

For construction machinery

CE16 Electronic Pressure Switch

Outline

CE16 is a electronic pressure switch for measuring the hydraulic construction machinery. Excellent vibration proof, shock proof, has been active under the conditions of use harsh.

Features

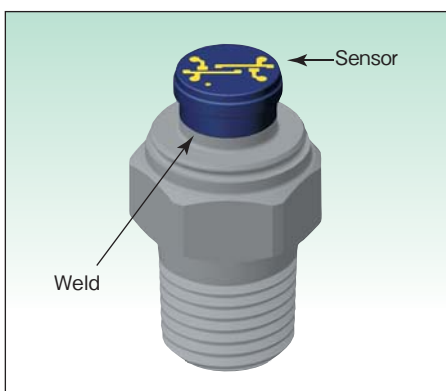
- Improved environmental proof
(Operating temperature range -30 to 120°C)
- Error in an operating point: $\pm 3\%$ F.S.
(In the compensated temperature range)
- IP67
- Corresponding for lot production.



RoHS

Features of sensor

Since the sensor is electron beam welded to a stainless steel fitting, use with water, oil, air, and a wide range of other medium is possible. Use even in shock, vibration and other environments is possible, and pressure resistance and durability are excellent.



CE16 is electronic pressure switch of one contact type (NPN open collector or PNP open collector output) Please contact us, used two contacts type.

Specifications

Measuring range	Pressure range (MPa)*1	Error in an operating point*2	Allowable maximum pressure
	0 to 5	±1.0%F.S. (23±2°C) ±3.0%F.S. In compensated temperature range (Atmospheric pressure 1013hPa)	200% of pressure range
	0 to 10		
	0 to 20		
	0 to 25		150% of pressure range
	0 to 35		
0 to 50			
Supply voltage	10 to 30V DC		
Output	Open collector output (Select)	Rating	
	NPN Open collector or PNP Open collector output	30V DC, 150mA DC or lower (-20 to 70°C) 30V DC, 50mA DC or lower (-30 to -20°C, 70 to 120°C)	
Setting	Type of contacts	Setting range	
	Please select it from Upper limit type with one contact, Lower limit type with one contact, Reverse upper limit type with one contact, Reverse lower limit type with one contact.	10 to 90%F.S. of pressure range	
Dead band	Standard: 2.0%±1.0%F.S. or select.		
Environmental performance	Withstand voltage	150V AC (1 minutes between case and all terminals tied)	
	Insulation resistance	100MΩ or higher (50V DC between case and all terminals tied)	
	Compensated temp. range	-30 to 120°C	
	Operating temp. range	-40 to 120°C	
	Storage temp. range	-40 to 140°C	
	Shock proof	1000m/s ² (6ms or lower, X, Y, Z 3 times for each at constant temperature.)	
	Vibration proof	300m/s ² (20 to 1000Hz, X: 4h, Y: 2h, Z: 2h at constant temperature.)	
	Durability	10,000,000 times or higher. (10 to 100%F.S.)	
	Protection	IP67 (JIS C 0920: 2003) * With mating connector connected.	
Material	Diaphragm	SUS630 (17-4PH) Welded to a fitting	
	Fitting	SUS304	
	O-ring	JIS B 2401 Class 1 B NBR JIS B 2401 Class 4 D or equivalent (Operating temperature range of O-ring: -15°C or higher.) * Seal of KM16-□UC, please be prepared by the customer.	
	Throttle (Option)	S45C	
	Case	SUS304	
Fittings	G3/8A		
	M18 x 1.5		
	G3/8A DIN 3852 Form E		
	3/4-16UNF-2A SAE J1926-2		
Terminations	HW090		
	Econoseal J series (MARK II (+))		
	AMP SEAL 16		
Weight	Approx. 130g		
Option	Surge pressure countermeasure: Throttle installed to connection threads An effect which suppresses surge pressure is obtained by installing a throttle at the pressure introduction port.		

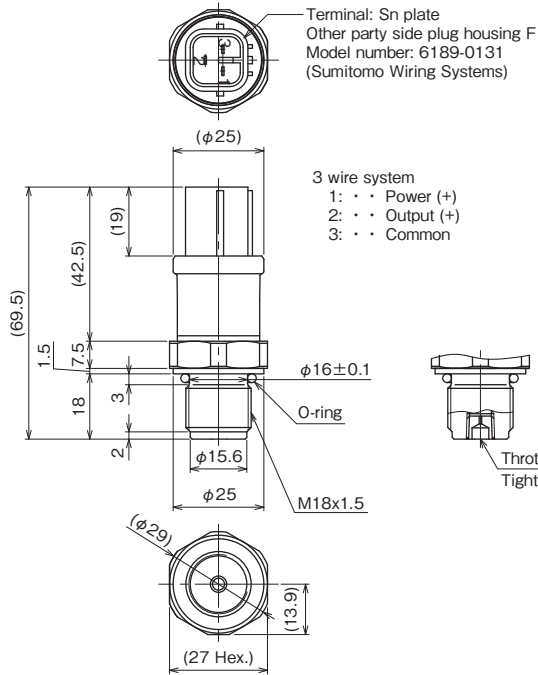
*1 Units of psi and bar are also produced. It is limited to applications are defined in the Measurement Law.
For more information, please contact us.

*2 Including the right to error in an operating point. ①Linearity ②Hysteresis ③Repeatability

Dimensions 1

Unit: mm

HW090 type connector 3 way (T type) (Sumitomo Wiring Systems)



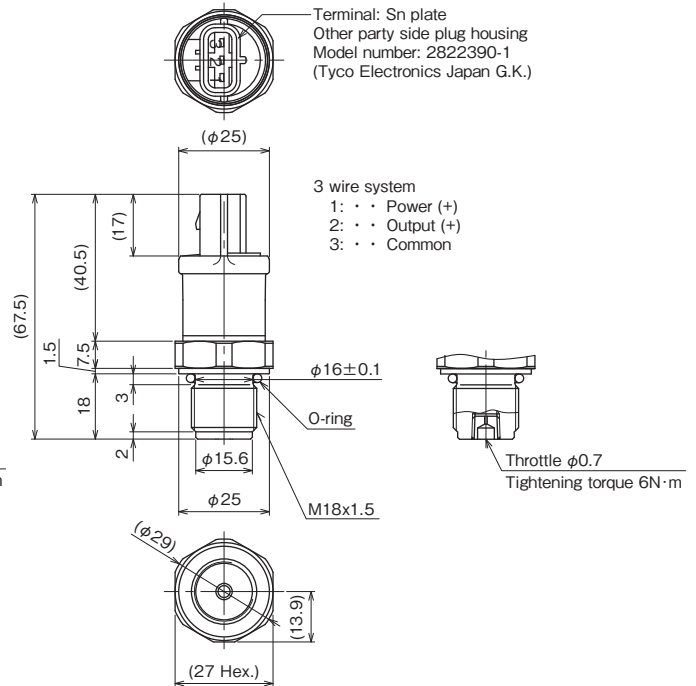
Without throttle

With throttle

Case of M18x1.5
For other fittings, please refer Dimensions 2.

CE16-1DC

Econoseal J series (MARK II (+)) 3 way cap corresponding



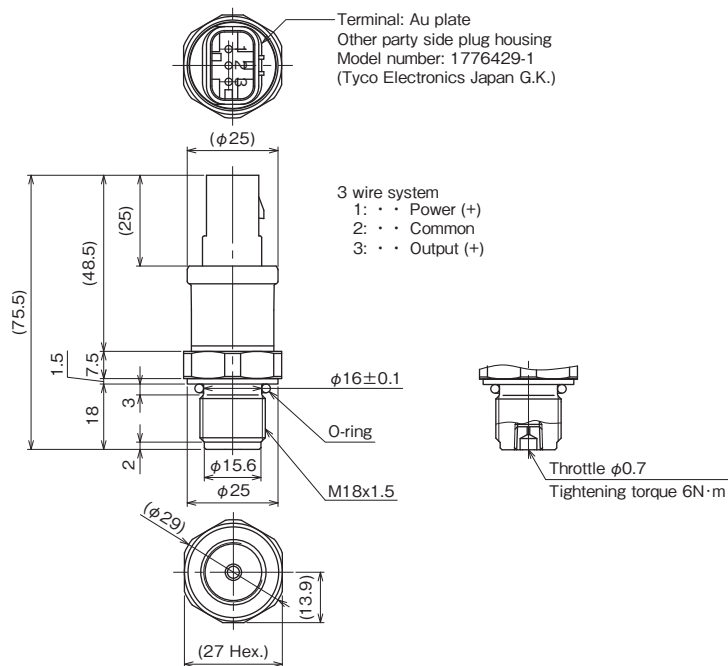
Without throttle

With throttle

Case of M18x1.5
For other fittings, please refer Dimensions 2.

CE16-5DC

AMP SEAL 16 connector (Tyco Electronics Japan G.K.)



Without throttle

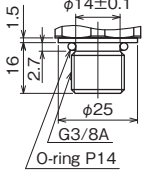

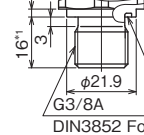

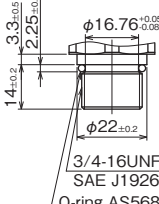

With throttle

Case of M18x1.5
For other fittings, please refer Dimensions 2.

CE16-6DC

Dimensions2

Unit: mm

Fitting					
CE16-□CC		CE16-□UC		CE16-□YC	
Without throttle	With throttle	Without throttle	With throttle	Without throttle	With throttle
 <p> $\phi 14 \pm 0.1$ 1.5 16 2.7 $\phi 25$ G3/8A O-ring P14 </p>	 <p> Throttle $\phi 0.7$ Tightening torque 6N·m </p>	 <p> $2.5^{+0.2}$ 16^{+1} $\phi 21.9$ G3/8A DIN3852 Form E Seal of DIN3869, please be prepared by the customer. </p>	 <p> Throttle $\phi 0.7$ Tightening torque 6N·m </p>	 <p> $3.3^{+0.05}$ $2.25^{+0.015}$ $14^{+0.2}$ $\phi 16.76^{+0.05}$ $\phi 22^{+0.2}$ 3/4-16UNF-2A SAE J1926-2 O-ring AS568 908 NBR </p>	 <p> Throttle $\phi 0.7$ Tightening torque 6N·m </p>
Maximum pressure range: 50MPa (500bar, 7500psi) (M18 x 1.5 Includes)					

Units of psi and bar are also produced. It is limited to applications are defined in the Measurement Law.

Introduction of option

Surge pressure countermeasure: Throttle installed to connection threads

An effect which suppresses surge pressure is obtained by installing a throttle at the pressure introduction port.

Actuation system

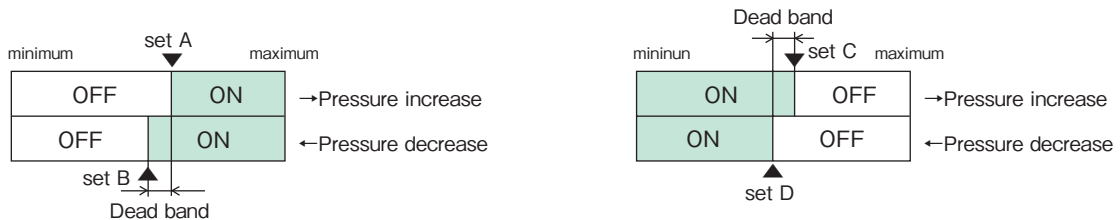
Method by transistor will be ON (Or OFF) at setting point

Upper limit type: set A (Transister will be ON at setting point when pressure increase)

Reverse lower limit type: set B (Transister will be OFF at setting point when pressure decrease)

Reverse upper limit type: set C (Transister will be OFF at setting point when pressure increase)

Lower limit type: set D (Transister will be ON at setting point when pressure decrease)

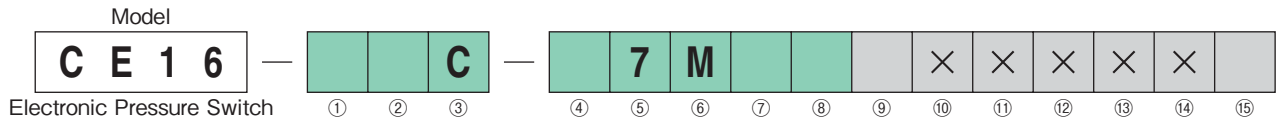


CE16

Electronic Pressure Switch

Model number configuration

Please specify the model number, each specs and the range for ordering.



Model number		Selective spec.		Additional spec. (Option)	
① Type	1	HW090		Sealed pressure type	
	5	Econoseal J series (MARK II (+))		Sealed pressure type	
	6	AMP SEAL 16		Sealed pressure type	
② Fitting		Fitting standard		Maximum pressure range	
	C	G3/8A		50MPa	
	D	M18 x 1.5			
	U	G3/8A DIN 3852 Form E			
	Y	3/4-16UNF-2A SAE J1926-2			
③ Specification	C	Improved vibration proof type			
④ Pressure range*1	④	⑤	④Pressure range (MPa)	⑤Error in an operating point	
	L	7	0 to 5	±1.0%F.S. (23±2°C)	
	N	7	0 to 10	±1.0%F.S. (23±2°C)	
	Q	7	0 to 20	±1.0%F.S. (23±2°C)	
	P	7	0 to 25	±1.0%F.S. (23±2°C)	
	R	7	0 to 35	±1.0%F.S. (23±2°C)	
⑤ Error in an operating point	S	7	0 to 50	±1.0%F.S. (23±2°C)	
⑥ Supply voltage	M	10 to 30V DC			
⑦ Type of contact point	A	H : Upper limit type with one contact			
	B	L : Lower limit type with one contact			
	C	HR : Reverse upper limit type with one contact			
	D	LR : Reverse lower limit type with one contact			
⑧ Output	1	PNP Open collector output x 1			
	3	NPN Open collector output x 1			
⑨ Surge pressure countermeasure (Throttle)	0	Nil			
	F	S45C			
⑮ Documents	0	Nil			
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, test report			

Please specify the pressure range and units separately besides selection of range code.

* 1 Unit of psi and/or bar are only available for export.

* Specify "X" if there is no specification item.