

Series IT Indicator/Transmitters

MODELS C1-3007, M1-3007 & M3-3107

- CE & ISO 9001, UL Approved
- 3-Year Warranty
- IP 65 & NEMA 13 Rating
- General Purpose IT & DPM
- Isolated 4–20 mA DC, .1% Accurate Output of the Process Input or Modbus
- Direct RTD & Thermocouple Input
- One Alarm Output Standard
- PID Loop Control & Autotune Capable
- Field Configurable with Password Protection
- ½" Highly Visible, 4-Digit LED Process & Alarm Displays
- T/C & RTD Accuracy 0.25% ± 1 Digit; .1% ± 1 Digit (mA input)
- Standard Transmitter Power Supply
- Boiler Flue Gas Indicator & Alarm
- Economizer Monitoring Package
- Warm Boiler Standby Control
- Mounting Kits & Packages Available

UNIVERSAL APPLICATIONS

Hays Cleveland Series IT Indicator/Transmitters are a versatile, multiple-function line of instruments that can be applied as **temperature transmitters, digital panel meters, and On/Off/PID controllers**. They provide an economical means for plants to **standardize on a single type of device** for monitoring functions such as level, pressure, flow and temperature from boilers, furnaces, dryers, and evaporators.

Standard models are available in 1/32 or 1/16 DIN format, and include one PID loop, an alarm relay, and all the standard features detailed in the Specifications section of this bulletin.

Applied as temperature transmitters, **Series IT's** accept all thermocouple types and 100 Ω RTD input. They **display and retransmit** the temperature signal for control, remote monitoring, and recording functions at a significantly lower cost than "smart transmitters."

Applied as digital panel meters, **Series IT's** display the input signal and provide the capability to **retransmit** it. An **onboard transmitter power supply** is standard.

Series IT's can provide economical **PID control** for applications such as boiler warmup where blind controllers with separate transmitters have been used in the past.

Series IT Indicator/Transmitters are easy to configure in the field. They are sold individually, or **Hays Cleveland** will package **Series IT Indicator/Transmitters** for any custom application. See the sample application, **Economizer Monitor**, on the back of this bulletin.



MODELS M1-3007 AND M3-3107, ACTUAL SIZE



TYPICAL MODELS C1-3007, ACTUAL SIZE

SPECIFICATIONS

The **Series IT Indicator/Transmitters** have many common features and specifications. These are detailed in this bulletin. Additional specifications can be obtained at the Hays Cleveland website (www.hayscleveland.com) or from **Bulletins BT.02.17C1/E and BT.02.18M1-M3/E**.

DIMENSIONS & PANEL CUTOUTS:

C1—All Models: 1/32 DIN, IP65 rated.

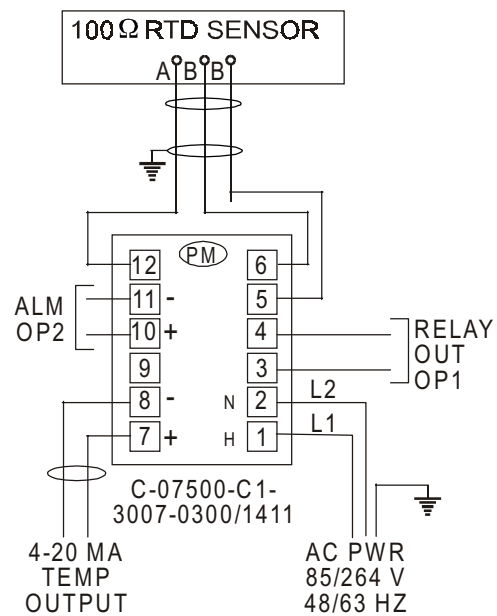
- 48mm W x 25mm H x 120mm D.
- Cutout: 45.6 mm W x 22.23 mm H.
- 1/2" 4-digit display.

M1 & M3—All Models: 1/16 DIN, IP65 rated.

- 48mm W x 48mm H x 120mm D.
- Cutout: 45.6 mm W x 45.6 mm H.
- **M1-3007:** 1/2" 4-digit display.
- **M3-3107:** 1/2" 4-digit display & 1/2" 4-digit display of set point.

COMMON CHARACTERISTICS:

- A/D Convertor with 50,000 points
- Selectable from front panel: °F or °C
- Update time, 0.2 seconds
- Sampling time, 0.5 seconds
- Accuracy
 - 0.25% ± 1 digit (T/C & RTD)
 - 0.1% ± 1 digit (mA & mV)
- PV Inputs: (Qty 1)
 - RTD, Pt 100 Ω at 0 degrees C
 - Thermocouple types: L, J, T, K, S
 - Transmitter, 0–20mA or 4–20mADC with 2.5 Ω external shunt
- PV Output: 0–20mA or 4–20mA 500Ω/15V max
- Power Supply: 85-264 VAC, 48 to 63 HZ, max power used, 3 VA.
- Alarm output: SPST NO, 2A/250V
- Transmitter Power Supply: 18V ± 20%, 30 mA max
- Alarm Displays: 2 displays, front panel
- Alarm Signaling: Absolute & Deviation
- Front panel access for programming
- Operating Modes as Controller:
 - C1 & M1- One PID or on/off
 - M3- One PID (heat/cool) or on/off
- Select from Auto-tuning or Fuzzy tuning
- Parameters: Nonvolatile memory, stores values for unlimited time
- Modbus Optional (without analog retransmission)



EXAMPLE WIRING SCHEMATIC, C1 & RTD



ECONOMIZER MONITORING PACKAGE

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