

# DIGITAL PRESSURE TRANSMITTER AND SWITCH

with colour-change display  
switchable pressure units



Important features: 2 independent switching points with lots of configuration options, analogue signal output with possibility of characteristic curve spread, curve reversal and offset setting. Complete adjustment of all parameters and measuring point protocol possible through optional transmitter PC interface.



## Applications

Technical facility equipment (TGA)  
Process engineering, Process technology  
Environmental technology

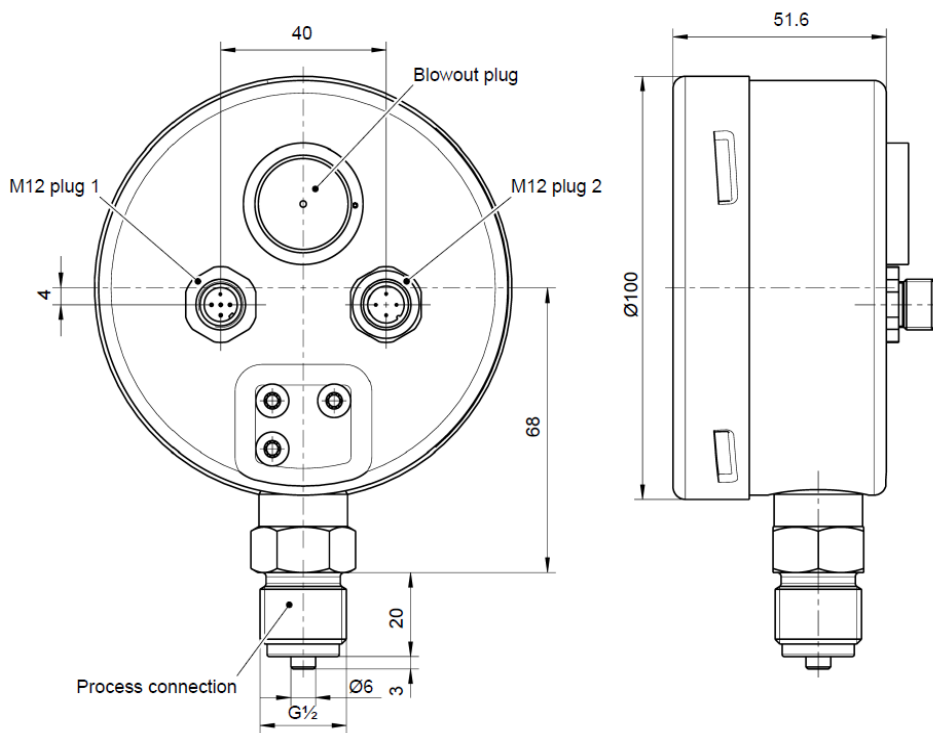
Type	3309		Options
Nominal size	100		NG 160
Accuracy class	1,0%		0,5% (0...1,6 up to 0...16 bar)
Hysteresis	<0,5%FS		
Deviation	1,0%, incl. Non-linearity and hysteresis		0,5% (only certain meas. ranges)
Measuring ranges	0...1,6 bar up to 0...60 bar; -1...0 bis -1...24 bar; 0...-1 bar		
Material case, bayonet, front plate front film bayonet ring seal Blowout Meas. Diaphragm Seal	Stainless steel 1.4301 Aluminium PET Polyethylene terephthalate NBR Nitril rubber FKM Flourcarbon-rubber ceramic FKM		Special materials on request
Process connection	G½B 1.4404		G¾B, ¼NPT, 7/16UNF
Connection position	bottom		3,9,12 o'clock
Temperatures	Area -10°C...+70°C Media -10°C...+70°C Storage -20°C...+70°C		
Protection class	IP65 according EN 60529		
Power supply	Rated voltage Admissible operating voltage Electrical connection	24V AC/DC $U_b=12..32V_{DC}$ ; $U_b=16,5..32V_{AC}$ 5pin M12 circular plug connect.	
Analogue output 3-wire	Output signal 0...20 mA, 4...20 mA 0...10 V	Signal range 0,0...21,0 mA 0,0...11,0 V	ohmic resist. $R_L \leq 600 \Omega$ $R_L \geq 2 k\Omega$
	2 potential-free relay contacts		2 potential-free semiconductor switches (MOSFET)
progr. switch. function max. switch. voltage max. switch. current max. switch. output	Open contact (NO) Break contact (NC) 32 V AC/DC 2 A 60 W (VA)	One-pin activator (NO) One-pin deactivator (NC) 3...32 V AC/DC 0,25 A 8W / 8 VA; Ron ≤ 1 Ω	
Display	4...6-digit LCD, full grafic, colour backlighting		
Accessories	see page 3		

all values at reference conditions (acc. to IEC 61298-1)

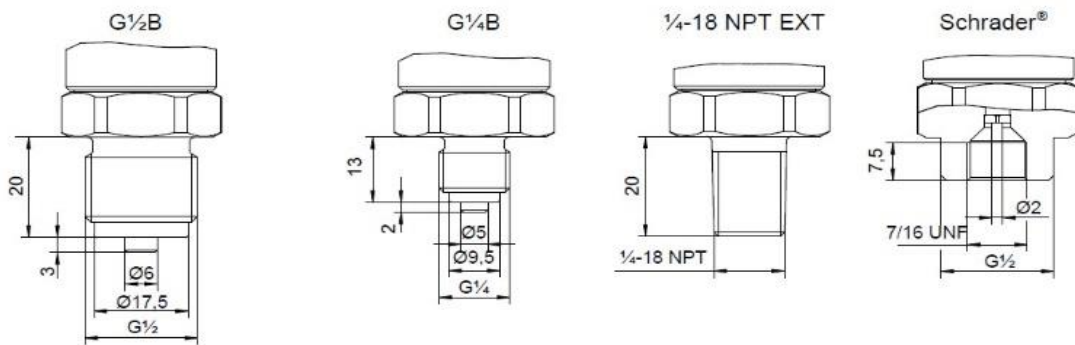
**Input variables**

Measuring range	Over-pressure	Bursting pressure	Measuring range	Over-pressure	Bursting pressure
0...1,6 bar	4 bar	7 bar	0 -1 bar	4 bar	7 bar
0...2,5 bar	10 bar	15 bar	-1...0 bar	4 bar	7 bar
0...4 bar	10 bar	15 bar	-1...0,6 bar	4 bar	7 bar
0...6 bar	20 bar	35 bar	-1...1,5 bar	4 bar	7 bar
0...10 bar	40 bar	70 bar	-1...3 bar	10 bar	15 bar
0...16 bar	40 bar	70 bar	-1...5 bar	20 bar	35 bar
0...25 bar	100 bar	150 bar	-1...9 bar	40 bar	70 bar
0...40 bar	100 bar	150 bar	-1...15 bar	40 bar	70 bar
0...60 bar	200 bar	250 bar	-1...24 bar	100 bar	150 bar

**Dimensional drawings**      Dimensions in mm



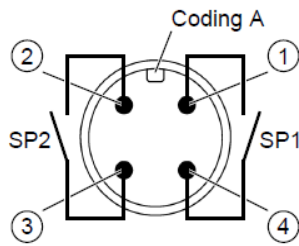
**Process connection**



## Electrical connection

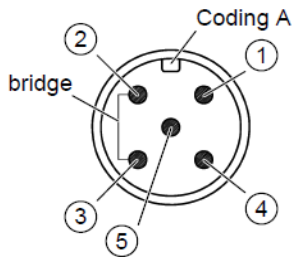


Connector 1 - Supply and output



- |   |     |                |
|---|-----|----------------|
| 1 | SP1 | Switch point 1 |
| 2 | SP2 | Switch point 2 |
| 3 | SP2 | Switch point 2 |
| 4 | SP1 | Switch point 1 |

Connector 2 - Supply and output



- |   |                 |                  |
|---|-----------------|------------------|
| 1 | +U <sub>b</sub> | Supply           |
| 2 | -Sig            | Output signal    |
| 3 | -U <sub>b</sub> | Supply           |
| 4 | +Sig            | Output signal    |
| 5 | FE              | Functional earth |

## Programming

<b>Attenuation</b>	0,0...100,0 s (jump response 10/90%)
<b>Switching output</b>	Switch-off point, switch-on point, delay (0...1800s) function (NC / NO contact)
<b>Measuring range unit</b>	bar, PSI, kPa, "free unit" starting value, end value and decimal point for "free unit"
<b>Output signal</b>	User-definable within the basic measuring range max. effective spread 4:1
<b>Zero-point stabilising</b>	0... 1/3 of the basic measuring range (measured values around zero are set to zero)
<b>Zero-point correction</b>	± 1/3 of the basic measuring range (to compensate different installation positions)
<b>Implementation of characteristic curve</b>	linear, square rooted, table with 3...30 support points
<b>Password</b>	001...999 (000 = no password protection)

## Accessories

Connection cable for switching outputs with M12 connector; 4-pin; 2 or 5 m length

Connection cable for supply/signal with M12 connector; 4-pin; 2 or 5 m length

Transmitter PC Interface incl. PC-software