



Installation and Operating Instructions for the Model DT-8300EX

FIELD MOUNTED PROCESS INDICATOR



User Manual

AMETEK[®]

ISO 9001:2008
CERTIFIED

www.ametekusg.com



Model DT-8300EX

DESCRIPTION

The AMETEK Model DT-8300EX is a Field Mounted micro-controller based Loop Powered Indicator is a compact, rugged, and reliable indicating instrument which is specifically designed for accurate process measurement applications in areas without power availability. It is an ideal substitute to conventional analog indicators.

The AMETEK Model DT-8300EX is manufactured using selected high-grade components which guarantee its reliability and long operation. It has no moving parts and no potentiometers that may drift over time and high vibration applications.

The unit is designed for use in process industries where vibration, inclement weather and corrosive environments prevail. The electronics are enclosed in low copper epoxy coated aluminum housing and for more aggressive environments, 316 Stainless Steel housing is optionally available (please contact customer service for more information). Both housings meet the requirements of NEMA 4X. The NEMA4X rating provides total immunity to corrosive atmospheres, high humidity (including condensation) and dust.

The Indicator accepts an industrial standard current input signal of 4-20mA DC and displays the actual process value calibrated in the desired units, on a linear scale. The process value is displayed on a 5-Digit seven-segment LCD digital display module. The instrument is fully configurable and can be calibrated on any scale range from -19999 to 99999 units. Decimal Point setting is provided in the instrument. Operating temperature is from -20 to 60 degrees Celsius. All settings can be performed digitally using only the three (3) tactile switches that are available on the front panel. There is no necessity of any external Power Supply.



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INSTALLATION

AMETEK Model DT-8300EX is designed to be mounted in the field, either on a 2" pipe or wall/panel. AMETEK carries both types of 316 SST mounting brackets.

All inter-connections to the instrument should be made with strong multi-strand wire of the order of 1.5 sq. mm. The ends of the wires should be properly ferruled for effective termination. The Cables carrying the Input Signal should be properly isolated from any Power Line cables (even separate router channels), to prevent any electromagnetic interferences in the Input Signal readings from disturbances in the Main Power Line or Line Frequencies. There is no requirement of power supply or earthing.

It is recommended that the polarities of the input signal be double-checked for correctness before energizing the instrument.

CONTROL KEYS

The instrument has three (3) keys on the front panel. Remove the outer housing to access the keys. Functions of which are described below:

PROG
M

The PROG or PROGRAM key is the central coordinating key to access the settings of the instrument. Pressing this key allows the operator to sequentially view, change, and save the parameters for the digital display.

SHIFT
←

The SHIFT key allows the operator to shift the display during setting to the left by one digit per activation. This key should be used in conjunction with the INC (incrementing) key to set the desired control parameters.

INC
↑

The INC or Incrementing key allows the operator to select the numeral in the digit being set on an increasing scale. The digit will cyclically display 0, 1, 2, ...9 on each pressing of the INC key. This may be used to set the parameters and other instrument settings. The incrementing action repeats if the key is kept pressed.

SETTING

Since the input signal to the Loop Indicator is 4-20mA DC, the reference signal is internally generated for calibration. As such, no external signal is required to be fed to the input terminals at the time of calibration.

Ensure that the input signal has been connected at the terminals in the correct polarity and the signal level is above 4 mA. Although the instrument has a thresh-hold limit of 1 mA on the upper and lower signal limits, for the initial turn-on, the signal level should be sufficient to energize the micro-controller based display. Upon energizing the input signal, the digital display will immediately indicate the actual process value. The scale calibration can be changed whenever required with the help of the three-key Tactile Keyboard on the front panel. All settings and adjustments can also be done from the three-key Tactile Keyboard on the front panel of the module.

It is strongly recommended that only authorized personnel should attempt any alterations or rectifications in the instrument.




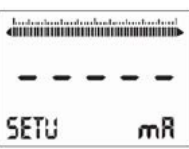


CONNECTIONS

- Remove the electronics from the outer housing and loosen the two screws on the face plate to access.
- Locate the two-way terminals on the rear of the unit.
- Connect the analog current loop input signal of 4-20mA at the terminals in the indicated polarity.



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PROGRAMMING INSTRUCTION

Calibration		
Key Pressed	Display	Function
(POWER ON)		Display corresponding to input signal
PROG M		Low (Zero) setting of Calibration Range
SHIFT ←		Flashing Digit shifts Left by one space
INC ↑		Flashing Digit increments by one count
PROG M		High (Span) setting of Calibration Range
SHIFT ←		Flashing Digit shifts Left by one space
INC ↑		Flashing Digit increments by one count
PROG M		Unit Setting
INC ↑		Optional units: V, mV, bar, mbar, Pa, KPa, MPa, mH2O, mmH2O, cmH2O, mmHg, PSI, TOR, kg, g,N, KN, °C, °F, K, RH, VOL, PPM, LEL, PH, m, cm, mm, INCH, M/SW, Ohn, Kohm, %
PROG M		Decimal Point Selection



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PROGRAMMING INSTRUCTION (CONTINUED)

INC 		Press  to select the number of decimal digits, (Valid number: 0, 1, 2, 3)
PROG M		Damping
SHIFT 		Flashing Digit shifts Left by one space
INC 		Press  to change the value that the cursor points to. Value is increased and decreased by step 0.1s. (Min=0s, Max=100s, step 0.1s)
PROG M	Process Value	
<p>This completes the entire setting of the Loop Powered Digital Indicator. All parameters are to be shifted/selected using SHIFT and INC keys.</p>		

SPECIFICATIONS

Technical Specification	
Model	17349
Type	Field Mounted Loop Powered Indicator
Input Signal	4 to 20 mA DC
System	Two-wire
Indication	5-digit seven-segment LCD display
Display Height	0.3"
Forward Voltage Drop	3.5 Volts @ 20 mA
Display Range	-19999 to 99999
Calibration Range	Configurable
Calibration	By three-key Tactile keypad
Power Supply	Nil (Loop-powered)
Execution	Field mounting



Model DT-8300EX

WARRANTY

AMETEK USG (AMETEK) for the effective period of the warranty set out below, warrants that its standard products will be free from defects in materials and workmanship under normal use and service.

AMETEK's obligation under this warranty shall not arise until Buyer returns the defective product, freight prepaid to AMETEK's facility. Please contact customer service for a RMA#, usg.sales@ametek.com or 215-293-4100.

The only responsibility of AMETEK under this warranty is, at its option and sole discretion, to replace or repair, free of charge any defective component part of such product.

EFFECTIVE PERIOD OF WARRANTY

1 year from date of invoice for new products. For repairs the warranty shall be **1 year** from the date of shipment.

LIMITATION OF WARRANTY

The warranty set forth herein does not extend to and shall not apply to:

Products which have been repaired or altered by other than AMETEK's personnel, unless Buyer has properly altered or repaired the products in accordance with procedures previously approved in writing by AMETEK.

Products, which have been subject to misuse, neglect, accident, or improper installation or operation.

Products, which have been mechanically damaged.

The warranty and remedies set forth above are in lieu of all other warranties expressed or implied, oral or written, either in fact or by operation of law, statutory or otherwise, including warranties of merchantability and fitness for a particular purpose, which AMETEK specifically disclaims.

AMETEK neither assumes nor recognizes any other liability in connection with the sales, installation or use of its products.

AMETEK shall have no liability for incidental or consequential damages of any kind arising out of the sale, installation or use of its product.

The AMETEK address to which notices, authorizations, and approvals and written communications pertaining to this warranty are to be delivered is:

AMETEK USG
205 Keith Valley Road
Horsham, PA 19044
Tel: 215.293.4100
Fax: 215.323.9450
E-mail: usg.sales@ametek.com

Please refer to our website for other locations around the world. www.ametekusg.com