

INDUSTRIAL CURRENT LOOP PROCESS TRANSMITTERS

For: Thermocouple · RTD · Strain Gage · Ohms
& mV Hockey Puck Style

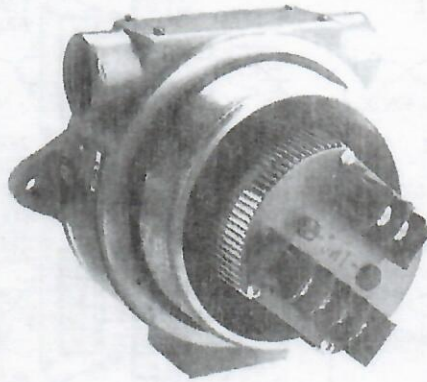
MODEL
50

Features

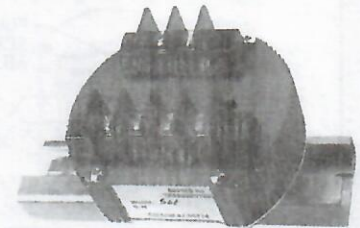
- High Accuracy - .05% Voltage to .1% for Thermocouple
- 12VDC to 40VDC Operation
- Wide Temperature Range (-40 to 80°C)
- Easy Wiring Terminal Strips
- 25 Turn Calibration Potentiometers



STAND ALONE



EXPLOSION PROOF



ON DIN RAIL

CURRENT LOOP

DESCRIPTION: Two-wire current loops are the most known, reliable and cost effective methods of transmitting data over the simplest system. Only 2 wires are required. The power source and receiving unit (readout, A/D etc.) can be located any place along the two-wire loop. All Otek's transmitters are either source or sink meaning that the load can be in series with the positive input, or the negative output. But for better noise rejection the "load" should be referenced to power supply ground (sourcing).

MOUNTING: The Series 50 can be used as stand alone, mounted on a DIN Rail, on a Snap-Track or inside an Explosion Proof Case.

CONSIDERATIONS: Three variables must be considered when using current loop transmitters:

- 1) Transmitter's quiescent minimum voltage (typically 12V).
- 2) Drop in the line at max. current & ambient temperature (10mΩ/ft @ 25°C for 22GA).
- 3) Minimum compliance voltage (burden) for receiving instrument.

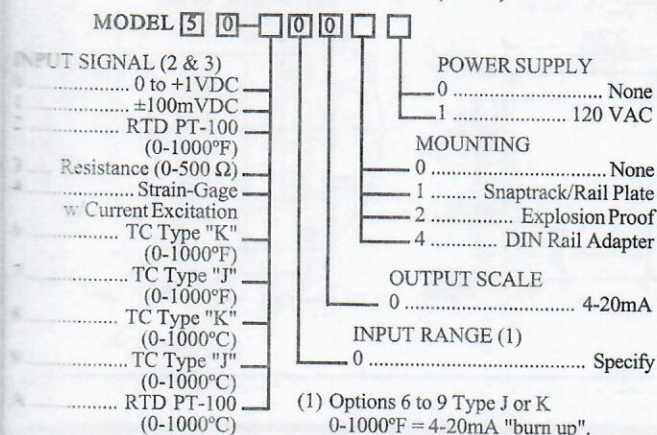
SPECIFICATIONS AT 25°C (ALL MODELS)

(Vcc = 24VDC, RL = 100Ω)

Stability: Zero // Span	0.02%/°C // 0.01%/°C (.03%/°C total)
Accuracy & Linearity (see note below)	0.1% of Span (16mA)
Supply Voltage Range	12 to 40VDC
Output Current Limits	3-36mA
Output Span	4-20mA
Power Supply Rejection	110dB
Common Mode Rejection	90dB
Common Mode Input Range	4-6V
Response Time (10-90%)	10mS
Warm-Up time to Specs	5 Minutes
Operating Temperature	-40 to +80°C
Storage Temperature	-50 to +85°C
Humidity	5-95% RH non-condensing
Isolation to Power or Signal	None

NOTE: The Series 50 DOES NOT LINEARIZE the signal input.

ORDERING INFORMATION (1/1/97)



- (1) Options 6 to 9 Type J or K 0-1000°F = 4-20mA "burn up". All others specify calibration.
- (2) RTD PT100 ≈ 0.00385 Ω/Ω°C
- (3) Model 504 is intended for monolythic strain gages with impedances between 2 & 6KΩ.

SPECIFY:

- a bridge impedance
- b mV/V sensitivity
- c mV @ 4mA & mV @ 20mA

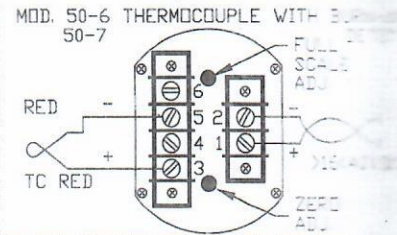
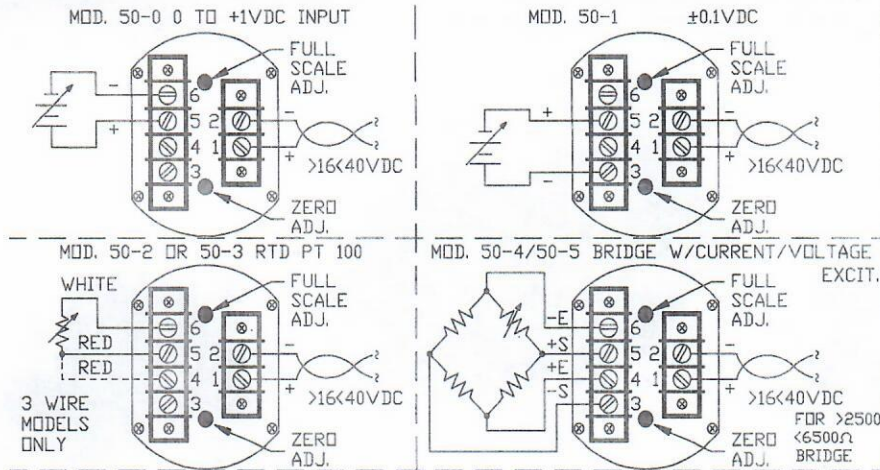
INDIVIDUAL SPECIFICATIONS

VDC Input Model 50-0	mVDC Input Model 50-1
Input Span 0-1VDC	Input Span 0 ±100mV ±40%
Input Impedance 4KMΩ	Zero Span ±20mV
Accuracy 0.05%	Input Impedance 4KGΩ
Zero & Span None	Lead Wire Effect 0.3μV/Ω
RTD Input Model 50-2	Ohms Input Model 50-3
Input Span 1000°F ±400°	Input Span 300 to 560Ω
Zero Span -300 +500°F	Zero Span 0 to 200Ω
Input Impedance 20MΩ	Input Impedance 20MΩ
Lead Wire Effect 0.5mV/Ω	Lead Wire Effect 0.5mV/Ω
Excitation 1mA	Excitation 1mA
Strain-Gauge Input Model 50-4	Thermocouple Input Models 50-6 to 50-9
Input Span -10 to +100mV	Input Span .. 300°F to Full Range
Zero Span -5 +20mV	Zero Span -200 to +200°F
Input Impedance 2.2MΩ	Input Impedance 10MΩ
Lead Wire Effect 0.3μV/Ω	Lead Wire Effect 0.3μV/Ω
Excitation 1mA	

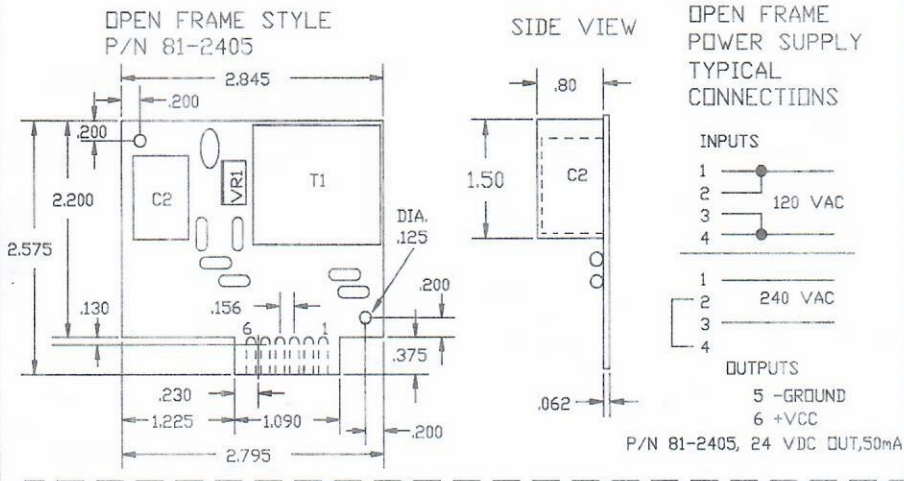
50 MECHANICALS & TYPICAL CONNECTIONS

CONNECTION DIAGRAMS

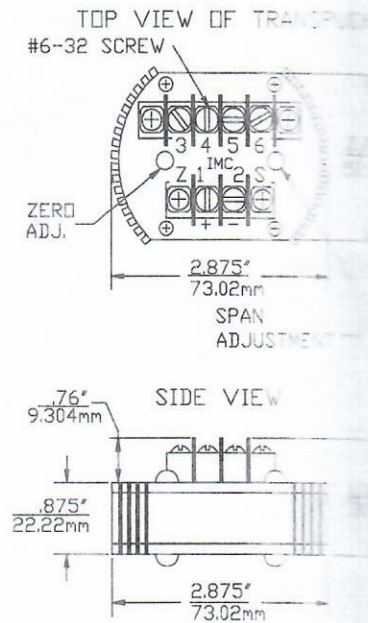
ALL SERIES 50 UNITS OPERATE WITH AN INTERNALLY GENERATED 5V CMV WITH RESPECT TO TERMINAL 2 OF THE DEVICE AND ITS INPUTS. THEREFORE, NEVER GROUND AN INPUT TO ANY POINT IN THE SYSTEM THAT IS NOT ELECTRICALLY ISOLATED FROM THE POWER/SIGNAL GROUND. INPUTS MUST BE FLOATING.



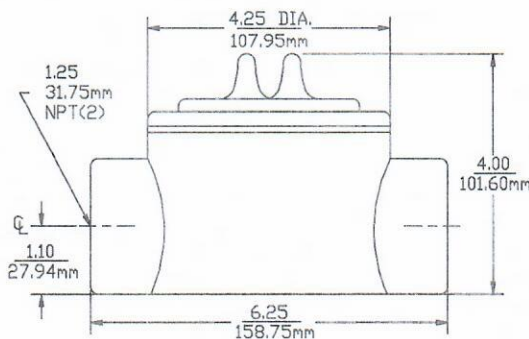
MECHANICALS FOR POWER SUPPLIES



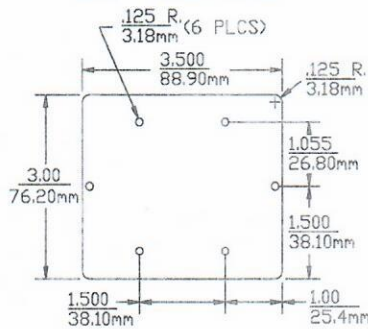
MECHANICALS



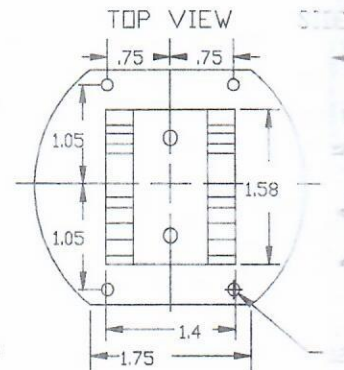
EXPLOSION PROOF-180°



MOUNTING PLATE FOR SNAP-TRACK RAIL



DIN RAIL ADAPTER



F#87MC50 DVC

FAX: 520-790-2808
E-MAIL: otekcorp@primenet.com
Fax-Back#: 520-748-1539-0050

520-748-7900

OTTEK™
CORP.

SINCE 1974

4016 E. TENNESSEE
TUCSON, AZ 85714

MADE
IN
USA

