

## YTED

Pressure switch

YTED-#. #.###.#

### Overview

- ATEX version of the TED
- -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)



### Technical data

#### Performance characteristics

Measuring range	-1 ... 400 bar
Min. measuring span	1 bar
Max. measuring span	400 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

#### Process connection

Wetted parts material, process connection	AISI 316L (1.4404)
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#### 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
Output signal	2 switching points
Load resistance	$R_s \leq (V_s - 10 \text{ V})/0.02 \text{ A}$ , with 2-wire
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
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#### Power supply

Voltage supply range	10 ... 28 V DC
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#### ATEX II 1G Ex ia IIC T5/T6

Maximum values for barrier selection, U <sub>i</sub>	≤ 28 V
Maximum values for barrier selection, I <sub>i</sub>	≤ 120 mA
Maximum values for barrier selection, P <sub>i</sub>	≤ 800 mW
Internal capacitance, C <sub>i</sub>	≤ 13.2 nF

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## Technical data

### ATEX II 1G Ex ia IIC T5/T6

Internal inductance, Li	≤ 0μH
Temperature class, T1 ... T5	-25 < Tamb < 70 °C
Temperature class, T1 ... T6	-25 < Tamb < 40 °C

### Compliance and approvals

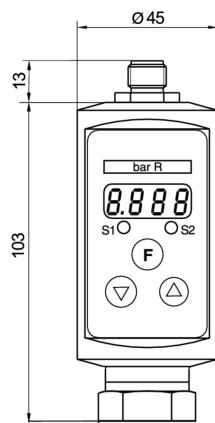
EMC	EN 61000-6-2 EN 61000-6-3 EN 61326-1
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## Operating conditions

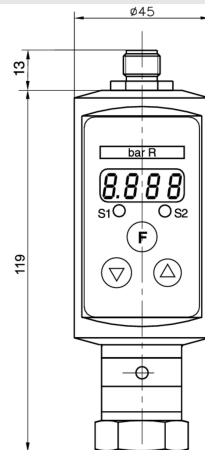
Measuring range (bar)		Proof pressure (bar)	Burst Pressure (bar)
-1 ... 0	-1 ... 0,6	3	6
	0 ... 1	3	7
	0 ... 1,6	4	7
	0 ... 2,5	8	12
	0 ... 4	12	18
	0 ... 6	20	30
	0 ... 10	32	48
	0 ... 16	50	75
	0 ... 25	80	120
	0 ... 40	120	180
	0 ... 60	200	300
	0 ... 100	320	480
	0 ... 160	500	600
	0 ... 250	600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

## Dimensional drawings

### Housing

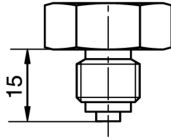


Housing standard

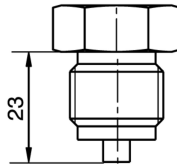


Housing with 300° turnable display

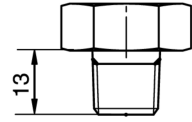
**Process connection**



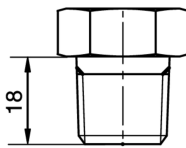
G 1/4 B EN 837-1 (BCID: G30)



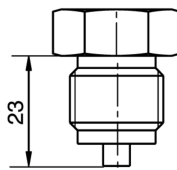
G 1/2 B EN 837-1 (BCID: G31)



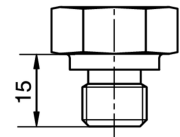
1/4-18 NPT (BCID: N01)



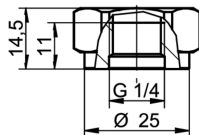
1/2-14 NPT (BCID: N02)



M20 x 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										
YTED-#. #. ###. #			<table border="1"> <tr><td>+Vs</td><td>1</td></tr> <tr><td>lout</td><td>3</td></tr> <tr><td>SW1</td><td>4</td></tr> <tr><td>SW2</td><td>2</td></tr> <tr><td>GND (0 V)</td><td>5</td></tr> </table>	+Vs	1	lout	3	SW1	4	SW2	2	GND (0 V)	5	
+Vs	1													
lout	3													
SW1	4													
SW2	2													
GND (0 V)	5													

## Ordering information

Ordering key - Configuration possibilities see website

YTED - # . # . ### . # #### 0619 2037

<b>Product</b>	YTED								
<b>Process connection</b>									
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
<b>Sealing</b>									
NBR									3
EPDM									5
FFKM (Chemraz®)									7
FKM (Viton®)									9
<b>Measuring range</b>									
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

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**Ordering key - Configuration possibilities see website**

	YTED	-	#	.	#	.	###	.	#	####	0619	2037
-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
-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

**Ordering key - Configuration possibilities see website**

	YTED	-	#	.	#	.	###	.	#	####	0619	2037
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					
<b>Kind of pressure</b>												
Relative (gauged)										R		
Absolute										A		
<b>Electrical Connection</b>												
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	
M12-5 pins mobil plug, screw terminal connection											2260	
<b>Cleanliness</b>												
Einsatz in der Trinkwasserversorgung												0619
<b>Display orientation</b>												
300° directional display												2037