

Digital fine level switch

## KML702 Series

Setting detection flow rate not required

Resistant to environmental pressure fluctuations  
(differential pressure method)

Integrated communication function (RS485) for remote operation



### Specifications

Descriptions		KML702-G-485		KML702-D-485	
Detection type		Gauge pressure method		Differential pressure method	
Working fluid		Clean air, N <sub>2</sub> (Note 1)			
Working pressure	kPa	10 to 30			
Fluid temperature	°C	5 to 50			
Ambient temperature	°C	5 to 50			
Proof pressure	kPa	Working pressure	100		
		Detection pressure	10		
Water level range	mm	1 to 700 (Note 2)			
Environmental pressure fluctuation range	kPa	-		Within ±3 (detection tube and pressure tube must be at same pressure environment)	
Consumption flow rate	Ncm <sup>3</sup> /min	70 or less		140 or less	
Monitor output		4 to 20 mA DC (load resistance 200 to 550 Ω )			
Power supply voltage		24 VDC ±10% Voltage ripple ratio 1% or less			
Current consumption	mA	130 or less (at 24 VDC)			
Switch output		8-point NPN open collector (contact a for CH1 to CH6, contact b for CH7 to CH8) (30 VDC 50 mA or less)			
Insulation resistance	MΩ	100 or more (500 VDC for one minute)			
Withstand voltage		Commercial frequency 500 VAC for one minute			
Repeatability	mm	±3 (10 minutes or more after power ON) (Note 2)			
Hysteresis	mm	1 to 10 setting (Note 2)			
Response time	ms	600 or less (at supply pressure 20 kPa, detection bore size ø4 mm, length 5 m)			
Temperature characteristics	mm/°C	Within ±1.2 (detected fluid: water)			
Detection tube ID size	mm	4			
Detection tube length	m	Within 5			

Note 1: Use fluids filtered with a 0.3 μm or higher performance filter.

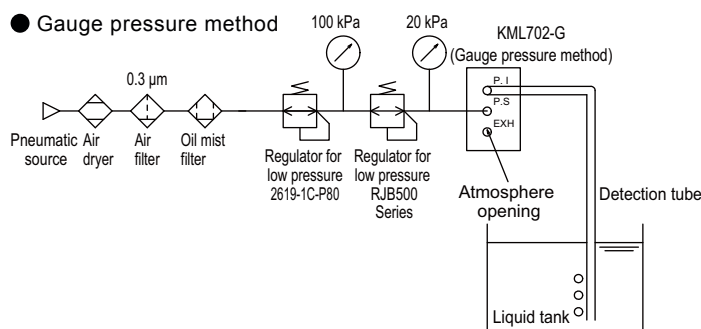
Note 2: The above specifications are for fluid pressure 20 kPa, power supply voltage 24 VDC, ambient temperature 20°C, detection piping bore ø4 × length 5 m, specific gravity setting 1 and nozzle installation height 0. The detected fluid is water.

### ! Safety precautions

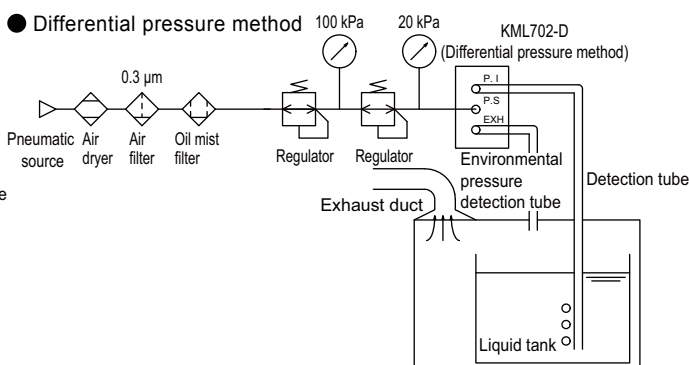
- 1 Install the switch at a position higher than the fluid level to be detected.
- 2 Use a ø4 mm ID size piping for detection. Do not install anything that may cause resistance, such as an aperture, in piping.
- 3 This switch cannot be used in a sealed fluid tank or similar fluid tank.
- 4 Do not block detection piping or detection port with a valve, etc. Supply pressure directly applied to the sensor chip may result in damage.
- 5 Use compressed air filtered for dirt and oil with a submicron filter or microalescer.
- 6 Do not stop supply pressure. Chemical liquid atmosphere may flow back from the detection tube to the sensor, causing adverse effects.
- 7 The EXH port is left open when using gauge pressure method. Do not block with a plug, etc.
- 8 This switch cannot be used in a chemical liquid atmosphere.

### Example of piping

#### ● Gauge pressure method



#### ● Differential pressure method



! Read the precautions on Intro 7 to 14 before use.

How to order

● Discrete



Symbol	Descriptions
<b>A Detection type</b>	
<b>G</b>	Gauge pressure method
<b>D</b>	Differential pressure method
<b>B Communication</b>	
<b>485</b>	RS485 communication
<b>C Sensor cable length</b>	
<b>Blank</b>	Sensor cable 5 m
<b>3</b>	Sensor cable 3 m

<Example of model number>

**KML702-G-485**

Model: KML702

- A** Detection type : Gauge pressure method
- B** Communication : RS485 communication
- C** Sensor cable length : 5 m

● Option (bracket/cable)



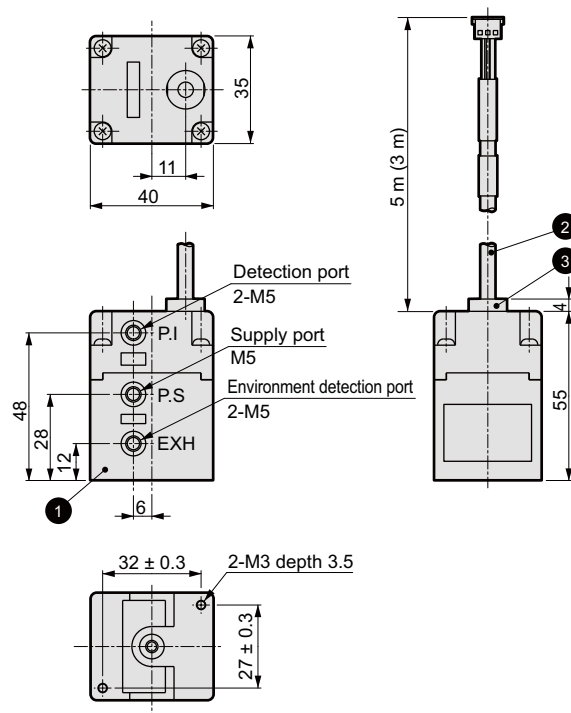
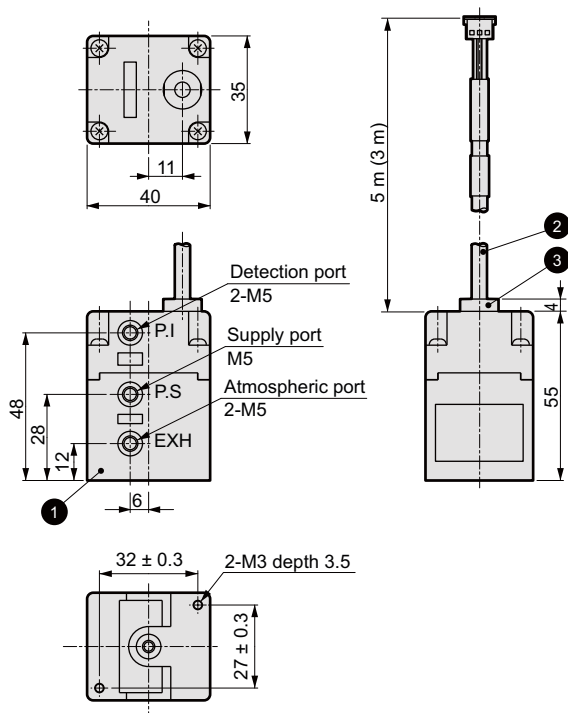
Symbol	Descriptions
<b>A Option</b>	
<b>B</b>	Bracket for sensor body
<b>P</b>	Power supply cable (3 m)
<b>O</b>	Output cable (3 m)

# KML702 Series

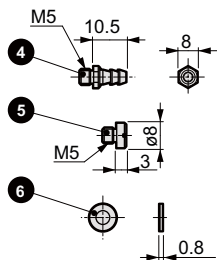
## Internal structure and key component materials Dimensions

- Sensor body
  - KML702-G-485

- KML702-D-485

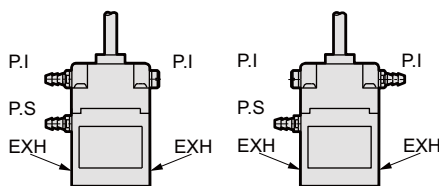


- Nipple, plug, gasket (accessories)

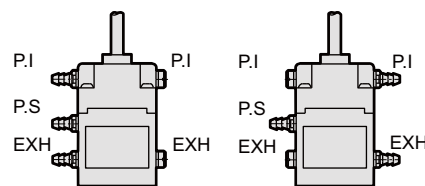


There are two P.I ports and EXH ports on the front and back of the product. Attach the enclosed plug to the ports not being used to prevent leakage.  
 \* The EXH port is left open when using gauge pressure method. Do not attach the plug.

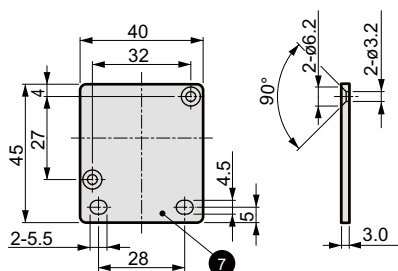
Gauge pressure method



Differential pressure method



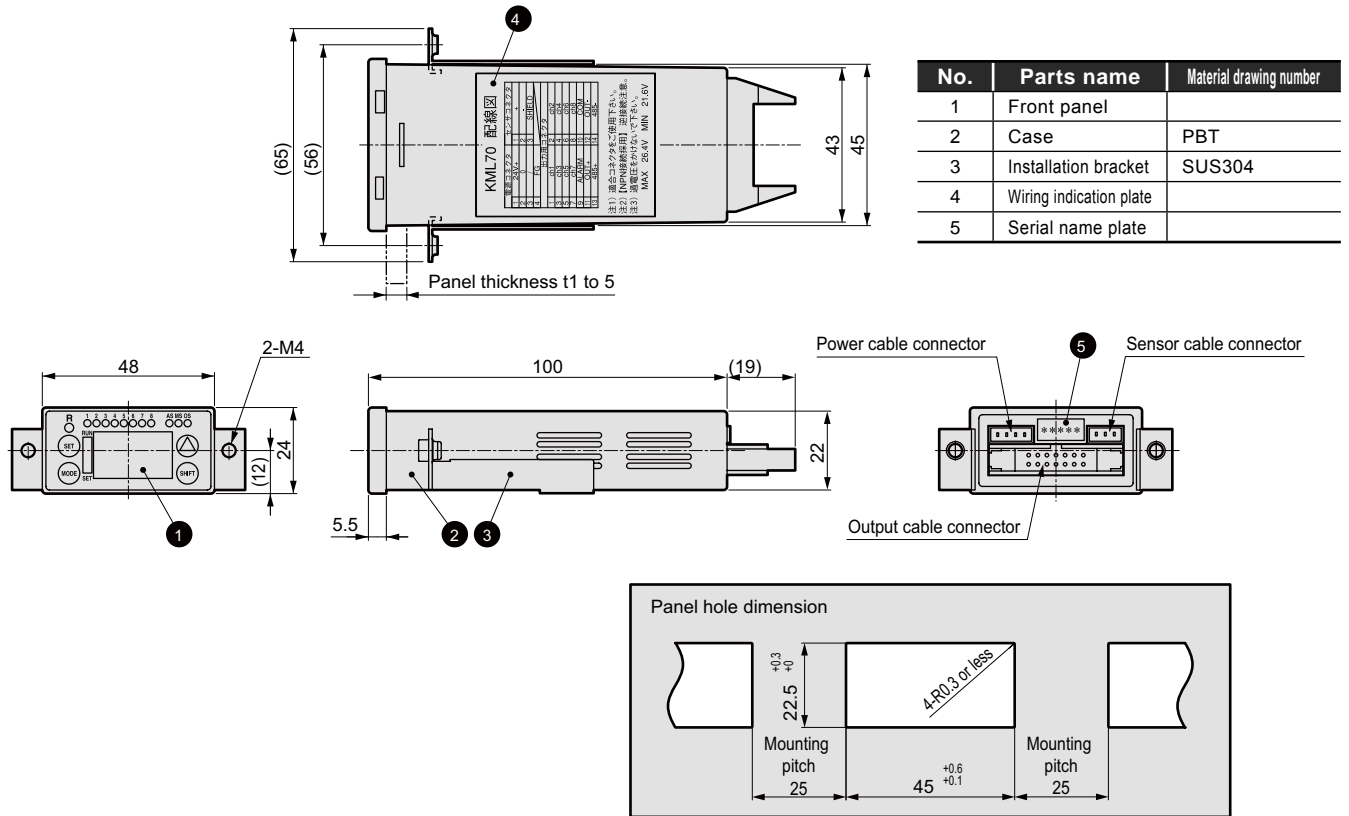
- Sensor body bracket (option)
  - KML702-B



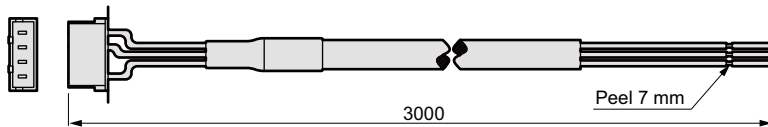
No.	Parts name	Material
1	Body	PPS
2	Sensor cable	PVC
3	Bush	PA
4	Nipple	SUS304
5	Plug	SUS304
6	Gasket	PTFE
7	Bracket	SUS304

# Internal structure and key component materials Dimensions

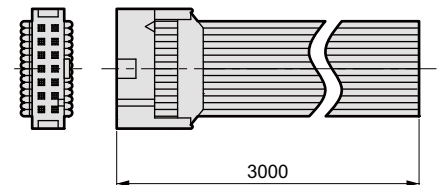
## ● Display section



## ● Power supply cable (option) • KML702-P



## ● Output cable (option) • KML702-O



## Wiring connection diagram

