

For construction machinery

KM71 Pressure Transmitter

Overview

KM71 is a pressure sensor for hydraulic measurement for construction machinery service designed for use even in harsh environments of extreme shock and vibration.

Features

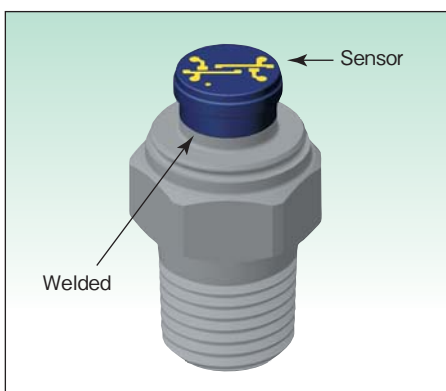
- Improved environmental proof
(Operating temperature range -30 to 120°C)
- Total Error Band: $\pm 3\%$ F.S.
(In the compensated temperature range)
- IP65
- For lot production



RoHS

Features of sensor

Since the sensor is electron beam welded to stainless steel fitting, it can be used for a variety of applications in condition include oil, air, and water measurement. Excellent in shock and vibration resistance under condition where good proof pressure and durability are necessary.



Specifications

Measuring range	Pressure range*1	Allowable maximum pressure	Accuracy (Atmospheric pressure 1013hPa)*2	
	0 to 50MPa 0 to 5000psi 0 to 7500psi	150% of pressure range	Room temperature: $\pm 1.0\%$ F.S. ($23\pm 2^{\circ}\text{C}$) Total Error Band: $\pm 3.0\%$ F.S. (-30 to 120°C)	
Output signal ①	Output range	Supply voltage	Consumption current	Transmission method
	0.5 to 4.5V DC Ratio metric	5.0 \pm 0.5V DC	10mA DC and under	3 wire system
	1 to 5V DC	10 to 32V DC	20mA DC and under	
	Maximum supply voltage	6V DC max. (at Supply voltage 5V DC), 36V DC max. (at Supply voltage 10 to 32V DC)		
	Load resistance	10k Ω and over		
	Load capacitance	1000pF and under		
Output signal ②	Output range	Supply voltage	Consumption current	Transmission method
	PWM (5kHz) (DUTY RATIO 5 to 95%)	18 to 32V DC	50mA DC and under	3 wire system
Environmental specifications	Withstand voltage	150V AC (Between case and all terminals tied 1minute)		
	Insulation resistance	100M Ω and over (Between case and all terminals tied 50V DC)		
	Output response	1ms and under		
	Compensated temp. range	-30 to 120 $^{\circ}\text{C}$		
	Operating temp. range	-40 to 120 $^{\circ}\text{C}$ (No freezing or condensation)		
	Storage temp. range	-40 to 140 $^{\circ}\text{C}$ (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.)		
Material	Diaphragm	SUS630 (17-4PH) Welded to fitting		
	Fitting	SUS304		
	O-ring	JIS B 2401 Class 1B NBR JIS B 2401 Class 4D and equivalent (Operating temperature range over O-ring is -15 $^{\circ}\text{C}$ and over) SAE J515 NBR (KM71-□WC only) *Label for KM71-□UC must be prepared by users.		
	Throttle (Option)	S45C		
	Case	SUS304		
Fittings	G3/8A			
	M18 \times 1.5			
	G3/8A DIN 3852 Form E			
	7/16-20UNF-2A SAE J514 (Throttle option is not available), (Tightening torque 15N·m max.)			
	3/4-16UNF-2A SAE J1926-2			
Electrical connections	HW090			
	Econoseal J series (MARK II (+))			
	AMP SEAL 16			
	Deutsch DT04-3P			
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.

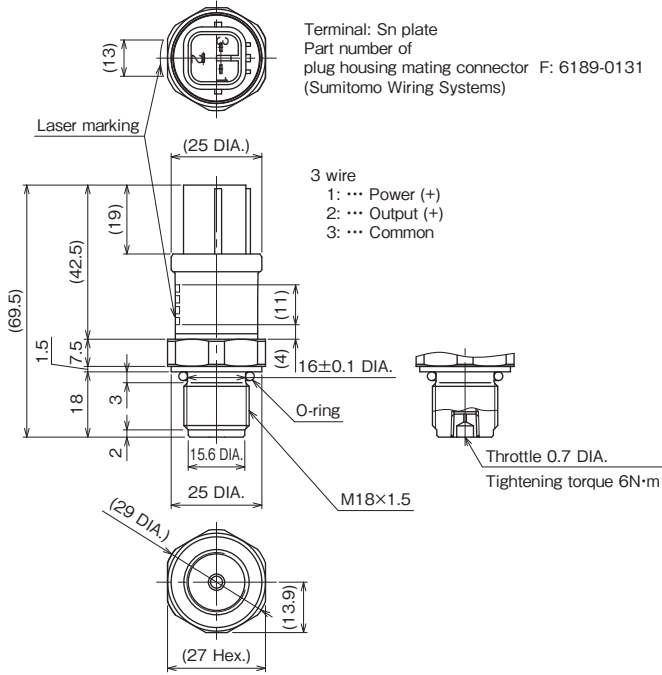
* 2 Accuracy includes the effects of followings: ①Linearity ②Hysteresis ③Repeatability

* 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)



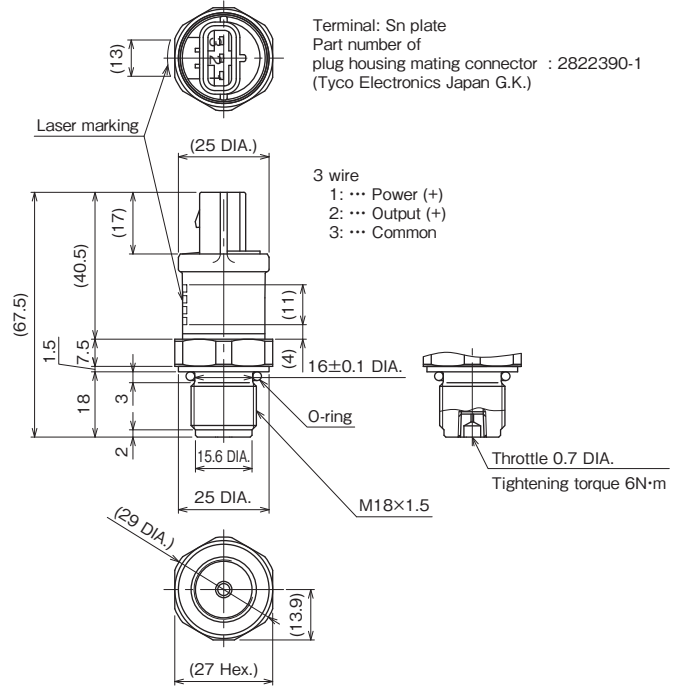
Without throttle

With throttle

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

KM71-1DC

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



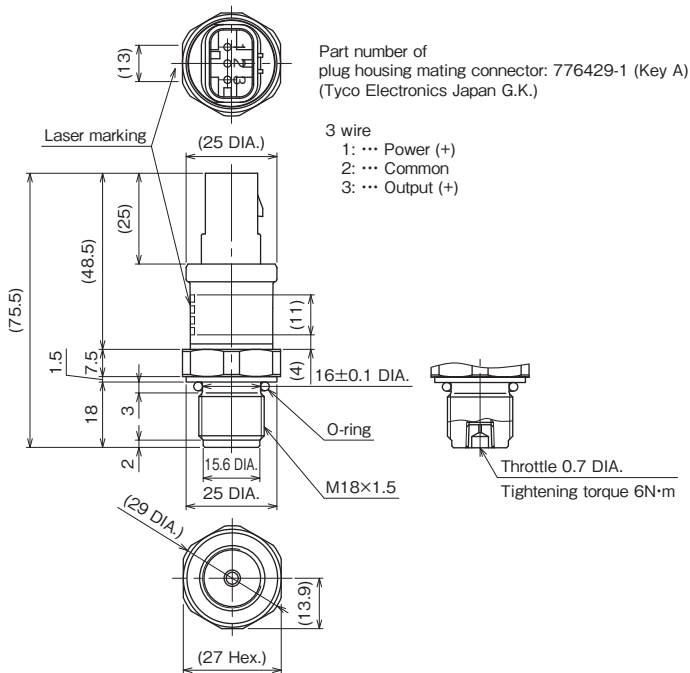
Without throttle

With throttle

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

KM71-5DC

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



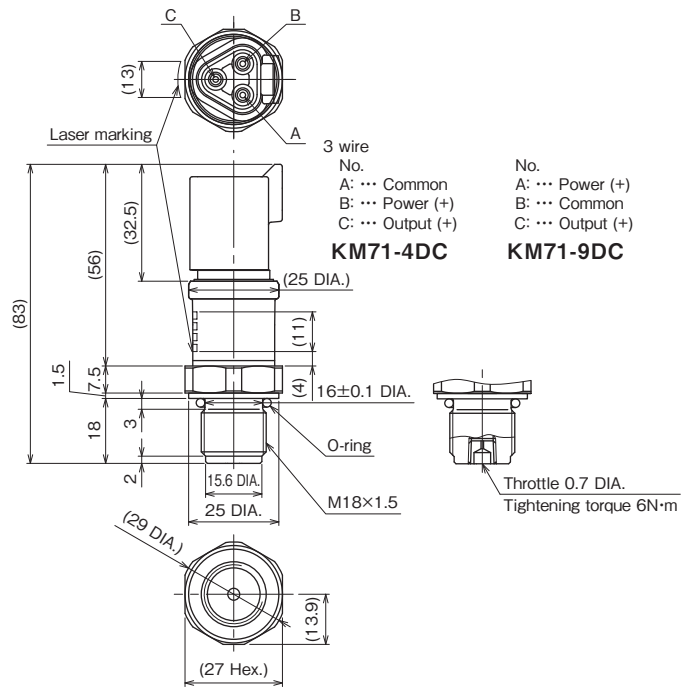
Without throttle

With throttle

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

KM71-6DC

Deutsch connector DT04-3P



Without throttle

With throttle

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

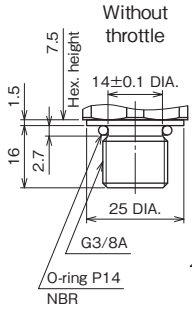
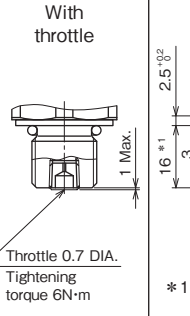
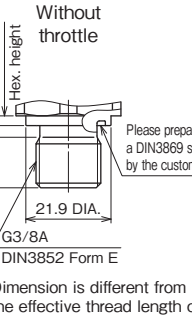
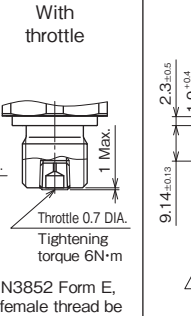
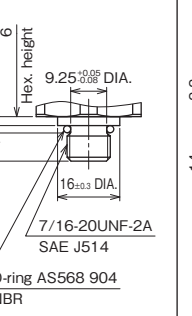
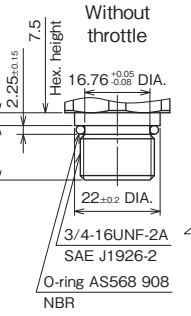
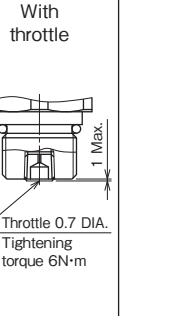

**KM71-4DC
KM71-9DC**

KM71

Pressure Transmitter

Dimensions 2

Unit: mm

Fitting			
KM71-□CC	KM71-□UC	KM71-□WC	KM71-□YC
 <p>Without throttle</p> <p>1.5, 7.5 Hex. height, 14±0.1 DIA., 2.7, 25 DIA., G3/8A, O-ring P14 NBR</p>	 <p>With throttle</p> <p>1 Max., Throttle 0.7 DIA., Tightening torque 6N·m</p>	 <p>Without throttle</p> <p>2.5^{+0.2}₀, 7.5 Hex. height, 16 * 1, 3, 21.9 DIA., G3/8A, DIN3852 Form E</p> <p>Please prepare a DIN3869 seal by the customer.</p>	 <p>With throttle</p> <p>1 Max., Throttle 0.7 DIA., Tightening torque 6N·m</p>
 <p>Without throttle</p> <p>6 Hex. height, 2.3^{+0.05}₀, 1.9^{+0.04}₀, 9.25^{+0.05}₀ DIA., 16^{+0.3}₀ DIA., 7/16-20UNF-2A SAE J514, O-ring AS568 904 NBR</p>	 <p>With throttle</p> <p>3.3^{+0.05}₀, 7.5 Hex. height, 14^{+0.2}₀, 2.25^{+0.15}₀, 16.76^{+0.05}₀ DIA., 22^{+0.2}₀ DIA., 3/4-16UNF-2A SAE J1926-2, O-ring AS568 908 NBR</p>	 <p>Without throttle</p> <p>1 Max., Throttle 0.7 DIA., Tightening torque 6N·m</p>	 <p>With throttle</p> <p>1 Max., Throttle 0.7 DIA., Tightening torque 6N·m</p>

Maximum pressure range: 50MPa, 500bar, 7500psi (Including M18 X 1.5)

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

Model number configuration

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

Model	<div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; padding: 2px 5px;">K M 7 1</div> — <div style="border: 1px solid black; padding: 2px 5px;">C</div> — <div style="border: 1px solid black; padding: 2px 5px;">7</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> <div style="border: 1px solid black; padding: 2px 5px;">X</div> </div>															
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											
	4	Deutsch DT04-3P (Pin A: Common)			Sealed pressure type											
	5	Econoseal J series (MARK II (+))			Sealed pressure type											
	6	AMP SEAL 16			Sealed pressure type											
	9	Deutsch DT04-3P (Pin A: Power (+))			Sealed pressure type											
② Fitting	Fitting standard			Maximum working pressure range												
	C	G3/8A			50MPa											
	D	M18×1.5														
	U	G3/8A DIN 3852 Form E														
	W	7/16-20UNF-2A SAE J514 (Throttle option is not available)														
	Y	3/4-16UNF-2A SAE J1926-2														
③ Specification	C	Improved vibration proof type														
④ Pressure range*1	R	0 to 5000psi														
	S	0 to 50MPa, 0 to 7500psi *Consult us for pressure ranges other than standard.														
⑤ Accuracy (Atmospheric pressure 1013hPa)	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	8	10 to 32V DC		1 to 5V DC											
	9	9	18 to 32V DC		PWM (5kHz) (DUTY RATIO 5 to 95%)											
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 Calibration test report														

* Specify code "X" to refer N/A