

Silicon Pressure Sensor Module

KPY 41-MR
KPY 46-MA/MR

Features

- Silicon piezoresistive technology
- High stability
- Excellent linearity
- Temperature compensated span and offset voltages
- Rugged stainless-steel housing
- Threaded pressure connection port
- Full scale 5 V output signal
- Open collector output



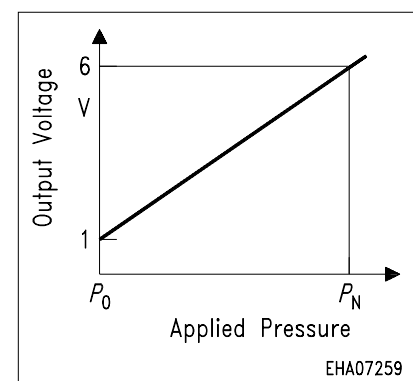
Type and Marking	Rated Pressure Range $P_0 \dots P_N$	Over Pressure P_{MAX}	Unit	Ordering Code
KPY 41-MR	0 ... 0.250	2	bar	Q62705-K ... ¹⁾
KPY 42-MA	0 ... 0.6	6		Q62705-K323
KPY 42-MR	0 ... 0.6	6		Q62705-K324
KPY 43-MA	0 ... 1.6	10		Q62705-K325
KPY 43-MR	0 ... 1.6	10		Q62705-K326
KPY 44-MA	0 ... 4	16		Q62705-K ... ¹⁾
KPY 44-MR	0 ... 4	16		Q62705-K ... ¹⁾
KPY 45-MA	0 ... 10	30		Q62705-K327
KPY 45-MR	0 ... 10	30		Q62705-K328
KPY 46-MA	0 ... 25	40		Q62705-K ... ¹⁾
KPY 46-MR	0 ... 25	40		Q62705-K ... ¹⁾

1) delivery on request

Wire Configuration

+ V_{IN}	brown
Gnd	blue
V_{OUT}	black

For absolute pressure sensors, P_0 = vacuum
 For relative pressure sensors, P_0 = atmospheric pressure
 P_N = rated pressure



Absolute Maximum Ratings

Parameter	Symbol	Limit Values	Unit
Operating temperature range	T_A	- 20 ... + 85	°C
Storage temperature range	T_{stg}	- 40 ... + 100	°C
Supply voltage	V_{IN}	12 ... 20	V

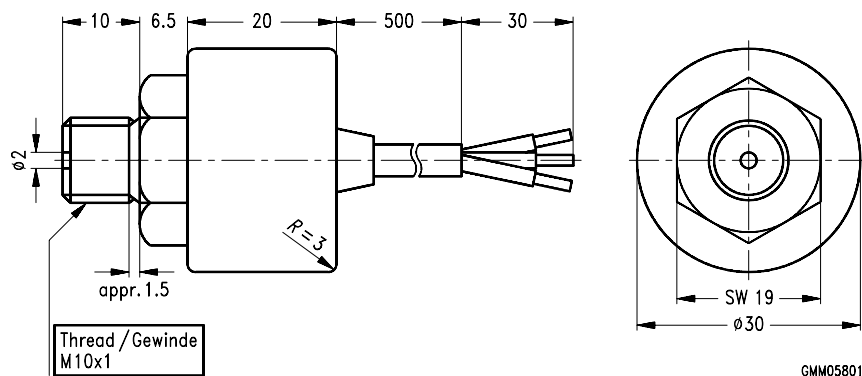
Electrical Characteristics

at $T_A = 25\text{ °C}$ and $V_{IN} = 12\text{ V}$

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Sensitivity 0 ... P_N KPY 41-MR KPY 42-MA/R KPY 43-MA/R KPY 44-MA/R KPY 45-MA/R KPY 46-MA/R		-	20.0 8.3 3.1 1.25 0.5 0.2	-	V/bar
Output voltage $P = P_N$ KPY 41 ... 46-MA/R	V_{OUT}	5.95	6	6.05	V
Offset voltage P_0 KPY 41 ... 46-MA/R	V_0	0.95	1.0	1.05	V
Linearity error (Best fit straight line) KPY 41 ... 46-MA/R		-	-	± 0.25	% V_{FS}
Repeatability and pressure hysteresis KPY 41 ... 46-MA/R		-	± 0.1	-	% V_{FS}
Temperature error of span and offset voltage (- 20°C ... + 85 °C) KPY 41 ... 46-MA/R	TC_{VOUT}	-	± 0.1	-	% V_{FS}
Temperature hysteresis KPY 41 ... 46-MA/R	T_H	-	± 0.1	-	% V_{FS}
Response time KPY 41 ... 46-MA/R		-	< 0.1	-	ms
Supply current KPY 41 ... 46-MA/R		-	-	24.0	mA

Package Outline

Stainless Steel Package



Weight approx. 70 g

Dimension in mm

Note: The pressure medium has contact to the following materials : Din 1.4305 Stainless Steel, Viton® Nitrile rubber, Solvay®, Gold-plated Kovar®, Gold/Tin Solder, Silicon. The user must ensure compatibility to these materials.

The rear-side of the silicon diaphragm carries the positive supply voltage. As the pressure medium acts directly onto the silicon diaphragm, media which are ionic or otherwise conductive cannot be applied to the sensor as this will lead to its malfunction and/or destruction.

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Exterior Packaging

I.e. tubes, trays, boxes are shown in our Data Book "Package Information".