



Protran® PR3850

FLUSH DIAPHRAGM PRESSURE TRANSMITTER



- THICK FILM SENSOR TECHNOLOGY
- PRESSURE RANGES 0-4bar TO 0-400bar
- 4-20mA TWO WIRE OUTPUT AS STANDARD
- ACCURACY 0.30% NLHR
- OPTIONAL ATEX APPROVED VERSION (4-20mA ONLY)
- 316 STAINLESS STEEL MEMBRANE
- ALL STAINLESS STEEL HOUSING
- INTEGRAL O-RING SEAL

DESCRIPTION

The PR3850 pressure transmitter has been designed to meet the requirements of the majority of industrial pressure measurement applications where a hygienic flush diaphragm connection is required.

Robustly constructed from stainless steel this range of pressure transmitters incorporates the latest strain gauge technology together with a custom IC amplifier offering excellent stability and accuracy over a long service life. Output options include 0-5Vdc, 0-10Vdc and 0-20mA. This transmitter is particularly suitable for use with high viscosity materials. Typical applications include food processing, pharmaceutical, petrochemical, waste water and slurry handling. The flush membrane can be easily cleaned for long term reliability and outstanding performance.

The PR3850 offers a stable and accurate output signal of 4-20mA with options for 0-5Vdc, 0-10Vdc, 0-20mA and other output signals. Electrical connection is via a detachable DIN connector allowing easy access to zero and span adjustment. In addition to the standard 1/2" BSP connection, optional 1" BSP and 1/2" NPT male flush diaphragm process connections are also available. Pressure ranges available from 0-4bar to 0-400bar.

Optional weldable boss is available to ensure flush-face installation of transmitter to tanks and pipe-work.

An optional ATEX certified version of this product is available approved for explosion protection for flammable gases (zone 0), dusts (zone 20) and mining areas (group I MI).



PRESSURE RANGES

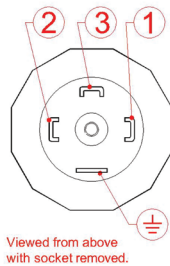
0 - 4bar through to 0 - 400bar, see table below for list of all standard pressure ranges.

Range (bar)	Order Code	Range (bar)	Order Code
0-4	0004	0-60	0060
0-6	0006	0-100	0100
0-10	0010	0-160	0160
0-16	0016	0-250	0250
0-25	0025	0-400	0400
0-40	0040		

DIMENSIONS (in mm)

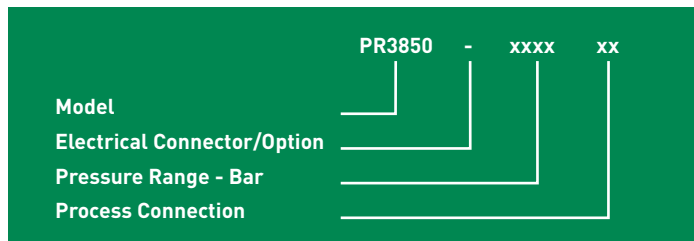


ELECTRICAL CONNECTION (mA)	
Pin No.	2 wire
1	+supply
2	4-20mA signal
3	not fitted to case
⊕	



ELECTRICAL CONNECTION (Vdc)		
Pin No.	4 wire	3 wire
1	-supply	common
2	+supply	+supply
3	+output	+output
⊕	-output	to case

ORDERING INFORMATION



ELECTRICAL CONNECTION/OPTION

DIN 43650 plug and socket
ATEX certified with DIN43650 plug and socket

Order Code

-
EX

PROCESS CONNECTION

1/2" BSP male flush diaphragm
1" BSP male semi-flush diaphragm

Order Code

BA
BC

EXAMPLE

Output signal 4-20mA
DIN 43650 plug and socket
Pressure range 0-10barg
Pressure connection 1/2" BSP male flush diaphragm

Order Code

PR3850
-
0010
BA

Correct Part Number

For options not listed contact sales team

PR3850-0010BA

SPECIFICATION

PRESSURE REFERENCE

Gauge

OVERPRESSURE

Pressure can be exceeded by up to 1.5 x Range with no damage or change in calibration greater than $\pm 0.5\%$ FS

OUTPUT SIGNAL

4-20mA (2 wire configuration) as standard. Optional outputs available are:
0-5Vdc (4 wire),
0-10Vdc (4 wire)

ZERO OFFSET AND SPAN TOLERANCE

± 0.16 mA
 $\pm 5\%$ FS zero adjustment with easy access trimming potentiometers.

SUPPLY VOLTAGE

Measured across supply terminals on connector plug
13-36Vdc for 4-20mA versions
13-30Vdc for 0-5Vdc and 0-10Vdc versions

PROTECTION OF SUPPLY VOLTAGE

Protected against supply voltage reversal up to 50Vdc

ACCURACY (NON LINEARITY, HYSTERESIS & REPEATABILITY)

$\pm 0.30\%$ FS. Typical max. Best fit straight line.

PRESSURE MEDIA

All fluids compatible with 316 stainless steel.

OPERATING TEMPERATURE RANGE

Ambient/Media: -20°C to $+85^{\circ}\text{C}$
Storage: $+5^{\circ}\text{C}$ to $+40^{\circ}\text{C}$

TEMPERATURE EFFECTS

$\pm 2.5\%$ FS total error band for -20°C to $+70^{\circ}\text{C}$.
Typical thermal zero and span coefficients $\pm 0.04\%$ FS/ $^{\circ}\text{C}$

ATEX APPROVAL (4-20mA versions only)

Ex II 1 G Ex ia IIC T4 Ga (zone 0)
Ex II 1 D Ex ia IIIC T135 $^{\circ}\text{C}$ Da (zone 20)
EX I M 1 Ex ia I Ma (group I M1)

ATEX SAFETY VALUES

Ui = 28V
Ii = 119mA
Pi = 0.65W
Li = 0.1
Ci = 62nF
Temperature range = -20°C to $+70^{\circ}\text{C}$
Max. cable length = 105m

ELECTROMAGNETIC CAPABILITY

Emissions: EN61000-6-4
Immunity: EN61000-6-2

PRESSURE CONNECTION

1/2" BSP male integral Nitrile seal and flush 316L diaphragm.

ELECTRICAL CONNECTION

Mating socket with screw terminal connections to DIN 43650, rated IP65.

DISCLAIMER : ESI Technology Ltd operates a policy of continuous product development. We reserve the right to change specification without prior notice. All products manufactured by ESI Technology Ltd are calibrated using precision calibration equipment with traceability to international standards.

