Baumer
Passion for Sensors

Pressure measurement

TED

Pressure switch

TED-#.#.#.###.#

Overview

- -1 … 0 bar up to 0 … 400 bar
- Robust stainless steel housing for severe industrial environments
- Abrasive and chemical resistant
- Two threshold outputs (PNP transistors or galvanic isolation)

Technical data

Performance characteristics	
Measuring range	-1 … 400 bar
Min. measuring span	1 bar
Max. measuring span	401 bar
Pressure type	Absolute Relative (gauged)
Standard error of measurement (BFSL)	± 0.3 % FSR Including non-linearity, hysteresis and non-repeatability according BFSL
Max. measuring error	≤ 0.5 % FSR Including zero-point and span error, non-linearity (by terminal base line), hysteresis and non-repeatability (EN 61298-2)
Temperature coefficient	≤ 0.15 % FSR/10 K
Long term stability	≤ 0.2 % FSR/a
Rise time (10 ... 90 %)	≤ 20 ms
Threshold setting range	2 … 98 % FSR
Process conditions	
Process pressure	Refer to section "Process conditions"
Process temperature	-25 … 100 °C
Process connection	
Connection variants	Refer to section "Dimensional drawings"
Wetted parts material, gasket	NBR, optional EPDM, optional EPDM O-rings are conform to 3-A Sanitary Standard 18-03 Class II, EPDM gaskets are conform to 3-A Sanitary Standard 18-03 Class I (8% milk fat max.) FKM (Viton®), optional FKM (Viton®) gaskets require a minimum ambient temperature of -20 °C and a minimum medium temperature of -25 °C FFKM (Chemraz®)
Wetted parts material, membrane	Ceramic, 96% AL2O3
Wetted parts material, process connection	AISI 316L (1.4404)

Ambient conditions	
Shock (EN 60068-2-27)	25 falls from 1 m onto concrete floor
Vibration (sinusoidal) (EN 60068-2-6)	1.5 mm p-p (10 … 58 Hz), 20 g (58 Hz … 2 kHz)
Degree of protection (EN 60529)	IP 67 0
Operating temperature range	-25 … 85 °C
Storage temperature range	-40 … 85 °C
Output signal	
Current output	4 … 20 mA , 2-wire 4 … 20 mA , 3-wire
Output signal	Modbus RS485 2 galvanic seperated switching points 2 switching points
Load resistance	Rs ≤ (Vs - 10 V)/0.02 A, with 2-wire Rs ≤ 400 Ω, with 3-wire > 5 kΩ, with voltage output
Insulation resistance	> 100 MΩ , 500 V DC
Housing	
Overall size	Refer to section "Dimensional drawings"
Style	Compact transmitter
Material	AISI 304 (1.4301)
Electrical connection	
Connector	M12-A, 5-pin M12-A, 8-pin, stainless steel
Power supply	
Voltage supply range	10 … 32 V DC , 2-wire 18 … 32 V DC , 3-wire
Compliance and approvals	
EMC	EN 61000-6-2 EN 61000-6-3 EN 61326-1

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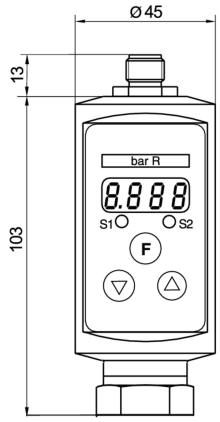
Operating conditions

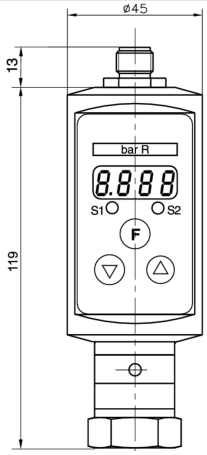
Measuring range (bar)				Proof pressure (bar)	Burst Pressure (bar)
-1 … 0	-1 … 0,6			3	6
		0 … 1	0 … 1,6	3	7
	-1 … 1,5	0 … 2,5		4	7
	-1 … 3	0 … 4		8	12
	-1 … 5	0 … 6		12	18
	-1 … 9	0 … 10		20	30
	-1 … 15	0 … 16		32	48
	-1 … 24	0 … 25		50	75
	-1 … 39	0 … 40		80	120
		0 … 60		120	180
		0 … 100		200	300
		0 … 160		320	480
		0 … 250		500	600
		0 … 315		600	800
		0 … 400		600	800

Dimensional drawings

Housing

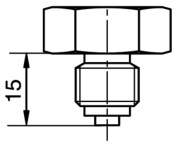


Housing standard

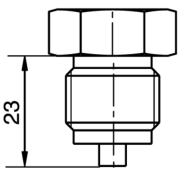


Housing with 300° turnable display

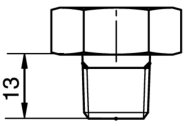
Process connection



G 1/4 B EN 837-1 (BCID: G30)



G 1/2 B EN 837-1 (BCID: G31)



1/4-18 NPT (BCID: N01)

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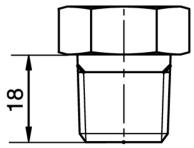
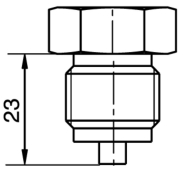
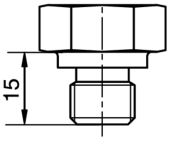
Process connection



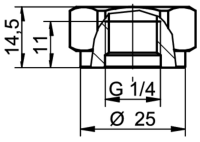
1/2-14 NPT (BCID: N02)



M20 × 1.5 ISO 261 / ISO 965 (M08)



G 1/4 A DIN 3852-E (BCID: G50)



G 1/4 A ISO 228-1 female thread (BCID: G21)

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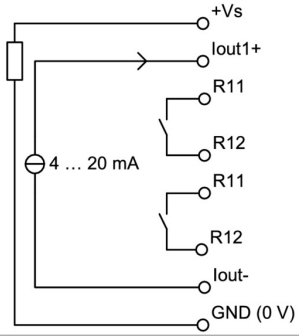
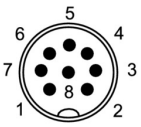
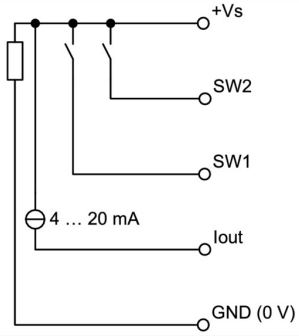
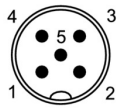
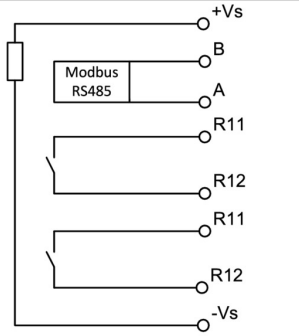
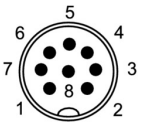
Electrical connection

Version	Equivalent circuit	Electrical connection	Function	Pin assignment
TED-5.#.#.###.#			+Vs Iout+ Iout- R1 R2 GND (0 V)	1 7 2 3, 4 5, 6 8
TED-6.#.#.###.#			+Vs Iout SW1 SW2 GND (0 V)	1 3 4 2 5
TED-M.#.#.###.#			+Vs R1 R2 A B -Vs	7 3, 4 5, 6 1 2 8

Ordering information

Ordering key - Configuration possibilities see website

	TED	-	#	.	#	.	#	.	###	.	#	####	0619	2037
Product	TED													
Type														
2 galvanic separated switching points, 4...20mA (3-wire)			5											
2 switching points, 4...20mA (2-wire)			6											
2 switching points, Modbus RS485			M											
Process connection														
G 1/4 A DIN 3852-E (G50)					B									
G 1/4 A ISO 228-1 female thread (G21)					H									
G 1/4 B EN 837-1 (G30)					2									
G 1/2 B EN 837-1 (G31)					3									
1/4-18 NPT (N01)					5									
1/2-14 NPT (N02)					6									
M20 × 1.5 ISO 261 / ISO 965 (M08)					9									

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Ordering key - Configuration possibilities see website

	TED	-	#	.	#	.	#	.	###	.	#	####	0619	2037
Sealing														
NBR							3							
EPDM							5							
FFKM (Chemraz®)							7							
FKM (Viton®)							9							
Measuring range														
0...1 bar (EN)									B15					
0...1,6 bar (EN)									B16					
0 ... 2.5 bar (EN)									B18					
0 ... 4 bar (EN)									B19					
-1...39 bar (EN)									B1L					
0 ... 6 bar (EN)									B20					
0 ... 10 bar (EN)									B22					
0 ... 16 bar (EN)									B24					
0...25 bar (EN)									B26					
0...40 bar (EN)									B27					
0...60 bar (EN)									B29					
0...100 bar (EN)									B31					
0 ... 160 bar (EN)									B33					
0...250 bar (EN)									B35					
0...315 bar (EN)									B36					
0...400 bar (EN)									B38					
-1...0 bar (EN)									B59					
-1...0,6 bar (EN)									B72					
-1...1,5 bar (EN)									B74					
-1...3 bar (EN)									B76					
-1...5 bar (EN)									B77					
-1...9 bar (EN)									B79					
-1...15 bar (EN)									B81					
-1...24 bar (EN)									B82					
0...100 kPa (EN)									D15					
0...160 kPa (EN)									D16					
0...250 kPa (EN)									D18					
0...400 kPa (EN)									D19					
-100...3900 kPa (EN)									D1L					
0...600 kPa (EN)									D20					
0...1000 kPa (EN)									D22					
0...1600 kPa (EN)									D24					
0...2500 kPa (EN)									D26					
0...4000 kPa (EN)									D27					
0...6000 kPa (EN)									D29					
0...10000 kPa (EN)									D31					
0...16000 kPa (EN)									D33					
0...25000 kPa (EN)									D35					
0...40000 kPa (EN)									D38					
-100...0 kPa (EN)									D59					
-100...60 kPa (EN)									D72					
-100...150 kPa (EN)									D74					
-100...300 kPa (EN)									D76					
-100...500 kPa (EN)									D77					

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Pressure switch

TED-#.#.#.###.#

Ordering key - Configuration possibilities see website

	TED	-	#	.	#	.	#	.	###	.	#	####	0619	2037
-100...900 kPa (EN)									D79					
-100...1500 kPa (EN)									D81					
-100...2400 kPa (EN)									D82					
0...1 kg/cm2 (EN)									F15					
0...1,6 kg/cm2 (EN)									F16					
0...2,5 kg/cm2 (EN)									F18					
0...4 kg/cm2 (EN)									F19					
-1...39 kg/cm2									F1L					
0...6 kg/cm2 (EN)									F20					
0...10 kg/cm2 (EN)									F22					
0...16 kg/cm2 (EN)									F24					
0...25 kg/cm2 (EN)									F26					
0...40 kg/cm2 (EN)									F27					
0...60 kg/cm2 (EN)									F29					
0...100 kg/cm2 (EN)									F31					
0...160 kg/cm2 (EN)									F33					
0...250 kg/cm2 (EN)									F35					
0...400 kg/cm2 (EN)									F38					
-1...0 kg/cm2 (EN)									F59					
-1...0,6 kg/cm2 (EN)									F72					
-1...1,5 kg/cm2 (EN)									F74					
-1...3 kg/cm2 (EN)									F76					
-1...5 kg/cm2 (EN)									F77					
-1...9 kg/cm2 (EN)									F79					
-1...15 kg/cm2 (EN)									F81					
-1...24 kg/cm2 (EN)									F82					
0...15 psi (ANSI)									H15					
0...30 psi (ANSI)									H17					
0...60 psi (ANSI)									H19					
0...20 psi (ANSI)									H1C					
-30Hg...600 psi (ANSI)									H1L					
0...100 psi (ANSI)									H21					
0...160 psi (ANSI)									H22					
0...200 psi (ANSI)									H23					
0...300 psi (ANSI)									H25					
0...400 psi (ANSI)									H26					
0...600 psi (ANSI)									H27					
-30HG...60 psi (ANSI)									H2C					
0...1000 psi (ANSI)									H30					
0...1500 psi (ANSI)									H31					
0...3000 psi (ANSI)									H34					
0...6000 psi (ANSI)									H38					
-30HG...0 psi (ANSI)									H59					
-30HG...15 psi (ANSI)									H73					
-30HG...30 psi (ANSI)									H75					
-30HG...100 psi (ANSI)									H78					
-30HG...150 psi (ANSI)									H79					
-30HG...220 psi (ANSI)									H81					
-30HG...300 psi (ANSI)									H82					

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Ordering key - Configuration possibilities see website	TED - # . # . # . ### . #	####	0619	2037
Kind of pressure				
Relative (gauged)	R			
Absolute	A			
Electrical Connection				
M12-A, 5-pin with shielded cable, lenght: 2 m		0604		
M12-A, 5-pin with shielded cable, lenght: 5 m		0605		
M12-A, 5-pin with shielded cable, lenght: 10 m		0606		
M12-A, 8-pin with shielded cable, lenght: 2 m		0607		
M12-A, 8-pin with shielded cable, lenght: 5 m		0608		
M12-A, 8-pin with shielded cable, lenght: 10 m		0609		
M12 mobil plug + cable 2 m length		2267		
M12 mobil plug + cable 5 m length		2269		
Cleanliness				
Einsatz in der Trinkwasserversorgung			0619	
Display orientation				
300° directional display				2037