

50T Series Transmitters

Model 54G/A gauge/absolute pressure transmitter for sanitary use

Ranges: -100 to 4000kPa

-1 to 40bar

-14.5 to 600psi

IndustrialIT
enabled™

- Base accuracy : $\leq 0.25\%$ (BFSL)
- Micro Machined Silicon technology
- Choice of process connection
- "Hygenic" design for food industries
- Good overpressure performance without calibration change
- High temperature version available
- Excellent long term stability
- CE - conformity



50T Series
Reliable sensors for
pressure measurements

Description

The hygienic flush diaphragm transmitters are ideally suited to fulfill the pressure measurement requirements of the food, dairy and pharmaceutical industries among others. The cleaning requirements of the food processing industry have dictated the "hygienic" design of these transmitters. They can also withstand without damage the various cleaning phases specific to these industries: sterilizing cycles, autoclaving and steam flushing.

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 10 / 0 to 0.1	0 to 100 / 0 to 1 0 to 160 / 0 to 1.6	0.05	0.5
	0 to 25 / 0 to 0.25		0.1	1
-100 to 100 / -1 to 1	0 to 250 / 0 to 2.5	0 to 250 / 0 to 2.5	0.3	3
			0.6	6
-100 to 150 / -1 to 1.5	0 to 400 / 0 to 4	0 to 400 / 0 to 4	0.6	6
-100 to 300 / -1 to 3	0 to 600 / 0 to 6	0 to 600 / 0 to 6	1.2	12
-100 to 500 / -1 to 5	0 to 1000 / 0 to 10	0 to 1000 / 0 to 10	1.2	12
-100 to 900 / -1 to 9	0 to 1600 / 0 to 16	0 to 1600 / 0 to 16	2	20
-100 to 1500 / -1 to 15	0 to 2000 / 0 to 20	0 to 2000 / 0 to 20	5	50
-100 to 2400 / -1 to 24	0 to 2500 / 0 to 25	0 to 2500 / 0 to 25	5	50
-100 to 3900 / -1 to 39	0 to 4000 / 0 to 40		8	80

IMPERIAL RANGES			
Compound ranges (psi)	Gauge ranges (psi)	Absolute ranges (psi)	Overpressure psi
-14.5 to 0	0 to 1.5	0 to 15	7.25
	0 to 4		14.5
-14.5 to 30	0 to 15	0 to 20	43.5
	0 to 20	0 to 30	43.5
-14.5 to 60	0 to 30	0 to 40	87
-14.5 to 100	0 to 40	0 to 60	87
-14.5 to 200	0 to 60	0 to 100	174
	0 to 100	0 to 150	174
-14.5 to 300	0 to 150	0 to 200	360
	0 to 200	0 to 300	360
	0 to 300		725
	0 to 400		725
	0 to 600		725

Fatigue life

greater than 100 million cycles (full scale)

Response time

≤1ms

Vibration

10g peak sinusoidal from 20 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 cable: +50°C (+122°F)

Process

– standard: –25°C and +125°C (–13°F and +257°F)

– high temperature: –25°C and +300°C (–13°F and +572°F)

Compensated

–20°C and +80°C (–4°F and +176°F)

Electrical characteristics

Power supply

The transmitter operates from 12 up to 36Vdc and is protected against reverse polarity connection.

For intrinsically safe application power supply must not exceed 28Vdc.

Load limitations

total loop resistance:

$$R(\Omega) = \frac{\text{Supply voltage} - 12}{0.02}$$

Output signal

4 to 20mA ; 0 to 10Vdc

Insulation resistance

> 100MΩ @ 50Vdc

Performance specifications

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

Accuracy rating

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

Operating influences

Ambient temperature

between the limits of 0°C to +70°C (–40 to +158°F) or
of 0°C to +50°C (–40 to +122°F) for 10kPa, 100mbar, 1.5psi and
25kPa, 250mbar, 4psi ranges

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

Flush diaphragm: AISI 316L (1.4404) Stainless steel

Housing

AISI 304 / 1.4301 stainless steel

Tagging

Printed label stuck to the housing

Filling oil

Silicone oil

Environmental protection

The transmitter is dust and sand tight

Enclosure class

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

Hazardous atmospheres (4-20mA only)

- 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

Process connections

CLAMP ISO 2852 1in, 1-1/2in, 2in.

DAIRY connection DN25, DN40, DN50.

Electrical connections

4-pin connector ISO4400 / DIN 43650

Cable gland (PG 9) + 2m cable

Mass

4-pin connector ISO 4400 / DIN 43650: 250g

Add 150g for PVC cable (2m) + cable gland (PG9)

Add 60g for high temperature version.

Packing

Carton for connector version.

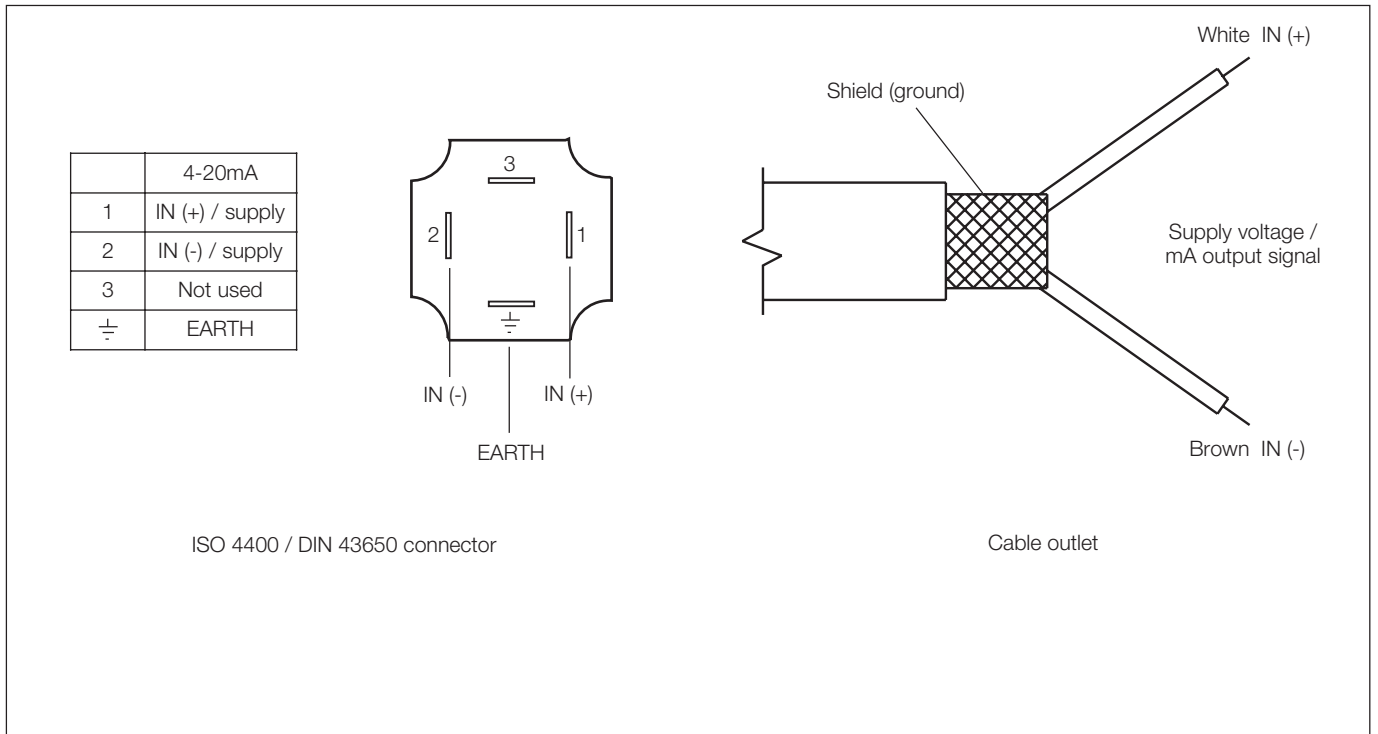
Plastic envelope for version with cable.

Options

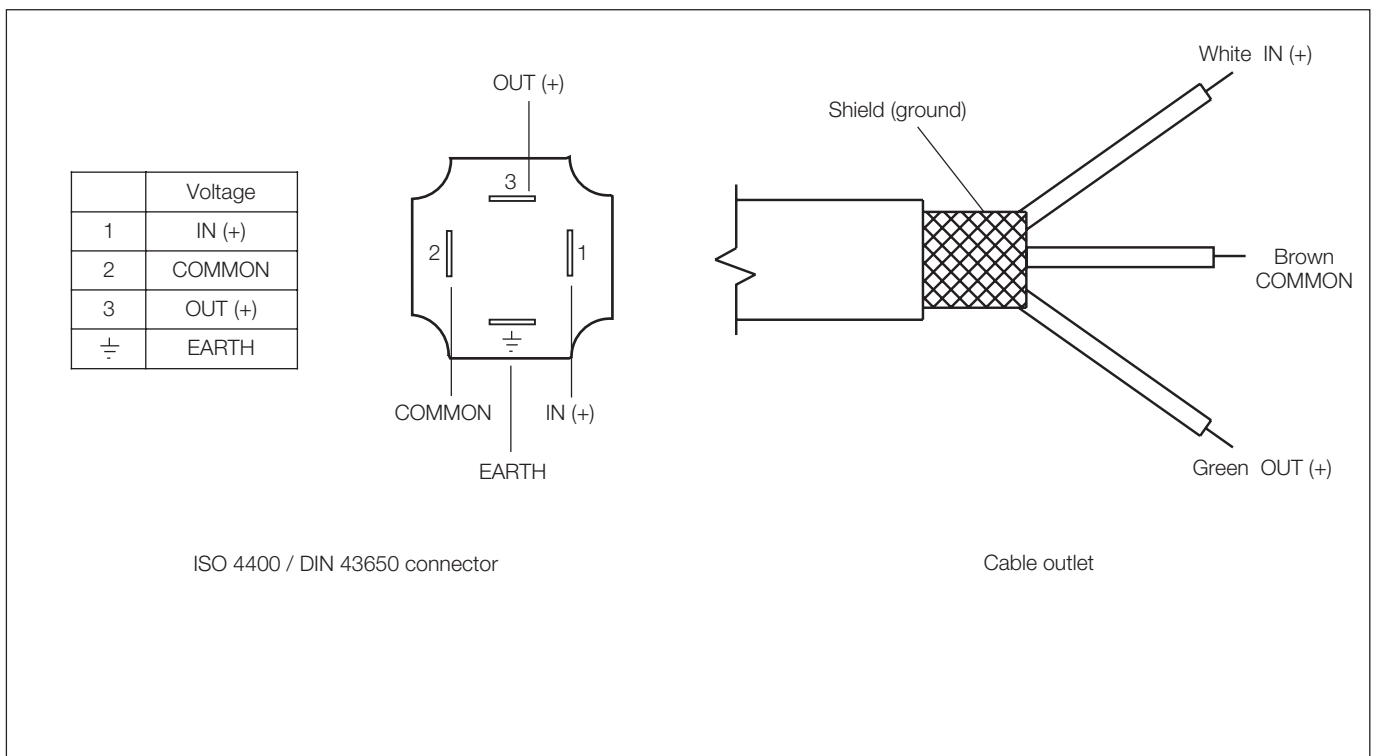
High temperature version with cooling element.

Electrical connections

4-20mA output



0-10V output



BASIC ORDERING INFORMATION model 54G/A Transmitter

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

BASE MODEL – 1 st to 3 rd characters			X	XX	X	X	X	X	X	X	X	X
Fixed Range Gauge Pressure Transmitter	5	4 G										
Fixed Range Absolute Pressure Transmitter	5	4 A										
Measuring units – 4th character												
kPa			K									
bar			B									
psi			E									
Range – 5th and 6th character												
-100 to 0kPa (Note 1)	-1 to 0bar (Note 1)	-14.5 to 0psi (Note 1)		11								
-100 to 100kPa (Note 1)	-1 to 1bar (Note 1)			54								
-100 to 150kPa (Note 1)	-1 to 1.5bar (Note 1)	-14.5 to 30psi (Note 1)		13								
-100 to 300kPa (Note 1)	-1 to 3bar (Note 1)	-14.5 to 60psi (Note 1)		14								
-100 to 500kPa (Note 1)	-1 to 5bar (Note 1)	-14.5 to 100psi (Note 1)		15								
-100 to 900kPa (Note 1)	-1 to 9bar (Note 1)	-14.5 to 200psi (Note 1)		16								
-100 to 1500kPa (Note 1)	-1 to 15bar (Note 1)	-14.5 to 300psi (Note 1)		17								
-100 to 2400kPa (Note 1)	-1 to 24bar (Note 1)			18								
-100 to 3900kPa (Note 1)	-1 to 39bar (Note 1)			19								
0 to 10kPa (Note 1)	0 to 0.1bar (Note 1)	0 to 1.5psi (Note 1)		50								
0 to 25kPa (Note 1)	0 to 0.25bar (Note 1)	0 to 4psi (Note 1)		51								
		0 to 15psi		21								
		0 to 20psi		22								
		0 to 30psi		23								
0 to 100kPa	0 to 1bar	0 to 40psi		24								
0 to 160kPa	0 to 1.6bar	0 to 60psi		25								
0 to 250kPa	0 to 2.5bar	0 to 100psi		26								
0 to 400kPa	0 to 4bar	0 to 150psi		27								
0 to 600kPa	0 to 6bar	0 to 200psi		28								
0 to 1000kPa	0 to 10bar	0 to 300psi		29								
0 to 1600kPa	0 to 16bar	0 to 400psi (Note 1)		31								
0 to 2000kPa	0 to 20bar			53								
0 to 2500kPa	0 to 25bar	0 to 600psi (Note 1)		32								
0 to 4000kPa (Note 1)	0 to 40bar (Note 1)			33								
Pressure connection - 7th character												
CLAMP ISO 2852 1in			F									
CLAMP ISO 2852 1-1/2in			G									
CLAMP ISO 2852 2in			J									
DAIRY PIPE DN25			R									
DAIRY PIPE DN40			S									
DAIRY PIPE DN50			T									
DIN 11851 FL with nut DN32			U									
DIN 11851 FL with nut DN40			V									
DIN 11851 FL with nut DN50			Z									
8th character												
Use code							2					
Output signal - 9th character												
4 - 20mA								3				
0 - 10V								2				
Electrical certification - 10th character												
General purpose									1			
ATEX Group II Category 1G - Intrinsic Safety EEx ia		(Note 2)							2			
Electrical connection - 11th character												
Cable gland + 2 meter cable										2		
4-pole connector ISO 4400/DIN43650										4		
Surge protection - 12th character												
Yes (fitted as standard)											2	
Calibration certificate - 13th character												
Yes (provided as standard)												2
Service - 14th character												
Standard												2
High temperature version (up to 300° C)												4

Note 1: Not available with absolute transmitter, base model code 54A.

Note 2: Not available with 0-10V output signal code 2.

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