



MODEL 250

FEATURES

- Non-linear Signal Correction
- Four Configurable Alarms
- Signal Bar Graph Display
- Powered by 4-20mA Loop
- Intrinsically Safe
- Wall, Pipe and Panel Mounting
- Watertight to IP67 (Nema 4X)
- ATEX, IECEx, CSA Approved
- CE Compliant

LOOP POWERED

Process Indicator



The 250 Programmable Process Indicator accepts a 4-20mA signal from a wide range of transducers such as pressure or temperature transmitters, weigh scales, pH sensors, flowmeters or level transmitters. The Indicator will display the signal level on the bar graph and the scaled process variable on the large numeric display.



Field Mounting Process Indicator

PROVEN IN THOUSANDS OF FIELD INSTALLATIONS
THROUGHOUT THE WORLD.

The 250 is a high accuracy, intrinsically safe Process Indicator designed to operate with digital output transducers. Having an IP67 weatherproof case, new tactile keyboard and various mounting options, the 250 is perfect for the most arduous of installations.



Solid state relay outputs provide up to four level alarms and a 25 point non-linearity correction table allows the instrument to be programmed for non-linear signals.

The Process Indicator is powered entirely from the 4-20mA current loop and, therefore, requires no external power or batteries.

The instrument is fully programmable with setup parameters such as span, offset, alarm levels etc, stored in a non-volatile memory which will retain all data for more than 10 years without power.

The Model 250 is housed in an attractive IP67 (Nema 4X) polycarbonate enclosure which is completely watertight.

A wall mounting bracket is supplied as standard, while a 51mm (2") pipe mounting bracket is available as an option.

Alternatively, the Model 250 can be supplied as a panel mount instrument.

The Model 250 is powered entirely from the 4-20mA current loop and therefore requires no external power or batteries.

Display

Signal bar graph

Displays measured signal as a percentage (0-100%).

Process variable

7 digit numeric display of the process variable.

This is calculated from programming the span, zero offset and non-linearity correction, if applicable.

The process variable is displayed with 42 digit resolution so that larger values are displayed with trailing zeros (for example, 1437765 would be displayed as 1437700 and 5467289 would be displayed as 5467000).

Filter

A programmable filter will smooth out fluctuations in readings.

Relays

Type

Four solid state opto-isolated DC relays arranged as high-high, high, low and low-low.

Acknowledgement

Alarms can be programmed for continuous operation or for an Acknowledge mode of operation where the Display key is pressed to acknowledge and cancel the relay alarm output.

Normally energised or de-energised relay

Relays are programmable to alarm in either mode.

Non-Linearity Correction

A 25 point non-linear correction table can be programmed to handle any non-linear relationship between the signal input and the process variable. Up to 25 points on both the x and y axes can be programmed and the Model 250 will perform linear interpolation between points.

Intrinsic Safety

The 250 is certified as intrinsically safe to European ATEX/IECEx standards, and CSA US/C standards for both the USA and Canada, see specification for details.



SPECIFICATIONS

Display

Type: LCD display

Signal: 20 segment bar graph.

Signal Span: 0...100% proportional to input signal. For non-inverting signals 0% is 4mA and 100% is 20mA. For inverting signals 0% equals 20mA and 100% is 4mA.

Process Variable: 7 digits with 12mm (0.48") high digits on the LCD. The process variable is displayed with 42 digit resolution and trailing zeros.

Process Span: The process span is programmable in the range of 0.001...9,999,999 and can be any unit of measure.

Process Zero: The process zero is programmable in the range of 0.000...9,999,999.

Decimal Points: Decimal point position for contents is programmable in range of 0...3 decimal point places.

Physical

Operating Temperature: -20 to +60°C, -4 to +140°F

Enclosure

Dimensions: 98mm (3.9") H x 151mm (5.9") W x 43mm (1.7") D

Protection: Sealed to Nema 4X or IP67 standards

Mounting Options

Wall: Universal wall mounting bracket

Pipe: A galvanised metal bracket is available which enables the Model 250 to be attached to a 51mm (2") vertical or horizontal pipe

Panel: Supplied with mounting brackets. Terminals accessible from rear. *(Note that the panel mount version is not watertight).*

4-20mA Power Input

Resolution and Linearity: 0.05% of span

Accuracy: 0.05% of span @ 25°C. 0.1% (typ) of span, full temperature range

Update Time: 0.5 second

Connection: Two wire

Voltage Drop: 2.5 volts maximum

Alarm / Pulse Outputs

Type: 4 x open collector outputs suitable for driving DC solenoids or external relays. The outputs provide high, high-high, low and low-low flow alarms

Switching Power: 200mA. 30Vdc maximum

Saturation Voltage: 0.8Vdc typical across the output in the "on" state

Isolation: Outputs are separately opto-isolated

Hazardous Area Approval

Type of Approval:

- ATEX Rating - II 2G Ex ia IIB T4 Gb
Cert No. BVS 15 ATEX E 106 X
- IECEx Rating - Ex ia IIB T4 Gb
Cert No. IECEx BVS 15.0099X
- CSA us/c Rating - Class 1, Group C & D
Cert No. 104840-5

Intrinsically Safe Parameters

Maximum Ambient: 60°C (+140°F)

Maximum Input Parameters:

4-20mA or Relays: U_i = 28V
I_i = 93mA
P_i = 653mW

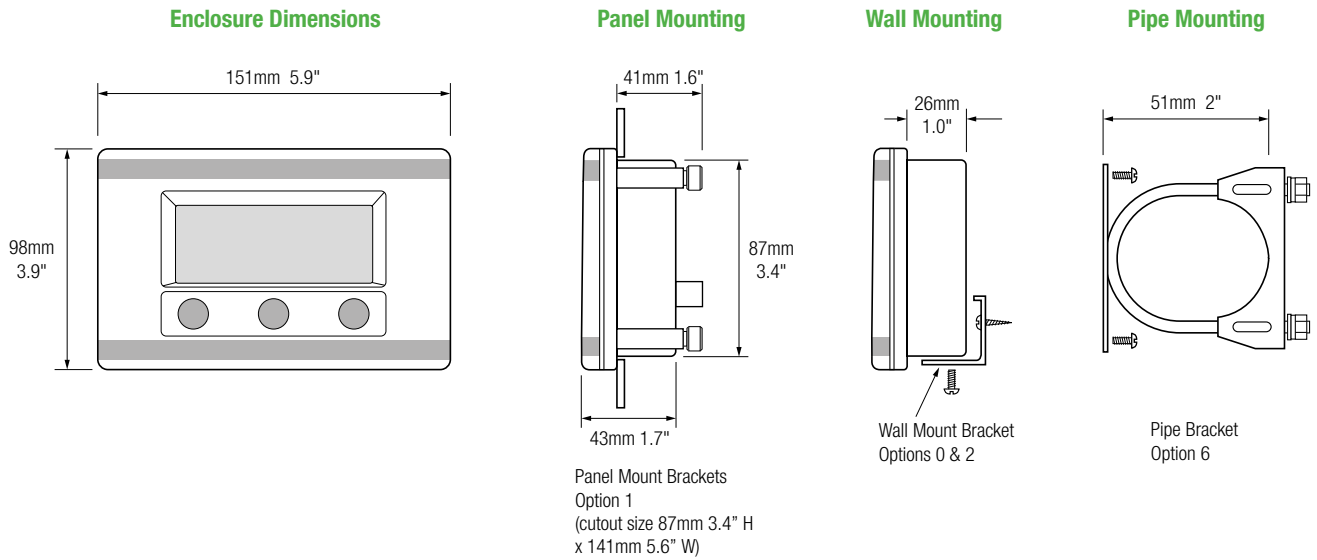
Maximum Output Parameters:

Relay: U_i = 28V
I_i = 93mA
P_i = 653mW

Important: Specifications are subject to change without notice.



DIMENSIONS



TERMINAL DESCRIPTIONS

Inputs & Outputs	
Number	
1	Low-low Alarm (-)
2	Low-low Alarm (+)
3	4-20mA (-) Input
4	4-20mA (+) Input
5	Low Alarm (-)
6	Low Alarm (+)
7	High Alarm (-) or Pulse (-)
8	High Alarm (+) or Pulse (+)
9	High-high Alarm (-)
10	High-high Alarm (+)

PRODUCT CODES

Product Code, Mounting Types & Options			
250i	•		Process Indicator (intrinsically safe)
Enclosure Mounting		0 1 2 6	Wall Mounting (no gland holes) Panel Mounting * Wall Mounting (standard gland holes) Pipe Mounting
Output (standard)		0	Loop Powered Alarm Outputs
Hazardous Approvals		C M	CSA US & Canadian Approval ATEX/IECEx Approval

Typical Part Number: 250i.20C

* Note: Cable glands not included

Instruments within the Contrec family:

100 Series – Accurate process instruments for field mounting applications

200 Series – Intrinsically safe, precise and reliable process instruments

400 Series – Rugged and dependable batch and flow control solutions

505 Series – Next generation flow instruments for a variety of applications

515 Series – Precise flow and batch control for more complex applications

LC Series – Robust load computers for petroleum and chemical applications

TRAC 40 – Vehicle mount custody transfer approved registers



Contrec Manufacturing (UK) Ltd
 Riverside, Canal Road
 Sowerby Bridge
 West Yorkshire HX6 2AY

t +44 (0)1422 829944
f +44 (0)1422 829945
e admin@contrec.co.uk
w www.contrec.co.uk

SALES & TECHNICAL SUPPORT:
+44 (0)1422 829944
www.contrec.co.uk

Contrec Manufacturing Ltd
 Manufacturing and Asia Sales:
 +44 (0)1422 829944
 admin@contrec.co.uk

Contrec Europe Ltd
 European, Middle East and Africa
 Sales: +44 (0)1422 829940
 sales@contrec.co.uk

Contrec – USA
 Americas & Canada Sales:
 +1 (0)205 685 3000
 customerservice@contrec-usa.com

Contrec Systems PTY Ltd
 Australasia Sales and South East Asia
 Support: +61 (0)413 505 114
 paul@contrec.com.au