

## 50T Series Transmitters

Model 51G/A gauge/absolute  
pressure transmitter

Ranges: -100 to 40000kPa

-1 to 400bar

-14.5 to 6000psi

**Industrial<sup>IT</sup>**  
enabled™

- Base accuracy :  $\leq 0.25\%$  (BFSL)
- Chemical Vapour Deposition (CVD) technology
- Various process connections  
– optimum flexibility to meet plant requirements
- Wide choice of ranges
- Optimum overpressure performance without calibration change
- Excellent long term stability
- CE - conformity



**50T Series**  
**Reliable sensors for**  
**pressure measurements**

## Description

50T series transmitter are suitable for liquid, gas and vapour application. These stainless steel transmitters are designed for the most varied industrial applications such as: fluid network control, O.E.M.'s continuous pressure monitoring. Based on a chemical vapour deposition sensing element, those transmitters are suitable with most aggressive fluids.

## Functional Specifications

### Range, span and pressure limits

METRIC RANGES				
Compound ranges (kPa/bar)	Gauge ranges (kPa/bar)	Absolute ranges (kPa/bar)	Overpressure	
			MPa	bar
-100 to 0 / -1 to 0	0 to 60 / 0 to 0.6	0 to 100 / 0 to 1	0.12	1.2
	0 to 100 / 0 to 1		0.2	2
	20 to 100 / 0.2 to 1		0.2	2
	0 to 160 / 0 to 1.6		0.3	3
			0.4	4
			0.5	5
			0.8	8
			1.2	12
			2	20
			3.2	32
			4	40
-100 to 60 / -1 to 0.6	0 to 250 / 0 to 2.5	0 to 1600 / 0 to 16	5	50
	-100 to 100 / -1 to 1		8	80
	-100 to 150 / -1 to 1.5		12	120
	-100 to 300 / -1 to 3		20	200
	-100 to 500 / -1 to 5		32	320
	-100 to 900 / -1 to 9		50	500
	-100 to 1500 / -1 to 15		60	600
	-100 to 2400 / -1 to 24			
	-100 to 3900 / -1 to 39			

IMPERIAL RANGES			
Compound ranges (psi)	Gauge ranges (psi)	Absolute ranges (psi)	Overpressure psi
-14.5 to 0	0 to 15	0 to 15	30
	3 to 15		30
	0 to 20		43.5
	0 to 30		72.5
	0 to 40		116
	0 to 60		116
	0 to 100		290
	0 to 150		290
	0 to 200		464
	0 to 300		725
	0 to 400		1160
-14.5 to 15	0 to 600	0 to 300	1160
	0 to 1000		1740
	0 to 1500		2900
	0 to 2000		4640
	0 to 3000		4640
	0 to 4000		7250
	0 to 6000		8700

### Fatigue life

greater than 100 million cycles (full scale)

### Response time

≤1ms

### Vibration

35g peak sinusoidal from 5 to 2000Hz

## Temperature limits

### Ambient

–20°C and +85°C (–4°F and +185°F)  
(can be limited by intrinsically safe application)  
Upper ambient limit for cables: +50°C (+122°F)

### Process

–40°C and +125°C (–40°F and +257°F)

### Compensated

–20°C and +80°C (–4°F and +248°F)

## Electrical characteristics

### Power supply

The transmitter operates from

- 7 to 35Vdc for 4 to 20mA output
- 11.5 to 35Vdc for 0 to 10V output
- 6.5 to 35Vdc for 1 to 5V output

and is protected against reverse polarity connection.  
For intrinsically safe application power supply must not exceed 28Vdc.

### Load limitations

total loop resistance:

$$R(\Omega) \leq \frac{\text{Supply voltage} - 7}{0.02}$$

### Output signal

4 to 20mA; 1 to 5Vdc; 0 to 10Vdc

### Insulation resistance

> 100MΩ @ 50Vdc

## Performance specifications

Unless otherwise specified, errors are quoted as % of full scale

### Accuracy rating

≤ 0.25% of BFS, including combined effects of linearity, hysteresis and repeatability.

## Operating influences

### Ambient temperature

between the limits of –20°C to +80°C (–4 to +176°F)

Thermal error: 2% max

### EMI/RFI

Meets EN50081-2 for emission and EN50082-2 for susceptibility

### Stability

< 0.20% over a twelve-month period

## Physical Specification

(Refer to ordering information sheets for variant availability related to specific model or versions code)

## Materials

### Process wetted parts

17-4-PH stainless steel

### Housing

AISI 316 ss, 17-4-PH ss

### Tagging

Printed label stucked on the housing

## Environmental protection

The transmitter is dust and sand tight

### Enclosure class

- IP65 with 4-pin DIN 43650 connector and conduit
- IP67 with cable gland

### Hazardous atmospheres

- INTRINSIC SAFETY/EUROPE:  
ATEX/Baseefa approval  
II 1 G EEx ia IIC T4 (–20°C ≤ Ta ≤ +75°C)

### Surge protection

Fast transient (Burst) immunity level: 2kV

## Options

Cleaning procedure for oxygen service

## Process connections

- 1/4 NPT ANSI B1-20.4; G 1/4 A DIN 16288.B;
- 1/2 NPT ANSI B1-20.4; G 1/2 A DIN 16288.B.

## Electrical connections

- 4-pin connector ISO4400 / DIN 43650
- 1/2in NPT-m conduit + 2m cable
- Cable gland (PG 9) + 2m cable

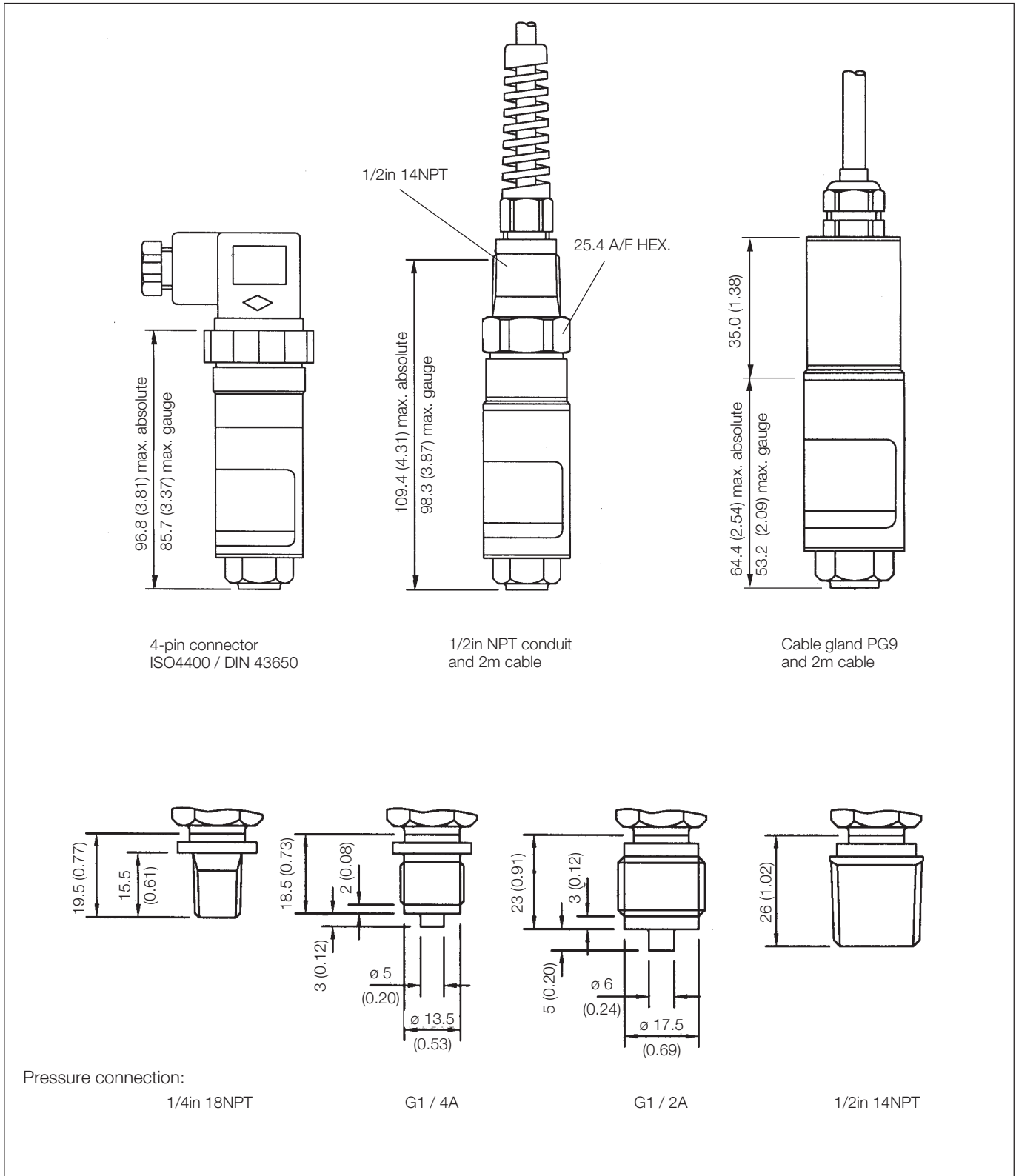
## Mass

- 4-pin connector ISO 4400 / DIN 43650: 100g
- 1/2in NPT-m conduit connection: 210g
- Add 150g for PVC cable (2m) and cable gland (PG9)

## Packing

- Carton for connector version.
- Plastic envelope for versions with cable.

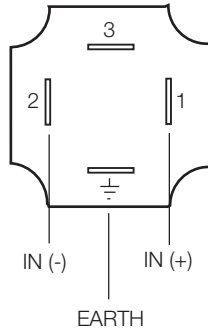
**MOUNTING DIMENSIONS** (not for construction unless certified) - dimensions in mm (in)



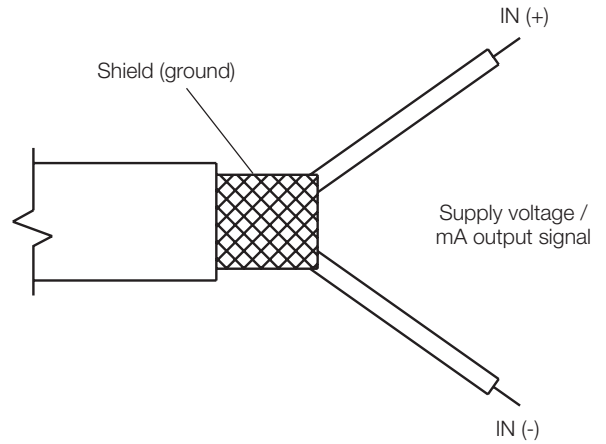
## Electrical connections

### 4-20mA output

	4-20mA
1	IN (+) / supply
2	IN (-) / supply
3	Not used
$\frac{\perp}{\text{E}}$	EARTH



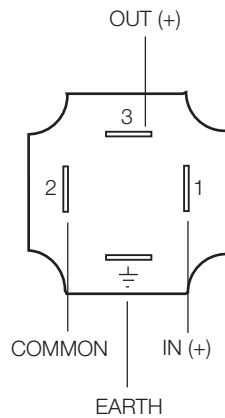
ISO 4400 / DIN 43650 connector



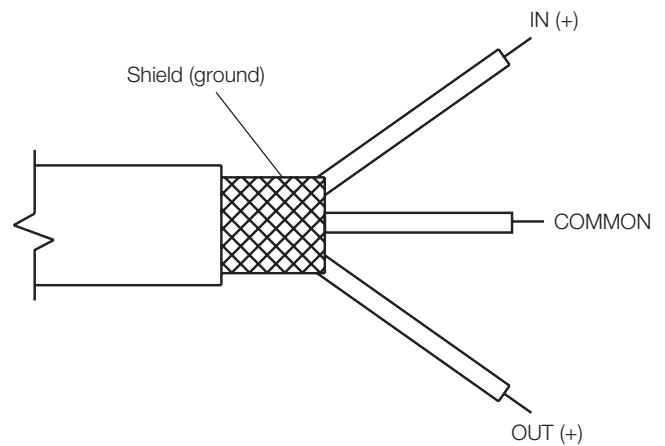
Cable output type	IN (+)	IN (-)	EARTH
1/2 NPT conduit	red	black	shield
Cable gland	red	blue	shield

### 0-10V or 1-5V outputs

	Voltage
1	IN (+)
2	COMMON
3	OUT (+)
$\frac{\perp}{\text{E}}$	EARTH



ISO 4400 / DIN 43650 connector



Cable output type	IN (+)	COMMON	OUT (+)	EARTH
1/2 NPT conduit	red	black	white	shield
Cable gland	red	white	yellow	shield

**BASIC ORDERING INFORMATION model 51G/A Transmitter**

Select one character or set of characters from each category and specify complete catalog number.

<b>BASE MODEL – 1<sup>st</sup> to 3<sup>rd</sup> characters</b>			<b>X</b>	<b>XX</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Fixed Range Gauge Pressure Transmitter	<b>5</b>	<b>1 G</b>										
Fixed Range Absolute Pressure Transmitter	<b>5</b>	<b>1 A</b>										
<b>Measuring units – 4<sup>th</sup> character</b>												
kPa			<b>K</b>									
bar			<b>B</b>									
psi			<b>E</b>									
<b>Range – 5<sup>th</sup> and 6<sup>th</sup> character</b>												
-100 to 0kPa (Note 1)	-1 to 0bar (Note 1)	-14.5 to 0psi (Note 1)										
-100 to 60kPa (Note 1)	-1 to 0.6bar (Note 1)	-14.5 to 15psi (Note 1)										
-100 to 100kPa (Note 1)	-1 to 1bar (Note 1)											
-100 to 150kPa (Note 1)	-1 to 1.5bar (Note 1)	-14.5 to 30psi (Note 1)										
-100 to 300kPa (Note 1)	-1 to 3bar (Note 1)	-14.5 to 60psi (Note 1)										
-100 to 500kPa (Note 1)	-1 to 5bar (Note 1)	-14.5 to 100psi (Note 1)										
-100 to 900kPa (Note 1)	-1 to 9bar (Note 1)	-14.5 to 200psi (Note 1)										
-100 to 1500kPa (Note 1)	-1 to 15bar (Note 1)	-14.5 to 300psi (Note 1)										
-100 to 2400kPa (Note 1)	-1 to 24bar (Note 1)											
-100 to 3900kPa (Note 1)	-1 to 39bar (Note 1)											
20 to 100kPa (Note 1)	0.2 to 1bar (Note 1)	3 to 15psi (Note 1)										
		0 to 15psi										
		0 to 20psi										
0 to 60kPa (Note 1)	0 to 0.6bar (Note 1)	0 to 30psi										
0 to 100kPa	0 to 1bar	0 to 40psi										
0 to 160kPa	0 to 1.6bar	0 to 60psi										
0 to 250kPa	0 to 2.5bar	0 to 100psi										
0 to 400kPa	0 to 4bar	0 to 150psi										
0 to 600kPa	0 to 6bar	0 to 200psi										
0 to 1000kPa	0 to 10bar	0 to 300psi										
0 to 1600kPa	0 to 16bar	0 to 400psi (Note 1)										
0 to 2000kPa	0 to 20bar											
0 to 2500kPa	0 to 25bar	0 to 600psi (Note 1)										
0 to 4000kPa (Note 1)	0 to 40bar (Note 1)	0 to 1000psi (Note 1)										
0 to 6000kPa (Note 1)	0 to 60bar (Note 1)	0 to 1500psi (Note 1)										
0 to 10000kPa (Note 1)	0 to 100bar (Note 1)	0 to 2000psi (Note 1)										
0 to 16000kPa (Note 1)	0 to 160bar (Note 1)	0 to 3000psi (Note 1)										
0 to 25000kPa (Note 1)	0 to 250bar (Note 1)	0 to 4000psi (Note 1)										
0 to 40000kPa (Note 1)	0 to 400bar (Note 1)	0 to 6000psi (Note 1)										
<b>Pressure connection – 7<sup>th</sup> character</b>												
G 1/4in A DIN 16288 B												
G 1/2in A DIN 16288 B												
1/4in NPT ANSI B1-20.4												
1/2in NPT ANSI B1-20.4												
<b>8<sup>th</sup> character</b>												
Use code												
<b>Output signal – 9<sup>th</sup> character</b>												
4 - 20mA												
1 - 5V												
0 - 10V												
<b>Electrical certification – 10<sup>th</sup> character</b>												
General purpose												
ATEX Group II Category 1G - Intrinsic Safety EEx ia												
<b>Electrical connection – 11<sup>th</sup> character</b>												
Cable gland + 2 meter cable												
1/2in NPT conduit + 2 meter cable												
4-pole connector ISO 4400/DIN43650												
<b>Surge protection – 12<sup>th</sup> character</b>												
Yes (fitted as standard)												
<b>Calibration certificate – 13<sup>th</sup> character</b>												
Yes (provided as standard)												
<b>Service – 14<sup>th</sup> character</b>												
Standard												
Cleaning procedure for oxygen service												

Note 1: Not available with absolute transmitter, base model code 51A.



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