

Explosion-proof pressure sensor

Model: W-10



The W-10 explosion-proof pressure transmitter adopts a fully welded stainless steel compact design, which is very suitable for installation in confined spaces in hazardous areas. Its pressure range is from 0.5MPa to 250MPa, and it can provide comprehensive accuracies of 0.2% FS, 0.5% FS and 1% FS. It has the advantages of fatigue resistance, a wide temperature range, impact resistance and high reliability, and can accurately measure and protect the sensor under harsh working conditions. The protection grades of the electrical connectors reach IP65 and IP67, and it is suitable for the pressure measurement of various gases and liquids.

Specifications

Output signal

4-20mA

Accuracy class

±0.2%FS、±0.5%FS、±1%FS

Scale Range

0.5...250MPa
Or all other equivalent vacuum or compound pressure and vacuum ranges

Pressure limitation

Steady: ±0.2%FS/year

Supply Voltage

24VDC

Output

- 4-20mA current output
- 1-5V voltage output
- 0.5-4.5V proportional voltage output
- 0-10V voltage output

CE EN837-1

Applications

- Shipping
- Refining and chemical industry
- Chemical industry
- Petroleum drilling
- Gas pipeline network
- Oil pipeline

Features

- The metal sputtered film core ensures long-term stability better than ±0.2%FS/year
- Without filling oil, it will not cause thermal instability or leakage
- A wide range of pressure options, from 0.5MPa to 250MPa
- Full-scale accuracies of 0.2%FS, 0.5%FS, and 1%FS are optional
- Compact in shape, providing maximum flexibility for designers
- The output can be selected as current output, voltage output, and proportional output
- Reverse connection protection
- Without adhesive, creep will not occur
- It can ensure accuracy within the temperature range of -40°C to +105°C
- Fully welded stainless steel structure
- Protection grades of IP65 and IP67

Permissible temperature

Ambient: -40...+105°C

Medium temperature

Medium: -40...+105°C

Storage temperature

-40...+105°C

Temperature effect

Zero point temperature drift: ±0.1%FS/10°C
Full scale temperature drift: ±0.3%FS/10°C

Load

voltage output type: RL ≥ 2KΩ

Insulation resistance

≥1000MΩ/500VDC

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Specifications

Material of the sensitive element
17-4PH

Random vibration
20g,GB/T2423.56-2006(IEC 60068-2-64:2019)

Pressure interface
See the pressure interface at the back

Sinusoidal vibration
14.1g,GB/T2423.10-2008(IEC 60068-2-6:2009)

Electrical connection
See the electrical interface at the back

Impact
50g,11ms GB/T2423.5-1995(IEC60068-2-27:200)

Explosion-proof rating
Exia IIC T6 Ga

EMC - Electromagnetic field radiation immunity
GB/T 17626.3-2016(IEC 61000-4-3:2010)

Ingress protection
IP65、IP67

EMC - Electrostatic discharge immunity
GB/T 17626.2-2018(IEC 61000-4-2:2008)

Response time
≤ 1 millisecond

Durability
10⁷ pressure cycles

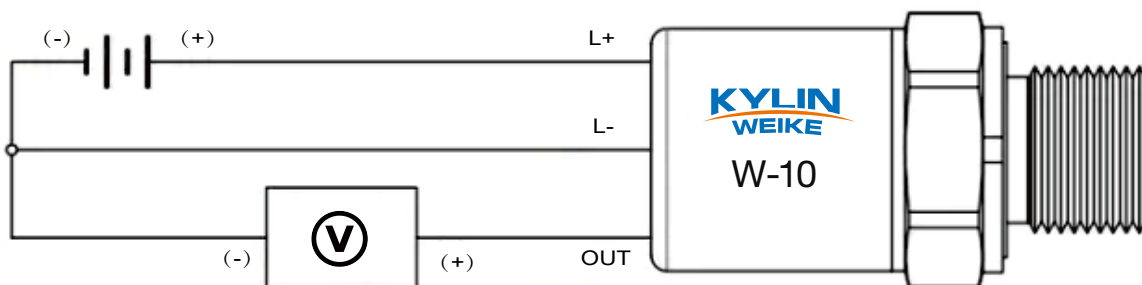
Measuring range, overload pressure and burst pressure

Measuring range MPa	0.5-2.5	4-10	16-40	60	70	100	120-180	200	250
Overload pressure	2X	2X		1.5 X and ≤300MPa					
Burst pressure	20X	20X	10X	≤400MPa	≤400MPa				

Note: Higher overload pressure and burst pressure can be customized

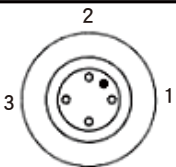
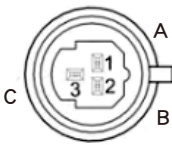
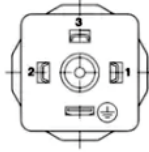
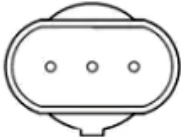
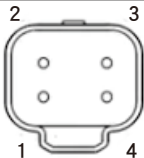
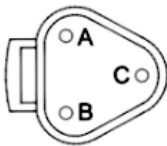
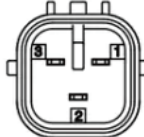
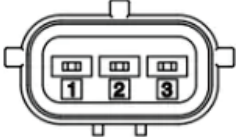
Dimensions in mm

Wiring method



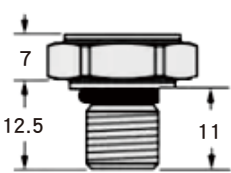
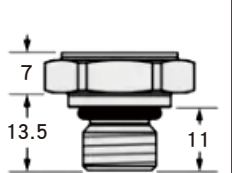
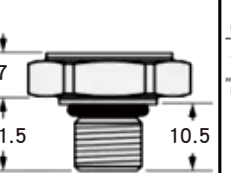
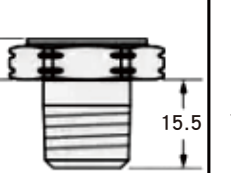
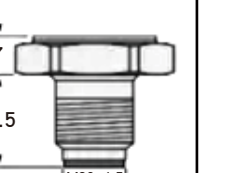
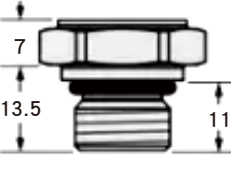
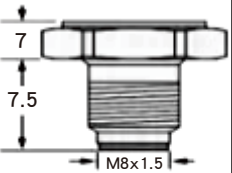
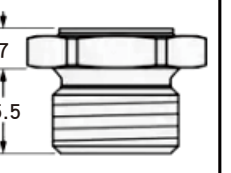
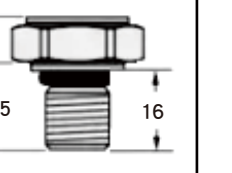
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Electrical interface

Code	A1		A2		A3		A4	
Interface form	 M12x1		 Direct wire outlet		 Packard connector		 Hirschmann connector	
Pin definition	Current type 1: Power supply + 2: Loop 3: / 4: /		Voltage type 1: Power supply + 2: Output 3: Ground 4: /		Current type Red: Power supply Black: Circuit loop		Voltage type Red: Power supply Black: Ground Blue: Output +	
	Current type A: Loop B: Power supply + C: /		Voltage type A: Ground B: Power supply + C: Output		Current type 1: Power supply + 2: Loop - 3: / 4: /		Voltage type 1: Power supply + 2: Ground 3: Output 4: /	
Code	A5		A6		A7		A8	
Interface form	 AMP connector		 Dechi DT04-4P		 Dechi DT04-3P		 Sumitomo (SUMITOMO 6189-0131)	
Pin definition	Current type 1: / 2: Circuit 3: Power supply +		Voltage type 1: Output 2: Ground 3: Power supply +		Current type 1: Circuit - 2: Power supply + 3: / 4: /		Voltage type 1: Ground 2: Power supply + 3: / 4: Output	
	Current type A: Power supply + B: Loop C: /		Voltage type A: Power supply + B: Ground C: Output		Current type 1: Power + 2: Output 3: Ground			
Code	A9							
Interface form	 Sumitomo (SUMITOMO 6189-6907)							
Pin definition	1: Power + 2: Output 3: Ground							

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Process connection sizes

Code	46	18	01	47	21
Overall dimension	 G1/4-19	 M12x1.5	 G1/8	 G1/4-19A	 M20x1.5
Code	48	49	04	06	02
Overall dimension	 M14x1.5	 M8x1.25 female thread	 G1/2	 NPT1/4	 G3/8

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ORDERING CODE

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W-10

Output

- (A) - 4-20mA
- (B) - 1-5V voltage output
- (C) - 0.5-4.5V proportional voltage
- (D) - 0-10V voltage output

Electrical interface

- (A4) - M12X1 (A11) - Packard connector
- (A8) - Direct wire outlet (A12) - Hirschmann connector
- (A9) - Type A hirschmann connector (A13) - AMP connector
- (A10) - Type C hirschmann connector (A14) - Dechi DT04-4P
- (A15) - Dechi DT04-3P (A16) - Sumitomo (SUMITOMO 6189-0131)
- (A17) - Sumitomo (SUMITOMO 6189-6907)

Process connection sizes

- (46) - G1/4-19 (47) - G1/4-19A (17) - M10x1
- (06) - NPT 1/4 (04) - G1/2
- (21) - M20X1.5 (48) - M14X1.5
- (18) - M12X1.5 (49) - M8X1.25 female thread
- (01) - G1/8 (02) - G3/8

Accuracy

- (B1) - 0.2%
- (B2) - 0.5%
- (B3) - 1%

Option

(N/A) - " "

Scale Range(coding examples only, see range table on page 6 for all standard ranges)

- 0.3BR=0...0.3bar N=Vaccum range
- 0.3KG=0...0.3kg/cm² N1/3BR="-1...3bar"
- 6KP=0...6kPa
- 0.6MP=0...0.6MPa
- 30#=0...30psi



Pressure range selection table

Scale ranges				
Bar	Kg/cm ²	Psi	kPa	MPa
10BR	10KG	150#	1000KP	1MP
16BR	16KG	240#	1600KP	1.6MP
25BR	25KG	375#	2500KP	2.5MP
40BR	40KG	600#	4000KP	4MP
50BR	50KG	750#	5000KP	5MP
60BR	60KG	900#	6000KP	6MP
100BR	100KG	1500#	10000KP	10MP
160BR	160KG	2400#	16000KP	16MP
250BR	250KG	3750#	25000KP	25MP
400BR	400KG	6000#	40000KP	40MP
500BR	500KG	7500#	50000KP	50MP
600BR	600KG	9000#	60000KP	60MP
700BR	700KG	10500#	70000KP	70MP
1000BR	1000KG	15000#	100000KP	100MP
1600BR	1600KG	24000#	160000KP	160MP
2000BR	2000KG	30000#	200000KP	200MP
2500BR	2500KG	37500#	250000KP	250MP

