

Pressure, differential pressure and volume flow measuring transducers,
including connection set, compact form, adjustable, calibratable,
with multi-range switching and active output

The calibrateable compact pressure sensors of the series **PREMASGARD® 111x / 112x / 112x-SD** with 8 switchable measuring ranges (max. ± 5000 Pa / ± 20 inWC) for measuring the pressure in air, with active output, in an impact-resistant plastic housing with quick-locking screws or with snap-on lid (type 112x-SD), connection nozzles for pressure hose ($\varnothing$ 6 mm), with cable gland (optionally M12 connector according to DIN EN 61076-2-101), optionally with / without display, display can be changed from SI to imperial units (via DIP switch). The measuring transducer converts the measured variables into a standard signal of 4...20 mA. Incl. mounting flange and connection set **ASD-06** (2 m connecting hose, two pressure port nipples, screws).

The sensor is applied to measure positive, negative or differential pressure in clean air and gaseous media. It is used in the clean room, medical and filter technology, ventilation and air conditioning ducts, spray booths, large-scale catering facilities, for filter monitoring and level measurement or for triggering frequency converters. A **pressure sensor** with piezoresistive measuring element guarantees exact measurement results. The sensor has a button for manual zero point calibration. It is factory-calibrated, an environmental precision adjustment by an expert is possible.

You can find further device types under **PREMASGARD®**

211x / 212x / 212x-SD (3-conductor connection) with switchable output (0-10 V / 4...20 mA).

TECHNICAL DATA

Power consumption:	< 1,0 W / 24 V DC
Power supply:	15...36 V DC, depending on working resistance, residual ripple stabilised ± 0.3 V
Working resistance:	R_a (Ohm) = $(U_b - 14 \text{ V}) / 0.02 \text{ A}$
Connection type:	2-wire connection
Output:	4...20 mA
System of units:	SI (default) or Imperial (switchable via DIP switch)
Measuring function:	Differential pressure [Pa] [inWC], Volume flow (square root output signal)
Measuring ranges:	Multi-range switching with 8 switchable measuring ranges (see table)
Type of pressure:	differential pressure
Pressure connection:	with connection nozzles for pressure hose $\varnothing$ 6 mm
Medium:	clean air and other non-aggressive, non-combustible gases
Media temperature:	-20...+50 °C (temperature-compensated 0...+50 °C)
Media contacting parts:	PA6, Duroplast, Si, epoxy, RTV, BSG, UV silicone gel
Accuracy:	Type 1111 / 1121 / 1121-SD (± 1000 Pa / 4 inWC): typical ± 10 Pa Type 1115 / 1125 / 1125-SD (± 5000 Pa / 20 inWC): typical ± 50 Pa at +25 °C, compared to the calibrated reference device
Zero point offset:	± 10 % Measuring range
Above- / below-atmospheric pressure:	± 50 kPa
Long-term stability:	± 1 % per year
Signal filtering:	switchable 1 s / 10 s (via DIP switch)
Hysteresis:	0.3 % of final value
Temperature drift values:	± 0.1 % of final value / °C
Current consumption:	< 20 mA
Linearity:	< ± 1 % of final value
Housing:	Plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, colour traffic white (similar to RAL 9016), housing cover for display is transparent! Type 111x / 112x with quick-locking screws (slotted/Phillips head combination) Type 112x-SD with snap-on lid
Housing dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable connection:	Cable gland, plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)
Electrical connection:	2-, 3- or 4-wire (see connecting diagram), 0.14 - 1.5 mm ² , via terminal screws
Humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Schutzart:	Type 111x / 112x IP67 (according to EN 60 529)* Housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1) Type 112x-SD IP54 (according to EN 60 529)* Housing tested, TÜV SÜD, Report No. 713160960A (Tyr 01) * Housing in the built-in state
Standards:	CE conformity according to EMC directive 2014 / 30 / EU
Features:	two-line display with illumination, cutout approx. 36 x 15 mm (W x H), to display ACTUAL pressure

PREMASGARD® 111x

Pressure connectors
on the top side
with quick-locking screws
(IP 67)



PREMASGARD® 112x

Pressure connectors
on the bottom side
with quick-locking screws
(IP 67)



PREMASGARD® 112x-SD

Pressure connectors
on the bottom side
with snap-on lid
(IP 54)





S+S REGELTECHNIK

1 variant
with 2-wire
connection

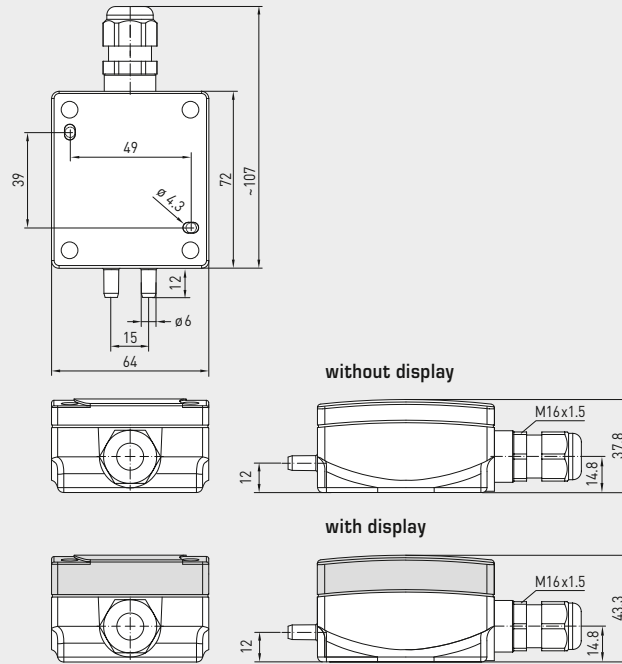
PREMASGARD® 111x/112x/112x-SD

Pressure, differential pressure and volume flow measuring transducers,
including connection set, compact form, adjustable, calibratable,
with multi-range switching and active output



Dimensional drawing
[mm]

PREMASGARD® 111x



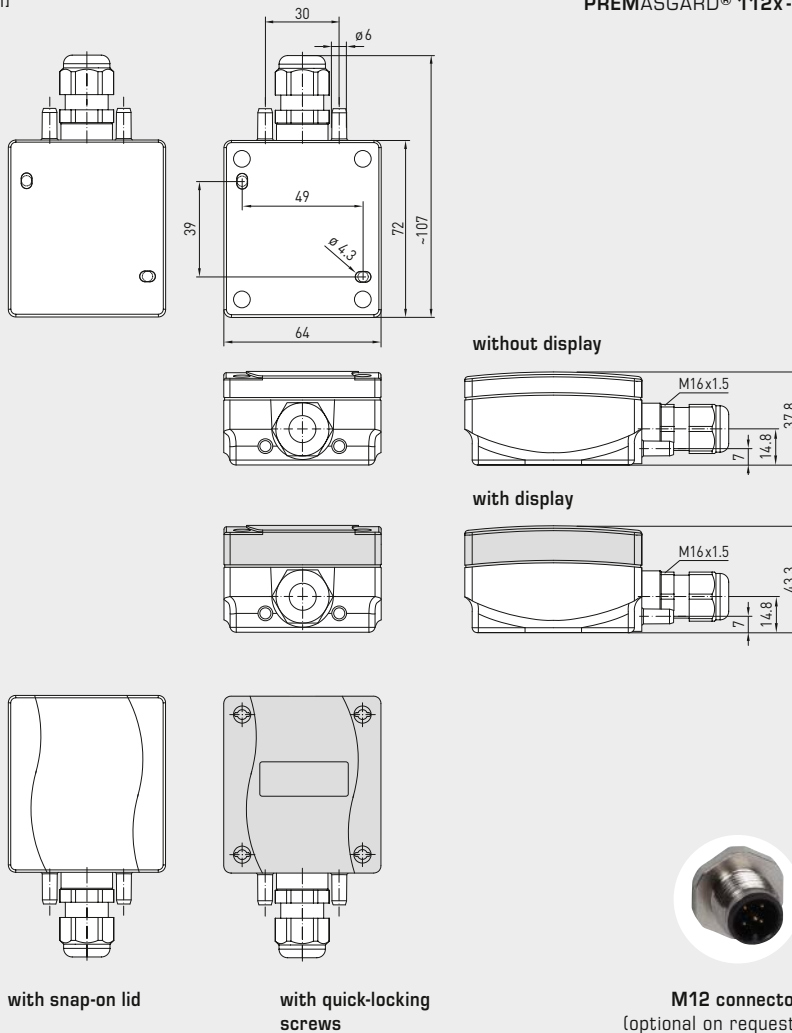
PREMASGARD® 111x

Pressure connectors
on the **top side**, with display,
with quick-locking screws
(IP 67)



Dimensional drawing
[mm]

PREMASGARD® 112x
PREMASGARD® 112x-SD



PREMASGARD® 112x

Pressure connectors
on the **bottom side**, with display,
with quick-locking screws
(IP 67)



PREMASGARD® 112x-SD

Pressure connectors
on the **bottom side**, with display,
with snap-on lid
(IP 54)



Pressure, differential pressure and volume flow measuring transducers,
including connection set, compact form, adjustable, calibratable,
with multi-range switching and active output

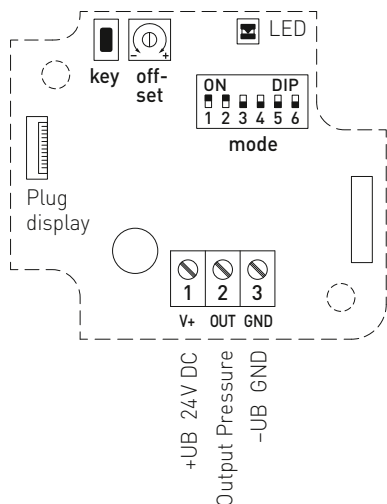
1 variant
with 2-wire
connection



S+S REGELTECHNIK

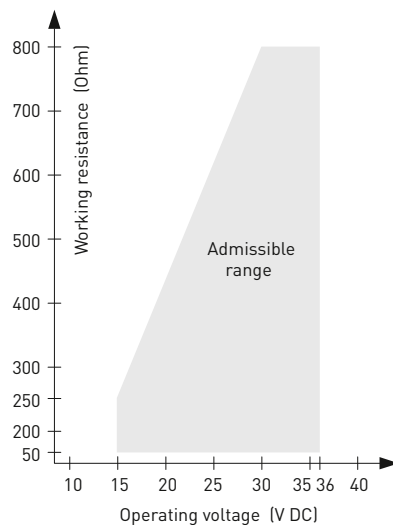
Schematic diagram
(I2W)

PREMASGARD® 111x-I
PREMASGARD® 112x-I
PREMASGARD® 112x-SD-I



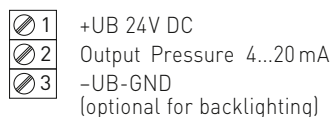
Load resistance
diagram
(I2W)

PREMASGARD® 111x-I
PREMASGARD® 112x-I
PREMASGARD® 112x-SD-I



Connecting diagram *
(I2W)

PREMASGARD® 111x-I
PREMASGARD® 112x-I
PREMASGARD® 112x-SD-I



Connection*:

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

Measuring range Type 1111 / 1121 / 1121-SD			Measuring range Type 1115 / 1125 / 1125-SD			DIP 1	DIP 2	DIP 3
DIP 6 →	SI	Imperial	DIP 6 →	SI	Imperial			
0...+100 Pa	0...+0.4 inWC		0...+1000 Pa	0...+4 inWC		OFF	OFF	OFF
0...+300 Pa	0...+1.2 inWC		0...+2000 Pa	0...+8 inWC		ON	OFF	OFF
0...+500 Pa	0...+2.0 inWC		0...+3000 Pa	0...+12 inWC		OFF	ON	OFF
0...+1000 Pa	0...+4.0 inWC		0...+5000 Pa	0...+20 inWC		ON	ON	OFF
-100...+100 Pa	-0.4...+0.4 inWC		-1000...+1000 Pa	-4...+4 inWC		OFF	OFF	ON
-300...+300 Pa	-1.2...+1.2 inWC		-2000...+2000 Pa	-8...+8 inWC		ON	OFF	ON
-500...+500 Pa	-2.0...+2.0 inWC		-3000...+3000 Pa	-12...+12 inWC		OFF	ON	ON
-1000...+1000 Pa	-4.0...+4.0 inWC		-5000...+5000 Pa	-20...+20 inWC		ON	ON	ON

Mode Output characteristic line	DIP 4	Measurement signal filtering	DIP 5	System of units	DIP 6
Square root extracting to determine the volume flow	ON	1 s interval	ON	Imperial (inWC)	ON
Linear (default) for pressure detection	OFF	10 s (default) interval	OFF	SI (default) (Pa)	OFF



S+S REGELTECHNIK

1 variant
with 2-wire
connection

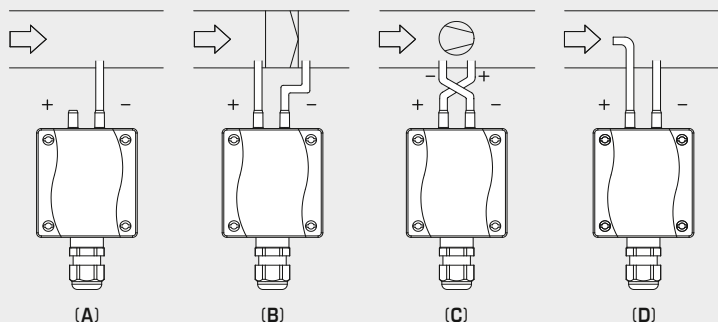
PREMASGARD® 111x/112x/112x-SD

Pressure, differential pressure and volume flow measuring transducers,
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Mounting diagram

PREMASGARD® 111x



TYPES OF MONITORING:

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

(A) Below-atmospheric pressure

P1 (+) is not connected,
but open to the 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

(D) Volume flow

P1 (+) dynamic pressure,
connected in flow direction
P2 (-) static pressure, connected free of
dynamic pressure components

$$V = k \cdot \sqrt{\Delta p}$$

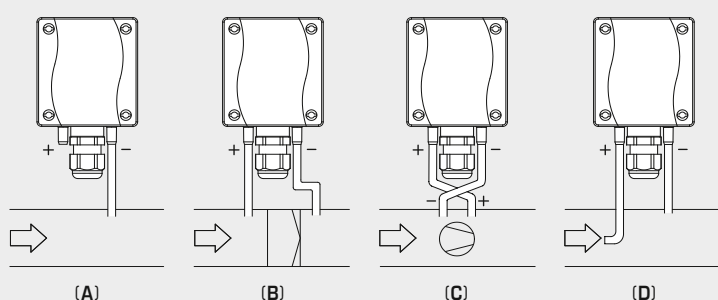
V = Volume flow

k = K factor

Δp = Differential pressure [Pa]

Mounting diagram

PREMASGARD® 112x / 112x-SD



PREMASGARD® 111x
PREMASGARD® 112x / 112x-SD
with display,
hinged



WS-04

Weather and sun protection hood
(optional)



Pressure, differential pressure and volume flow measuring transducers, including connection set, compact form, adjustable, calibratable, with multi-range switching and active output

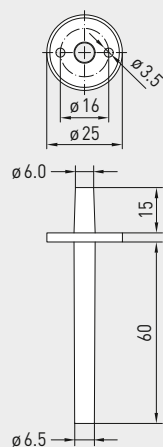
1 variant
with 2-wire
connection



S+S REGELTECHNIK

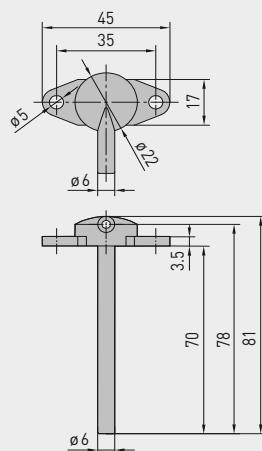
Dimensional drawing

ASD-06



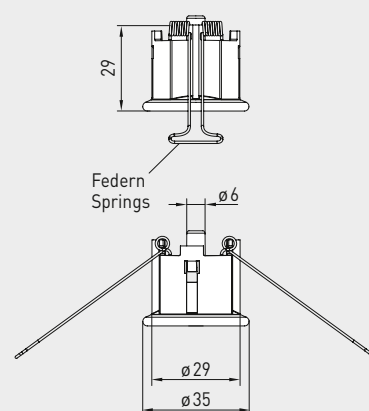
Dimensional drawing

ASD-07



Dimensional drawing

DAL-01



ASD-06
Connection set



ASD-07
Connection nipple



DAL-01
Pressure outlet



ACCESSORIES

Item No.

ASD-06	Connection set (included in the scope of delivery) , consisting of 2 connection nipples (straight) made of ABS, 2 m PVC hose (soft, UV-resistant) and 4 screws	7100-0060-3000-000
ASD-07	2 connection nipples (at 90 degree angle) made of plastic, ABS	7100-0060-7000-000
DAL-01	Pressure outlet for ceiling or in-wall installation (e.g. in clean rooms)	7300-0060-3000-001
WS-04	Weather and sun protection hood , 130 x 180 x 135 mm, stainless steel V2A (1.4301)	7100-0040-7000-000

For further information, see last chapter Accessories!

PREMASGARD® 112x-SD

Pressure, differential pressure and volume flow measuring transducers, *Standard* (Pressure connectors on the bottom side)

Pressure range (adjustable)	Type / WG01	Connection 2- or 3-wire	Output	Display	Item No (with snap-on lid)
max. ± 1000 Pa / 4.0 inWC	Type 1121-SD				IP 54
0 (- 100)...+ 100 Pa / 0.4 inWC	PREMASGARD 1121-SD-I	2	4...20 mA		1301-1182-0010-000
0 (- 300)...+ 300 Pa / 1.2 inWC	PREMASGARD 1121-SD-I LCD	2/3	4...20 mA	■	1301-1182-2010-00L
0 (- 500)...+ 500 Pa / 2.0 inWC	—	3	0-10 V		see PREMASGARD® 212x-SD
0 (- 1000)...+ 1000 Pa / 4.0 inWC	—	—	—	—	—
max. ± 5000 Pa / 20 inWC	Type 1125-SD				IP 54
0 (- 1000)...+ 1000 Pa / 4 inWC	PREMASGARD 1125-SD-I	2	4...20 mA		1301-1182-0050-000
0 (- 2000)...+ 2000 Pa / 8 inWC	PREMASGARD 1125-SD-I LCD	2/3	4...20 mA	■	1301-1182-2050-00L
0 (- 3000)...+ 3000 Pa / 12 inWC	—	3	0-10 V		see PREMASGARD® 212x-SD
0 (- 5000)...+ 5000 Pa / 20 inWC	—	—	—	—	—
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.				
System of units:	Display can be changed from SI to imperial units (via DIP switch).				
Connection:	1 variant with 2-wire connection for devices with / without display (not illuminated)				
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101 (on request)				



S+S REGELTECHNIK

I variant
with 2-wire
connection

PREMASGARD® 111x/112x/112x-SD

Pressure, differential pressure and volume flow measuring transducers,
including connection set, compact form, adjustable, calibratable,
with multi-range switching and active output

PREMASGARD® 111x

Pressure connectors **on the top side**,
with/without display,
with quick-locking screws
(IP 67)



PREMASGARD® 112x

Pressure connectors **on the bottom side**,
with/without display,
with quick-locking screws
(IP 67)



PREMASGARD® 112x-SD

Pressure connectors **on the bottom side**,
with/without display,
with snap-on lid
(IP 54)



PREMASGARD® 111x

Pressure, differential pressure and volume flow measuring transducers, *Premium*
(Pressure connectors on the top side)

Pressure range (adjustable)	Type / WG01	Connection 2- or 3-wire	Output	Display	Item No (with quick-locking screws)
max. ± 1000 Pa / 4.0 inWC	PREMASGARD® 1111				IP 67
0 (– 100)...+ 100 Pa / 0.4 inWC	PREMASGARD 1111-I	2	4...20 mA		1301-1112-0010-000
0 (– 300)...+ 300 Pa / 1.2 inWC	PREMASGARD 1111-I LCD	2/3	4...20 mA	■	1301-1112-2010-00L
0 (– 500)...+ 500 Pa / 2.0 inWC	–	3	0-10 V		see PREMASGARD® 211x
0 (– 1000)...+ 1000 Pa / 4.0 inWC					
max. ± 5000 Pa / 20 inWC	PREMASGARD® 1115				IP 67
0 (– 1000)...+ 1000 Pa / 4 inWC	PREMASGARD 1115-I	2	4...20 mA		1301-1112-0050-000
0 (– 2000)...+ 2000 Pa / 8 inWC	PREMASGARD 1115-I LCD	2/3	4...20 mA	■	1301-1112-2050-00L
0 (– 3000)...+ 3000 Pa / 12 inWC	–	3	0-10 V		see PREMASGARD® 211x
0 (– 5000)...+ 5000 Pa / 20 inWC					
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.				
System of units:	Display can be changed from SI to imperial units (via DIP switch).				
Connection:	I variant with 2-wire connection for devices with / without display (not illuminated)				
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101 (on request)				

PREMASGARD® 112x

Pressure, differential pressure and volume flow measuring transducers, *Premium*
(Pressure connectors on the bottom side)

Pressure range (adjustable)	Type / WG01	Connection 2- or 3-wire	Output	Display	Item No (with quick-locking screws)
max. ± 1000 Pa / 4.0 inWC	Type 1121				IP 67
0 (– 100)...+ 100 Pa / 0.4 inWC	PREMASGARD 1121-I	2	4...20 mA		1301-1172-0010-000
0 (– 300)...+ 300 Pa / 1.2 inWC	PREMASGARD 1121-I LCD	2/3	4...20 mA	■	1301-1172-2010-00L
0 (– 500)...+ 500 Pa / 2.0 inWC	–	3	0-10 V		see PREMASGARD® 212x
0 (– 1000)...+ 1000 Pa / 4.0 inWC					
max. ± 5000 Pa / 20 inWC	Type 1125				IP 67
0 (– 1000)...+ 1000 Pa / 4 inWC	PREMASGARD 1125-I	2	4...20 mA		1301-1172-0050-000
0 (– 2000)...+ 2000 Pa / 8 inWC	PREMASGARD 1125-I LCD	2/3	4...20 mA	■	1301-1172-2050-00L
0 (– 3000)...+ 3000 Pa / 12 inWC	–	3	0-10 V		see PREMASGARD® 212x
0 (– 5000)...+ 5000 Pa / 20 inWC					
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.				
System of units:	Display can be changed from SI to imperial units (via DIP switch).				
Connection:	I variant with 2-wire connection for devices with / without display (not illuminated)				
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101 (on request)				