

Premasgard 21xx Difference pressure sensor



Summary

Pressure and differential pressure sensor for overpressure, underpressure and differential pressure measurement of air and other non-aggressive and non-flammable gases. A piezoresistive measuring element provides high accuracy and reliability.

Application

- Clean room technologies, medical applications, filtering technologies, air handling units, variable speed drives control etc.

Function

An elastic diaphragm transmits the pressure difference to the measuring element. The electric signal is amplified and evaluated and sent to the output terminals.-

Technical data

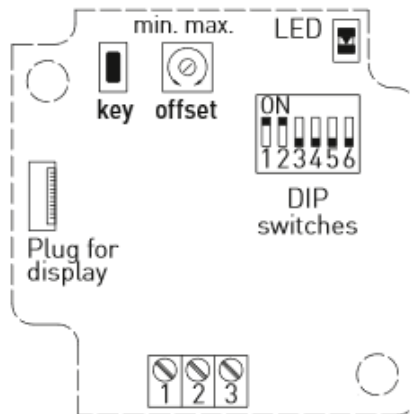
Power supply	24 V AC/DC, $\pm 10\%$
Measuring ranges	see table below
Consumption	$< 1\text{ W}$ (24 V DC), $< 2\text{ VA}$ (24 V AC)
Output signal	0...10 V or 4...20 mA, see type designation
Connection	cable gland M16, screw terminals, wires 0.14...1.5 mm ²
Media temperature	-25...50 °C
Media connection	hose with inner diameter 6 mm
Medium	air and non-aggressive and non-combustible gases
Accuracy	Premasgard 2110: $\pm 3\%$ of measuring range at 25 °C Premasgard 2111: $\pm 1\%$ of measuring range at 25 °C Premasgard 2125: $\pm 0,7\%$ of measuring range at 25 °C
Linearity	$< \pm 1\%$ of measuring range
Hysteresis	0.3 % of measuring range
Temperature drift	$\pm 0.1\%$ / °C
Zero point - offset	$\pm 10\%$ of measuring range
Max. overpressure and underpressure	$\pm 50\text{ kPa}$
Signal filtering	switchable 1 s / 10 s
Cover	polyamide with 30% glass fibre reinforcing, RAL 9010; 72 x 64 x 37.8 mm (without display); 72 x 64 x 43.3 mm (with display)
Electrical connection	screw terminals for wires 0.14...1.5 mm ²
Air humidity	$< 95\%$, non-condensing
Protection degree	IP67 (according to EN 60 529)
Protection class	III (according to EN 60 730)
Accessories (included in delivery)	ASD-06 , mounting set containing: 2 straight plastic tubes 2m PVC hose 4 screws
Accessories (optional)	ASD-07 , connection nipples 2 plastic tubes, at 90 degree angle DAL-1 , pressure outlet for ceiling or in-wall installation WS-04 , weather and sun protection hood





Sensor types

Type	Measuring ranges (selectable)	Output
Premasgard 2110	-50...50 Pa	0...10 V
	-100...100 Pa	4...20 mA
Premasgard 2111	-100...100 Pa	0...10 V
	-300...300 Pa	4...20 mA
	-500...500 Pa	
	-1000...1000 Pa	
Premasgard 2125	-1000...1000 Pa	0...10 V
	-2000...2000 Pa	4...20 mA
	-3000...3000 Pa	
	-5000...5000 Pa	

Is possible to order variant with display.

Terminals



-  Status LED (DIP 6)
I Output (ON) = orange
U Output (OFF) = green
-  Pushbutton
Zero point setting
(auto zero)
-  Offset correction
see graph
ca. ± 10% of
final value
-  Plug for display
contact is
on the right side

Premasgard...U

- 1 Power 24 V AC / DC
- 2 Output 0...10 V, pressure in Pa
- 3 GND – common ground

Premasgard...I

- 1 Power 24 V DC
- 2 Output 4...20 mA, pressure in Pa
- 3 GND – common ground

Type	Measuring ranges (selectable)	DIP switch 1 and 2
Premasgard 2110	-50...50 Pa	OFF OFF
	-100...100 Pa	ON ON
Premasgard 2111	-100...100 Pa	OFF OFF
	-300...300 Pa	ON OFF
	-500...500 Pa	OFF ON
	-1000...1000 Pa	ON ON
Premasgard 2125	-1000...1000 Pa	OFF OFF
	-2000...2000 Pa	ON OFF
	-3000...3000 Pa	OFF ON
	-5000...5000 Pa	ON ON

DIP switch 3: measuring range

- OFF 0...+ range (default)
- ON – range...+ range

DIP switch 4: characteristic line

- OFF linear (default)
- ON square root extraction

DIP switch 5: signal filtering

- OFF 10 s (default)
- ON 1 s

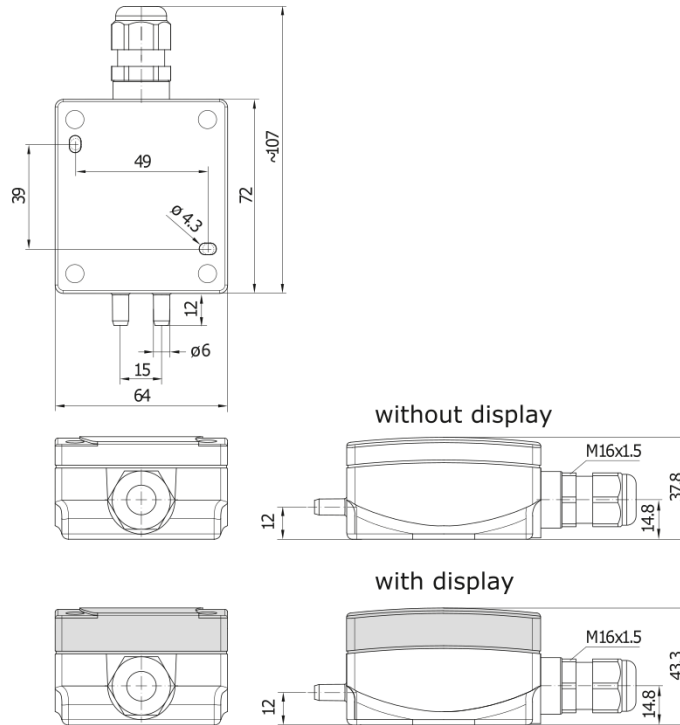
DIP switch 6: output

- OFF 0...10 V (default)
- ON 4...20 mA

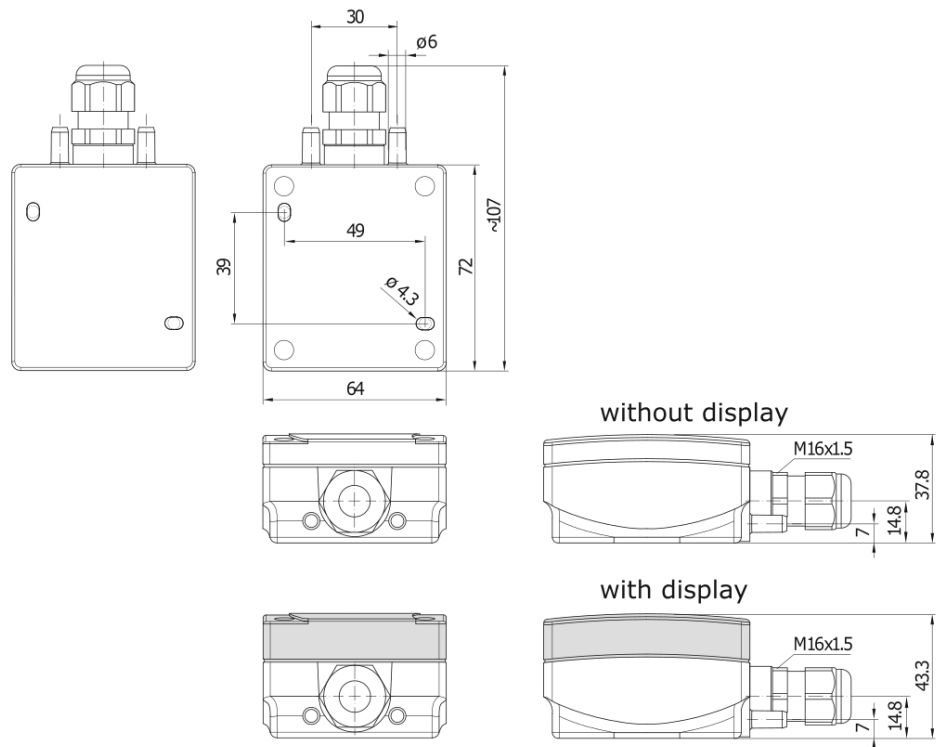
The pressure inputs are:
P1 (+) higher pressure
P2 (-) lower pressure

Dimensions

Premasgard 211x



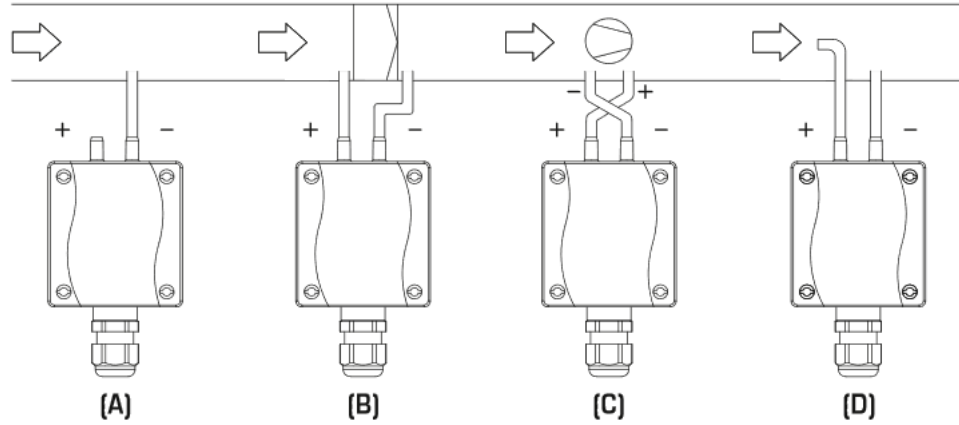
Premasgard 212x



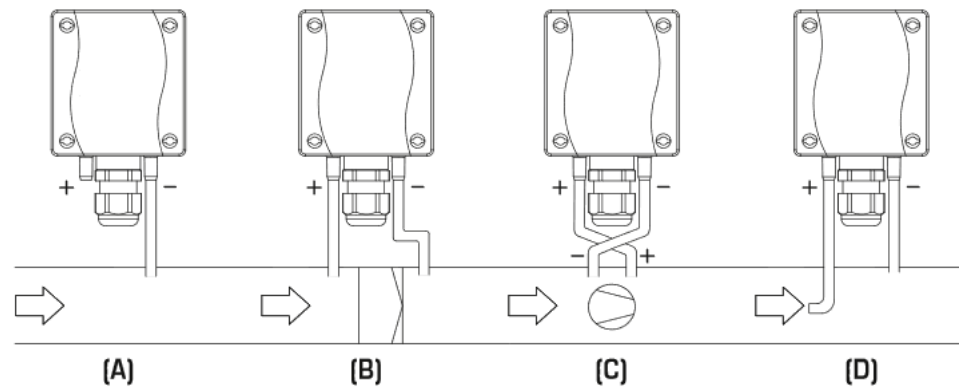
Dimensions are in *mm*.

Installation

Premasgard 211x



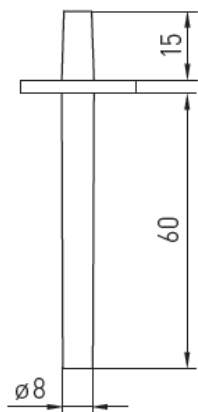
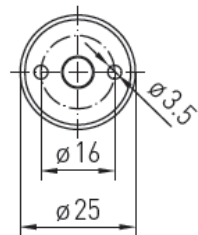
Premasgard 212x



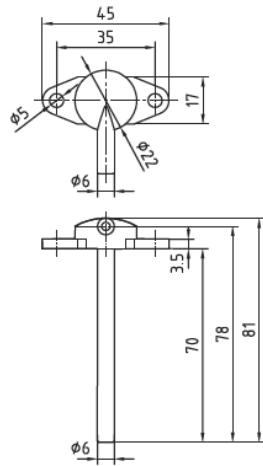
- A underpressure, P1 (+) is open, P2 (-) installed in the duct
- B on a filter, heat recovery plate exchanger, etc.
- C on a fan
- D volume flow

Accessories

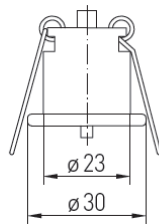
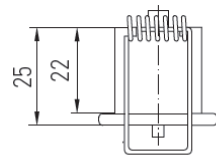
ASD-06



ASD-07



DAL-1



Dimensions are in *mm*.

**Changes in
versions**

05/2016 – New sensor design version and dimensions.

01/2021 – Device renamed to Premasgard 21xx.

07/2021 – Images of *dimensions* and *installation* fixed.