 2 wire RS-485 bus over MODBUS RTU protocol - In Slave mode. (Single Sided Display)	1202-8
9	DPI-8000	Event Counter with 8 Inch Display size - accepting input from NPN/PNP driver or from potential free contact from Relay or Micro-switch. (Single Sided Display)	1203-8
10	DPI-8000	Process Indicator with 8 Inch Display size - accepting Universal Analog Input in Slave mode. (Double Sided Display)	1204-8
11	DPI-8000	Process Indicator with 8 Inch Display size - accepting Serial interface on 2 wire RS-485 bus over MODBUS RTU protocol - In Slave mode. (Double Sided Display)	1205-8
12	DPI-8000	Event Counter with 8 Inch Display size - accepting input from NPN/PNP driver or from potential free contact from Relay or Micro-switch. (Double Sided Display)	1206-8

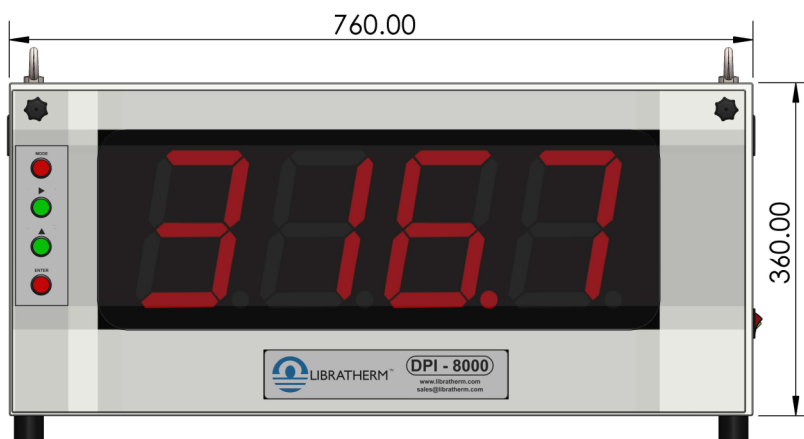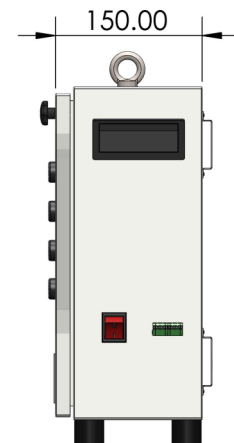# DIMENSIONAL DRAWING

DPI-4000-M

500.00

250.00

150.00

FRONT VIEW

SIDE VIEW

MODE

ENTER

DPI - 4000

LIBRATHERM™ DPI - 4000
www.libratherm.com
sales@libratherm.com

All dimensions are in mm

DPI-8000-M

760.00

360.00

150.00

FRONT VIEW

SIDE VIEW

MODE

ENTER

LIBRATHERM™ DPI - 8000
www.libratherm.com
sales@libratherm.com

All dimensions are in mm