

For construction machinery

KM16 Pressure Transmitter

Outline

KM16 is a pressure sensor for measuring the hydraulic construction machinery. Excellent vibration proof, shock proof, has been active under the conditions of use harsh.

Features

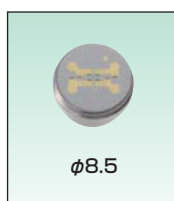
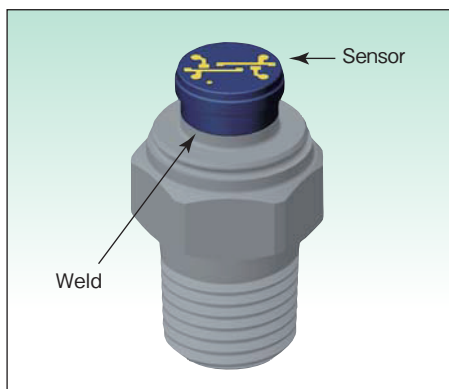
- Improved environmental proof
(Operating temperature range -30 to 120°C)
- Total Error Band: $\pm 3\%$ F.S.
(In the compensated temperature range)
- IP65
- Corresponding for lot production.



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.



Specifications

Measuring range	Pressure range *1	Allowable maximum pressure	Accuracy *2 (Atmospheric pressure 1013 hPa)	
	0 to 50MPa	75MPa	Room temperature: $\pm 1.0\%$ F.S. at constant temperature ($23\pm 2^\circ\text{C}$) Total error band: $\pm 3.0\%$ F.S. (-30 to 120°C)	
Output signal	Output range	Supply voltage	Maximum supply voltage	Transmission method
	0.5 to 4.5V DC Ratio metric	$5.0\pm 0.5\text{V DC}$	6V DC maximum	3 wire system
Environmental specifications	Load resistance	10k Ω and over		
	Load capacitance	1000pF and under		
	Output impedance	10 Ω and under		
	Consumption current	10mA DC and under		
	Withstand voltage	150V AC (1 minutes between case and all terminals tied)		
	Insulation resistance	Greater than 100M Ω (50V DC between case and all terminals tied)		
	Output response	1ms and under		
	Compensated temp. range	-30 to 120°C		
	Operating temp. range	-40 to 120°C (No freezing or condensation)		
	Storage temp. range	-40 to 140°C (No freezing or condensation)		
	Shock resistance *3	1000m/s ² (6ms or less, X, Y, Z 3 times for each at room temp.)		
	Vibration proof	300m/s ² (20 to 1000Hz, X: 4h, Y: 2h, Z: 2hrs at room temp.)		
	Durability	More than 10,000,000 times. (10 to 100%F.S.)		
Protection rating	IP65 (Mated to mating connector)			
Material	Diaphragm	SUS630 (17-4PH) Welded to fitting		
	Fitting	SUS304		
	O-ring	JIS Class 1B NBR (KM16-□DC, □CC, □YC) JIS B 2401 Class 4D and equivalent (Operating temperature range over O-ring is -15°C and over) *Label for KM16-□UC must be prepared by users.		
	Throttle (Option)	S45C		
	Case	SUS304		
Fittings	G3/8A			
	M18×1.5			
	G3/8A DIN 3852 Form E			
	3/4-16UNF-2A SAE J1926-2			
Electrical connections	HW090			
	Econoseal J series (MARK II (+))			
	AMP SEAL 16			
Weight	Approx. 130g			
Option	Protection from surge pressure: Throttle installed restricting orifice Throttling effect is obtained by installing a restricting orifice into socket to be protected from surge pressure.			

*1 Units of psi and bar can also be manufactured. Note applications are limited to applications specified by Measurement Law.

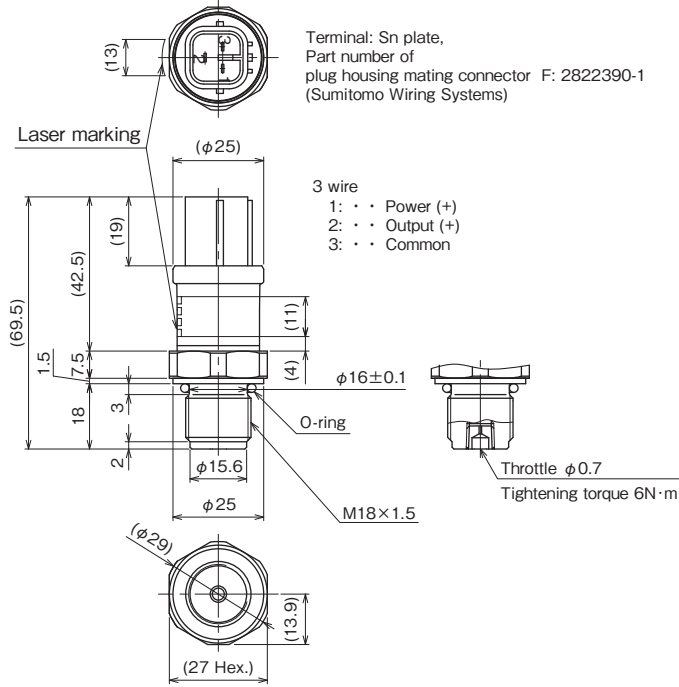
*2 Accuracy includes the effects of followings: ①Linearity ②Hysteresis ③Repeatability

*3 Although this product is the excellent in vibration proof, shock proof, at location which a shock is generated frequently, fatigue destruction can be generate. Avoid installation in location where shock sources are present such as an electromagnetic valve in the same process line. Avoid using mounting with elbow fittings, etc since shock can be generated by the pressure fluctuations.

Dimensions 1

Unit: mm

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

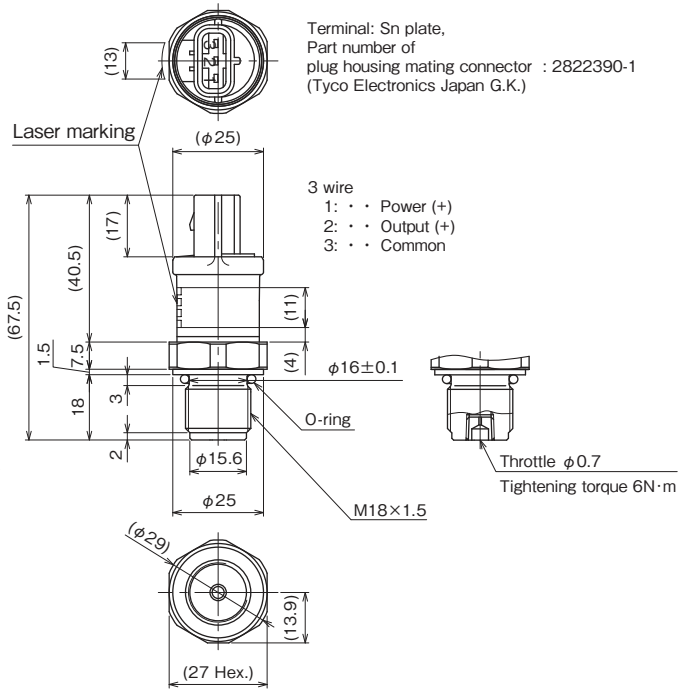


Without throttle

Case of M18×1.5
For other fittings, please refer Dimensions 2.

KM16-1DC

Econoseal J series (MARK II (+)) 3 poles cap and equivalent

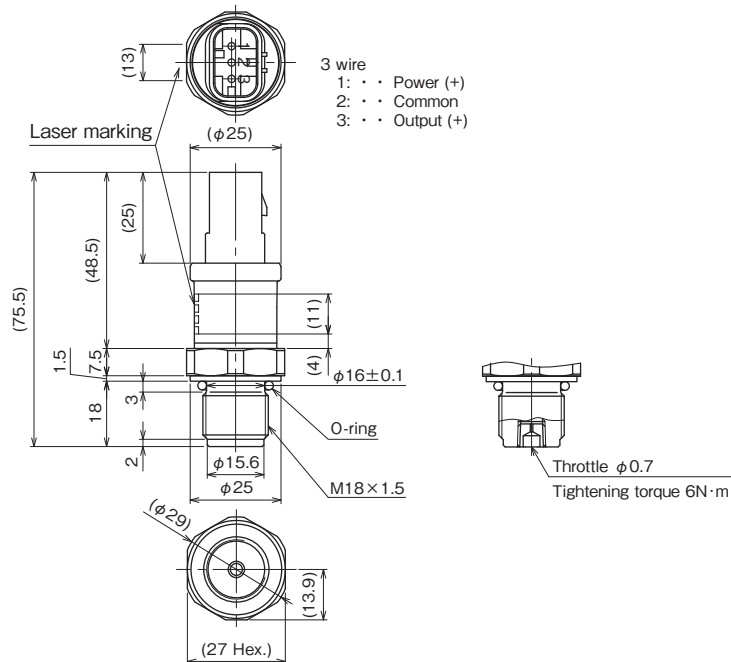


Without throttle

Case of M18×1.5
For other fittings, please refer Dimensions 2.

KM16-5DC

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



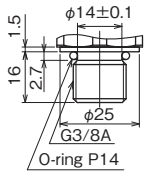
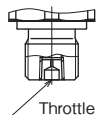
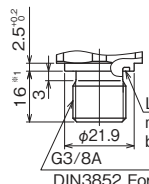
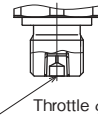
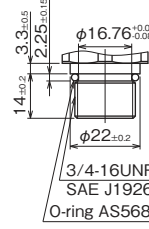
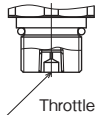
Without throttle

Case of M18×1.5
For other fittings, please refer Dimensions 2.

KM16-6DC

Dimensions 2

Unit: mm

Fitting					
KM16-□CC		KM16-□UC		KM16-□YC	
Without throttle	With throttle	Without throttle	With throttle	Without throttle	With throttle
 <p>φ14±0.1 16 2.7 φ25 G3/8A O-ring P14</p>	 <p>Throttle φ0.7 Tightening torque 6N·m</p>	 <p>16^{+0.1} 2.5^{+0.2} φ21.9 G3/8A DIN3852 Form E</p> <p>Label for DIN3869 must be prepared by users.</p> <p>*"1" length doesn't match to length specified by DIN3852 Form E, make sure to secure 16.5mm and longer for valid screw depth.</p>	 <p>Throttle φ0.7 Tightening torque 6N·m</p>	 <p>14^{+0.05} 3.3^{+0.05} 2.25^{+0.15} φ16.76^{+0.05} φ22^{+0.2} 3/4-16UNF-2A SAE J1926-2 O-ring AS568 908 NBR</p>	 <p>Throttle φ0.7 Tightening torque 6N·m</p>

Model number configuration

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

Model

K	M	1	6	—			C	—	S	7	D	Y	×	×	×	×	×	×	×	
Pressure Transmitter					①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

Model number		Product specifications	Additional specifications (Optional)	
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	M18×1.5		
	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 (MPa) * 1	S	0 to 50MPa * Please contact us when you wish to the other pressure range.		
	⑤ Accuracy (Atmospheric pressure 1013 hPa)	7	Room temperature: ±1.0%F.S. (23±2°C) Total Error Band: ±3.0%F.S. (-30 to 120°C)	
⑥ Supply voltage ⑦ Output signal	⑥	⑦	⑥ Supply voltage	⑦ Output signal
	D	Y	5.0±0.5V DC	0.5 to 4.5V DC Ratio metric, 3 wire
⑨ Protection from surge pressure (Throttle)	0	Not required		
	F	S45C		
⑮ Documents	0	Not required		
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Clibration test report		

Please specify pressure range and unit of measure along with corresponding ordering code.

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

* Specify code "X" to refer N/A