

Pressure and differential pressure measuring transducers ($\pm 3\%$), including connection set, compact form, adjustable, calibratable, with multi-range switching and active output

Quality product for HVAC sector, accuracy $\pm 3\%$

PREMASGARD® 1110 series calibratable compact pressure sensors are equipped with eight switchable measuring ranges and with or without optional display (eight devices in one) and are used for measuring above-atmospheric, below-atmospheric, or differential pressures in air. The piezo-resistive measuring element is temperature-compensated and guarantees a high degree of reliability and accuracy. These pressure transmitters have a pushbutton for manual zero point calibration and an adjustable offset. Applications of these pressure sensors are in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering facilities, for monitoring filters, for level measurement or for triggering frequency converters. Media measured with these pressure transducers are air (non-precipitating), or other gaseous non-aggressive, non-combustible media. A PREMASGARD® 1110 series pressure sensor has eight selectable measuring ranges and therefore, minimizes the diversity of types and inventory levels while covering a greater range of applications. The differential pressure sensor is supplied including connection set **ASD-06** (2 m connection hose, two pressure connection nipples, screws).

PREMASGARD® 1110 Compact form



TECHNICAL DATA

Power supply:	24 V AC ($\pm 20\%$); 15...36 V DC for U variant 15...36 V DC for I variant, depending on working resistance, residual ripple stabilised ± 0.3 V
Working resistance:	$R_a(\text{ohm}) = (U_b - 14 \text{ V}) / 0.02 \text{ A}$ for I variant
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	$< 1 \text{ W}$ at 24 V DC; $< 2 \text{ VA}$ at 24 V AC
Measuring ranges:	multi-range switching with 8 switchable measuring ranges (see table)
Output signal:	0 -10 V or 4...20 mA
Electrical connection:	2- or 3-wire connection
Media temperature:	0...+50 °C
Pressure connection:	4 / 6 x 11 mm (hoses $\varnothing = 4 / 6 \text{ mm}$), metal pressure connection nozzles
Type of pressure:	differential pressure
Medium:	clean air and other non-aggressive, non-combustible gases
Accuracy:	$\pm 3\%$ of final value (at +20 °C)
Zero point offset:	$\pm 10\%$ of final value
Above- / below-atmospheric pressure:	max. 5 x measuring range
Long-term stability:	$\pm 1\%$ per year
Signal filtering:	switchable 1 s / 10 s
Hysteresis:	0.3% of final value
Media contacting parts:	ms, Ni, Nylon, PU, Si, PVC with plasticisers
Temperature drift values:	$\pm 0.1\%$ of final value / °C
Current consumption:	$< 20 \text{ mA}$
Linearity:	$< \pm 1\%$ of final value
Enclosure:	plastic, material polyamide, 30% glass-globe-reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!
Enclosure dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable gland:	M 16 x 1.5, including strain relief, exchangeable, max. inner diameter 10.4 mm
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Humidity:	$< 95\%$ r. H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP65 (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU
Features:	two-line display with illumination , cutout approx. 36 x 15 mm (W x H), to display ACTUAL pressure
ACCESSORIES	
ASD-06	Connection set (nipple straight) – (included in the scope of delivery)
ASD-07	Connection nipple (at 90° angle)
DAL-02	Pressure outlet for ceiling or in-wall installation (e.g. in clean rooms)
WS-04	Weather and sun protection, 130 x 180 x 135 mm, stainless steel

WS-04

Weather and sun protection
(optional)





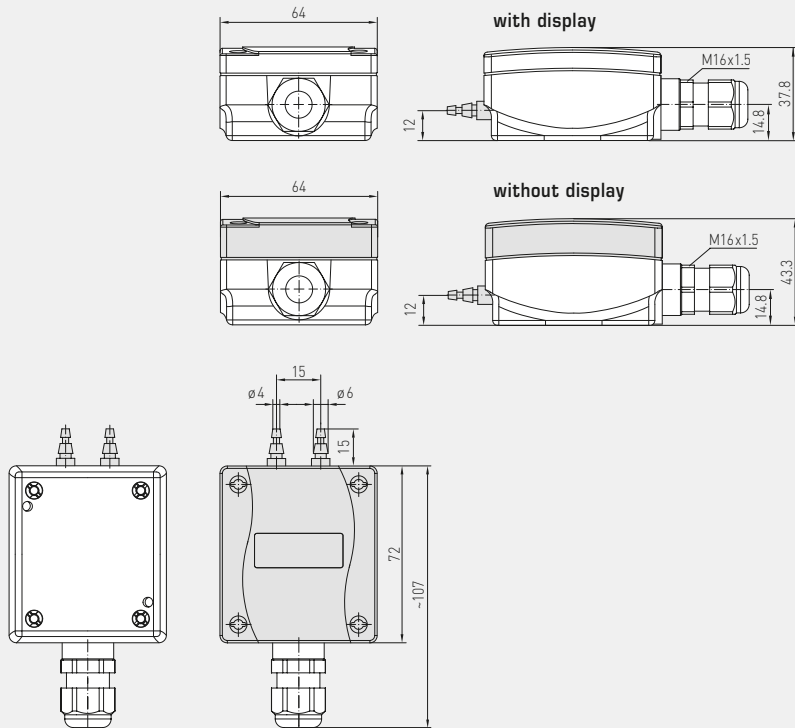
Pressure and differential pressure measuring transducers (± 3%), including connection set, compact form, adjustable, calibratable, with multi-range switching and active output



Dimensional drawing

PREMASGARD® 1110
Compact form

PREMASGARD® 1110
Compact form
with display



Dimensional drawing

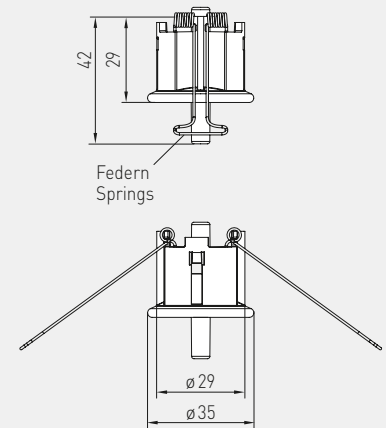
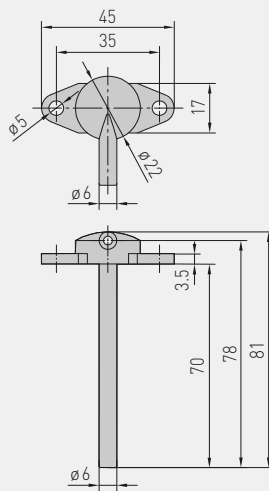
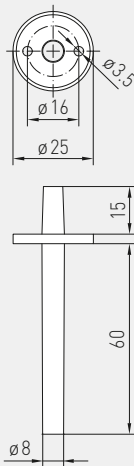
ASD-06
Connection set

Dimensional drawing

ASD-07
Connection nipple

Dimensional drawing

DAL-02
Pressure outlet



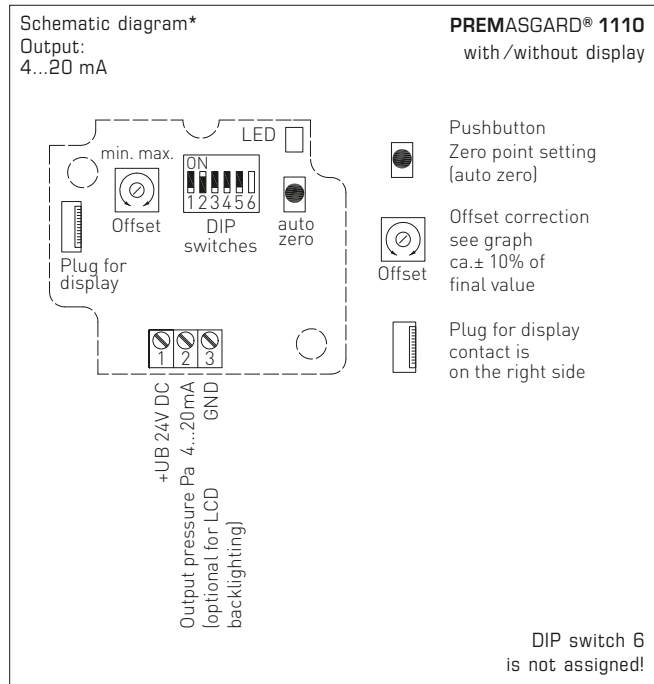
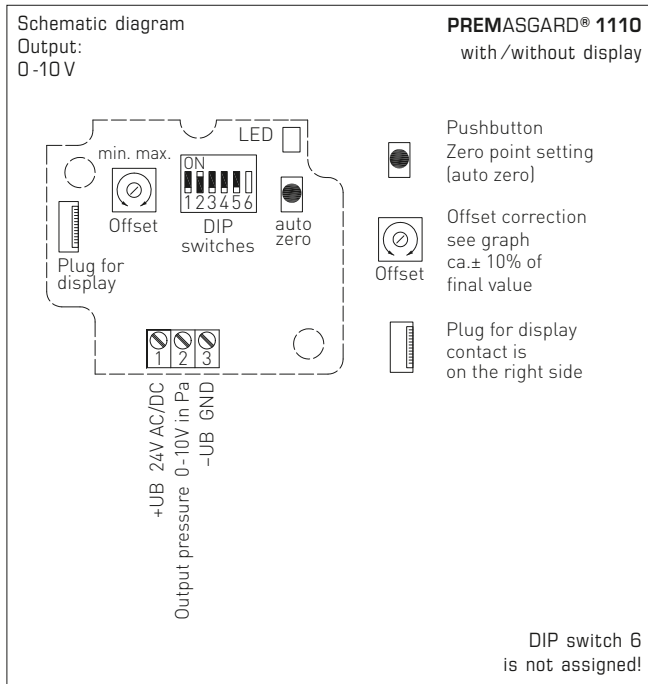
ASD-06
Connection set

ASD-07
Connection nipple

DAL-02
Pressure outlet

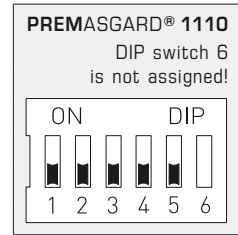


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Pressure range
(selectable, max. measuring range is depending to the type of device)

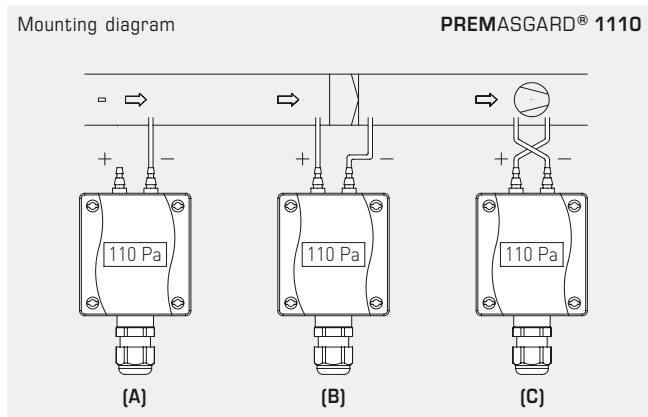
0...1000 Pa	0...5000 Pa	0...10000 Pa	-1000...+1000 Pa	-5000...+5000 Pa	-10000...+10000 Pa	DIP 1	DIP 2
0...100 Pa	0...1000 Pa	0...4000 Pa	-100...+100 Pa	-1000...+1000 Pa	-4000...+4000 Pa	OFF	OFF
0...300 Pa	0...2000 Pa	0...6000 Pa	-300...+300 Pa	-2000...+2000 Pa	-6000...+6000 Pa	ON	OFF
0...500 Pa	0...3000 Pa	0...8000 Pa	-500...+500 Pa	-3000...+3000 Pa	-8000...+8000 Pa	OFF	ON
0...1000 Pa	0...5000 Pa	0...10000 Pa	-1000...+1000 Pa	-5000...+5000 Pa	-10000...+10000 Pa	ON	ON



Measuring range mode (Mode selectable)	DIP 3
Unidirectional (0...+MR)	OFF
Bidirectional (-MR...+MR)	ON

Output characteristic line (Mode selectable)	DIP 4
Linear	OFF
Square root extracting	ON

Measurement signal filtering (Time interval selectable)	DIP 5
Long (10 s)	OFF
Small (1 s)	ON



TYPES OF MONITORING:

- (A) **Below-atmospheric pressure:**
P1 (+) is not connected but open against atmosphere
P2 (-) connected to inside of duct
- (B) **Filter:**
P1 (+) connected upstream of filter
P2 (-) connected downstream of filter
- (C) **Ventilator:**
P1 (+) connected downstream of ventilator
P2 (-) connected upstream of ventilator

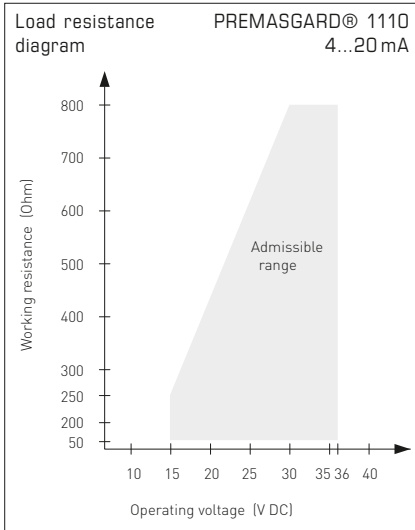
Pressure connections at the pressure switch are marked with P1 (+) for higher pressure and P2 (-) for lower pressure.

Conversion table for pressure values:

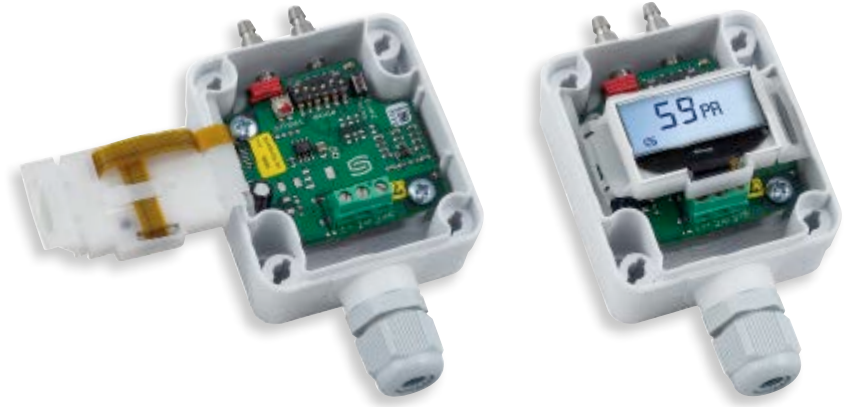
Unit =	bar	mbar	Pa	kPa	mH ₂ O
1 Pa	0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mH ₂ O
1 kPa	0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mH ₂ O
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mH ₂ O
1 mbar	0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mH ₂ O
1 mH ₂ O	0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mH ₂ O



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PREMASGARD® 1110 with display



Connection*:

- 2-wire connection for devices with / without display (not illuminated)
- 3-wire connection for devices with illuminated display

PREMASGARD® 1110 – Pressure and differential pressure measuring transducers, *Standard*

Pressure range (Ranges adjustable)	Type / WG01	Output	Display	Item No.	Price
max. - 1000...+ 1000 Pa					
0... 100 Pa / - 100...+ 100 Pa	PREMASGARD 1111	0-10 V		1301-1111-0010-000	132,39 €
0... 300 Pa / - 300...+ 300 Pa	PREMASGARD 1111 DISPLAY	0-10 V	■	1301-1111-2010-000	174,42 €
0... 500 Pa / - 500...+ 500 Pa	PREMASGARD 1112	4...20 mA		1301-1112-0010-000	132,39 €
0... 1000 Pa / - 1000...+ 1000 Pa	PREMASGARD 1112 DISPLAY	4...20 mA	■	1301-1112-2010-000	174,42 €
max. - 5000...+ 5000 Pa					
0...1000 Pa / - 1000...+ 1000 Pa	PREMASGARD 1111	0-10 V		1301-1111-0050-000	132,39 €
0...2000 Pa / - 2000...+ 2000 Pa	PREMASGARD 1111 DISPLAY	0-10 V	■	1301-1111-2050-000	174,42 €
0...3000 Pa / - 3000...+ 3000 Pa	PREMASGARD 1112	4...20 mA		1301-1112-0050-000	132,39 €
0...5000 Pa / - 5000...+ 5000 Pa	PREMASGARD 1112 DISPLAY	4...20 mA	■	1301-1112-2050-000	174,42 €
max. - 10000...+ 10000 Pa					
0... 4000 Pa / - 4000...+ 4000 Pa	PREMASGARD 1111	0-10 V		1301-1111-0060-000	148,92 €
0... 6000 Pa / - 6000...+ 6000 Pa	PREMASGARD 1111 DISPLAY	0-10 V	■	1301-1111-2060-000	187,91 €
0... 8000 Pa / - 8000...+ 8000 Pa	PREMASGARD 1112	4...20 mA		1301-1112-0060-000	148,92 €
0...10000 Pa / - 10000...+ 10000 Pa	PREMASGARD 1112 DISPLAY	4...20 mA	■	1301-1112-2060-000	187,91 €
Multi-range switching:	Depending on the type of device, altogether eight pressure ranges can be preset via DIP switches. (Factory setting: 0 ...1000 Pa).				

Accessories					
ASD-06	Connection set (included in the scope of delivery), consisting of 2 connection nipples (straight) made of ABS, 2 m PVC hose, soft, and 4 tapping screws			7100-0060-3000-000	6,45 €
ASD-07	2 connection nipples (at 90 degree angle) made of plastic, ABS			7100-0060-7000-000	6,45 €
DAL-02	Pressure outlet for ceiling or in-wall installation (e.g. in clean rooms)			7300-0060-3000-100	30,18 €
WS-04	Weather and sun protection, 130 x 180 x 135 mm, stainless steel			7100-0040-7000-000	31,62 €
For further information, see last chapter Accessories!					