

## (L3) DIGITAL / MICROPROCESSOR AND MICROCONTROLLER BASED PROCESS INDICATORS & CONTROLLERS (DESIGNED FOR OEMS)



### MODEL WISE DESCRIPTIONS :

L3	MODEL	SPECIAL PURPOSE PROCESS INDICATORS / CONTROLLERS (AS PER OEM SPECS)	SIZE
13.16	LID-12	DIN Rail Type Process Indicator	65 x 80 x 125
13.17	BPM-3	BPM Meter (Bottles per Minute)	96 x 48 x 130
13.18	LOI-100	Opacity / Transparency Indicator	96 x 96 x 110
13.19	PID-300	Microprocessor based pH Indicator / Controller	96 x 96 x 160
13.20	ULC-5	Microprocessor based Universal Load Indicator	96 x 96 x 160
13.21	LIT-150	Microprocessor based Izod Impact / Charpy Tester	96 x 96 x 160
13.22	WEIGHLOG-2	Microprocessor based Load Indicator / Controller (LCD Display) 4000 Count & 10000 Count	192 x 96 x 200
13.23	DCS-723	Microcontroller based Manual Loader	72 x 72 x 120

## DESCRIPTION :

Libratherm offers various models and sizes of Digital, Microprocessor and Microcontroller based process indicator / Controller as per OEMs special purpose requirement. Libratherm undertakes development of special purpose microprocessor, microcontroller or computer based equipments for OEMs and system integrators. For any such development project please contact [librathrem@libratherm.com](mailto:librathrem@libratherm.com)

**13.16 / LID-12 :** This has been developed to indicate the temperature from the loop transmitter with built in loop supply to power the transmitter. The temperature is indicated on 0.3" red seven segment display and it is available in standard DIN rail enclosure. In general, LID-12 can be used for any process indication. (For further information please contact [librathrem@libratherm.com](mailto:librathrem@libratherm.com))

**13.17 / BPM-3 :** This has been developed to indicate the bottles per minute in a bottle filling plants where the bottles moves on the conveyor and the bottoms per minute is calibrated proportional to the conveyor speed. The input is received in the 4-20mA / 0-10VDC signal from the VFD motor controller driving the conveyor. BPM-3 operates is available with 0.5" and 2" red display in standard DIN size enclosures. (For further information please contact [librathrem@libratherm.com](mailto:librathrem@libratherm.com))

**13.18 / LOI-100 :** This model has been developed for the plastic material testing equipment manufacturers. The application is to indicate the opacity or transparency of the plastic material with reference to the light. The digital display is calibrated in terms of 0.00 to 100.00 % of opacity or transparency. LOI-100 accepts input signal from the photo diode and is available in standard 1/4 Din size enclosure. For more details on this equipment please visit [www.internationaleuipments.com](http://www.internationaleuipments.com)

**13.19 / PID-300 :** This PID controller has been specially developed and re-programmed to suit the on line pH control application in Chemical processes, ETP or water treatment plants. The input signal is received from the pH sensor, which is converted to equivalent 4-20mA signal by the signal isolator/converter module ISM-10, and is fed to the PID controller. The pH value is indicated in the range of 0.00 to 14.00 pH. The controller gives the dc pulse output ( 0 to 100 pulses/minute) or 4-20mA signal to control the dosing pump for both acid control and alkaline/base control for accurately maintaining the pH level in the on line processes. The model also provides built in High and Low level alarms for safety interlocking in the form of potential free relay contacts. (For further information please contact [librathrem@libratherm.com](mailto:librathrem@libratherm.com))

**13.20 / ULC-5 :** This microprocessor load indicator is also developed for the plastic material testing equipment manufacturer, to measure the tensile/compression strength of the plastic material under test. The controller accurately indicates the break load and the peak load in the range of 0.0 to 1000.0kg. It has 20000 count display, with programmable set parameters and is available in standard 1/4 DIN size enclosure. It can also be used for static and kinetic friction test of the material. For more details on this equipment please visit [www.internationaleuipments.com](http://www.internationaleuipments.com)

**13.21 / LIT-15 :** This microprocessor based model is designed for the plastic material testing equipment manufacturer, to measure the dart impact capacity of the plastic sample under test. The degree is measured using the encoder and the dissipated energy in joules is calculated by this controller and is indicated on the digital display. The specially developed computer software allows monitoring the online test results on the screen along with the various tabulated results. For more details on this equipment please visit [www.internationaleuipments.com](http://www.internationaleuipments.com)

**13.22 / Weighlog-2:** This is microprocessor based load indicator/controller designed for batch weighing of liquid in the tank. The large cylindrical tank weighing around is filled with the known weight of the liquid. The accurate weight measurement, the precise flow control of the liquid is a main function of this model. The weight is measured by incorporating three load cells, the load amplifier installed near the tank is used to convert the average weight in the proportional 4-20mA. This 4-20mA is fed to the Weighlog-2 for display and set point comparison. The controller is programmed to control the pump motor speed using VFD controller, to regulate the flow and free filling of the liquid in the tank. The flow is stopped precisely at the set value by controlling the pump and solenoid valve fitted in the feed pipe line. The LCD display gives the indication of average weight. Set value, real time and date and the pump speed. (For further information please contact [librathrem@libratherm.com](mailto:librathrem@libratherm.com))

**13.23 / DCS-723 :** This is microcontroller based manual loader designed to generate and feed the 4-20mA signal. Unlike ordinary instruments, the output 4-20mA is also taken as the input feedback to ensure the external loop continuity of the signal. If the external 4-20mA loop is open, the fault message is indicated on the display. The 4-20mA signal has 12 bit resolution, and is fed to the external device in the range of 0.0 to 100.0 %. The smallest change in the output is 16uA. Both set value and feedback values are simultaneously displayed on the 4 digit red LED display. This 4-20mA output signal is also converted to RS485 digital communication, having MODBUS RTU protocol for interfacing with SCADA or DCS. (For further information please contact [librathrem@libratherm.com](mailto:librathrem@libratherm.com))