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INSTALLATION AND MAINTENANCE MANUAL
FOR
TEMPERATURE TRANSMITTER
MODEL DRT_x-TC
(CONAX TECHNOLOGIES P/N 318555)

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REVISION RECORD				
Revision	Affected Paragraphs	Brief Description of Revision	Date	Approval Signature
Orig.	All	Original Release per E.O. QP-1498	2/24/97	<u>P. Calabrese</u>
A	Appendix A	Revised per E.O. QP-2517	3/23/00	<u>P. Calabrese</u>
B	5.0	Revised per E.O. QP-2656	6/15/00	<u>R. Crawford</u>
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1.0 SCOPE

This manual provides basic ordering information and specifications for Thermocouple Input, DIN rail, 2 and 4 Wire powered Temperature Transmitter, Model DRTx-T/C, Conax P/N 318555-xxx.

2.0 APPLICABLE DOCUMENTS

- 2.1 Conax Sales Order.
- 2.2 Customer purchase order (specified in Conax sales order).

3.0 GENERAL DESCRIPTION

The DRTx is a low cost, non-isolated, cold junction compensated temperature transmitter. Unique design features enable a single transmitter to be used for measurements of all types of thermocouple sensors. The units provide an output which is linear with respect to the thermocouple sensor's mV input.

The DRTx is powered by standard industrial loop powered supply and provide a 4-20mA current loop output on 2-wire transmitter systems (DRT2-T/C) or any standard current or voltage output on a 4-wire system (DRT4-T/C).

4.0 SPECIFICATIONS

Output (DRT2-TC): Current loop: 4-20 mA
(DRT4-TC): 0...1...4...20mA
0...1...4...5...10V

Input: TC: All known types

Input Span: TC: 5 mV min.
(20 mV for rated accuracy)

Burnout Detection: Upscale (standard).

Supply Voltage: 24 VDC \pm 20% polarity protected.

Operating Temp.: -20 to +70°C (0 to 160°F)

Linearity: 0.02% of span (referred to mV input level).

Stability: (20mV input)	Zero: 1mV/°C or 0.01% of span/°C
Reference: Junction	1.0°C max. error over 0-50°C of operating ambient temp.
Mounting:	DIN rail, 35mm

5.0 INSTALLATION

The DRT may be mounted on standard 35 mm DIN rails. Simply place the lower rear rail groove onto the rail and push the unit until it snaps in its place. To dismount, pull the unit in a downward tilt movement away from the rail.

Wiring instructions for the DRT2-TC:

- Connect the positive supply current loop to terminal 1.
- Connect the negative supply current loop to terminal 2.
- Connect negative TC lead to terminal 6.
- Connect positive TC lead to terminal 7.

Wiring instructions for the DRT4-TC:

- Connect the positive supply voltage to terminal 1.
- Connect the negative supply voltage to terminal 2.
- Connect the negative output to terminal 3.
- Connect the positive output to terminal 4.
- Connect negative TC lead to terminal 6.
- Connect positive TC lead to terminal 7.

6.0 CALIBRATION AND OPERATION

The DRT has been factory calibrated prior to shipment. If trimming is required, access to the zero and span potentiometer (pot) is provided without disassembling the DRT housing.

The following procedure is provided with the assumption the DRT has been properly ranged at the factory.

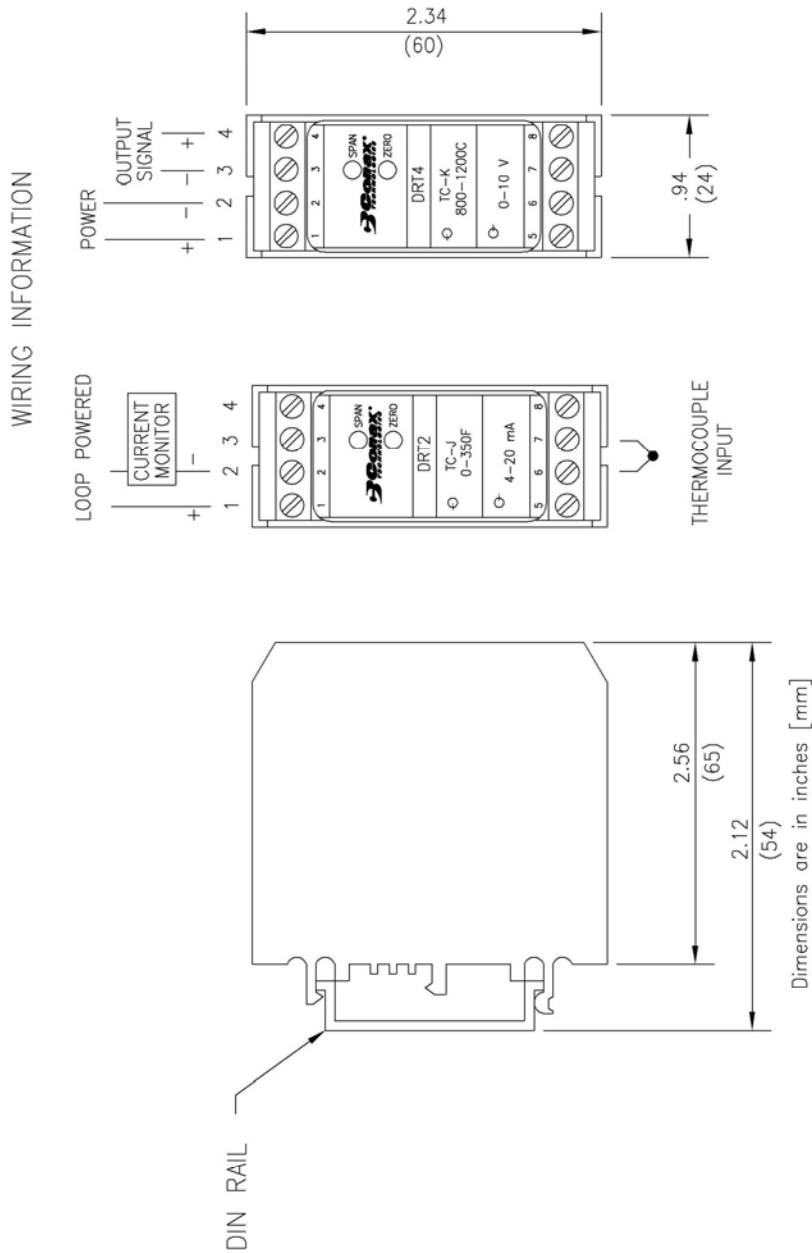
- 1) Connect a TC simulator to the DRTx-TC as indicated in Para. 5.0 above. (allow 15 minutes for temperature gradients to equalize)
- 2) Connect a digital current meter to the output loop for the DRT2-TC or a digital voltmeter for the DRT4-TC.

- 3) Set the minimum input signal level on the simulator and adjust the zero pot until the output current/voltage reads the minimum value.
- 4) Set the maximum input signal level on the simulator and adjust the span pot until the output current/voltage reads the maximum value.
- 5) Repeat steps 3 and 4 until no further adjustment is needed.

7.0 MAINTENANCE

The electronic components should not be exposed to water or excessive amounts of dust or dirt. Periodic inspection of all wire connections is recommended. Insure all electrical connections are tight, clean, and free of corrosion.

APPENDIX A
ILLUSTRATIONS



ORDERING INFORMATION

