

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.-
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Technical data

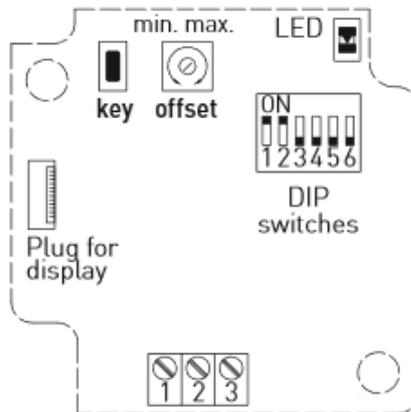
Power supply	24 V AC/DC, $\pm 10\%$
Measuring ranges	see table below
Consumption	$< 1\text{ W}$ (24 V DC), $< 2\text{ VA}$ (24 V AC)
Output signal	0...10 V or 4...20 mA, see type designation
Connection	cable gland M16, screw terminals, wires 0,14 ... 1,5 mm ²
Media temperature	-25 ... 50 °C
Media connection	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

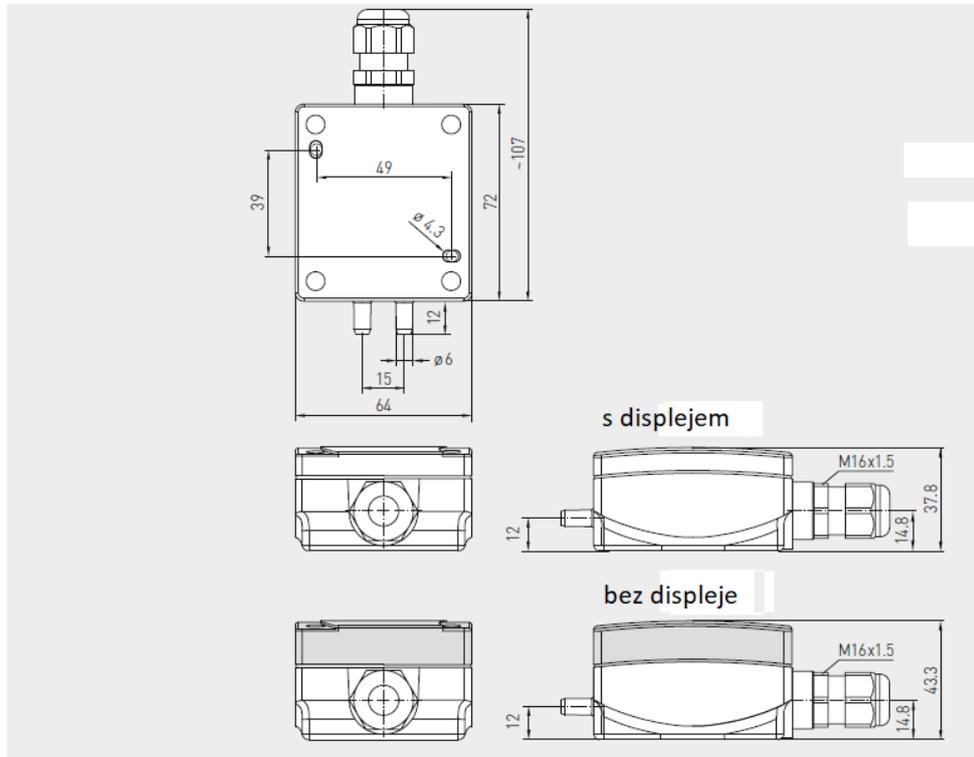
DIP switch 6: output

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

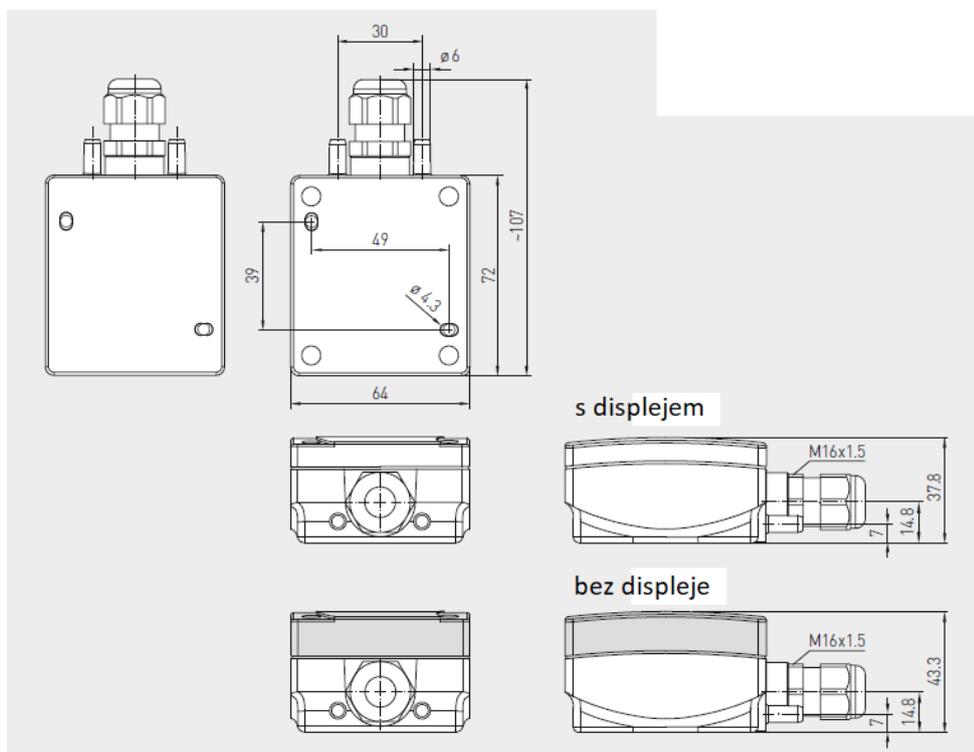
The pressure inputs are:
P1 (+) higher pressure
P2 (-) lower pressure

Dimensions

Premasgard 211x



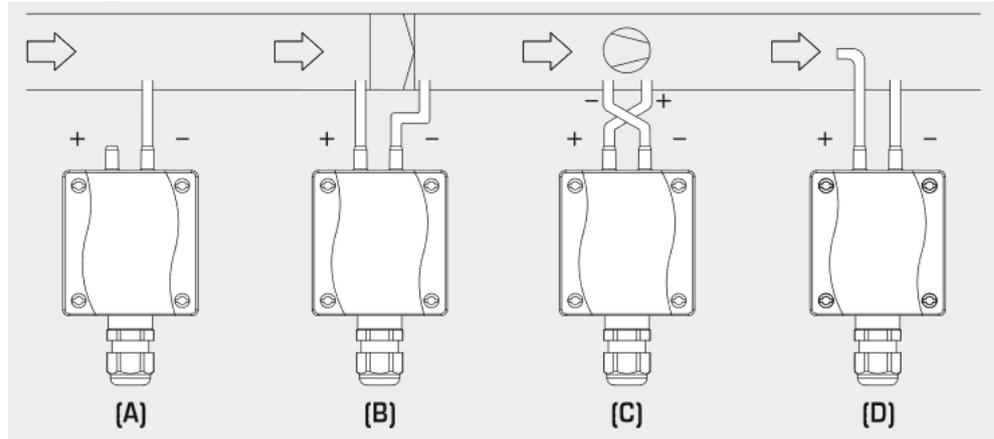
Premasgard 212x



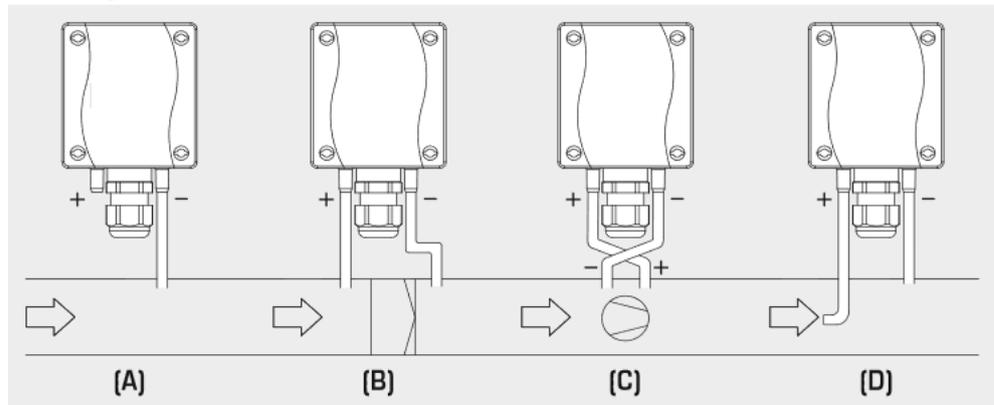
Dimensions are in *mm*.

Installation

Premasgard 211x



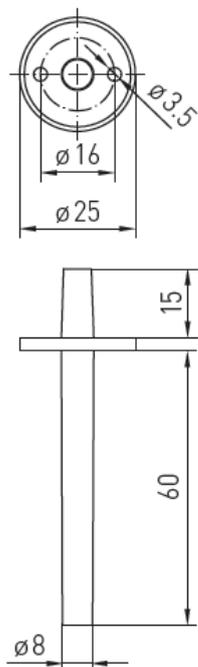
Premasgard 212x



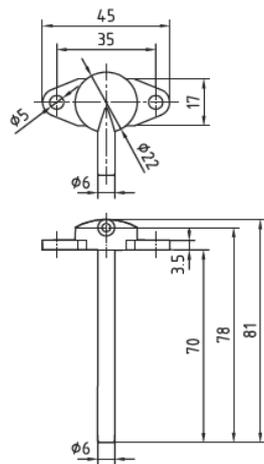
- A underpressure, P1 (+) is open, P2 (-) installed in the duct
- B on a filter, heat recovery plate exchanger, etc.
- C on a fan
- D volume flow

Accessories

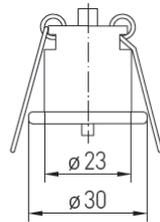
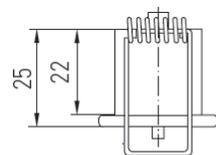
ASD-06



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.