



Pressure

PREMASGARD® & PREMASREG®

Atmospheric quality

Whether absolute or relative, whether positive pressure, differential pressure or negative pressure – we can handle pressure and provide the right solutions with our pressure sensors and pressure controllers. The high precision of the piezo-resistive sensors guarantees reliable performance from 25 Pascal to 300 bar.

Application Areas

- Process and mechanical engineering
- Medical and cleanroom engineering
- Large catering facilities
- Heating, ventilation and air conditioning
- Pump control and pressure lines
- Filter monitoring and air pressure deficiency protection
- Rotational speed and limit value control





PREMASGARD® & PREMASREG® PRESSURE SENSORS, PRESSURE CONTROLLERS

For gaseous media [mbar / Pa]

PREMASGARD® 111x	Pressure measuring transducer	495
PREMASGARD® 112x	Pressure measuring transducer	495
PREMASGARD® 112x-SD	Pressure measuring transducer	494
PREMASGARD® 211x	Pressure measuring transducer	489
PREMASGARD® 212x	Pressure measuring transducer	489
PREMASGARD® 212x-SD	Pressure measuring transducer	488
PREMASGARD® 711x	Pressure measuring transducer	501
PREMASGARD® 711x-VA	Pressure measuring transducer (Stainless steel housing Tyr2E)	507
PREMASGARD® 722x	Pressure measuring transducer, dual pressure sensor (2 channels)	513
PREMASREG® 711x	Pressure measuring transducer, pressure controller/pressure switch	519
PREMASREG® 711x-VA	Pressure measuring transducer, pressure controller/pressure switch (Stainless steel housing Tyr2E)	525
ALD	Measuring transducer [mbar] atmospheric pressure	539
DS 1 / DS 2	Differential pressure switch	543

For volume flow [mbar / Pa]

PREMASREG® 716x	Volume flow measuring transducer, pressure controller/pressure switch	531
PREMASREG® 716x-VA	Volume flow measuring transducer, pressure controller/pressure switch (Stainless steel housing Tyr2E)	537

For liquid media [bar]

SHD	Pressure measuring transducer	545
SHD-SD	Pressure measuring transducer	545
SHD 692	Pressure measuring transducer	547
LCD-SHD	Display module for pressure transducer SHD-xx	NEW 549

Special accessories

see chapter Accessories	655
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Pressure

PREMASGARD® & PREMASREG®

Precise sensor technology for the correct pressure

Broad Spectrum

Our pressure measuring transducers are designed to be multifunctional. This reduces the diversity of types while expanding their possible applications.

Thanks to microprocessor technology, almost any measuring range can be represented, including custom specifications.

Multi-range switching, reaction times, units, automatic mode, and manual calibration are selectable via DIP switches.

Optimum Precision

The pressure sensors are developed and manufactured according to the latest criteria. They are fitted with the newest generation sensors that are linearised, temperature-compensated, and offer long-term and zeropoint stability.

The devices are produced at our factory and are calibrated and 100 % tested at our test benches and pressure chambers. Each sensor is precisely re-adjustable using offset potentiometers.

Take advantage of our experience, our development, manufacturing, and product know-how, and order these products directly from the manufacturer.

Tested safety and certified quality



RoHS conforming materials



ESD compliant manufacturing



CE conformity



UKCA conformity
(UK Conformity Assessed)



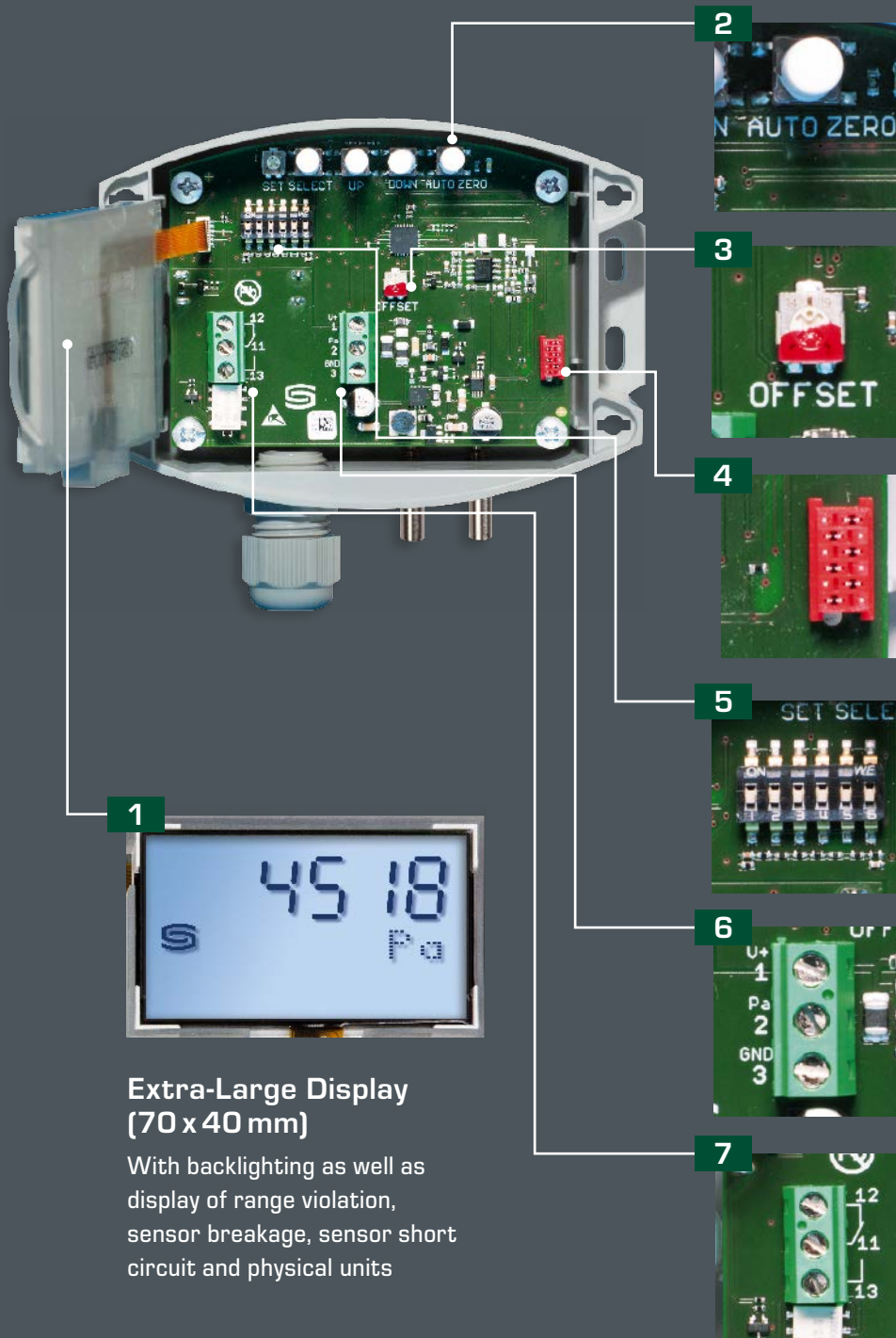
Development, production and sales are certified by TÜV Thüringen according to DIN EN ISO 9001:2015 (quality management) and ISO 14001:2015 (environmental management).



EAC certified



GOST certified



Extra-Large Display (70 x 40 mm)

With backlighting as well as display of range violation, sensor breakage, sensor short circuit and physical units



Auto-Zero

For zero point correction



Offset Potentiometer

For fine adjustment (zero point offset) and readjustment upon recalibration



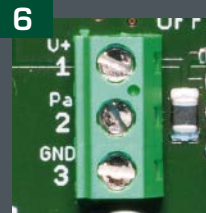
Quality Assurance

Calibration and balancing are done by means of the bus system at their pressure test bench



DIP Switches

For multi-range toggling as well as setting of 4 or 8 different measuring ranges, response times, damping times, units and configuration levels



Screw Terminals

Active output signals 0-10 V, 4...20 mA or switched output



Relais

With optional automatic zero point calibration and valve for zero point correction



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 **PREMASGARD® 211x / 212x / 212x-SD** series are equipped with 8 switchable measuring ranges, 2 switchable output signals (16 devices in one) and with or without optional display and are used for measuring above-atmospheric, below-atmospheric, or differential pressures and Volume flow 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. The differential pressure sensor is supplied including connection set **ASD-06** (2 m connection hose, two pressure connection nipples, screws). You can find further device types under **PREMASGARD® 111x / 112x / 112x-SD** (I variant with 2-wire connection).

TECHNICAL DATA

Power supply:	24 V AC/DC (± 10 %)
Working resistance:	R_a (Ohm) = 25 ... 450 Ohm for I variant
Load resistance:	R_L > 25 kOhm for U variant
Power consumption:	< 1 W at 24 V DC; < 2 VA at 24 V AC
Current consumption:	< 45 mA
Measuring function:	Differential pressure, volume flow (square root output signal)
Measuring ranges:	multi-range switching with 8 switchable measuring ranges (see table)
Output:	switchable 0-10V / 4...20 mA (via DIP switches)
Electrical connection:	3-wire connection
Media temperature:	-20...+50 °C (temperature-compensated 0...+50 °C)
Pressure connection:	with connection nozzles for pressure hose Ø 6 mm
Type of pressure:	differential pressure
Medium:	clean air and other non-aggressive, non-combustible gases
Media contacting parts:	PA6, Duroplast, Si, epoxy, RTV, BSG, UV silicone gel
Accuracy:	Type 2110/2120/2120-SD (100 Pa): typically ± 3 Pa at +25 °C Type 2111/2121/2121-SD (1000 Pa): typically ± 10 Pa at +25 °C Type 2115/2125/2125-SD (5000 Pa): typically ± 35 Pa at +25 °C Type 2116/2126 (10 000 Pa): typically ± 50 Pa at +25 °C compared to the calibrated reference device
Zero point offset:	± 10 % of final value
Above- / below-atmospheric pressure:	± 50 kPa
Long-term stability:	± 1 % per year
Signal filtering:	switchable 1 s / 10 s (via DIP switches)
Hysteresis:	0.3 % of final value
Temperature drift values:	± 0.1 % of final value / °C
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 211x/212x: with quick-locking screws (slotted/Phillips head combination) Type 212x-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, max. inner diameter 10.4 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	Type 211x/212x: IP 67 (according to EN 60 529)* Housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1) Type 212x-SD: IP 54 (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
ACCESSORIES	see table

PREMASGARD® 211x
Pressure connectors
on the top side,
with quick-locking screws
(IP 67)



PREMASGARD® 212x
Pressure connectors
on the bottom side,
with quick-locking screws
(IP 67)



PREMASGARD® 212x-SD
Pressure connectors
on the bottom side,
with snap-on lid
(IP 54)





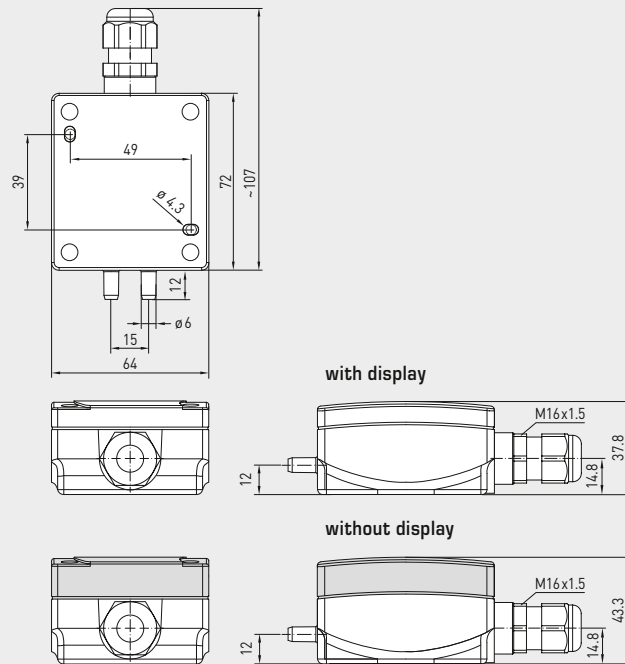
S+S REGELTECHNIK

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



Dimensional drawing

PREMASGARD® 211x



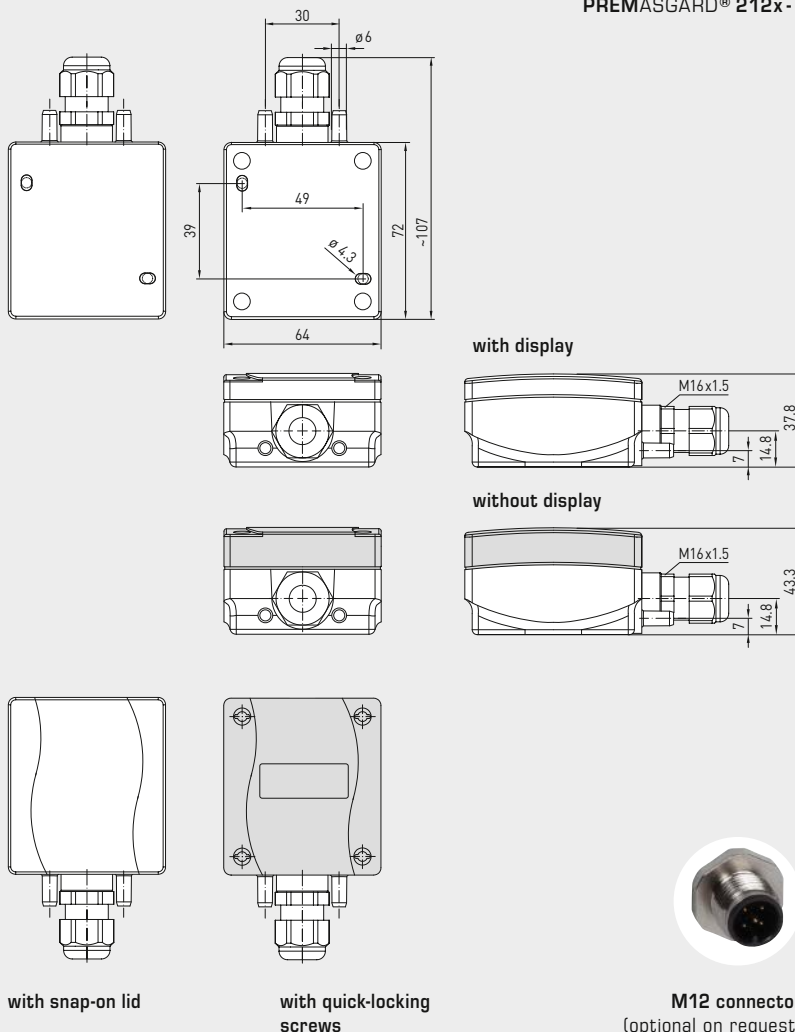
PREMASGARD® 211x

Pressure connectors
on the top side,
with display,
with quick-locking screws
(IP67)



Dimensional drawing

PREMASGARD® 212x
PREMASGARD® 212x-SD



PREMASGARD® 212x

Pressure connectors
on the bottom side,
with display,
with quick-locking screws
(IP67)



PREMASGARD® 212x-SD

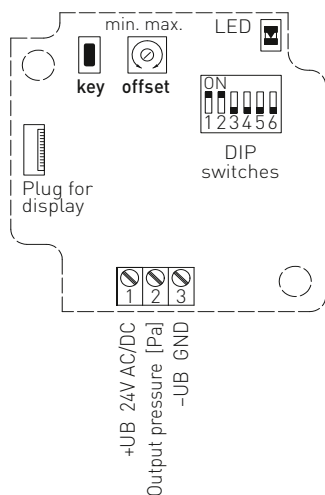
Pressure connectors
on the bottom side,
with display,
with snap-on lid
(IP54)



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

Schematic diagram

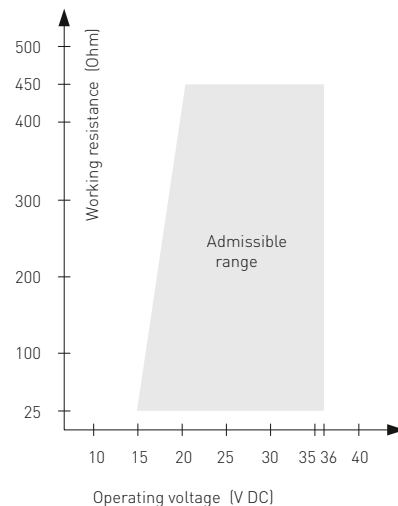
PREMASGARD® 211x
PREMASGARD® 212x
PREMASGARD® 212x-SD



- 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

Load resistance
diagram
4...20 mA

PREMASGARD® 211x
PREMASGARD® 212x
PREMASGARD® 212x-SD

**Pressure range**

max. measuring range (default) is depending to the type of device

								DIP 1	DIP 2
0...50 Pa	0...100 Pa	0...1000 Pa	0...4000 Pa	-50...+50 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...100 Pa	0...1000 Pa	0...5000 Pa	0...10000 Pa	-100...+100 Pa	-1000...+1000 Pa	-5000...+5000 Pa	-10000...+10000 Pa	ON	ON

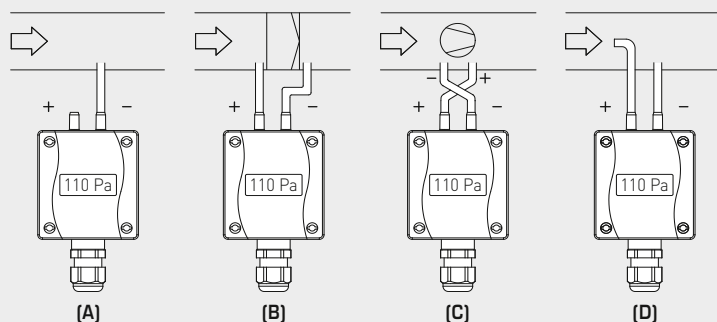
Measuring range (Mode)	DIP 3
Unidirectional (default) (0...+MR)	OFF
Bidirectional (-MR...+MR)	ON

Output characteristic line (Mode)	DIP 4
linear (default) for pressure detection	OFF
Square root extracting to determine the volume flow	ON

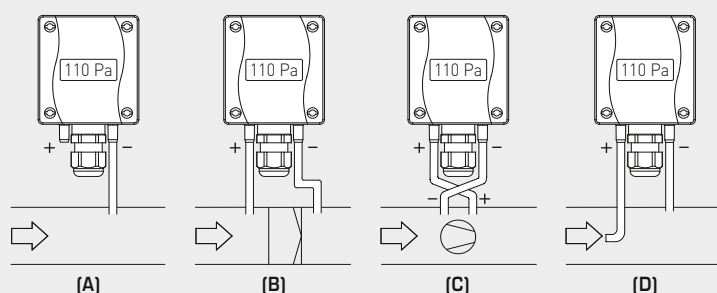
Measurement signal filtering	DIP 5
10 s (default) interval	OFF
1 s interval	ON

Output (standard signal)	DIP 6
Voltage 0-10 V (default)	OFF
Current 4...20 mA	ON

Mounting diagram

PREMASGARD® 211x

Mounting diagram

PREMASGARD® 212x / 212x-SD**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]



S+S REGELTECHNIK

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

PREMASGARD® 211x
Pressure connectors
on the top side,
with display



PREMASGARD® 212x
Pressure connectors
on the bottom side,
with display



WS-04
Weather and sun protection hood
(optional)



Conversion table for pressure values:

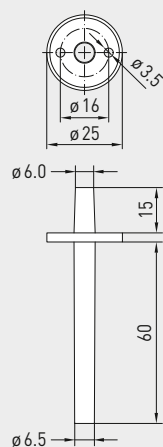
Unit =	bar	mbar	Pa	kPa	mWS
1 Pa	0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mWS
1 kPa	0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mWS
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mWS
1 mbar	0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mWS
1 mWS	0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mWS

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

S+S REGELTECHNIK

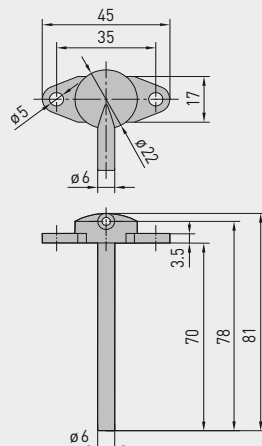
Dimensional drawing

ASD-06



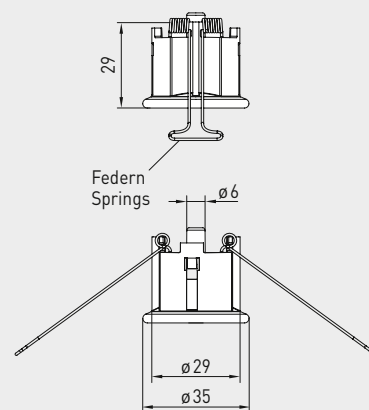
Dimensional drawing

ASD-07



Dimensional drawing

DAL-01

ASD-06
Connection setASD-07
Connection nippleDAL-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® 212x-SD

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

Pressure range (Ranges adjustable)	Type / WG01B (3-wire connection)	Output (switchable)	Display	Item No. (with snap-on lid)
max. - 1000...+ 1000 Pa	Type 2121-SD			IP 54
0... 100 Pa / - 100...+ 100 Pa	PREMASGARD 2121-SD	0-10V / 4...20mA		1301-11B7-0010-000
0... 300 Pa / - 300...+ 300 Pa	PREMASGARD 2121-SD LCD	0-10V / 4...20mA	■	1301-11B7-2010-000
0... 500 Pa / - 500...+ 500 Pa				
0... 1000 Pa / - 1000...+ 1000 Pa				
max. - 5000...+ 5000 Pa	Type 2125-SD			IP 54
0... 1000 Pa / - 1000...+ 1000 Pa	PREMASGARD 2125-SD	0-10V / 4...20mA		1301-11B7-0050-000
0... 2000 Pa / - 2000...+ 2000 Pa	PREMASGARD 2125-SD LCD	0-10V / 4...20mA	■	1301-11B7-2050-000
0... 3000 Pa / - 3000...+ 3000 Pa				
0... 5000 Pa / - 5000...+ 5000 Pa				
max. - 100...+ 100 Pa	Type 2120-SD			IP 54
0... 50 Pa / - 50...+ 50 Pa	PREMASGARD 2120-SD	0-10V / 4...20mA		1301-11B7-0110-000
0... 100 Pa / - 100...+ 100 Pa	PREMASGARD 2120-SD LCD	0-10V / 4...20mA	■	1301-11B7-2110-000
Multi-range switching: The pressure ranges depend on the device type and can be set via DIP switches.				
Output / Connection: 0-10V or 4...20mA (selectable via DIP switches) / 3-wire connection				
Optional: Cable connection with M12 connector according to DIN EN 61076-2-101 (on request)				



S+S REGELTECHNIK

PREMASGARD® 211x/212x/212x-SD

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



PREMASGARD® 211x Pressure, differential pressure and volume flow measuring transducers, *Premium* (Pressure connectors on the top side)

Pressure range (Ranges adjustable)	Type / WG01 (3-wire connection)	Output (switchable)	Display	Item No. (with quick-locking screws)
max. - 1000...+ 1000 Pa	Type 2111			IP 67
0... 100 Pa / - 100...+ 100 Pa	PREMASGARD 2111	0-10 V / 4...20 mA		1301-1197-0010-000
0... 300 Pa / - 300...+ 300 Pa	PREMASGARD 2111 LCD	0-10 V / 4...20 mA	■	1301-1197-2010-000
0... 500 Pa / - 500...+ 500 Pa				
0... 1000 Pa / - 1000...+ 1000 Pa				
max. - 5000...+ 5000 Pa	Type 2115			IP 67
0... 1000 Pa / - 1000...+ 1000 Pa	PREMASGARD 2115	0-10 V / 4...20 mA		1301-1197-0050-000
0... 2000 Pa / - 2000...+ 2000 Pa	PREMASGARD 2115 LCD	0-10 V / 4...20 mA	■	1301-1197-2050-000
0... 3000 Pa / - 3000...+ 3000 Pa				
0... 5000 Pa / - 5000...+ 5000 Pa				
max. - 10000...+ 10000 Pa	Type 2116			IP 67
0... 4000 Pa / - 4000...+ 4000 Pa	PREMASGARD 2116	0-10 V / 4...20 mA		1301-1197-0060-000
0... 6000 Pa / - 6000...+ 6000 Pa	PREMASGARD 2116 LCD	0-10 V / 4...20 mA	■	1301-1197-2060-000
0... 8000 Pa / - 8000...+ 8000 Pa				
0... 10000 Pa / - 10000...+ 10000 Pa				
max. - 100...+ 100 Pa	Type 2110			IP 67
0... 50 Pa / - 50...+ 50 Pa	PREMASGARD 2110	0-10 V / 4...20 mA		1301-1197-0110-000
0... 100 Pa / - 100...+ 100 Pa	PREMASGARD 2110 LCD	0-10 V / 4...20 mA	■	1301-1197-2110-000
Multi-range switching: The pressure ranges depend on the device type and can be set via DIP switches.				
Output / Connection: 0-10 V or 4...20 mA (selectable via DIP switches) / 3-wire connection				
Optional: Cable connection with M12 connector according to DIN EN 61076-2-101 (on request)				

PREMASGARD® 212x Pressure, differential pressure and volume flow measuring transducers, *Premium* (Pressure connectors on the bottom side)

Pressure range (Ranges adjustable)	Type / WG01 (3-wire connection)	Output (switchable)	Display	Item No. (with quick-locking screws)
max. - 1000...+ 1000 Pa	Type 2121			IP 67
0... 100 Pa / - 100...+ 100 Pa	PREMASGARD 2121	0-10 V / 4...20 mA		1301-11A7-0010-000
0... 300 Pa / - 300...+ 300 Pa	PREMASGARD 2121 LCD	0-10 V / 4...20 mA	■	1301-11A7-2010-000
0... 500 Pa / - 500...+ 500 Pa				
0... 1000 Pa / - 1000...+ 1000 Pa				
max. - 5000...+ 5000 Pa	Type 2125			IP 67
0... 1000 Pa / - 1000...+ 1000 Pa	PREMASGARD 2125	0-10 V / 4...20 mA		1301-11A7-0050-000
0... 2000 Pa / - 2000...+ 2000 Pa	PREMASGARD 2125 LCD	0-10 V / 4...20 mA	■	1301-11A7-2050-000
0... 3000 Pa / - 3000...+ 3000 Pa				
0... 5000 Pa / - 5000...+ 5000 Pa				
max. - 10000...+ 10000 Pa	Type 2126			IP 67
0... 4000 Pa / - 4000...+ 4000 Pa	PREMASGARD 2126	0-10 V / 4...20 mA		1301-11A7-0060-000
0... 6000 Pa / - 6000...+ 6000 Pa	PREMASGARD 2126 LCD	0-10 V / 4...20 mA	■	1301-11A7-2060-000
0... 8000 Pa / - 8000...+ 8000 Pa				
0... 10000 Pa / - 10000...+ 10000 Pa				
max. - 100...+ 100 Pa	Type 2120			IP 67
0... 50 Pa / - 50...+ 50 Pa	PREMASGARD 2120	0-10 V / 4...20 mA		1301-11A7-0110-000
0... 100 Pa / - 100...+ 100 Pa	PREMASGARD 2120 LCD	0-10 V / 4...20 mA	■	1301-11A7-2110-000
Multi-range switching: The pressure ranges depend on the device type and can be set via DIP switches.				
Output / Connection: 0-10 V or 4...20 mA (selectable via DIP switches) / 3-wire connection				
Optional: Cable connection with M12 connector according to DIN EN 61076-2-101 (on request)				

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:	$R_a \text{ (Ohm)} = (U_b - 14 \text{ V}) / 0.02 \text{ A}$
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

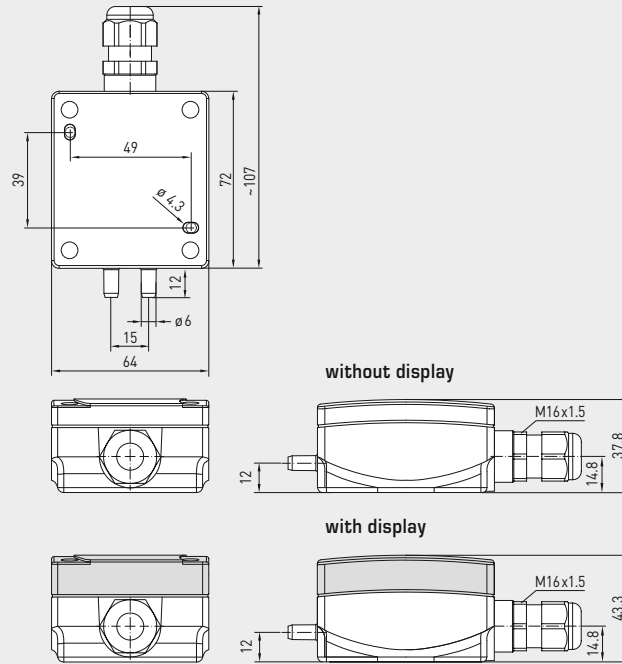
PREMASGARD® 111x/112x/112x-SD

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



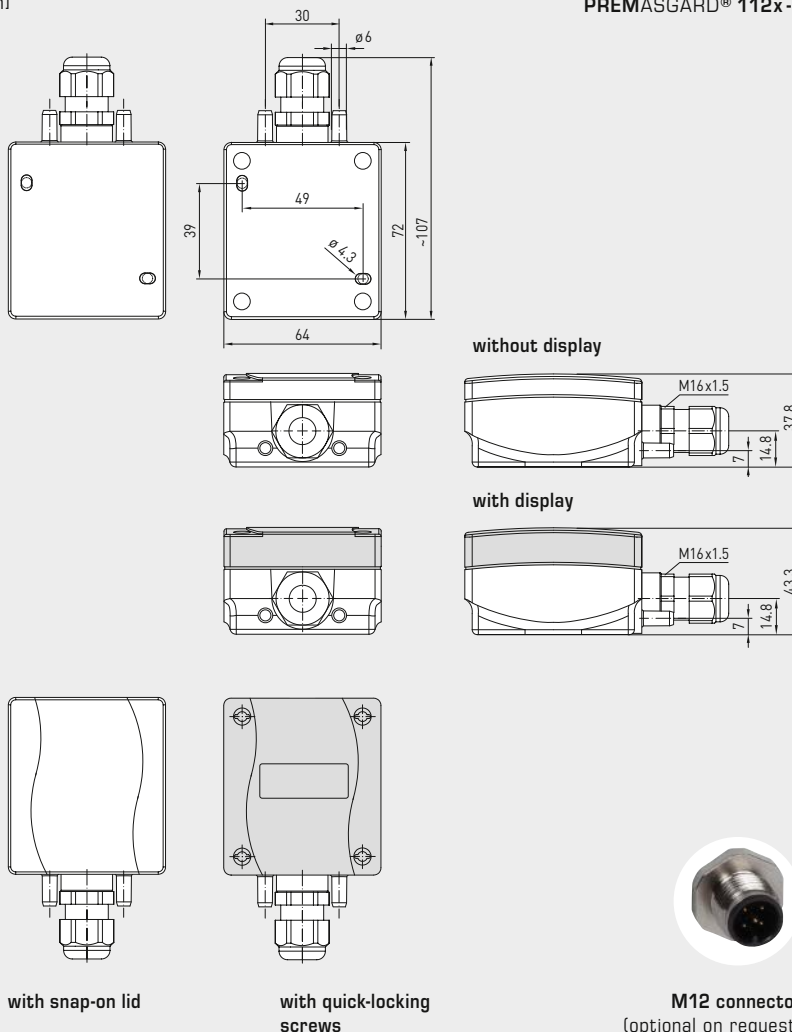
PREMASGARD® 111x

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

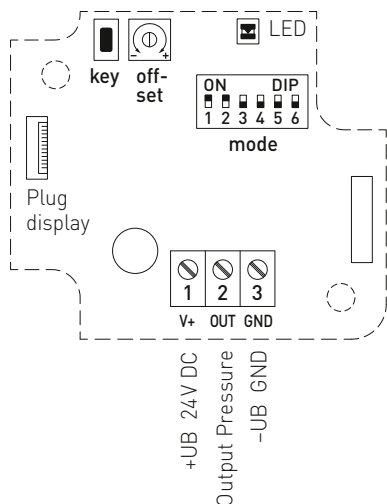
1 variant
with 2-wire
connection



S+S REGELTECHNIK

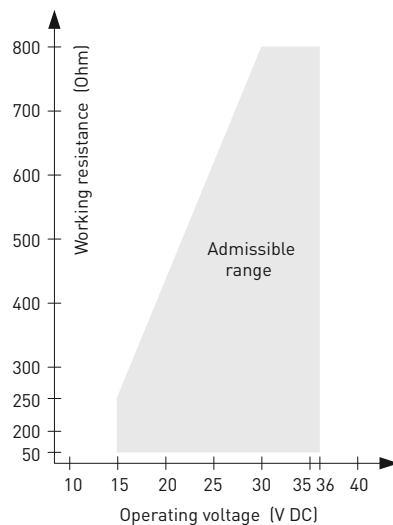
Schematic diagram
(I2W)

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



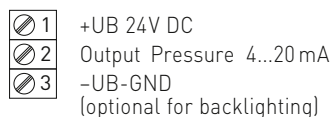
Load resistance
diagram
(I2W)

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

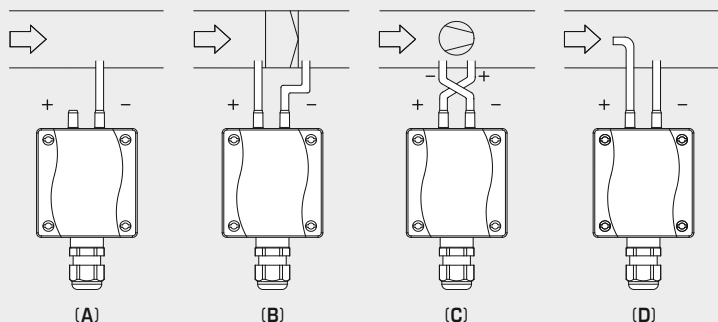
PREMASGARD® 111x/112x/112x-SD

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



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

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

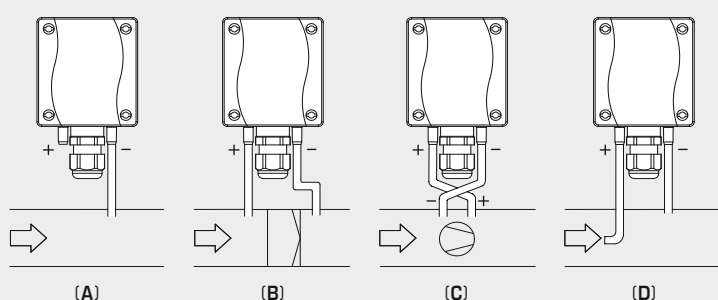
V = Volume flow

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

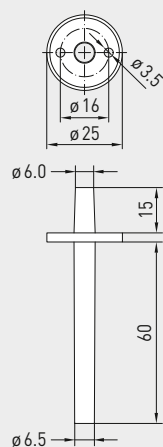
1 variant
with 2-wire
connection



S+S REGELTECHNIK

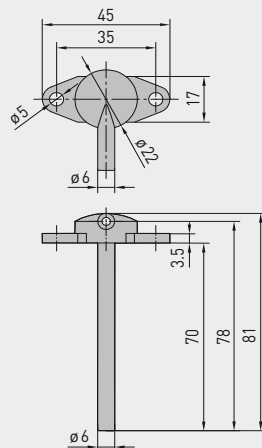
Dimensional drawing

ASD-06



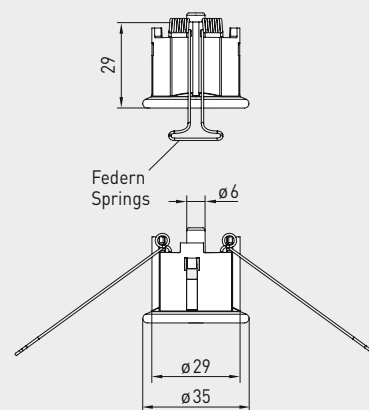
Dimensional drawing

ASD-07



Dimensional drawing

DAL-01

ASD-06
Connection setASD-07
Connection nippleDAL-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, <i>Premium</i> (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, <i>Premium</i> (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)				

**Pressure and differential pressure measuring transducers,
including connection set, adjustable, calibratable,
with multi-range switching and active output**

The calibratable pressure sensors **PREMASGARD® 711x** (series) with eight switchable measuring ranges (eight devices in one), housing made from impact-resistant plastic, optionally with/without display, with cable gland or M12 connector according to DIN EN 61076-2-101 and pressure connection nozzles (quick connect optional) are used to measure positive, negative or differential pressures in air. The piezoresistive measuring element is temperature-compensated and guarantees a high degree of reliability and accuracy.

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 filter monitoring and 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.

The pressure sensor has a button for manual zero point calibration (automatic zero point calibration optional/standard for 25 Pa) and an offset potentiometer for final value correction. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible. The delivery includes the connection set **ASD-06** (2 m connection hose, two pressure port nipples, screws).

PREMASGARD® 711x
with cable gland



PREMASGARD® 711x-Q
with M12 connector



Pressure port
for pressure hose
(as standard)

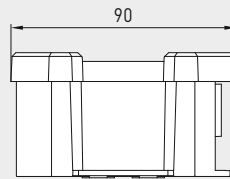
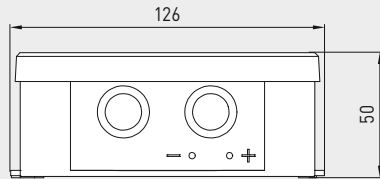


TECHNICAL DATA

Power supply:	24 V AC ($\pm 10\%$) for 3-wire I and U variant, 15...36 V DC for 2-wire I variant, depending on working resistance, residual ripple stabilised $\pm 0.3\text{ V}$
Working resistance:	R_a (Ohm) = 25 ... 450 Ohm for 3-wire I variant, R_a (Ohm) = $(U_b - 14\text{ V}) / 0.02\text{ A}$ for 2-wire I variant, see working resistance diagram
Load resistance:	$R_L > 15\text{ kOhm}$ for U variant
Power consumption:	$< 2\text{ W}$ / 24 V DC, $< 4.4\text{ VA}$ / 24 V AC
Measuring ranges:	multi-range switching with 8 switchable measuring ranges (see table)
Type of pressure:	differential pressure
Pressure connection:	with connection nozzle for pressure hose $\varnothing 6\text{ mm}$, optionally with quick connect made from stainless steel for PVC fabric pressure hose $\varnothing 6\text{ mm}$ (external diameter)
Medium:	clean air and non-aggressive, non-combustible gases
Media temperature:	$-20\text{...}+50\text{ }^\circ\text{C}$ (temperature-compensated $0\text{...}+50\text{ }^\circ\text{C}$)
Accuracy:	Type 7112 (25 Pa): typically $\pm 1\text{ Pa}$ Type 7110 (100 Pa): typically $\pm 3\text{ Pa}$ Type 7111 (1000 Pa): typically $\pm 10\text{ Pa}$ Type 7115 (5000 Pa): typically $\pm 35\text{ Pa}$ compared to the calibrated reference device
Sum of linearity+hysteresis:	$< \pm 1\%$ of final value $\pm 2\%$ of final value for pressure ranges $< \pm 250\text{ Pa}$
Temp. drift values:	$\pm 0.1\%$ / $^\circ\text{C}$ $\pm 0.3\%$ / $^\circ\text{C}$ for pressure ranges $< 250\text{ Pa}$
Zero point offset:	$< \pm 0.7\%$ of final value $\pm 1.4\%$ of final value for pressure ranges $< 250\text{ Pa}$
Positive/negative pressure:	$\pm 50\text{ kPa}$
Signal filtering:	switchable 1 s / 10 s (via DIP switches)
Output:	0 -10 V or 4...20 mA
Connection type:	2- or 3-wire connection
Electrical connection:	0.2 - 1.5 mm ² , via push-in terminals
Cable connection:	Cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) or M12 connector (male, 5-pin, A-code) according to DIN EN 61076-2-101
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), cover for display is transparent!
Housing dimensions:	126 x 90 x 50 mm (Tyr 2)
Air humidity:	$< 95\%$ RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529) in the built-in state
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Equipment:	Display with illumination , three-line, cutout approx. 70 x 40 mm (W x H), to display the ACTUAL pressure as well as the automatic zero point calibration
ACCESSORIES	see table

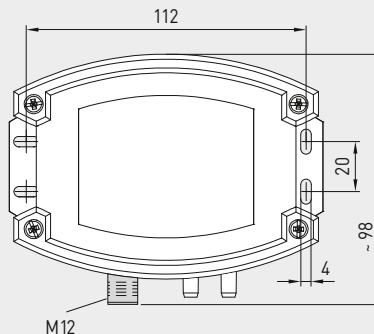
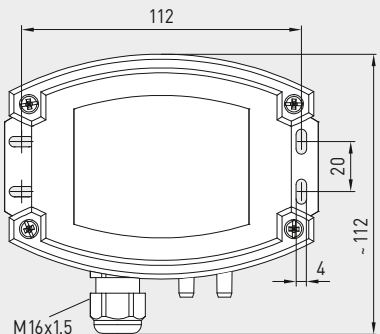
Dimensional drawing
[mm]

PREMASGARD® 711x



Housing with
cable gland
equipped as standard with
pressure port **nozzles**

Housing with
M12 connector
equipped as standard with
pressure port **nozzles**



Pressure port
for pressure hose
(as standard)



M12 connector
(male)

PREMASGARD® 711x
with cable gland
and display



PREMASGARD® 711x-Q
with M12 connector
and display

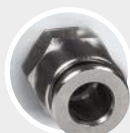
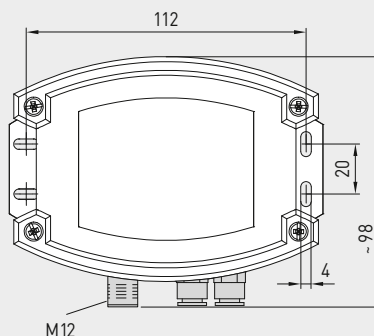
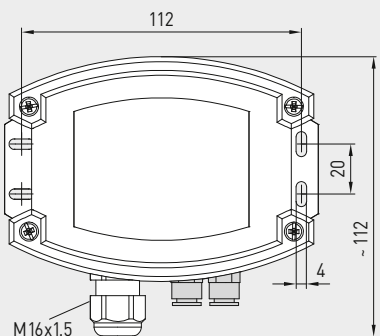


Dimensional drawing
[mm]

PREMASGARD® 711x

Housing with
cable gland
optional on request with
quick connect

Housing with
M12 connector
optional on request with
quick connect



Pressure port for
PVC/fabric pressure hose
(optional)



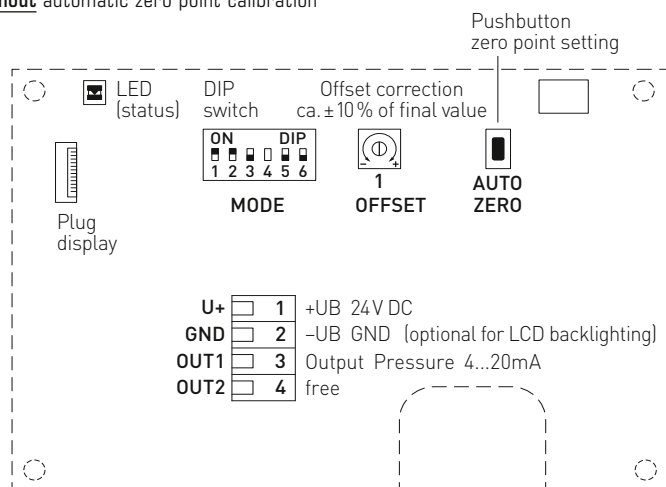
M12 connector
(male)

Pressure port for
PVC/fabric pressure hose
(optional)

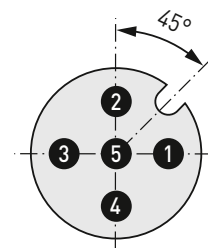


Pressure and differential pressure measuring transducers,
including connection set, adjustable, calibratable,
with multi-range switching and active output

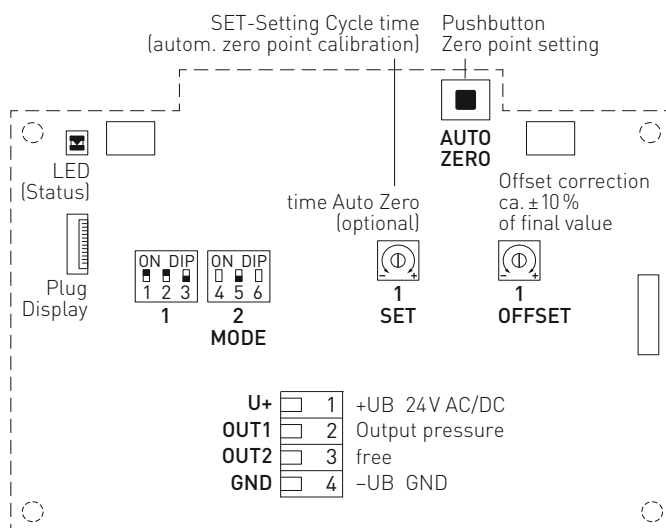
S+S REGELTECHNIK

2-wire connection (I2W)**without** automatic zero point calibration**PREMASGARD® 711x-I****2-wire connection (I2W)**

Pin assignment (M12)

PREMASGARD® 711x-I

- ① +UB 15...36V DC
- ② Output pressure 4...20mA
- ③ free
- ④ -UB GND (LCD backlighting)
- ⑤ Shield

3-wire connection**PREMASGARD® 711x-I
PREMASGARD® 711x-U****3-wire connection**

Pin assignment (M12)

PREMASGARD® 711x-I

- ① +UB 24V AC
- ② Output pressure 4...20mA
- ③ free
- ④ -UB GND
- ⑤ Shield

3-wire connection

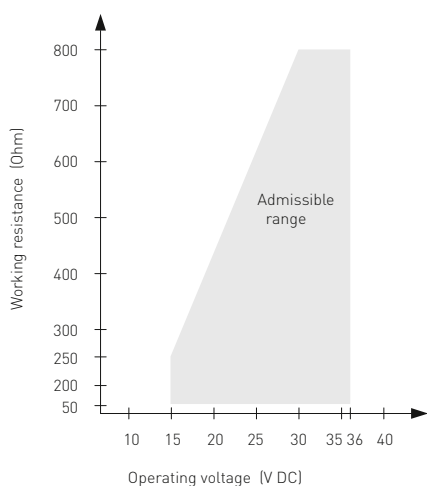
Pin assignment (M12)

PREMASGARD® 711x-U

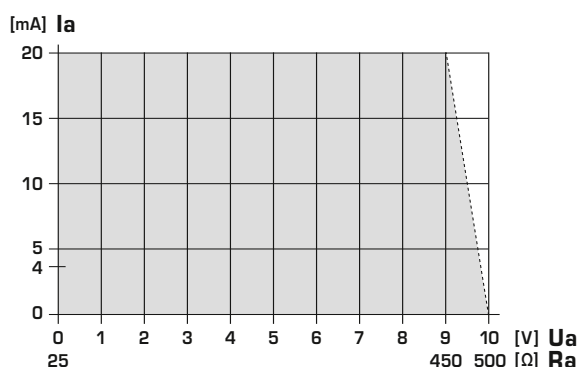
- ① +UB 24V AC
- ② Output pressure 0-10V
- ③ free
- ④ -UB GND
- ⑤ Shield

2-wire connection (I2W)

Load resistance diagram

PREMASGARD® 711x-I**3-wire connection**

Dependence of output voltage on output current

PREMASGARD® 7112-I



S+S REGELTECHNIK

PREMASGARD® 711x

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

PREMASGARD® 711x-Q
with display,
hinged



Pressure range (selectable) – max. measuring range (default) is depending to the type of device								DIP 1	DIP 2
0...25 Pa	0...50 Pa	0...100 Pa	0...1000 Pa	-25...+25 Pa	-50...+50 Pa	-100...+100 Pa	-1000...+1000 Pa	OFF	OFF
–	–	0...300 Pa	0...2000 Pa	–	–	-300...+300 Pa	-2000...+2000 Pa	ON	OFF
–	–	0...500 Pa	0...3000 Pa	–	–	-500...+500 Pa	-3000...+3000 Pa	OFF	ON
0...25 Pa	0...100 Pa	0...1000 Pa	0...5000 Pa	-25...+25 Pa	-100...+100 Pa	-1000...+1000 Pa	-5000...+5000 Pa	ON	ON

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

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

DIP switches 4 and 6
are not assigned!

Display with option
automatic zero point calibration



Standard
Actual pressure (in Pa)
Calibration interval (arrows)



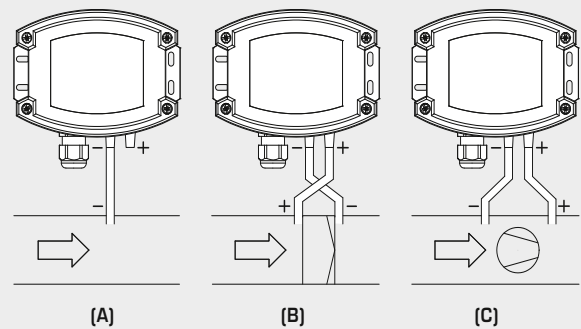
**Zero point calibration
active**
Remaining calibration time
(in seconds)



**Adjustment of
zero point calibration**
Cycle time
(15 min to 24 hours)
adjustable by potentiometer.

Mounting diagram

PREMASGARD® 711x



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:

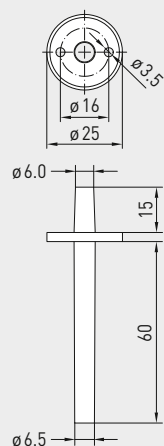
P1 (+) connected downstream of ventilator
P2 (-) connected upstream of ventilator

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

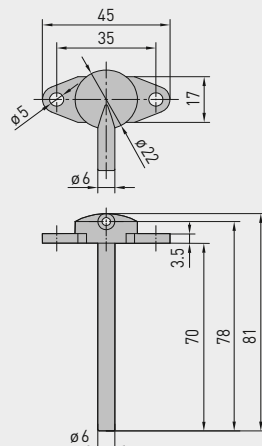
Pressure and differential pressure measuring transducers,
including connection set, adjustable, calibratable,
with multi-range switching and active output

Dimensional drawing
[mm]

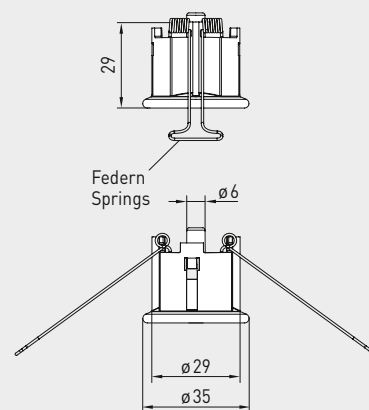
ASD-06

Dimensional drawing
[mm]

ASD-07

Dimensional drawing
[mm]

DAL-01

ASD-06
Connection setASD-07
Connection nippleDAL-01
Pressure outletWS-03
Weather and sun protection hood
(optional)Pressure port
for pressure hose
(as standard)Pressure port for
PVC/fabric pressure hose
(optional)

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, 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-03	Weather and sun protection hood, 200 x 180 x 150 mm, stainless steel V2A (1.4301)	7100-0040-6000-000

For further information, see chapter Accessories!



S+S REGELTECHNIK

PREMASGARD® 711x

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

PREMASGARD® 711x-Q
with M12 connector



PREMASGARD® 711x
with cable gland



PREMASGARD® 711x		Pressure and differential pressure measuring transducers, <i>Deluxe</i>			
Pressure range (adjustable)	Type / WG02	Connection 2- or 3-wire	Output	Display ● = Q	Item No.
max. - 1000...+ 1000 Pa	Type 7111				
0... 100 Pa / - 100... + 100 Pa	PREMASGARD 7111-U	3	0-10 V		1301-7111-0010-200
0... 300 Pa / - 300... + 300 Pa	PREMASGARD 7111-U LCD	3	0-10 V	■	1301-7111-4010-200
0... 500 Pa / - 500... + 500 Pa	PREMASGARD 7111-I	2	4...20 mA		1301-7112-0010-10L
0... 1000 Pa / - 1000... + 1000 Pa	PREMASGARD 7111-I LCD	2(3)	4...20 mA	■	1301-7112-4010-10L
	PREMASGARD 7111-U Q	3	0-10 V	●	2004-6131-1100-001
	PREMASGARD 7111-U Q LCD	3	0-10 V	● ■	2004-6132-1100-001
	PREMASGARD 7111-I Q	2	4...20 mA	●	2004-6131-2100-002
	PREMASGARD 7111-I Q LCD	2(3)	4...20 mA	● ■	2004-6132-2100-002
max. - 5000...+ 5000 Pa	Type 7115				
0... 1000 Pa / - 1000... + 1000 Pa	PREMASGARD 7115-U	3	0-10 V		1301-7111-0050-200
0... 2000 Pa / - 2000... + 2000 Pa	PREMASGARD 7115-U LCD	3	0-10 V	■	1301-7111-4050-200
0... 3000 Pa / - 3000... + 3000 Pa	PREMASGARD 7115-I	2	4...20 mA		1301-7112-0050-10L
0... 5000 Pa / - 5000... + 5000 Pa	PREMASGARD 7115-I LCD	2(3)	4...20 mA	■	1301-7112-4050-10L
	PREMASGARD 7115-U Q	3	0-10 V	●	2004-6131-1100-011
	PREMASGARD 7115-U Q LCD	3	0-10 V	● ■	2004-6132-1100-021
	PREMASGARD 7115-I Q	2	4...20 mA	●	2004-6131-2100-012
	PREMASGARD 7115-I Q LCD	2(3)	4...20 mA	● ■	2004-6132-2100-012
max. - 100...+ 100 Pa	Type 7110				
0... +50 Pa / -50... +50 Pa	PREMASGARD 7110-U	3	0-10 V		1301-7111-0110-200
0...+100 Pa / -100...+100 Pa	PREMASGARD 7110-U LCD	3	0-10 V	■	1301-7111-4110-200
	PREMASGARD 7110-I	2	4...20 mA		1301-7112-0110-10L
	PREMASGARD 7110-I LCD	2(3)	4...20 mA	■	1301-7112-4110-10L
	PREMASGARD 7110-U Q	3	0-10 V	●	2004-6131-1100-021
	PREMASGARD 7110-U Q LCD	3	0-10 V	● ■	2004-6132-1100-031
	PREMASGARD 7110-I Q	2	4...20 mA	●	2004-6131-2100-022
	PREMASGARD 7110-I Q LCD	2(3)	4...20 mA	● ■	2004-6132-2100-022
max. - 25...+ 25 Pa	Type 7112				
0... +25 Pa / -25... +25 Pa	PREMASGARD 7112-U	3	0-10 V		1301-7111-0370-200
	PREMASGARD 7112-U LCD	3	0-10 V	■	1301-7111-4370-200
	PREMASGARD 7112-I	3	4...20 mA		1301-7112-0370-200
	PREMASGARD 7112-I LCD	3	4...20 mA	■	1301-7112-4370-200
	PREMASGARD 7112-U Q	3	0-10 V	●	2004-6131-1100-031
	PREMASGARD 7112-U Q LCD	3	0-10 V	● ■	2004-6132-1100-011
	PREMASGARD 7112-I Q	3	4...20 mA	●	2004-6131-3100-001
	PREMASGARD 7112-I Q LCD	3	4...20 mA	● ■	2004-6132-3100-011
2-wire connection:	LCD backlight inactive – activation via PIN 'GND' (I2W)				
Housing variant "Q":	Cable connection with M12 connector (male, 5-pin , A-code)				
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.				
Extra charge:	other special measuring ranges up to max. 5000 Pa with optional automatic zero point calibration (3-wire connection) with optional quick connect for PVC fabric pressure hose Ø 6 mm				

**Pressure and differential pressure measuring transducers,
adjustable, calibratable,
with multi-range switching and active output**

The calibratable pressure sensors **PREMASGARD® 711x-VA** (series) with eight switchable measuring ranges (eight devices in one), **stainless steel V4A** housing, optionally with /without display, with cable gland or M12 connector according to DIN EN 61076-2-101 and pressure port using quick connect (pipe fitting optional) are used to measure positive, negative or differential pressures in air. The piezoresistive measuring element is temperature-compensated and guarantees a high degree of reliability and accuracy.

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 filter monitoring and 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.

The pressure sensor has a button for manual zero point calibration (automatic zero point calibration optional/standard for 25 Pa) and an offset potentiometer for final value correction. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

PREMASGARD® 711x-VA
with cable gland



PREMASGARD® 711x-VAQ
with M12 connector



Pressure port for
PVC / fabric pressure hose
(as standard)

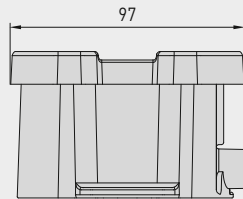
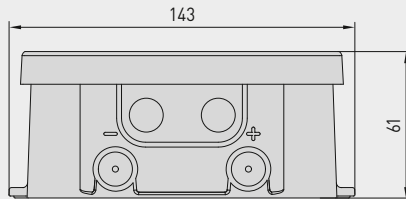


TECHNICAL DATA

Power supply:	24 V AC ($\pm 10\%$) for 3-wire I and U variant, 15...36 V DC for 2-wire I variant, depending on working resistance, residual ripple stabilised ± 0.3 V
Working resistance:	R_a (Ohm) = 25...450 Ohm for 3-wire I variant, R_a (Ohm) = $(U_b - 14 \text{ V}) / 0.02 \text{ A}$ for 2-wire I variant, see working resistance diagram
Load resistance:	$R_L > 15 \text{ kOhm}$ for U variant
Power consumption:	$< 2 \text{ W}$ / 24 V DC, $< 4.4 \text{ VA}$ / 24 V AC
Measuring ranges:	Multi-range switching with 8 switchable measuring ranges (see table)
Type of pressure:	differential pressure
Pressure port:	with quick connect made from stainless steel for PVC/fabric pressure hose $\varnothing 6 \text{ mm}$ (external diameter) optionally with pipe fitting made from stainless steel V2A (1.4305) for pressure lines $\varnothing 6 \text{ mm}$
Medium:	clean air and non-aggressive, non-combustible gases
Media temperature:	$-20...+50^\circ\text{C}$ (temperature-compensated $0...+50^\circ\text{C}$)
Accuracy:	Type 7112 (25 Pa): typically $\pm 1 \text{ Pa}$ Type 7110 (100 Pa): typically $\pm 3 \text{ Pa}$ Type 7111 (1000 Pa): typically $\pm 10 \text{ Pa}$ Type 7115 (5000 Pa): typically $\pm 35 \text{ Pa}$ compared to the calibrated reference device
Sum of linearity+hysteresis:	$< \pm 1\%$ of final value $\pm 2\%$ of final value for pressure ranges $< \pm 250 \text{ Pa}$
Temp. drift values:	$\pm 0.1\% / ^\circ\text{C}$ $\pm 0.3\% / ^\circ\text{C}$ for pressure ranges $< 250 \text{ Pa}$
Zero point offset:	$< \pm 0.7\%$ of final value $\pm 1.4\%$ of final value for pressure ranges $< 250 \text{ Pa}$
Positive/negative pressure:	$\pm 50 \text{ kPa}$
Signal filtering:	switchable 1 s / 10 s (via DIP switches)
Output:	0 -10 V or 4...20 mA
Connection type:	2- or 3-wire connection
Electrical connection:	0.2 - 1.5 mm ² , via push-in terminals
Cable connection:	Cable gland, stainless steel V2A (1.4305) (M20 x 1.5; with strain relief, exchangeable, inner diameter 6 - 12 mm) or M12 connector (male, 5-pin, A-code) according to DIN EN 61076-2-101
Housing:	stainless steel V4A (1.4571), with non-distortion cover bolting, impact-resistant, high EMI shielding, corrosion, temperature, weather- and UV-resistant
Housing dimensions:	143 x 97 x 61 mm (Tyr2E)
Air humidity:	$< 95\% \text{ RH}$, non-precipitating air
Protection class:	III (according to EN 60730)
Protection type:	IP 65 (according to EN 60529) in the built-in state Housing tested, TÜV SÜD, Report No. 713160960B (Skadi2)
Standards:	CE conformity according to EMC Directive 2014/30/EU
Equipment:	Display with illumination , three-line, cutout approx. 70 x 40 mm (W x H), to display the ACTUAL pressure as well as the automatic zero point calibration
ACCESSORIES	see table

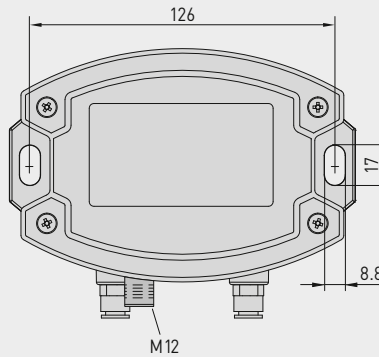
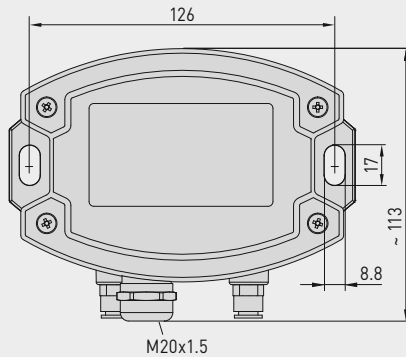
Dimensional drawing
[mm]

PREMASGARD® 711x-VA



Housing with
cable gland
equipped as standard with
quick connect
for pressure hoses

Housing with
M12 connector
equipped as standard with
quick connect
for pressure hoses



Pressure port for
PVC / fabric pressure hose
(as standard)



M12 connector
(male)

PREMASGARD® 711x-VA
with cable gland
and display



PREMASGARD® 711x-VAQ
with M12 connector
and display

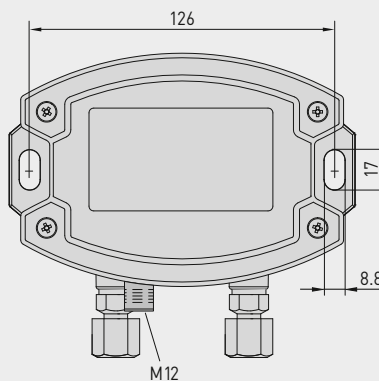
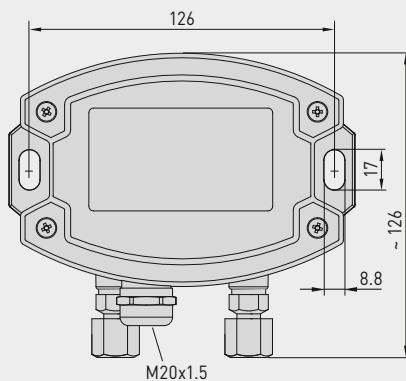


Dimensional drawing
[mm]

PREMASGARD® 711x-VA

Housing with
cable gland
optional on request
with **pipe fitting**
for pressure lines

Housing with
M12 connector
optional on request
with **pipe fitting**
for pressure lines



Pressure port
for pressure lines / pipes
(optional)

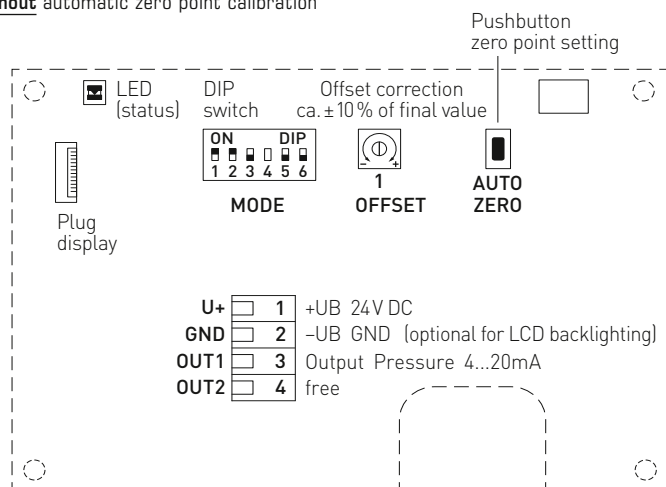


M12 connector
(male)

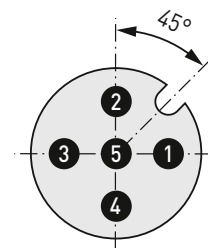
Pressure port
for pressure lines / pipes
(optional)



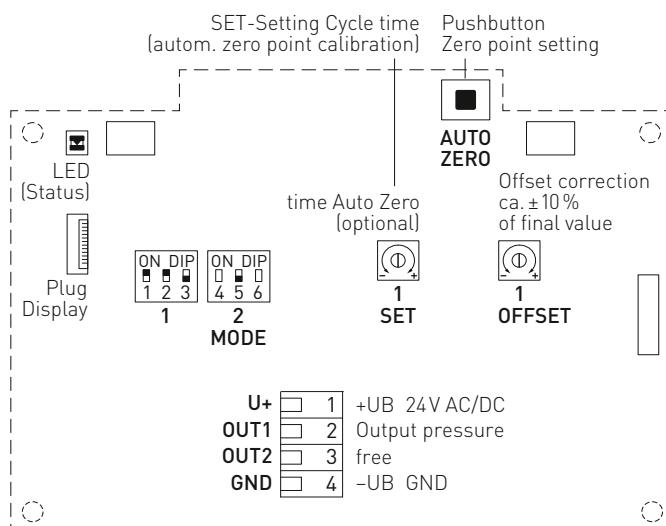
Pressure and differential pressure measuring transducers,
adjustable, calibratable,
with multi-range switching and active output

2-wire connection (I2W)**without** automatic zero point calibration**PREMASGARD® 711x-I****2-wire connection (I2W)**

Pin assignment (M12)

PREMASGARD® 711x-I

- ① +UB 15...36V DC
- ② Output pressure 4...20mA
- ③ free
- ④ -UB GND (LCD backlighting)
- ⑤ Shield

3-wire connection**PREMASGARD® 711x-I
PREMASGARD® 711x-U****3-wire connection**

Pin assignment (M12)

PREMASGARD® 711x-I

- ① +UB 24V AC
- ② Output pressure 4...20mA
- ③ free
- ④ -UB GND
- ⑤ Shield

3-wire connection

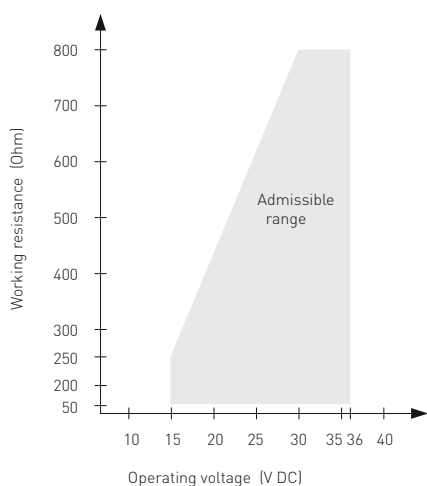
Pin assignment (M12)

PREMASGARD® 711x-U

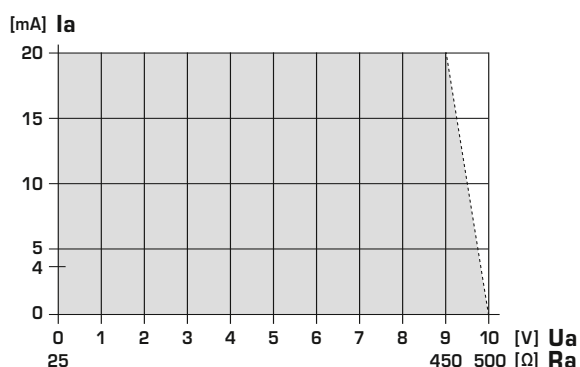
- ① +UB 24V AC
- ② Output pressure 0-10V
- ③ free
- ④ -UB GND
- ⑤ Shield

2-wire connection (I2W)

Load resistance diagram

PREMASGARD® 711x-I**3-wire connection**

Dependence of output voltage on output current

PREMASGARD® 7112-I



S+S REGELTECHNIK

PREMASGARD® 711x-VA

Pressure and differential pressure measuring transducers,
adjustable, calibratable,
with multi-range switching and active output

PREMASGARD® 711x-VAQ
with display,
hinged



Pressure range (selectable) – max. measuring range (default) is depending to the type of device								DIP 1	DIP 2
0...25 Pa	0...50 Pa	0...100 Pa	0...1000 Pa	-25...+25 Pa	-50...+50 Pa	-100...+100 Pa	-1000...+1000 Pa	OFF	OFF
–	–	0...300 Pa	0...2000 Pa	–	–	-300...+300 Pa	-2000...+2000 Pa	ON	OFF
–	–	0...500 Pa	0...3000 Pa	–	–	-500...+500 Pa	-3000...+3000 Pa	OFF	ON
0...25 Pa	0...100 Pa	0...1000 Pa	0...5000 Pa	-25...+25 Pa	-100...+100 Pa	-1000...+1000 Pa	-5000...+5000 Pa	ON	ON

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

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

DIP switches 4 and 6
are not assigned!

Display with option
automatic zero point calibration



Standard
Actual pressure (in Pa)
Calibration interval (arrows)



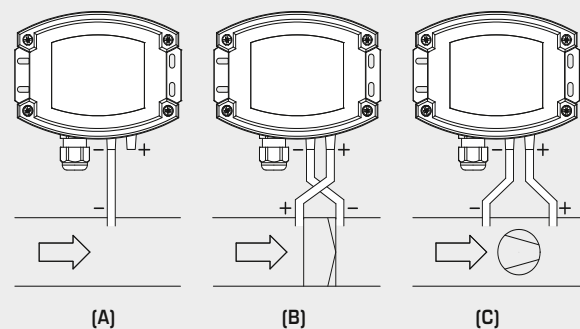
**Zero point calibration
active**
Remaining calibration time
(in seconds)



**Adjustment of
zero point calibration**
Cycle time
(15 min to 24 hours)
adjustable by potentiometer.

Mounting diagram

PREMASGARD® 711x



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.

Pressure and differential pressure measuring transducers,
adjustable, calibratable,
with multi-range switching and active output

S+S REGELTECHNIK

PREMASGARD® 711x-VAQ
with M12 connector



PREMASGARD® 711x-VAQ Pressure and differential pressure measuring transducer, *ID*
(Stainless steel housing with M12 connector)

Pressure range (adjustable)	Type / WG02I	Connection 2- or 3-wire	Output	Display ● = Q	Item No.
max. - 1000...+ 1000 Pa	Type 7111				
0... 100 Pa / - 100... + 100 Pa	PREMASGARD 7111-U VAQ	3	0-10 V	●	2004-6191-1100-001
0... 300 Pa / - 300... + 300 Pa	PREMASGARD 7111-U VAQ LCD	3	0-10 V	● ■	2004-6192-1100-001
0... 500 Pa / - 500... + 500 Pa	PREMASGARD 7111-I VAQ	2	4...20 mA	●	2004-6191-2100-002
0... 1000 Pa / -1000... + 1000 Pa	PREMASGARD 7111-I VAQ LCD	2(3)	4...20 mA	● ■	2004-6192-2100-002
max. - 5000...+ 5000 Pa	Type 7115				
0... 1000 Pa / - 1000... + 1000 Pa	PREMASGARD 7115-U VAQ	3	0-10 V	●	2004-6191-1100-011
0... 2000 Pa / - 2000... + 2000 Pa	PREMASGARD 7115-U VAQ LCD	3	0-10 V	● ■	2004-6192-1100-011
0... 3000 Pa / - 3000... + 3000 Pa	PREMASGARD 7115-I VAQ	2	4...20 mA	●	2004-6191-2100-012
0... 5000 Pa / - 5000... + 5000 Pa	PREMASGARD 7115-I VAQ LCD	2(3)	4...20 mA	● ■	2004-6192-2100-012
max. - 100...+ 100 Pa	Type 7110				
0... +50 Pa / -50... +50 Pa	PREMASGARD 7110-U VAQ	3	0-10 V	●	2004-6191-1100-021
0...+100 Pa / -100...+100 Pa	PREMASGARD 7110-U VAQ LCD	3	0-10 V	● ■	2004-6192-1100-021
	PREMASGARD 7110-I VAQ	2	4...20 mA	●	2004-6191-2100-022
	PREMASGARD 7110-I VAQ LCD	2(3)	4...20 mA	● ■	2004-6192-2100-022
max. - 25...+ 25 Pa	Type 7112				
0... +25 Pa / -25... +25 Pa	PREMASGARD 7112-U VAQ	3	0-10 V	●	2004-6191-1100-031
	PREMASGARD 7112-U VAQ LCD	3	0-10 V	● ■	2004-6192-1100-031
<i>equipped as standard with automatic zero point calibration (3-wire connection)</i>	PREMASGARD 7112-I VAQ	3	4...20 mA	●	2004-6191-3100-001
	PREMASGARD 7112-I VAQ LCD	3	4...20 mA	● ■	2004-6192-3100-001
2-wire connection:	LCD backlight inactive – activation via PIN 'GND' (I2W)				
Housing variant "Q":	Cable connection with M12 connector (male, 5-pin , A-code)				
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.				
Extra charge:	other special measuring ranges up to max. 5000 Pa with optional automatic zero point calibration (3-wire connection) with optional pipe fitting made from stainless steel V2A for pressure lines Ø 6 mm				

ACCESSORIES

xx-M12 Special accessories for M12 connector

For further information, see chapter Accessories!



S+S REGELTECHNIK

PREMASGARD® 711x-VA

Pressure and differential pressure measuring transducers,
adjustable, calibratable,
with multi-range switching and active output

PREMASGARD® 711x-VA
with cable gland



PREMASGARD® 711x-VA

Pressure and differential pressure measuring transducer, *ID*
(Stainless steel housing with cable gland)

Pressure range (adjustable)	Type / WG02I	Connection 2- or 3-wire	Output	Display	Item No.
max. - 1000...+ 1000 Pa	Type 7111				
0... 100 Pa / - 100... + 100 Pa	PREMASGARD 7111-U VA	3	0-10 V		2004-6191-1200-001
0... 300 Pa / - 300... + 300 Pa	PREMASGARD 7111-U VA LCD	3	0-10 V	■	2004-6192-1200-001
0... 500 Pa / - 500... + 500 Pa	PREMASGARD 7111-I VA	2	4...20 mA		2004-6191-2200-002
0... 1000 Pa / -1000... + 1000 Pa	PREMASGARD 7111-I VA LCD	2 (3)	4...20 mA	■	2004-6192-2200-002
max. - 5000...+ 5000 Pa	Type 7115				
0... 1000 Pa / - 1000... + 1000 Pa	PREMASGARD 7115-U VA	3	0-10 V		2004-6191-1200-011
0... 2000 Pa / -2000... +2000 Pa	PREMASGARD 7115-U VA LCD	3	0-10 V	■	2004-6192-1200-011
0... 3000 Pa / -3000... +3000 Pa	PREMASGARD 7115-I VA	2	4...20 mA		2004-6191-2200-012
0... 5000 Pa / -5000... +5000 Pa	PREMASGARD 7115-I VA LCD	2 (3)	4...20 mA	■	2004-6192-2200-012
max. - 100...+ 100 Pa	Type 7110				
0... +50 Pa / -50... +50 Pa	PREMASGARD 7110-U VA	3	0-10 V		2004-6191-1200-021
0...+100 Pa / -100...+100 Pa	PREMASGARD 7110-U VA LCD	3	0-10 V	■	2004-6192-1200-021
	PREMASGARD 7110-I VA	2	4...20 mA		2004-6191-2200-022
	PREMASGARD 7110-I VA LCD	2 (3)	4...20 mA	■	2004-6192-2200-022
max. - 25...+ 25 Pa	Type 7112				
0... +25 Pa / -25... +25 Pa	PREMASGARD 7112-U VA	3	0-10 V		2004-6191-1200-031
	PREMASGARD 7112-U VA LCD	3	0-10 V	■	2004-6192-1200-031
<i>equipped as standard with automatic zero point calibration (3-wire connection)</i>	PREMASGARD 7112-I VA	3	4...20 mA		2004-6191-3200-001
	PREMASGARD 7112-I VA LCD	3	4...20 mA	■	2004-6192-3200-001
2-wire connection:	LCD backlight inactive – activation via PIN 'GND' (I2W)				
Housing variant:	Cable connection with cable gland made from stainless steel V2A (1.4305)				
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.				
Extra charge:	other special measuring ranges up to max. 5000 Pa with optional automatic zero point calibration (3-wire connection) with optional pipe fitting made from stainless steel V2A for pressure lines Ø 6 mm				



Pressure port for
PVC / fabric pressure hose
(as standard)



Pressure port
for pressure lines / pipes
(optional)

**Dual pressure sensor (2 measuring channels),
pressure and differential pressure measuring transducer,
incl. connection set, calibratable, with multi-range switching
and active output (Automatic Output Switching)**

Patented quality product (patent no. DE 10 2015 015 941 B4)

Calibratable dual pressure sensor **PREMASGARD® 722x** (series) with 2 x 8 switchable measuring ranges, 2 automated output signals (32 devices in one), housing with pressure connection nozzle from impact-resistant plastic, optionally with/without display, with cable gland or M12 connector acc. to DIN EN 61076-2-101 for measuring overpressure, underpressure or differential pressure of the air. The pressure measuring transducer automatically detects the required output type and converts the measurands into the required standard signal of 0-10 V or 4...20 mA (**Automatic Output Switching**).

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. Media measured with this pressure measuring transducer are clean air (non-precipitating), or other gaseous, non-aggressive, non-combustible media.

Both pressure sensors with piezoresistive measuring element are temperature-compensated and guarantee a high level of reliability and accuracy. The device has a push-button for manual zero point matching as well as an offset potentiometer for correcting the final value. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible. The delivery includes a connection set **ASD-06** (2 m connection hose, two pressure connection nipples, screws).

PREMASGARD® 722x
with cable gland



PREMASGARD® 722x-Q
with M12 connector



Dual pressure connection
Housing with
cable gland



TECHNICAL DATA

Power supply:	24 V AC/DC (± 10%)
Working resistance:	R_g (ohms) = 25...450 Ohm (at I output)
Load resistance:	$R_L > 15$ kOhm (at U output)
Power consumption:	< 2 W / 24 V DC; < 4.4 VA / 24 V AC
Pressure type:	differential pressure (2 measuring channels)
Measuring ranges:	Multi-range switching with 2 x 8 switchable measuring ranges (see table)
Accuracy:	Type 722x (500 Pa): typical ± 13 Pa Type 722x (7000 Pa): typical ± 105 Pa compared to a calibrated reference device
Pressure connection:	with connection nozzle for pressure hose Ø 6 mm
Medium:	clean air and non-aggressive, non-combustible gases
Media temperature:	-20...+50 °C (temperature-compensated 0...+50 °C)
Temp. drift values:	± 0.1 % / °C final value
Zero point offset:	± 10 % measuring range
Above- / below-pressure:	± 50 kPa
Signal filtering:	switchable 1 s / 10 s (via DIP switch)
Output:	automatically 0-10 V / 4...20 mA (via Automatic Output Switching – the device detects the required output type and automatically switches to U or I output)
Switching type:	3-wire connection
electrical connection:	0.2–1.5 mm², via push-in clamp
Cable connection:	cable gland from plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) or M12 connector (male, 5-pin, A-code) according to DIN EN 61076-2-101
Housing:	plastic, UV-resistant, polyamide material, 30 % glass-globe reinforced, with quick-locking screws (slotted / Philips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!
Housing dimensions:	126 x 90 x 50 mm (Tyr 2)
Humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Safety class:	IP 65 (according to EN 60 529) in the built-in state
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Features:	Illuminated display , 3 lines, cut-out approx. 70 x 40 mm (W x H), to display the ACTUAL pressure of both channels (cyclical)
ACCESSORIES	see table



S+S REGELTECHNIK

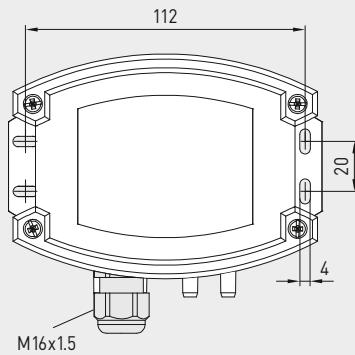
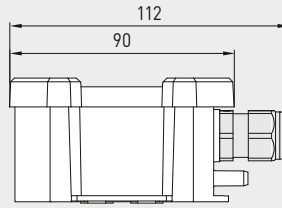
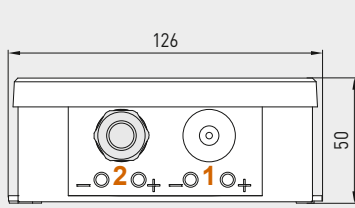
PREMASGARD® 722x

Dual pressure sensor (2 measuring channels),
pressure and differential pressure measuring transducer,
incl. connection set, calibratable, with multi-range switching
and active output (Automatic Output Switching)



Dimensional drawing
[mm]

PREMASGARD® 722x



Housing with
dual pressure connection
(2 measuring channels)
and cable gland

PREMASGARD® 722x
with cable gland
and display

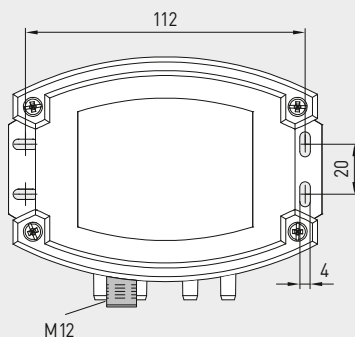
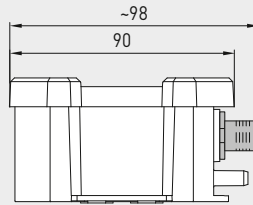
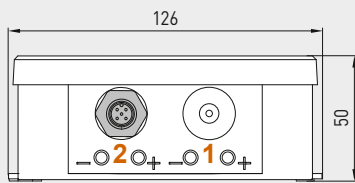


PREMASGARD® 722x-Q
with M12 connector
and display



Dimensional drawing
[mm]

PREMASGARD® 722x-Q



Housing with
dual pressure connection
(2 measuring channels)
and M12 connector
(male)



Dual pressure connection
Housing with
M12 connector



Automatic detection and switching
to standard signal 0...10V or 4...20 mA

AOS-PATENTED
AUTOMATIC OUTPUT SWITCHING

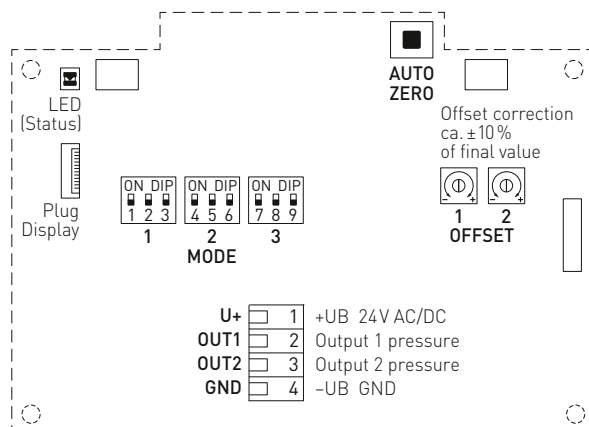
Dual pressure sensor (2 measuring channels),
pressure and differential pressure measuring transducer,
incl. connection set, calibratable, with multi-range switching
and active output (Automatic Output Switching)



S+S REGELTECHNIK

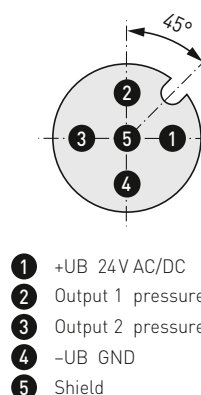
Schematic diagram

PREMASGARD® 722x



Pin assignment (M12)

PREMASGARD® 722x



Pressure range adjustable depending on type	
max. ± 500 Pa	max. ± 7000 Pa
0...+100 Pa	0...+1000 Pa
0...+200 Pa	0...+3000 Pa
0...+300 Pa	0...+5000 Pa
0...+500 Pa	0...+7000 Pa
-100...+100 Pa	-1000...+1000 Pa
-200...+200 Pa	-3000...+3000 Pa
-300...+300 Pa	-5000...+5000 Pa
-500...+500 Pa	-7000...+7000 Pa

Measuring channel 1			Measuring channel 2		
DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6
OFF	OFF	OFF	OFF	OFF	OFF
ON	OFF	OFF	ON	OFF	OFF
OFF	ON	OFF	OFF	ON	OFF
ON	ON	OFF	ON	ON	OFF
OFF	OFF	ON	OFF	OFF	ON
ON	OFF	ON	ON	OFF	ON
OFF	ON	ON	OFF	ON	ON
ON	ON	ON	ON	ON	ON

Mode Measurement signal filtering	
Selectable time interval	DIP 7
1 s	ON
10 s (default)	OFF
Note: DIP 8 and 9 are not defined!	

Displays

PREMASGARD® 722x



Default display
Measured value

Actual pressure [Pa] of both channels is shown cyclically (Interval approx. 6 seconds).
The associated measuring channel is shown on the bottom left.

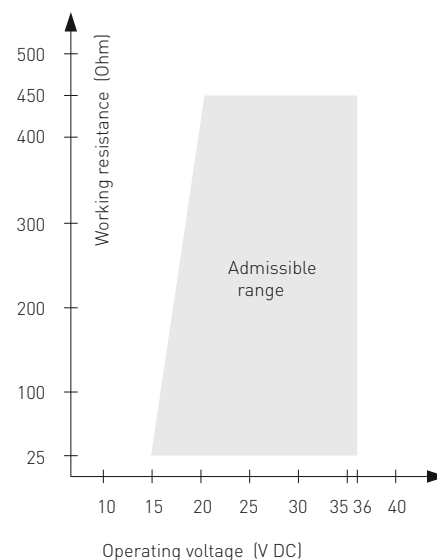


Status display
zero point calibration

Remaining calibration time is shown (in seconds).
Change from "AUTO 0" to "PROG 0" shows that matching was correct.

Working resistance diagram (4...20 mA)

PREMASGARD® 722x





S+S REGELTECHNIK

PREMASGARD® 722x

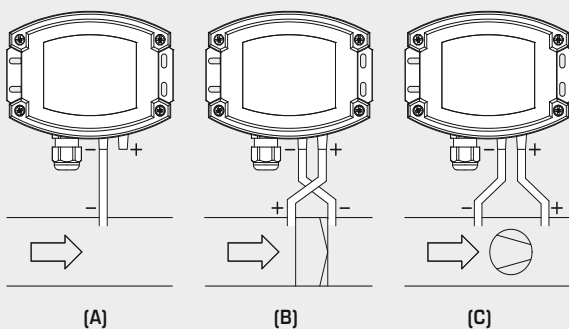
Dual pressure sensor (2 measuring channels),
pressure and differential pressure measuring transducer,
incl. connection set, calibratable, with multi-range switching
and active output (Automatic Output Switching)

PREMASGARD® 722x-Q
with display,
hinged



Mounting diagram

PREMASGARD® 722x



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:

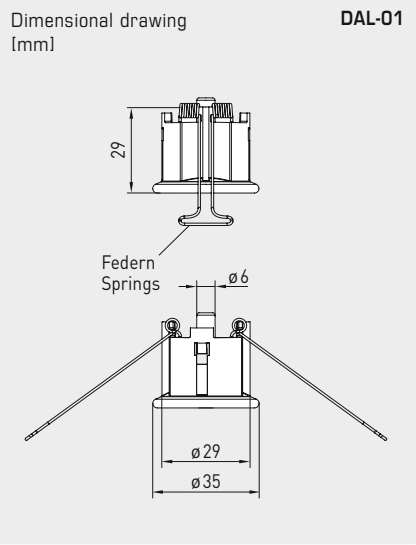
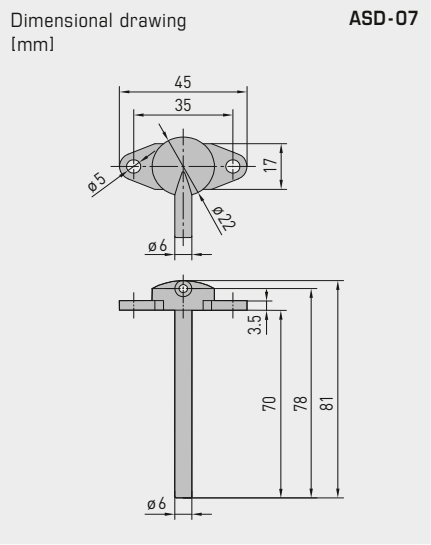
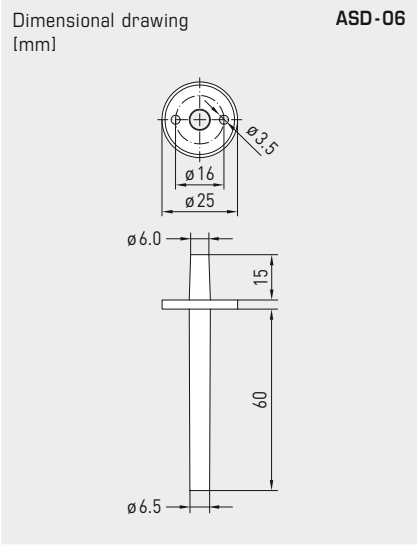
P1 (+) connected downstream of ventilator
P2 (-) connected upstream of ventilator

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	mWS
1 Pa	0,00001 bar	0,01 mbar	1 Pa	0,001 kPa	0,000101971 mWS
1 kPa	0,01 bar	10 mbar	1000 Pa	1 kPa	0,101971 mWS
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10,1971 mWS
1 mbar	0,001 bar	1 mbar	100 Pa	0,1 kPa	0,0101971 mWS
1 mWS	0,0980665 bar	98,0665 mbar	9806,65 Pa	9,80665 kPa	1 mWS

Dual pressure sensor (2 measuring channels),
pressure and differential pressure measuring transducer,
incl. connection set, calibratable, with multi-range switching
and active output (Automatic Output Switching)



ASD-06
Connection set



ASD-07
Connection nipple



DAL-01
Pressure outlet



WS-03
Weather and sun protection hood
(optional)

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, 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-03	Weather and sun protection hood , 200 x 180 x 150 mm, stainless steel V2A (1.4301)	7100-0040-6000-000
For further information, see chapter Accessories!		



S+S REGELTECHNIK

PREMASGARD® 722x

Dual pressure sensor (2 measuring channels),
pressure and differential pressure measuring transducer,
incl. connection set, calibratable, with multi-range switching
and active output (Automatic Output Switching)

PREMASGARD® 722x-Q
with M12 connector



PREMASGARD® 722x
with cable gland



PREMASGARD® 722x		Dual pressure sensor (2 measuring channels), pressure and differential pressure measuring transducer, <i>Deluxe</i>		
Pressure range (adjustable per channel)	Type / WG02	Output (automatically)	Display ● = Q	Item No.
[1] max. - 500...+ 500 Pa [2] max. - 500...+ 500 Pa Type 7225				
Channel (1) and (2):	PREMASGARD 7225	0-10 V / 4...20 mA		1301-712A-0910-200
0 ... 100 Pa / - 100 ... + 100 Pa	PREMASGARD 7225 LCD	0-10 V / 4...20 mA	■	1301-712A-4910-200
0 ... 200 Pa / - 200 ... + 200 Pa	PREMASGARD 7225 Q	0-10 V / 4...20 mA	●	2004-6331-B100-021
0 ... 300 Pa / - 300 ... + 300 Pa	PREMASGARD 7225 Q LCD	0-10 V / 4...20 mA	● ■	2004-6332-B100-021
0 ... 500 Pa / - 500 ... + 500 Pa				
[1] max. - 7000...+ 7000 Pa [2] max. - 7000...+ 7000 Pa Type 7227				
Channel (1) and (2):	PREMASGARD 7227	0-10 V / 4...20 mA		1301-712A-0950-200
0 ... 1000 Pa / - 1000 ... + 1000 Pa	PREMASGARD 7227 LCD	0-10 V / 4...20 mA	■	1301-712A-4950-200
0 ... 3000 Pa / - 3000 ... + 3000 Pa	PREMASGARD 7227 Q	0-10 V / 4...20 mA	●	2004-6331-B100-011
0 ... 5000 Pa / - 5000 ... + 5000 Pa	PREMASGARD 7227 Q LCD	0-10 V / 4...20 mA	● ■	2004-6332-B100-011
0 ... 7000 Pa / - 7000 ... + 7000 Pa				
[1] max. - 500... + 500 Pa [2] max. - 7000...+ 7000 Pa Type 7229				
Channel (1):	PREMASGARD 7229	0-10 V / 4...20 mA		1301-712A-0930-200
0 ... 100 Pa / - 100 ... + 100 Pa	PREMASGARD 7229 LCD	0-10 V / 4...20 mA	■	1301-712A-4930-200
0 ... 200 Pa / - 200 ... + 200 Pa	PREMASGARD 7229 Q	0-10 V / 4...20 mA	●	2004-6331-B100-001
0 ... 300 Pa / - 300 ... + 300 Pa	PREMASGARD 7229 Q LCD	0-10 V / 4...20 mA	● ■	2004-6332-B100-001
0 ... 500 Pa / - 500 ... + 500 Pa				
Channel (2):				
0 ... 1000 Pa / - 1000 ... + 1000 Pa				
0 ... 3000 Pa / - 3000 ... + 3000 Pa				
0 ... 5000 Pa / - 5000 ... + 5000 Pa				
0 ... 7000 Pa / - 7000 ... + 7000 Pa				
Multi-range switching:	The pressure ranges depend on the device type and for each measuring channel, they are separately adjustable via DIP switch.			
Automatic Output Switching:	Patented analogue interface (patent no. DE 10 2015 015 941 B4) Device automatically detects the required output type 0-10 V or 4...20 mA.			
Housing variant Q:	Cable connection with M12 connector (male, 5 pin, A-code)			

**Pressure and differential pressure measuring transducers/switches,
incl. connection set, with multi-range switching
and adjustable, switching and active output**

The electronic **PREMASREG® 711x** pressure sensors and switches are equipped with eight switchable measuring ranges, one switching output, one continuous output, and a display for setting the switch-point and to display the ACTUAL pressure (eight devices in one, plus differential pressure switch / differential pressure monitor, continuous pressure sensor in a single device).

The pressure sensor with a housing made from impact-resistant plastic, with cable gland or M12 connector according to DIN EN 61076-2-101 and pressure connection nozzles (quick connect optional) is used to measure positive, negative or differential pressures in clean air, with limit value switching. The piezoresistive measuring element guarantees a high degree of reliability and accuracy.

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 filter monitoring and 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.

The pressure sensor has a button for manual zero point calibration (automatic zero point calibration optional) and one offset potentiometer for setting the switching point and one for final value correction. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible. The delivery includes the connection set **ASD-06** (2 m connection hose, two pressure port nipples, screws).

TECHNICAL DATA

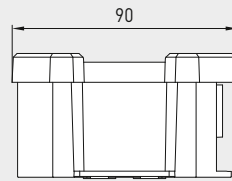
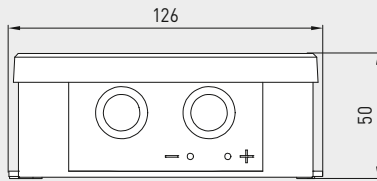
Power supply:	24 V AC / DC (± 10 %)
Load resistance:	$R_L > 15 \text{ k}\Omega$
Power consumption:	$< 2 \text{ W} / 24 \text{ V DC}; < 4.4 \text{ VA} / 24 \text{ V AC}$
Measuring ranges:	multi-range switching with 8 switchable measuring ranges (see table)
Type of pressure:	differential pressure
Pressure connection:	with connection nozzle for pressure hose $\varnothing 6 \text{ mm}$, optionally with quick connect made from stainless steel for PVC fabric pressure hose $\varnothing 6 \text{ mm}$ (external diameter)
Medium:	clean air and non-aggressive, non-combustible gases
Media temperature:	$-20 \dots +50 \text{ }^\circ\text{C}$ (temperature-compensated $0 \dots +50 \text{ }^\circ\text{C}$)
Accuracy:	Type 7111 (1000 Pa): typically $\pm 10 \text{ Pa}$ Type 7115 (5000 Pa): typically $\pm 35 \text{ Pa}$ compared to the calibrated reference device
Sum of linearity+hysteresis:	$< \pm 1 \%$ of final value
Temp. drift values:	$\pm 0.1 \%$ / $^\circ\text{C}$
Zero point offset:	$< \pm 0.7 \%$ of final value
Setting increment Δp :	1 % of pressure range (100 Pa $\Rightarrow$ 1 Pa; 5000 Pa $\Rightarrow$ 50 Pa)
Switching hysteresis:	$\pm 1 \%$ of pressure range (100 Pa $\Rightarrow$ $\pm 1 \text{ Pa}$; 5000 Pa $\Rightarrow$ $\pm 50 \text{ Pa}$)
Positive /negative pressure:	$\pm 50 \text{ kPa}$
Signal filtering:	switchable 1 s / 10 s (via DIP switches)
Output:	0 -10 V 1 changeover contact (24 V), 1 A ohmic load
Connection type:	3-wire connection
Electrical connection:	0.2 - 1.5 mm ² , via push-in terminals
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) or M12 connector (male, 12-pin, A-code) according to DIN EN 61076-2-101
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), cover for display is transparent!
Housing dimensions:	126 x 90 x 50 mm (Tyr 2)
Air humidity:	$< 95 \%$ RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529) in the built-in state
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Equipment:	display with illumination , three-line, cutout approx. 70 x 40 mm (W x H), for displaying ACTUAL pressure and/or SETPOINT pressure as well as automatic zero point calibration
ACCESSORIES	see table

Pressure port
for pressure hose
(as standard)



Dimensional drawing
[mm]

PREMASREG® 711x

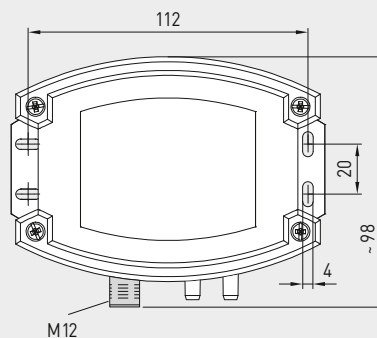
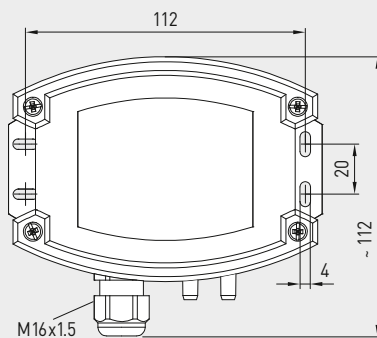


Housing with
cable gland

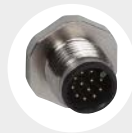
equipped as standard with
pressure port **nozzles**

Housing with
M12 connector

equipped as standard with
pressure port **nozzles**



Pressure port
for pressure hose
(as standard)



M12 connector
(male)

PREMASREG® 711x
with cable gland
and display



PREMASREG® 711x-Q
with M12 connector
and display



Dimensional drawing
[mm]

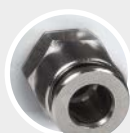
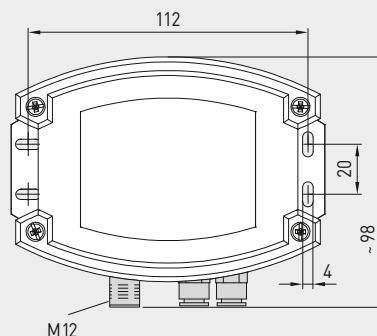
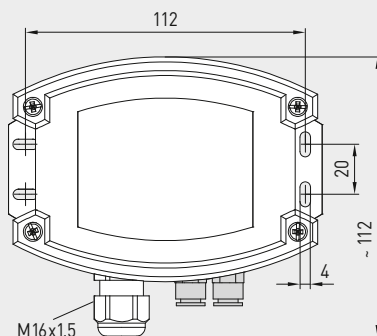
PREMASREG® 711x

Housing with
cable gland

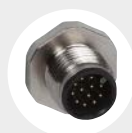
optional on request with
quick connect

Housing with
M12 connector

optional on request with
quick connect



Pressure port for
PVC/fabric pressure hose
(optional)

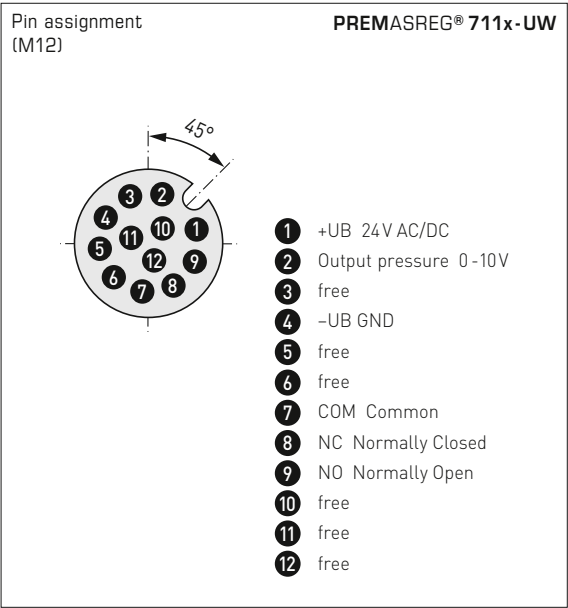
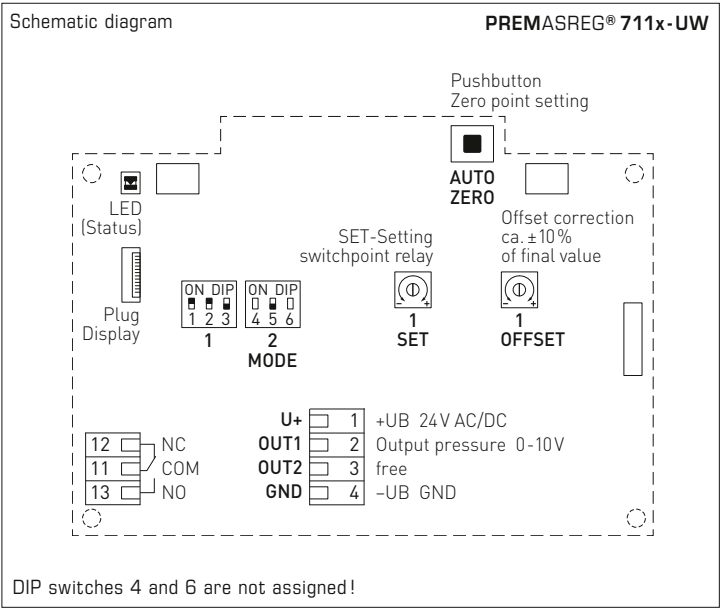


M12 connector
(male)

Pressure port for
PVC/fabric pressure hose
(optional)



Pressure and differential pressure measuring transducers/switches,
incl. connection set, with multi-range switching
and adjustable, switching and active output



Pressure range (selectable) – max. measuring range (default) is depending to the type of device				DIP 1	DIP 2
0...100 Pa	0...1000 Pa	-100...+100 Pa	-1000...+1000 Pa	OFF	OFF
0...300 Pa	0...2000 Pa	-300...+300 Pa	-2000...+2000 Pa	ON	OFF
0...500 Pa	0...3000 Pa	-500...+500 Pa	-3000...+3000 Pa	OFF	ON
0...1000 Pa	0...5000 Pa	-1000...+1000 Pa	-5000...+5000 Pa	ON	ON

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

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

Display with option
automatic zero point calibration



Zero point calibration
active

Remaining calibration time
(in seconds)

Cycle time (approx. 90 minutes)
is fixed in the factory.



S+S REGELTECHNIK

PREMASREG® 711x

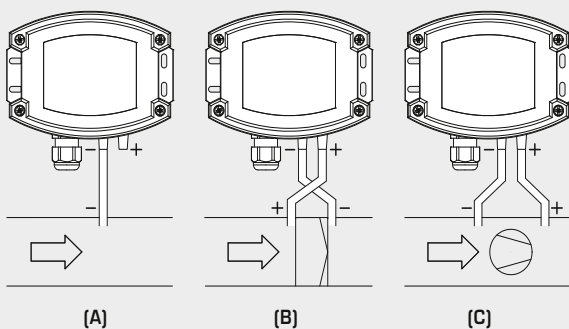
Pressure and differential pressure measuring transducers/switches,
incl. connection set, with multi-range switching
and adjustable, switching and active output

PREMASREG® 711x-Q
with display,
hinged



Mounting diagram

PREMASREG® 711x



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.

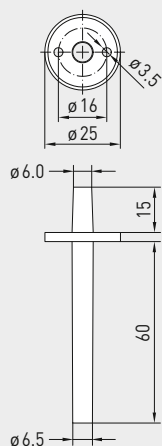
Conversion table for pressure values:

Unit =	bar	mbar	Pa	kPa	mWS
1 Pa	0,00001 bar	0,01 mbar	1 Pa	0,001 kPa	0,000101971 mWS
1 kPa	0,01 bar	10 mbar	1000 Pa	1 kPa	0,101971 mWS
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10,1971 mWS
1 mbar	0,001 bar	1 mbar	100 Pa	0,1 kPa	0,0101971 mWS
1 mWS	0,0980665 bar	98,0665 mbar	9806,65 Pa	9,80665 kPa	1 mWS

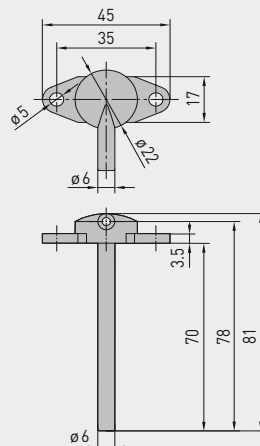
Pressure and differential pressure measuring transducers/switches,
incl. connection set, with multi-range switching
and adjustable, switching and active output

Dimensional drawing
[mm]

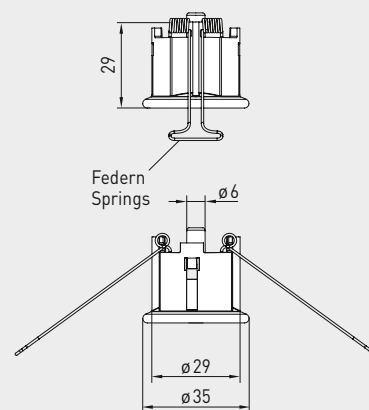
ASD-06

Dimensional drawing
[mm]

ASD-07

Dimensional drawing
[mm]

DAL-01

ASD-06
Connection setASD-07
Connection nippleDAL-01
Pressure outletWS-03
Weather and sun protection hood
(optional)Pressure port
for pressure hose
(as standard)Pressure port for
PVC/fabric pressure hose
(optional)

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, 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-03	Weather and sun protection hood, 200 x 180 x 150 mm, stainless steel V2A (1.4301)	7100-0040-6000-000

For further information, see chapter Accessories!



S+S REGELTECHNIK

PREMASREG® 711x

Pressure and differential pressure measuring transducers/switches,
incl. connection set, with multi-range switching
and adjustable, switching and active output



PREMASREG® 711x-Q
with M12 connector



PREMASREG® 711x
with cable gland



PREMASREG® 711x				
Pressure and differential pressure measuring transducers/switches, <i>Deluxe</i> (with cable gland or M12 connector)				
Pressure range (adjustable)	Type / WG02	Output	Display ● = Q	Item No.
max. - 1000...+ 1000 Pa	Type 7111			
0... 100 Pa / - 100... + 100 Pa	PREMASREG 7111-UW LCD	0-10 V 1x Changeover contact	■	1302-7111-4011-200
0... 300 Pa / - 300... + 300 Pa				
0... 500 Pa / - 500... + 500 Pa				
0... 1000 Pa / -1000... + 1000 Pa	PREMASREG 7111-UW Q LCD	0-10 V 1x Changeover contact	● ■	2004-6132-4100-001
max. - 5000...+ 5000 Pa	Type 7115			
0... 1000 Pa / - 1000... + 1000 Pa	PREMASREG 7115-UW LCD	0-10 V 1x Changeover contact	■	1302-7111-4051-200
0... 2000 Pa / -2000... + 2000 Pa				
0... 3000 Pa / -3000... + 3000 Pa				
0... 5000 Pa / -5000... + 5000 Pa	PREMASREG 7115-UW Q LCD	0-10 V 1x Changeover contact	● ■	2004-6132-4100-011
Housing variant "Q":	Cable connection with M12 connector (male, 12-pin , A-code)			
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.			
Extra charge:	Other special measuring ranges up to max. 5000 Pa with optional automatic zero point calibration with optional quick connect for PVC fabric pressure hose Ø 6 mm			

**Pressure and differential pressure measuring transducers/switches,
with multi-range switching
and adjustable, switching and active output**

S+S REGELTECHNIK

The electronic **PREMASREG® 711x-VA** pressure sensors and switches are equipped with eight switchable measuring ranges, one switching output, one continuous output, and a display for setting the switchpoint and to display the ACTUAL pressure (eight devices in one, plus differential pressure switch/differential pressure monitor, continuous pressure sensor in a single device).

The pressure sensor with a housing made from **stainless steel V4A**, with cable gland or M12 connector according to DIN EN 61076-2-101 and pressure port using quick connect (pipe fitting optional) is used to measure positive, negative or differential pressures in clean air, with limit value switching. The piezoresistive measuring element guarantees a high degree of reliability and accuracy.

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 filter monitoring and 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.

The pressure sensor has a button for manual zero point calibration (automatic zero point calibration optional) as well as one offset potentiometer for setting the switching point and one for final value correction. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TECHNICAL DATA

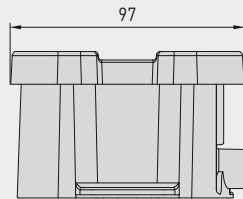
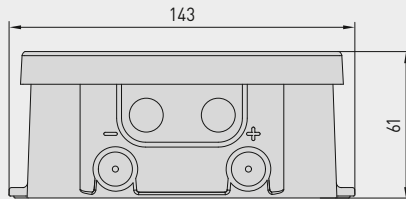
Power supply:	24 V AC / DC (± 10 %)
Load resistance:	$R_L > 15 \text{ k}\Omega$
Power consumption:	< 2 W / 24 V DC; < 4.4 VA / 24 V AC
Measuring ranges:	multi-range switching with 8 switchable measuring ranges (see table)
Type of pressure:	differential pressure
Pressure port:	with quick connect made from stainless steel for PVC/fabric pressure hose $\varnothing 6 \text{ mm}$ (external diameter) optionally with pipe fitting made from stainless steel V2A (1.4305) for pressure lines $\varnothing 6 \text{ mm}$
Medium:	clean air and non-aggressive, non-combustible gases
Media temperature:	-20...+50 °C (temperature-compensated 0...+50 °C)
Accuracy:	Type 7111 (1000 Pa): typically ± 10 Pa Type 7115 (5000 Pa): typically ± 35 Pa compared to the calibrated reference device
Sum of linearity+hysteresis:	< ± 1 % of final value
Temp. drift values:	± 0.1 % / °C
Zero point offset:	< ± 0.7 % of final value
Setting increment Δp :	1 % of pressure range (100 Pa => 1 Pa; 5000 Pa => 50 Pa)
Switching hysteresis:	± 1 % of pressure range (100 Pa => ± 1 Pa; 5000 Pa => ± 50 Pa)
Positive/negative pressure:	± 50 kPa
Signal filtering:	switchable 1 s / 10 s (via DIP switches)
Output:	0 -10 V 1 changeover contact (24 V), 1 A ohmic load
Connection type:	3-wire connection
Electrical connection:	0.2 - 1.5 mm ² , via push-in terminals
Cable connection:	cable gland, stainless steel V2A (1.4305) (M20 x 1.5; with strain relief, exchangeable, inner diameter 6 - 12 mm) or M12 connector (male, 12-pin , A-code) according to DIN EN 61076-2-101
Housing:	stainless steel V4A (1.4571), with non-distortion cover bolting, impact-resistant, high EMI shielding, corrosion, temperature, weather- and UV-resistant
Housing dimensions:	143 x 97 x 61 mm (Tyr 2E)
Air humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529) in the built-in state housing tested, TÜV SÜD, Report No. 713160960B (Skadi2)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Equipment:	display with illumination , three-line, cutout approx. 70 x 40 mm (W x H), for displaying ACTUAL pressure and/or SETPOINT pressure as well as automatic zero point calibration
ACCESSORIES	(see table)

Pressure port for
PVC / fabric pressure hose
(as standard)



Dimensional drawing
[mm]

PREMASREG® 711x-VA

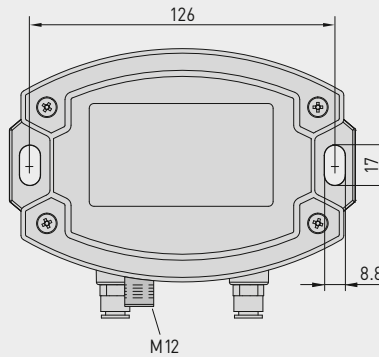
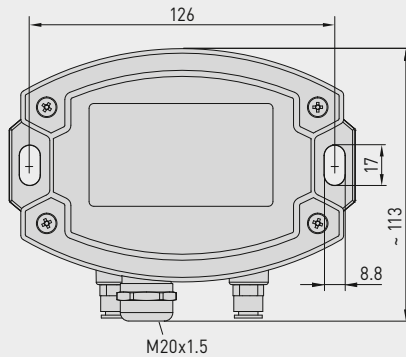


Housing with
cable gland

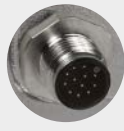
equipped as standard with
quick connect
for pressure hoses

Housing with
M12 connector

equipped as standard with
quick connect
for pressure hoses



Pressure port for
PVC / fabric pressure hose
(as standard)



M12 connector
(male)

PREMASREG® 711x-VA
with cable gland
and display



PREMASREG® 711x-VAQ
with M12 connector
and display



Dimensional drawing
[mm]

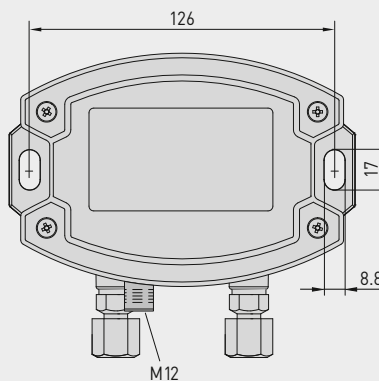
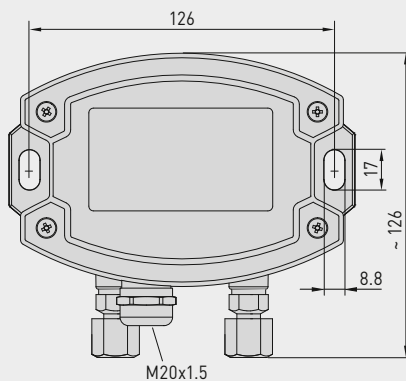
PREMASREG® 711x-VA

Housing with
cable gland

optional on request
with **pipe fitting**
for pressure lines

Housing with
M12 connector

optional on request
with **pipe fitting**
for pressure lines



Pressure port
for pressure lines / pipes
(optional)



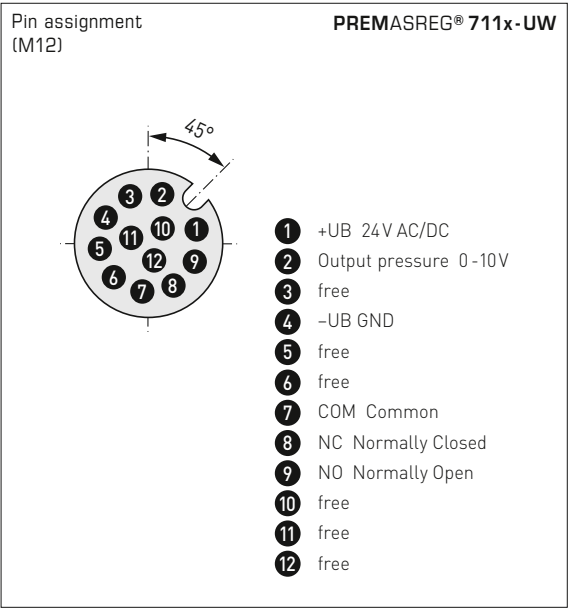
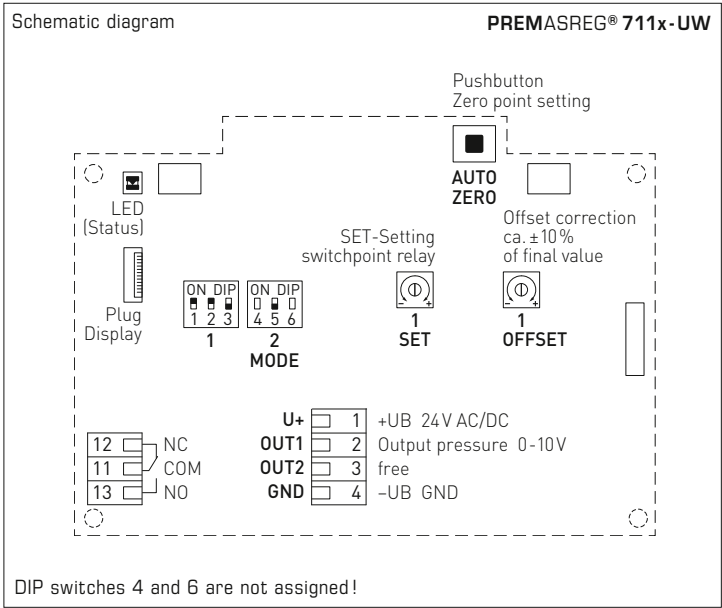
M12 connector
(male)



Pressure port
for pressure lines / pipes
(optional)



Pressure and differential pressure measuring transducers/switches,
with multi-range switching
and adjustable, switching and active output



Pressure range (selectable) – max. measuring range (default) is depending to the type of device				DIP 1	DIP 2
0...100 Pa	0...1000 Pa	-100...+100 Pa	-1000...+1000 Pa	OFF	OFF
0...300 Pa	0...2000 Pa	-300...+300 Pa	-2000...+2000 Pa	ON	OFF
0...500 Pa	0...3000 Pa	-500...+500 Pa	-3000...+3000 Pa	OFF	ON
0...1000 Pa	0...5000 Pa	-1000...+1000 Pa	-5000...+5000 Pa	ON	ON

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

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

Display with option
automatic zero point calibration



**Zero point calibration
active**

Remaining calibration time
(in seconds)

Cycle time (approx. 90 minutes)
is fixed in the factory.



S+S REGELTECHNIK

PREMASREG® 711x-VA

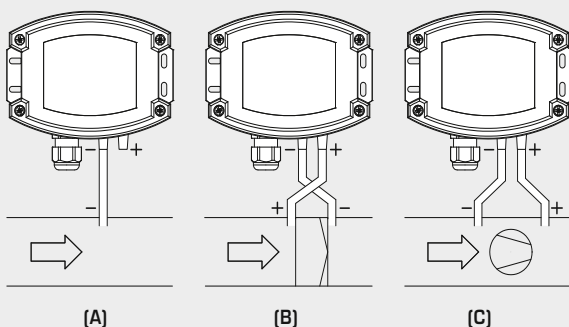
Pressure and differential pressure measuring transducers/switches,
with multi-range switching
and adjustable, switching and active output

PREMASREG® 711x-VAQ
with display,
hinged



Mounting diagram

PREMASREG® 711x



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	mWS
1 Pa	0,00001 bar	0,01 mbar	1 Pa	0,001 kPa	0,000101971 mWS
1 kPa	0,01 bar	10 mbar	1000 Pa	1 kPa	0,101971 mWS
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10,1971 mWS
1 mbar	0,001 bar	1 mbar	100 Pa	0,1 kPa	0,0101971 mWS
1 mWS	0,0980665 bar	98,0665 mbar	9806,65 Pa	9,80665 kPa	1 mWS

Pressure and differential pressure measuring transducers/switches,
with multi-range switching
and adjustable, switching and active output

PREMASREG® 711x-VAQ
with M12 connector



PREMASREG® 711x-VAQ Pressure and differential pressure measuring transducers/switches, <i>ID</i> (Stainless steel housing with M12 connector)				
Pressure range (adjustable)	Type / WG02I	Output	Display ● = Q	Item No.
max. - 1000...+ 1000 Pa	Type 7111			
0... 100 Pa / - 100... + 100 Pa 0... 300 Pa / - 300... + 300 Pa 0... 500 Pa / - 500... + 500 Pa 0... 1000 Pa / - 1000... + 1000 Pa	PREMASREG 7111-UW VAQ LCD	0-10V 1x Changeover contact	● ■	2004-6192-4100-001
max. - 5000...+ 5000 Pa	Type 7115			
0... 1000 Pa / - 1000 ... + 1000 Pa 0... 2000 Pa / - 2000 ... + 2000 Pa 0... 3000 Pa / - 3000 ... + 3000 Pa 0... 5000 Pa / - 5000 ... + 5000 Pa	PREMASREG 7115-UW VAQ LCD	0-10V 1x Changeover contact	● ■	2004-6192-4100-011
Housing variant "Q":	Cable connection with M12 connector (male, 12-pin , A-code)			
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.			
Extra charge:	Other special measuring ranges up to max. 5000 Pa with optional automatic zero point calibration with optional pipe fitting made from stainless steel V2A for pressure lines Ø 6 mm			

ACCESSORIES	
xx-M12	Special accessories for M12 connector
For further information, see chapter Accessories!	



Pressure and differential pressure measuring transducers/switches,
with multi-range switching
and adjustable, switching and active output

PREMASREG® 711x-VA
with cable gland



PREMASREG® 711x-VA				
Pressure and differential pressure measuring transducers/switches, ID (Stainless steel housing with cable gland)				
Pressure range (adjustable)	Type / WG02I	Output	Display	Item No.
max. - 1000...+ 1000 Pa	Type 7111			
0... 100 Pa / - 100... + 100 Pa 0... 300 Pa / - 300... + 300 Pa 0... 500 Pa / - 500... + 500 Pa 0... 1000 Pa / - 1000... + 1000 Pa	PREMASREG 7111-UW VA LCD	0-10V 1x Changeover contact	■	2004-6192-4200-001
max. - 5000...+ 5000 Pa	Type 7115			
0...1000 Pa / - 1000 ... + 1000 Pa 0...2000 Pa / - 2000 ... + 2000 Pa 0...3000 Pa / - 3000 ... + 3000 Pa 0...5000 Pa / - 5000 ... + 5000 Pa	PREMASREG 7115-UW VA LCD	0-10V 1x Changeover contact	■	2004-6192-4200-011
Housing variant:	Cable connection with cable gland made from stainless steel V2A (1.4305)			
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.			
Extra charge:	Other special measuring ranges up to max. 5000 Pa with optional automatic zero point calibration with optional pipe fitting made from stainless steel V2A for pressure lines Ø 6 mm			



Pressure port for
PVC / fabric pressure hose
(as standard)



Pressure port for
pressure lines / pipes
(optional)

**Pressure measuring transducers / switches / monitors for volume flow,
differential pressure, filter monitoring and liquid level detection,
incl. connection set**

S+S REGELTECHNIK

The electronic **PREMASREG® 716x** pressure sensor and switch is equipped with measuring functions for volume flow, differential pressure, filter monitoring and liquid level detection based on pressure measurement in clean air. The devices with a housing made from impact-resistant plastic, with cable gland or M12 connector according to DIN EN 61076-2-101 and pressure connection nozzles (quick connect optional) are fitted with one switching output, one continuous output and one backlit display for setting the switching point and displaying the **ACTUAL** values. The piezoresistive measuring element guarantees a high degree of reliability and accuracy.

This pressure sensor is used in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering facilities, for filter monitoring and level measurement or for triggering frequency converters. The medium measured is air (non-precipitating), or other gaseous, non-aggressive, non-combustible media.

It has a manual zero point pushbutton and an offset potentiometer for final value correction. Parameter entry is menu-based and is easy to perform using three buttons with the help of the display. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible. A connection set **ASD-06** (2 m connection hose, two pressure nipples, screws) is included in the scope of supply.

TECHNICAL DATA

Power supply:	24 V AC/DC (± 10 %)
Load resistance:	$R_L > 15 \text{ k}\Omega$
Power consumption:	< 2 W / 24 V DC; < 4.4 VA / 24 V AC
Measuring function:	volume flow, differential pressure, filter monitoring, fill level (adjustable)
Measuring ranges:	10...100% (adjustable)
Type of pressure:	differential pressure
Pressure connection:	with connection nozzle for pressure hose $\varnothing 6 \text{ mm}$, optionally with quick connect made from stainless steel for PVC fabric pressure hose $\varnothing 6 \text{ mm}$ (external diameter)
Medium:	clean air and non-aggressive, non-combustible gases
Media temperature:	-20...+50 °C (temperature-compensated 0...+50 °C)
Accuracy:	Type 7161 (1000 Pa): typically ± 10 Pa Type 7165 (5000 Pa): typically ± 35 Pa compared to the calibrated reference device
Sum of linearity+hysteresis:	< ± 1 % of final value (pressure)
Temp. drift values:	± 0.1 % / °C
Positive / negative pressure:	± 50 kPa
Signal hysteresis:	± 1 % of final value (pressure) 10 Pa / 50 Pa
Signal filtering:	switchable 1 s / 10 s (via DIP switches) and small value suppression < 1 %
Output:	0-10 V 1 changeover contact (24 V), 1 A ohmic load
Connection type:	3-wire connection
Electrical connection:	0,2-1,5 mm ² , using push-in terminals
Cable connection:	cable gland , plastic (M16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) or M12 connector (male, 12-pin , A-code) according to DIN EN 61076-2-101
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), cover for display is transparent!
Housing dimensions:	126 x 90 x 50 mm (Tyr 2)
Air humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529) in the built-in state
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Equipment:	display with illumination , three-line, cutout approx. 70 x 40 mm (W x H), for displaying the volume flow, differential pressure, contamination degree or level and for setting the switchpoint, K factor, measuring range limits and other settings
K factor:	1 to 3000 (adjustable)
Units:	m³/s, m³/min, m³/h, l/s, l/min, l/h, %, cm (adjustable)
Max. value displayed:	999999
ACCESSORIES	see table

Pressure port
for pressure hose
(as standard)





S+S REGELTECHNIK

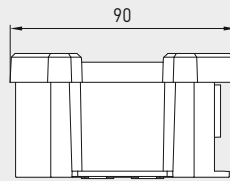
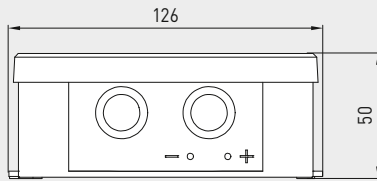
PREMASREG® 716x

Pressure measuring transducers/switches/monitors for volume flow,
differential pressure, filter monitoring and liquid level detection,
incl. connection set



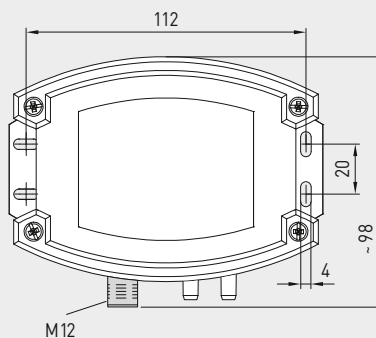
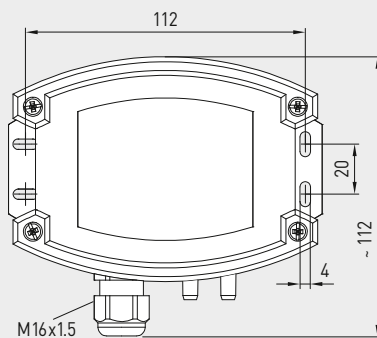
Dimensional drawing
[mm]

PREMASREG® 716x



Housing with
cable gland
equipped as standard with
pressure port **nozzles**

Housing with
M12 connector
equipped as standard with
pressure port **nozzles**



Pressure port
for pressure hose
(as standard)



M12 connector
(male)



PREMASREG® 716x
with cable gland
and display

PREMASREG® 716x-Q
with M12 connector
and display

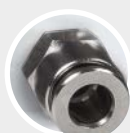
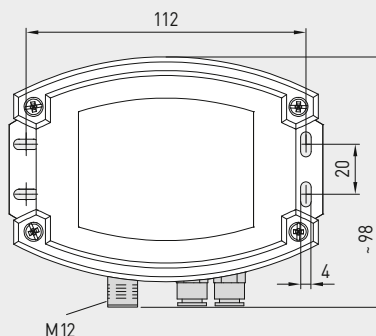
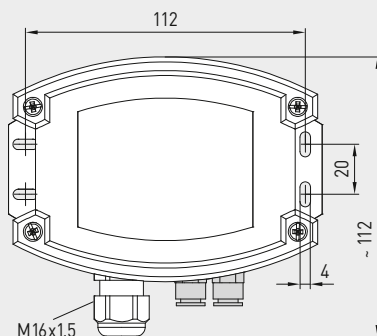


Dimensional drawing
[mm]

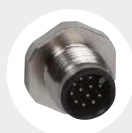
PREMASREG® 716x

Housing with
cable gland
optional on request
with **quick connect**

Housing with
M12 connector
optional on request
with **quick connect**



Pressure port for
PVC/fabric pressure hose
(optional)



M12 connector
(male)

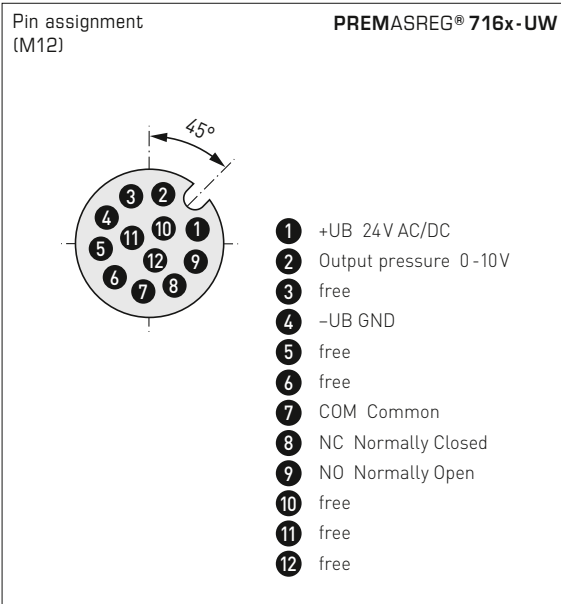
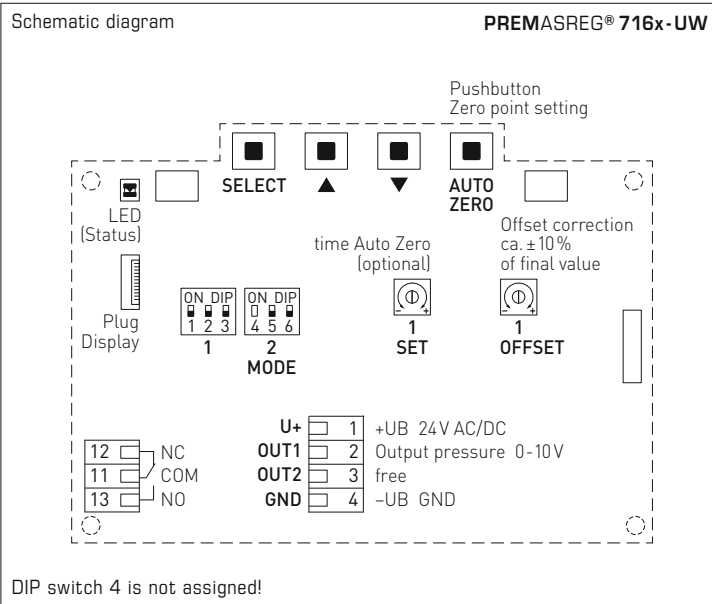


Pressure port for
PVC/fabric pressure hose
(optional)



Pressure measuring transducers / switches / monitors for volume flow,
differential pressure, filter monitoring and liquid level detection,
incl. connection set

S+S REGELTECHNIK



Measuring range mode (Mode selectable)	DIP 1
Bidirectional (-MR...+MR)	ON
Unidirectional (0...+MR) (default)	OFF

Small value suppression (measured values < 1% of end value (pressure) = 0)	DIP 2
Active	ON
Deactivated (default)	OFF

Relay (Function adjustable)	DIP 3
Active (display shows switching point)	ON
Deactivated (default)	OFF

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

Service mode (display adjustable)	DIP 6
Service (differential pressure in Pa)	ON
Standard (according to configuration) (default)	OFF

PREMASREG® 716x Function types



Volumolum flow rate

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

V = Volume flow in m³/h

k = K factor 1...3000

Δp = Differential pressure in Pa



Differential pressure

$$\Delta p = p_+ - p_-$$

Δp = Differential pressure in Pa

p₊ = higher pressure

p₋ = lower pressure



Filter contamination

$$S = 100\% \cdot \Delta p \div p_{Filter}$$

S = Contamination degree in %

Δp = Differential pressure in Pa

p_{Filter} = differential pressure filter replacement in Pa



Level display

$$h = \Delta p \div (\rho \cdot g)$$

h = Fill level height in cm

Δp = Differential pressure in Pa

ρ = Density 700...1300 in kg/m³

g = 9.81 m/s²



S+S REGELTECHNIK

PREMASREG® 716x

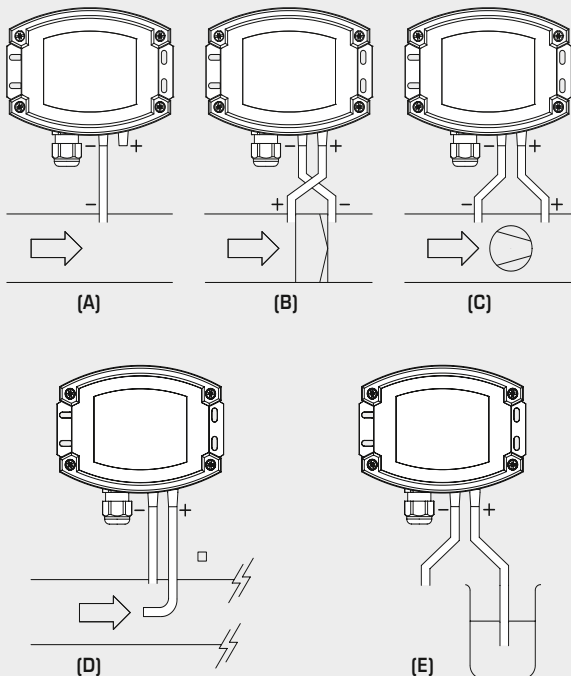
Pressure measuring transducers/switches/monitors for volume flow,
differential pressure, filter monitoring and liquid level detection,
incl. connection set

PREMASREG® 716x-Q
with display,
hinged



Mounting diagram

PREMASREG® 716x



TYPES OF MONITORING:

(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

(E) Level:

P1 (+) Connection submerged in medium
P2 (-) Connection is open to the atmosphere

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

Conversion table for pressure values:

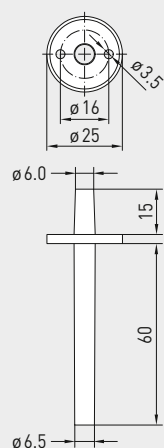
Unit =	bar	mbar	Pa	kPa	mWS
1 Pa	0,00001 bar	0,01 mbar	1 Pa	0,001 kPa	0,000101971 mWS
1 kPa	0,01 bar	10 mbar	1000 Pa	1 kPa	0,101971 mWS
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10,1971 mWS
1 mbar	0,001 bar	1 mbar	100 Pa	0,1 kPa	0,0101971 mWS
1 mWS	0,0980665 bar	98,0665 mbar	9806,65 Pa	9,80665 kPa	1 mWS

Pressure measuring transducers / switches / monitors for volume flow,
differential pressure, filter monitoring and liquid level detection,
incl. connection set

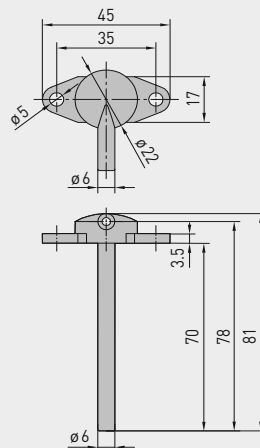
S+S REGELTECHNIK

Dimensional drawing
[mm]

ASD-06

Dimensional drawing
[mm]

ASD-07

ASD-06
Connection setASD-07
Connection nippleWS-03
Weather and sun protection hood
(optional)Pressure port for
pressure hose
(as standard)Pressure port for
PVC/fabric pressure hose
(optional)

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, 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
WS-03	Weather and sun protection hood, 200 x 180 x 150 mm, stainless steel V2A (1.4301)	7100-0040-6000-000

For further information, see chapter Accessories!



S+S REGELTECHNIK

PREMASREG® 716x

Pressure measuring transducers / switches / monitors for volume flow,
differential pressure, filter monitoring and liquid level detection,
incl. connection set



PREMASREG® 716x-Q
with M12 connector



PREMASREG® 716x
with cable gland



PREMASREG® 716x		Pressure measuring transducers / switches / monitors for volume flow, differential pressure, filter monitoring and liquid level detection, <i>Deluxe</i> (with cable gland or M12 connector)			
Measuring Range Pressure / Volume Flow	Type / WG02	Output		Display ● = Q	Item No.
0...1000 Pa		Type 7161			
k = 3000 94800 m³/h	PREMASREG 7161-UW	LCD	0-10V 1x Changeover contact	■	1302-7161-4161-200
	PREMASREG 7161-UW Q	LCD	0-10V 1x Changeover contact	● ■	2004-6132-4100-021
0...5000 Pa		Type 7165			
k = 3000 212100 m³/h	PREMASREG 7165-UW	LCD	0-10V 1x Changeover contact	■	1302-7161-4171-200
	PREMASREG 7165-UW Q	LCD	0-10V 1x Changeover contact	● ■	2004-6132-4100-031
Housing variant "Q":		Cable connection with M12 connector (male, 12-pin , A-code)			
Multi-range switching:		The pressure ranges depend on the device type and can be set via DIP switches.			
Extra charge:		with optional quick connect for PVC fabric pressure hose Ø 6 mm			

Pressure measuring transducers / switches / monitors for volume flow, differential pressure, filter monitoring and liquid level detection

S+S REGELTECHNIK

The electronic **PREMASREG® 761x-VA** pressure sensor and switch is equipped with measuring functions for volume flow, differential pressure, filter monitoring and liquid level detection based on pressure measurement in clean air. The devices with a housing made from **stainless steel V4A**, with cable gland or M12 connector according to DIN EN 61076-2-101 and pressure port using quick connect (pipe fitting optional) are fitted with one switching output, one continuous output and a backlit display for setting the switching point and displaying the ACTUAL values. The piezoresistive measuring element guarantees a high degree of reliability and accuracy.

This pressure sensor is used in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering facilities, for filter monitoring and level measurement or for triggering frequency converters. The medium measured is air (non-precipitating), or other gaseous, non-aggressive, non-combustible media.

It has a manual zero point pushbutton and an offset potentiometer for final value correction. Parameter entry is menu-based and is easy to perform using three buttons with the help of the display. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TECHNICAL DATA

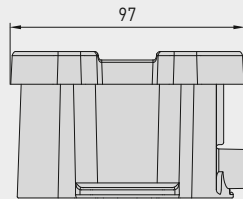
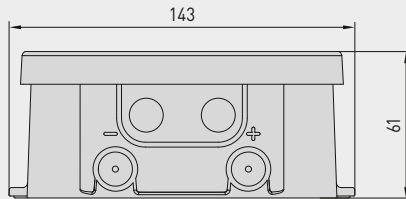
Power supply:	24 V AC/DC (± 10 %)
Load resistance:	$R_L > 15 \text{ k}\Omega$
Power consumption:	< 2 W / 24 V DC; < 4.4 VA / 24 V AC
Measuring function:	volume flow, differential pressure, filter monitoring, fill level (adjustable)
Measuring ranges:	10...100% (adjustable)
Type of pressure:	differential pressure
Pressure port:	with quick connect made from stainless steel for PVC / fabric pressure hose Ø 6 mm (external diameter) optionally with pipe fitting made from stainless steel V2A (1.4305) for pressure lines Ø 6 mm
Medium:	clean air and non-aggressive, non-combustible gases
Media temperature:	-20...+50 °C (temperature-compensated 0...+50 °C)
Accuracy:	Type 7161 (1000 Pa): typically ± 10 Pa Type 7165 (5000 Pa): typically ± 35 Pa compared to the calibrated reference device
Sum of linearity+hysteresis:	< ± 1 % of final value (pressure)
Temp. drift values:	± 0.1 % / °C
Positive / negative pressure:	± 50 kPa
Signal hysteresis:	± 1 % of final value (pressure) 10 Pa / 50 Pa
Signal filtering:	switchable 1 s / 10 s (via DIP switches) and small value suppression < 1 %
Output:	0-10 V 1 changeover contact (24 V), 1 A ohmic load
Connection type:	3-wire connection
Electrical connection:	0.2-1.5 mm ² , using push-in terminals
Cable connection:	cable gland, stainless steel V2A (1.4305) (M20 x 1.5; with strain relief, exchangeable, inner diameter 6 - 12 mm) or M12 connector (male, 12-pin , A-code) according to DIN EN 61076-2-101
Housing:	stainless steel V4A (1.4571), with non-distortion cover bolting, impact-resistant, high EMI shielding, corrosion, temperature, weather- and UV-resistant
Housing dimensions:	143 x 97 x 61 mm (Tyr 2E)
Air humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529) in the built-in state Housing tested, TÜV SÜD, Report No. 713160960B (Skadi2)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Equipment:	display with illumination , three-line, cutout approx. 70 x 40 mm (W x H), for displaying the volume flow, differential pressure, contamination degree or level and for setting the switchpoint, K factor, measuring range limits and other settings
K factor:	1 to 3000 (adjustable)
Units:	m³/s, m³/min, m³/h, l/s, l/min, l/h, %, cm (adjustable)
Max. value displayed:	999999
ACCESSORIES	(see table)

Pressure port for
PVC / fabric pressure hose
(as standard)



Dimensional drawing
[mm]

PREMASREG® 716x-VA

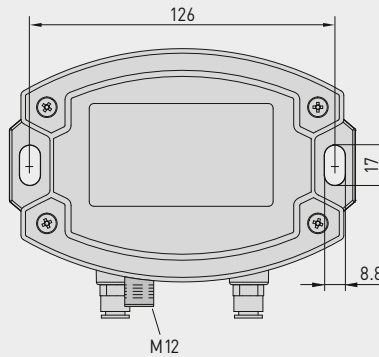
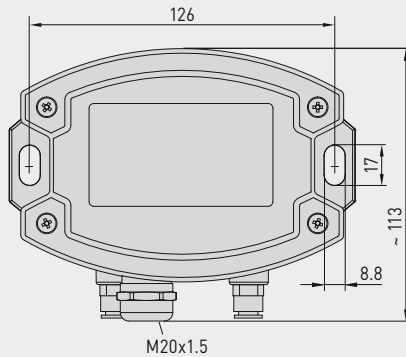


Housing with
cable gland

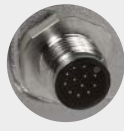
equipped as standard with
quick connect
for pressure hoses

Housing with
M12 connector

equipped as standard with
quick connect
for pressure hoses



Pressure port for
PVC / fabric pressure hose
(as standard)



M12 connector
(male)

PREMASREG® 716x-VA
with cable gland
and display



PREMASREG® 716x-VAQ
with M12 connector
and display



Dimensional drawing
[mm]

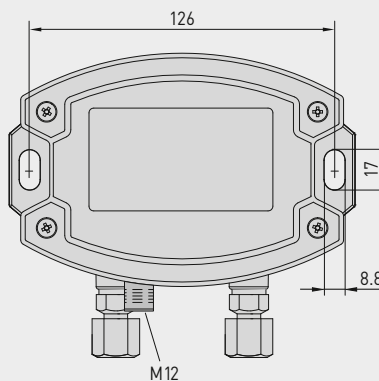
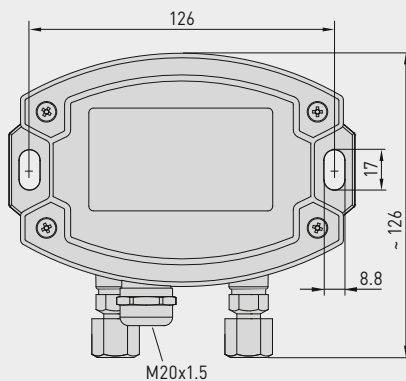
PREMASREG® 716x-VA

Housing with
cable gland

optional on request
with **pipe fitting**
for pressure lines

Housing with
M12 connector

optional on request
with **pipe fitting**
for pressure lines



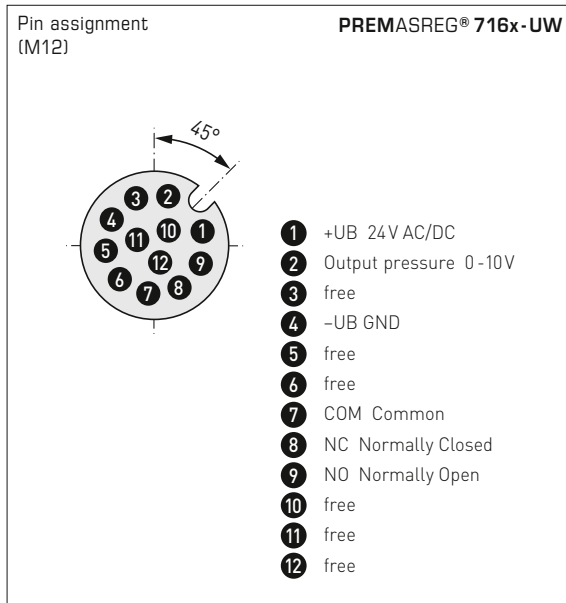
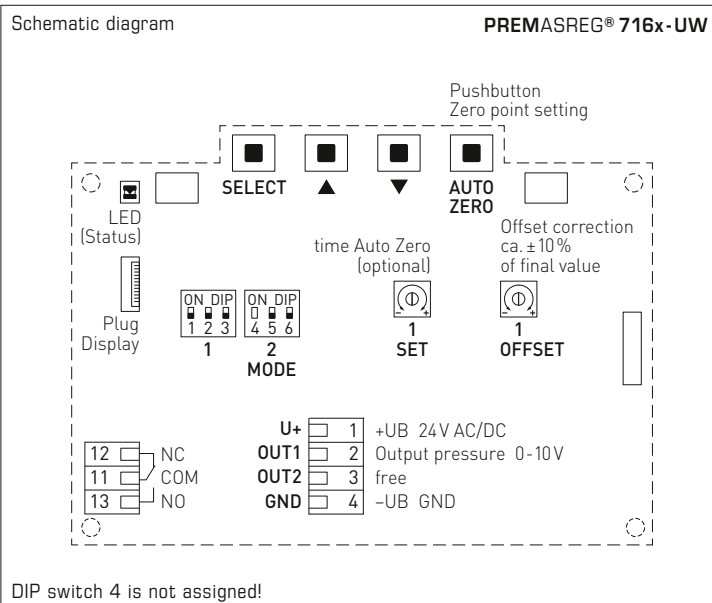
Pressure port
for pressure lines / pipes
(optional)



M12 connector
(male)

Pressure port
for pressure lines / pipes
(optional)





Measuring range mode (Mode selectable)	DIP 1
Bidirectional (-MR...+MR)	ON
Unidirectional (0...+MR) (default)	OFF

Small value suppression (measured values < 1% of end value (pressure) = 0)	DIP 2
Active	ON
Deactivated (default)	OFF

Relay (Function adjustable)	DIP 3
Active (display shows switching point)	ON
Deactivated (default)	OFF

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

Service mode (display adjustable)	DIP 6
Service (differential pressure in Pa)	ON
Standard (according to configuration) (default)	OFF

PREMASREG® 716x
Function types



Volumolum flow rate

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

V = Volume flow in m³/h

k = K factor 1...3000

Δp = Differential pressure in Pa



Differential pressure

$$\Delta p = p_+ - p_-$$

Δp = Differential pressure in Pa

p₊ = higher pressure

p₋ = lower pressure



Filter contamination

$$S = 100\% \cdot \Delta p \div p_{Filter}$$

S = Contamination degree in %

Δp = Differential pressure in Pa

p_{Filter} = differential pressure filter replacement in Pa



Level display

$$h = \Delta p \div (\rho \cdot g)$$

h = Fill level height in cm

Δp = Differential pressure in Pa

ρ = Density 700...1300 in kg/m³

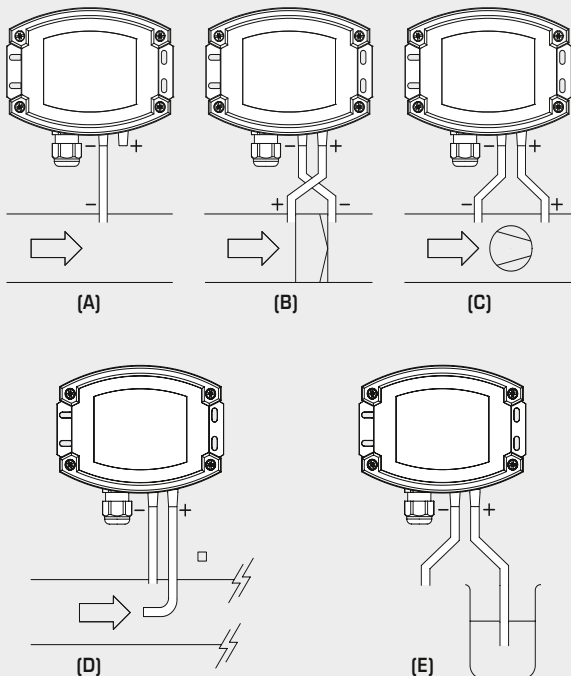
g = 9.81 m/s²

PREMASREG® 716x-VAQ
with display,
hinged



Mounting diagram

PREMASREG® 716x



TYPES OF MONITORING:

(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

(E) Level:

P1 (+) Connection submerged in medium
P2 (-) Connection is open to the atmosphere

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	mWS
1 Pa	0,00001 bar	0,01 mbar	1 Pa	0,001 kPa	0,000101971 mWS
1 kPa	0,01 bar	10 mbar	1000 Pa	1 kPa	0,101971 mWS
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10,1971 mWS
1 mbar	0,001 bar	1 mbar	100 Pa	0,1 kPa	0,0101971 mWS
1 mWS	0,0980665 bar	98,0665 mbar	9806,65 Pa	9,80665 kPa	1 mWS

Pressure measuring transducers / switches / monitors for volume flow,
differential pressure, filter monitoring and liquid level detection

S+S REGELTECHNIK

PREMASREG® 716x-VAQ
with M12 connector

**PREMASREG® 716x-VAQ**

Pressure measuring transducers / switches / monitors for volume flow,
differential pressure, filter monitoring and liquid level detection, *ID*
Stainless steel housing with M12 connector

Measuring Range Pressure / Volume Flow	Type / WG02I	Output	Display ● = Q	Item No.
0...1000 Pa	Type 7161			
k = 3000 94800 m³/h	PREMASREG 7161-UW VAQ LCD	0-10V 1x Changeover contact	● ■	2004-6192-4100-021
0...5000 Pa	Type 7165			
k = 3000 212100 m³/h	PREMASREG 7165-UW VAQ LCD	0-10V 1x Changeover contact	● ■	2004-6192-4100-031
Housing variant "Q":	Cable connection with M12 connector (male, 12-pin , A-code)			
Multi-range switching:	The pressure ranges depend on the device type and can be set via DIP switches.			
Extra charge:	with optional pipe fitting made from stainless steel V2A for pressure lines Ø 6 mm			

ACCESSORIES

xx-M12 **Special accessories for M12 connector**

For further information, see chapter Accessories!

PREMASREG® 716x-VA
with cable gland

PREMASREG® 716x-VA		Pressure measuring transducers / switches/monitors for volume flow, differential pressure, filter monitoring and liquid level detection, <i>ID</i> Stainless steel housing with cable gland			
Measuring Range Pressure / Volume Flow		Type/WG02I	Output	Display	Item No.
0...1000 Pa		Type 7161			
k = 3000	94800 m³/h	PREMASREG 7161-UW VA LCD	0-10 V 1x Changeover contact	■	2004-6192-4200-021
0...5000 Pa		Type 7165			
k = 3000	212100 m³/h	PREMASREG 7165-UW VA LCD	0-10 V 1x Changeover contact	■	2004-6192-4200-031
Housing variant:		Cable connection with cable gland made from stainless steel V2A (1.4305)			
Multi-range switching:		The pressure ranges depend on the device type and can be set via DIP switches.			
Extra charge:		with optional pipe fitting made from stainless steel V2A for pressure lines Ø 6 mm			

Pressure port for
PVC / fabric pressure hose
(as standard)Pressure port for
pressure lines / pipes
(optional)

Barometers /

Measuring transducers for atmospheric pressure,
calibratable, with active output

ALD

Calibratable barometer **PREMASGARD® ALD** with active output (U/I switchable) and 4 measuring ranges (max. 600...1100 hPa, switchable), in a compact plastic housing with quick-locking screws, optionally with/without display.

The pressure sensor is used for measuring atmospheric air pressure in clean air (non-precipitating) or other non-aggressive, non-combustible gases. It is used in various applications such as ventilation and air conditioning technology, in meteorological measurement stations and air-pressure-dependent control systems.

The piezoresistive measuring element is temperature-compensated and guarantees a high degree of reliability and accuracy. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TECHNICAL DATA

Power supply:	24 V AC/DC (± 10 %)
Working resistance:	R_a (Ohm) = 25 ... 450 Ohm for I-output
Load resistance:	$R_L > 25$ kOhm for U-output
Power consumption:	< 1 W at 24 V DC; < 2 VA at 24 V AC
Current consumption:	< 45 mA
Measuring ranges:	multi-range switching with 4 switchable measuring ranges (see table)
Output:	switchable 0-10V / 4...20 mA (via DIP switches)
Connection type:	3-wire connection
Ambient temperature:	storage -35...+85 °C; operation -30...+75 °C, non-precipitating
Type of pressure:	atmospheric air pressure / absolute pressure
Medium:	clean air and non-aggressive, non-combustible gases
Accuracy:	typically ± 0.4 kPa compared to calibrated reference device
Zero point offset:	± 50 hPa
Positive pressure:	200 kPa
Signal filtering:	switchable 1 s / 10 s (via DIP switches)
Temperature drift:	± 0.1 % of final value per °C
Housing:	plastic, UV-resistant, polyamide material, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!
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 plug-in connector (flush-type connector, 5-pin, A-coding) according to DIN EN 61076-2-101 (optional, available upon request)
Electrical connection:	0.14 - 1.5 mm², via screw terminals
Air humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60730)
Protection type:	IP65 (according to EN 60529) housing tested, TÜV SÜD, report no. 713139052 (Tyr 1)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Equipment:	display , one-line, cutout approx. 36 x 15 mm (W x H), for displaying the atmospheric air pressure / absolute pressure
ACCESSOIRES	see chapter Accessories
WS-04	weather and sun protection hood , 130 x 180 x 135 mm, stainless steel V2A (1.4301)



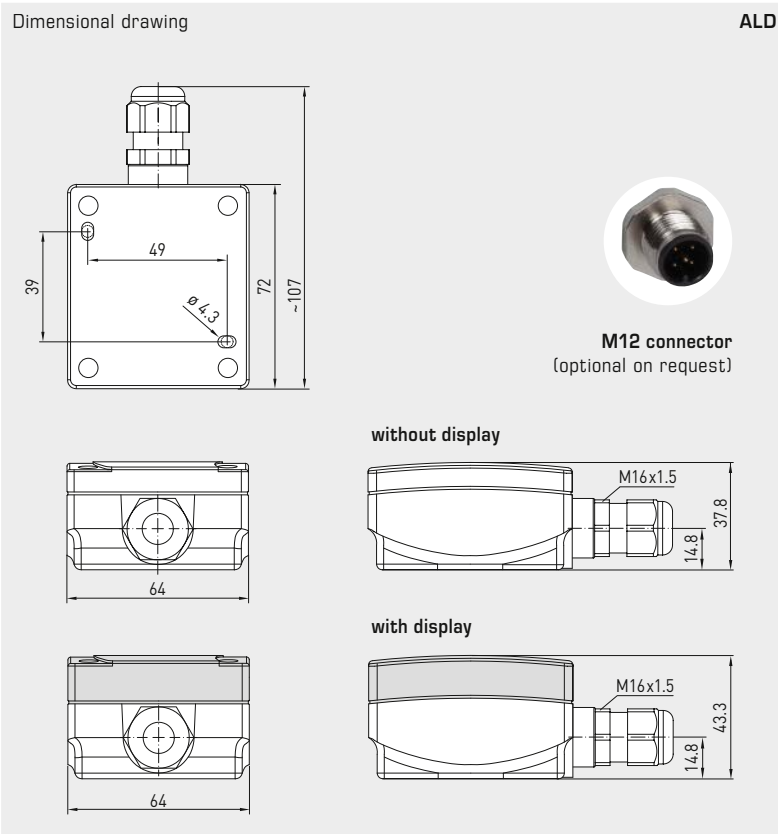
Pressure range (adjustable)	DIP 1	DIP 2
600...1100 hPa	OFF	OFF
700...1100 hPa	ON	OFF
800...1100 hPa	OFF	ON
900...1100 hPa (default)	ON	ON

Measurement signal filtering (selectable time interval)	DIP 5
10 s (default)	OFF
1 s	ON

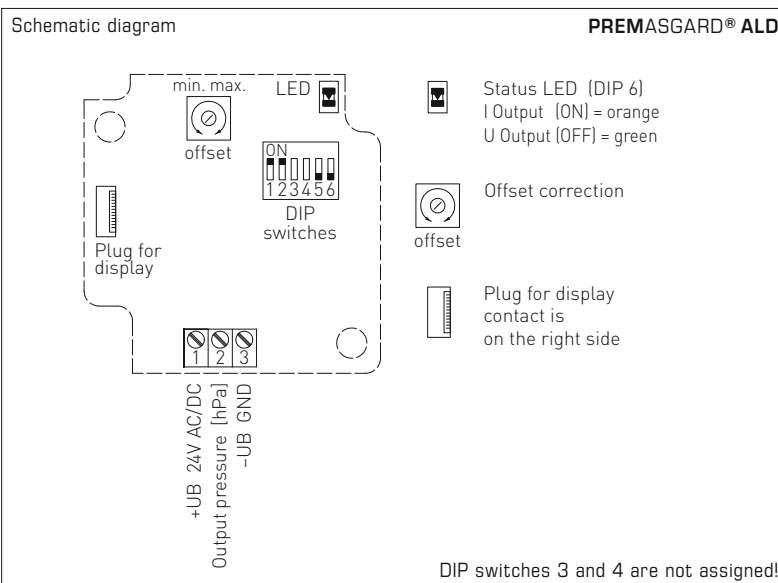
Output (selectable)	DIP 6
Voltage 0-10V (default)	OFF
Current 4...20 mA	ON

Conversion table for pressure values:

Unit =	bar	mbar	Pa	kPa	mWS
1 Pa	0,00001 bar	0,01 mbar	1 Pa	0,001 kPa	0,000101971 mWS
1 kPa	0,01 bar	10 mbar	1000 Pa	1 kPa	0,101971 mWS
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10,1971 mWS
1 mbar	0,001 bar	1 mbar	100 Pa	0,1 kPa	0,0101971 mWS
1 mWS	0,0980665 bar	98,0665 mbar	9806,65 Pa	9,80665 kPa	1 mWS



ALD
with display



WS-04
Weather and sun protection hood
(optional)



PREMASGARD® ALD Measuring transducer for atmospheric pressure

Pressure range (adjustable)	Type / WG01	Output (switchable)	Display	Item no.
max. 600...1100 hPa	ALD			
600...1100 hPa	ALD	0-10 V / 4...20 mA		1301-1157-0130-200
700...1100 hPa				
800...1100 hPa	ALD LCD	0-10 V / 4...20 mA	■	1301-1157-2130-200
900...1100 hPa				
Multi-range switching:	The pressure ranges can be set via DIP switches.			
Output:	0-10V or 4...20 mA (selectable via DIP switches)			
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101 (on request)			

Differential pressure switches for air, with mounting angle, incl. connection set

The mechanical differential pressure switch / differential pressure monitor **PREMASREG® DS 1** with metal angle is used for monitoring above-atmospheric, differential, and below-atmospheric pressures of air and gaseous, non-aggressive media in air ducts, ventilation intake or exhaust devices, as a flow monitor, as a pressure difference detector or pressure monitor for flow detection at electric heating registers, for monitoring V-belts and filters, as air pressure deficiency protection, for monitoring fans and air dampers, or as a limit value controller. The switchpoint is adjusted using the internal precision scale.

These instruments are factory-calibrated. The differential pressure switch DS 1 is supplied including connection set **ASD-06** (2 m connection hose, two pressure connection nipples, screws) and mounting angle **DS-MW-Z**.

TECHNICAL DATA

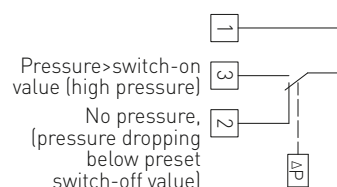
Switching capacity: (Contact load)	5 (0.8) A, 250 V AC 4 (0.7) A, 30 V DC
Contact:	single-pole potential-free changeover contact, multi-layer contact, gold-plated (DDC compatible)
Pressure range:	see table, high adjustment accuracy due to individual laser-etched scale for each switch
Housing:	base: material PC (10% GF), colour light grey (similar to RAL 7035), snap-on lid: material PC, transparent, cable gland PG 11 with strain relief
Temperature of medium:	-30...+85 °C
Membrane:	silicone, LSR (Liquid Silicon Rubber, tempered at +200 °C, non-outgassing, LABS-free, no emission of varnish-adhesion inhibiting substances), long-term stability of switching points due to trapezoidal bead membranes
Humidity:	< 90% RH, non-precipitating air
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws with torsion protection
Pressure connection:	with connection nozzles for pressure hose Ø 6 mm
Mounting:	with metal angle DS-MW-Z (included in the scope of delivery) (for other optional shapes, see table) Recommended mounting position: vertical (pressure connections downward) – factory setting; horizontal (cap up / down)
Protection class:	II (according to EN 60 730)
Protection type:	IP 54 (according to EN 60529) with top cover
Standards:	CE conformity, low-voltage directive 2014 / 35 / EU
Tests:	DVGW (according to DIN 1854), VDE 0630, EN 61058, directive on gas devices 2009 / 142 / EU, CE 0085 A P 0918
FUNCTION	Contact 1 - 2 breaks when pressure / differential pressure rises to the preset value. Contact 1 - 3 closes when pressure / differential pressure drops and can be used as signal contact.
ACCESSORIES	
ASD-06	Connection set (nipple straight) – (included in the scope of delivery)
DS-MW-Z	Mounting angle (included in the scope of delivery)
DS-MW-L	Mounting angle (optional)
DS1-MW-U	Mounting angle (optional), combination bracket for vertical or horizontal mounting
WS-04	Weather and sun protection hood , 130 x 180 x 135 mm, aus stainless steel V2A (1.4301)

DS 1
with mounting angle



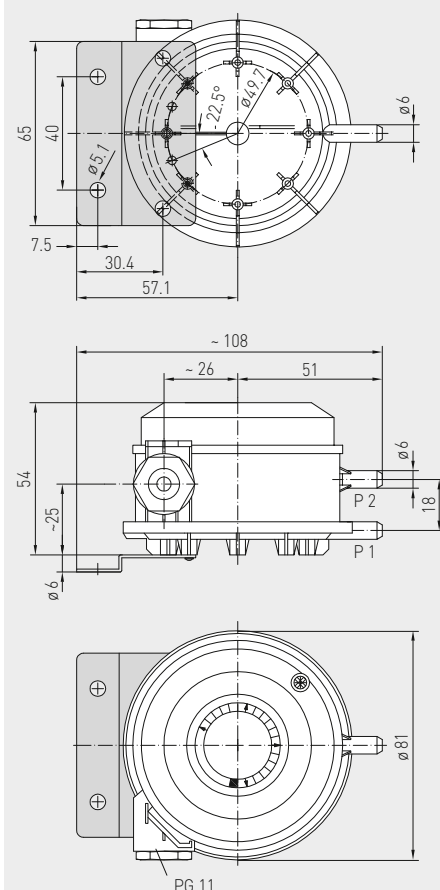
Dimensional drawing

DS 1



Dimensional drawing

DS 1
with mounting angle
DS-MW-Z



The mechanical differential pressure switch / differential pressure monitor **PREMASREG® DS-2** with 4-hole plastic base ring is used for monitoring above-atmospheric, differential and below-atmospheric pressures of clean air and other gaseous, non-aggressive non-combustible media in air ducts, air intake or exhaust devices, as a pressure difference detector or pressure monitor for flow detection at electric heating registers, for monitoring V-belts and filters, as air pressure deficiency protection, for monitoring fans and air dampers, or as a limit value controller. The switchpoint is adjusted using the internal precision scale.

These instruments are factory-calibrated. The differential pressure switch DS 2 is supplied including connection set **ASD-06** (2 m connection hose, two pressure connection nipples, screws) and mounting ring **DS-MR-K**.

TECHNICAL DATA

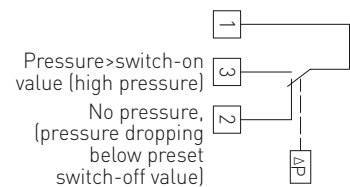
Switching capacity: (Contact load)	5 (0.8) A, 250 V AC 4 (0.7) A, 30 V DC
Contact:	single-pole potential-free changeover contact, multi-layer contact, gold-plated (DDC compatible)
Pressure range:	see table, high adjustment accuracy due to individual laser-etched scale for each switch
Housing:	base: material PC (10 % GF), colour light grey (similar to RAL 7035), snap-on lid: material PC, transparent, cable gland PG 11 with strain relief
Temperature of medium:	-30...+85 °C
Membrane:	silicone, LSR (Liquid Silicon Rubber, tempered at +200 °C, non-outgassing, LABS-free, no emission of varnish-adhesion inhibiting substances), long-term stability of switching points due to trapezoidal bead membranes
Humidity:	< 90 % RH, non-precipitating air
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws with torsion protection
Pressure connection:	with connection nozzles for pressure hose Ø 6 mm
Mounting:	by 4-hole base ring, plastic (included in the scope of delivery), recommended mounting position: vertical (pressure connections downward) – factory setting, horizontal (cap up / down)
Protection class:	II (according to EN 60 730)
Protection type:	IP 54 (according to EN 60529) with top cover
Standards:	CE conformity, low-voltage directive 2014 / 35 / EU
Tests:	DVGW (according to DIN 1854), VDE 0630, EN 61058, directive on gas devices 2009 / 142 / EU, CE 0085 A P 0918
FUNCTION	Contact 1-2 breaks when pressure / differential pressure rises to the preset value. Contact 1-3 closes when pressure / differential pressure drops and can be used as signal contact.
ACCESSORIES	
ASD-06	Connection set (nipple straight) – (included in the scope of delivery)
DS-MR-K	Mounting ring (included in the scope of delivery)
WS-04	Weather and sun protection hood , 130 x 180 x 135 mm, aus stainless steel V2A (1.4301)

DS2
with mounting ring



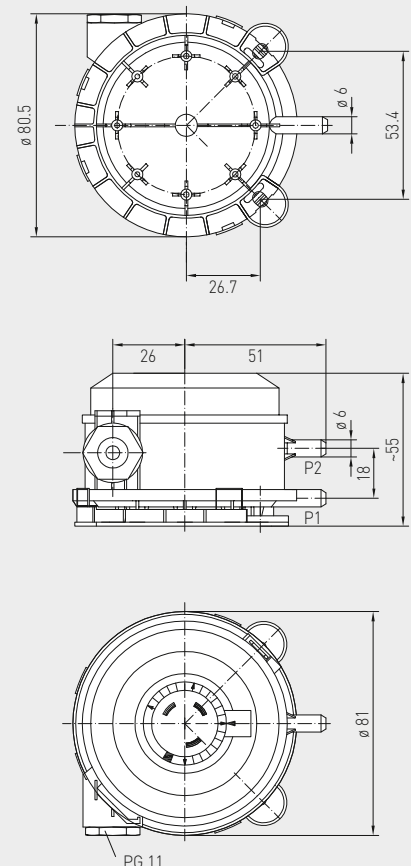
Schematic diagram

DS2

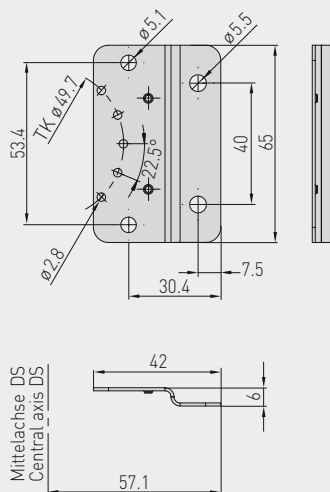


Dimensional drawing

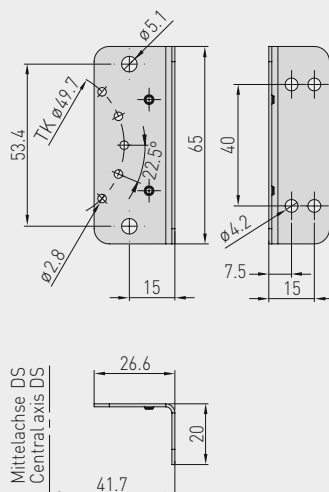
DS2
with mounting ring
DS-MR-K



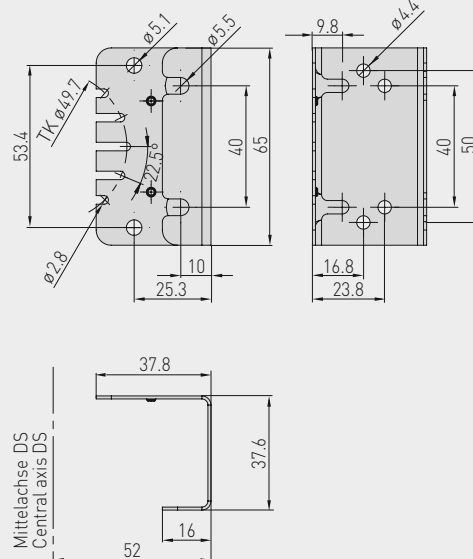
Dimensional drawing **DS -MW-Z**
Mounting angle



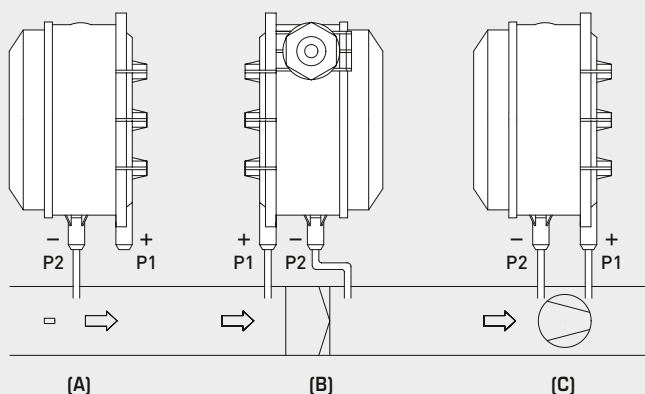
Dimensional drawing **DS -MW-L**
Mounting angle



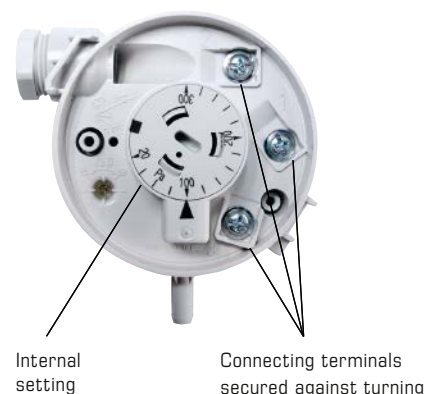
Dimensional drawing **DS -MW-U**
Mounting angle



Mounting diagram **DS 1 / DS 2**



DS 1 / DS 2
Connection



Internal
setting

Connecting terminals
secured against turning

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

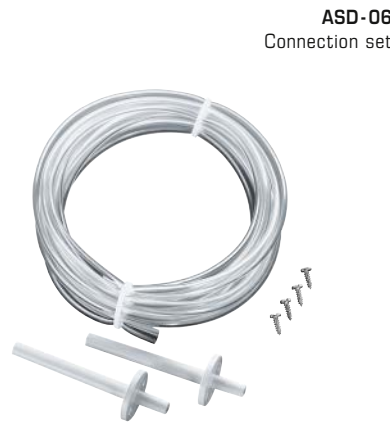
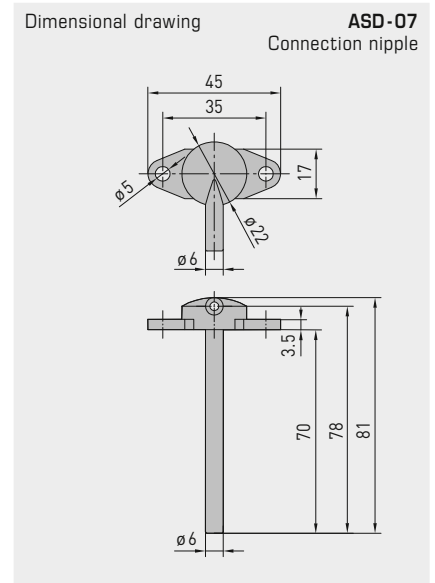
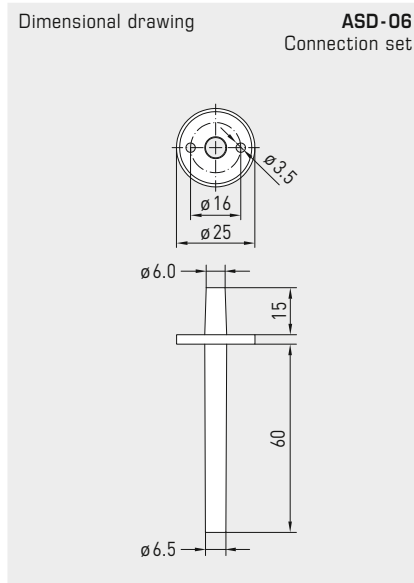
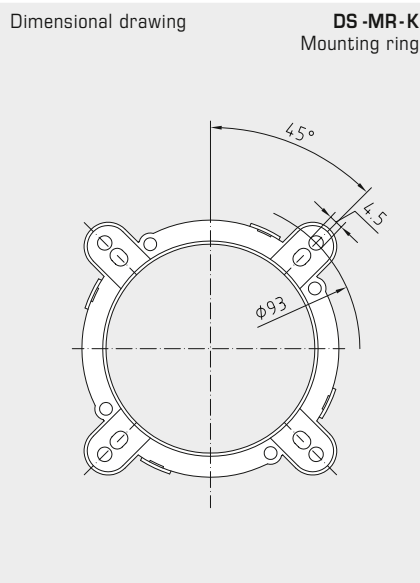
(C) Ventilator:

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	mWS
1 Pa	0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mWS
1 kPa	0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mWS
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mWS
1 mbar	0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mWS
1 mWS	0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mWS



PREMASREG® DS 1 Differential pressure switches with mounting angle, *Premium*
PREMASREG® DS 2 Differential pressure switches with mounting ring, *Standard*

Type	Pressure range (adjustable)	Operating Difference approx.	Max. Pressure	Item No.
DS 1 / WG02	<i>Premium</i>			with mounting angle DS-MW-Z
DS-106	20... 300 Pa (0.2...3.0 mbar)	0.1 mbar ± 15 %	5000 Pa (50 mbar)	1302-4011-0000-000
DS-106 A	50... 500 Pa (0.5...5.0 mbar)	0.2 mbar ± 15 %	5000 Pa (50 mbar)	1302-4012-0000-000
DS-106 B	100... 1000 Pa (1.0...10.0 mbar)	0.4 mbar ± 15 %	5000 Pa (50 mbar)	1302-4013-0000-000
DS-106 C	500...2000 Pa (5.0...20.0 mbar)	1.0 mbar ± 15 %	5000 Pa (50 mbar)	1302-4014-0000-000
DS-106 D	1000...5000 Pa (10.0...50.0 mbar)	2.5 mbar ± 15 %	7500 Pa (75 mbar)	1302-4015-0000-000
DS 2 / WG03B	<i>Standard</i>			with mounting ring DS-MR-K
DS-205 F	20... 300 Pa (0.2...3.0 mbar)	0.1 mbar ± 15 %	5000 Pa (50 mbar)	1302-4026-0000-000
DS-205 B	50... 500 Pa (0.5...5.0 mbar)	0.2 mbar ± 15 %	5000 Pa (50 mbar)	1302-4022-0000-000
DS-205 D	100... 1000 Pa (1.0...10.0 mbar)	0.4 mbar ± 15 %	5000 Pa (50 mbar)	1302-4027-0000-000
DS-205 E	500...2000 Pa (5.0...20.0 mbar)	1.0 mbar ± 15 %	5000 Pa (50 mbar)	1302-4028-0000-000
ACCESSORIES				
DS-MW-Z	Sheet steel mounting angle in Z-form (DS 1: included in the scope of delivery)			7100-0063-0000-000
DS-MW-L	Sheet steel mounting angle in L-form			7100-0063-1000-000
DS-MW-U	Sheet steel mounting angle in U-form			7100-0060-9000-000
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
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!				

Pressure measuring transducers, incl. DIN plug-in connectors,
with active output

The pressure sensor **PREMASGARD® SHD-SD** is used for measuring relative pressures (max. 0...16 bar) in gaseous and liquid media. **Not suitable for ammonia and freon!**

The pressure sensor **PREMASGARD® SHD** is used for measuring relative pressures (max. 0...40 bar) in gaseous and liquid media. The pressure measuring cell is welded to the pressure sensors without a gasket.

The device variant **SHD-xx-LCD** is supplied with the display module **LCD-SHD**. The installation takes place below the angle plug. The module can be mechanically rotated and tilted, and the display content can be rotated in 90° increments to achieve the ideal reading position. The display types and pressure units are configured directly on the display (menu-controlled via buttons).

The pressure measuring transducer converts the measurand into a standard signal of 0-10 V or 4...20 mA. Process connection is G 1/2". This pressure transmitter is used in hydraulics, pneumatics, process technology, in mechanical and plant engineering.

TECHNICAL DATA

Power supply:	24 V AC / DC for output 0-10 V 7-33 V DC for output 4...20 mA
Measuring ranges:	see table (other ranges upon request)
Output:	0-10 V, 3-wire, (working resistance > 10 kOhm) or 4...20 mA, 2-wire, (working resistance < (UB (V) - 7 V) / 0.02 A; R _L depending on working resistance
Electrical connection:	0.2 - 1.5 mm ² / 24 - 16 AWG, via plug-in connector DIN EN 175301-803-A (included in the scope of delivery)
Pressure connection:	G 1/2" sealing at the back
Type of pressure:	relative
Medium:	liquid and gaseous
Response time:	2 ms (1 ms typical)
Characteristic line:	± 0.3 %
Mounting:	directly on pressure line
Housing:	stainless steel V2A (1.4305)
Connecting head:	plastic, approx. 98 x 50 x 34 mm / 3.86 x 1.97 x 1.34 in

SHD-SD

Measuring principle:	ceramic measuring cell
Temperature of medium:	-15...+125 °C / -5...+257 °F
Medium contacting parts:	stainless steel V2A (1.4305); measuring element ceramic Al ₂ O ₃ (96%); sealing material FPM (Viton)
Load changes:	< 100 Hz
Overload range / Bursting pressure:	< 4 bar: 3 x FS > 4 bar: 2.5 x FS

SHD

Measuring principle:	steel measuring cell
Temperature of medium:	-40...+135 °C / -40...+275 °F
Medium contacting parts:	stainless steel V2A (1.4305)
Overload range:	< 6 bar: 5 x of final valu > 6 bar: 3 x of final valu (max. 1500 bar)
Bursting pressure:	< 6 bar: 10 x of final valu > 6 bar: 6 x of final valu (max. 2500 bar)

SHD-xx-LCD

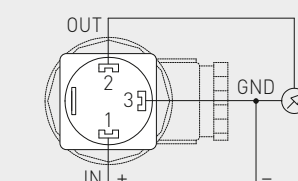
Display:	display module LCD-SHD , rotatable and tiltable, made of plastic, flame retardant (UL 94 V-0), material PC/ABS, colour black (similar to RAL 9004), housing cover for display is transparent, for displaying the ACTUAL pressure, min / max pressure or standard signal of the sensor
Display content:	pressure [bar] [kPa] [psi] [inWC] [mWC] [atm] power [V] or current [mA]
System of unitsv:	SI and Imperial (display configurable)
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Tests:	drinking water approval according to NSF/ANSI 61/372, UL-certified according to ANSI/UL 61010-1

SHD-xx-LCD
with display module



Connecting diagram

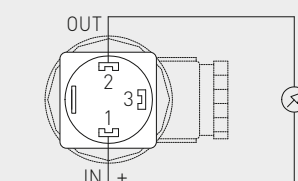
SHD xx-U



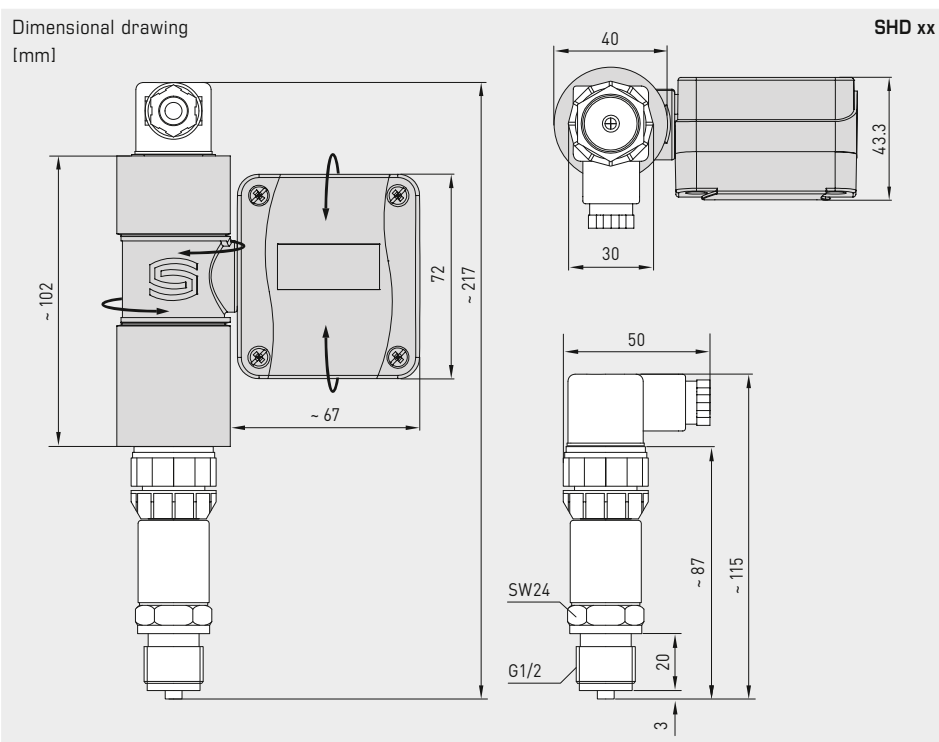
- 2 Output pressure 0-10 V
- 3 GND
- 1 Supply voltage UB+ 24V AC/DC

Connecting diagram

SHD xx-I



- 2 Output pressure 4...20 mA
- 3 Free
- 1 Supply voltage UB+ 24V DC



SHD xx



PREMASGARD® SHD-SD Pressure measuring transducer, *Standard*
or gaseous and liquid media

Measuring Range	Type / WG01	Display	Item No. Output 0-10 V	Item No. Output 4...20 mA
	SHD-SD-x = U / I		U - variant	I - variant
0... 6 bar	SHD-SD-x 6		1301-2121-0550-120	1301-2122-0550-000
	SHD-SD-x 6 LCD	■	1301-2121-5550-221	1301-2122-5550-101
0... 10 bar	SHD-SD-x 10		1301-2121-0560-120	1301-2122-0560-000
	SHD-SD-x 10 LCD	■	1301-2121-5560-221	1301-2122-5560-101
0... 16 bar	SHD-SD-x 16		1301-2121-0570-120	1301-2122-0570-000
	SHD-SD-x 16 LCD	■	1301-2121-5570-221	1301-2122-5570-101
Note: Not suitable for ammonia and freon!				

PREMASGARD® SHD Pressure measuring transducer, *Premium*
for gaseous and liquid media

Measuring Range	Type / WG01	Display	Item No. Output 0-10 V	Item No. Output 4...20 mA
	SHD-x = U / I		U - variant	I - variant
0... 1 bar	SHD-x 1		1301-2111-0520-220	1301-2112-0520-120
	SHD-x 1 LCD	■	1301-2111-5520-221	1301-2112-5520-121
0... 2.5 bar	SHD-x 2,5		1301-2111-0530-220	1301-2112-0530-120
	SHD-x 2,5 LCD	■	1301-2111-5530-221	1301-2112-5530-121
0... 6 bar	SHD-x 6		1301-2111-0550-220	1301-2112-0550-120
	SHD-x 6 LCD	■	1301-2111-5550-221	1301-2112-5550-121
0... 10 bar	SHD-x 10		1301-2111-0560-220	1301-2112-0560-120
	SHD-x 10 LCD	■	1301-2111-5560-221	1301-2112-5560-121
0... 16 bar	SHD-x 16		1301-2111-0570-220	1301-2112-0570-120
	SHD-x 16 LCD	■	1301-2111-5570-221	1301-2112-5570-121
0... 25 bar	SHD-x 25		1301-2111-0580-220	1301-2112-0580-120
	SHD-x 25 LCD	■	1301-2111-5580-221	1301-2112-5580-121
0... 40 bar	SHD-x 40		1301-2111-0590-220	1301-2112-0590-120
	SHD-x 40 LCD	■	1301-2111-5590-221	1301-2112-5590-121

**Pressure measuring transducers,
incl. DIN plug-in connectors and mounting angle,
with active output**

The pressure sensor / differential pressure sensor **PREMASGARD® SHD-692** is used for pressure measurement in gaseous and liquid media. It converts the measurand into standard signals of 0-10 V or 4...20 mA. Process connection is 2 x G 1/8" - 27 NPT internal thread. SHD-692 differential pressure transmitters are used in piping and hydraulic systems, in mechanical and plant engineering as well as in building automation.

Not applicable for ammonia and freon!

The device variant **SHD 692-xx-LCD** is supplied with the display module **LCD-SHD**.

The installation takes place below the angle plug. The module can be mechanically rotated and tilted, and the display content can be rotated in 90° increments to achieve the ideal reading position. The display types and pressure units are configured directly on the display (menu-controlled via buttons).

SHD 692-xx-LCD
with display module

TECHNICAL DATA

Power supply:	24 V AC (+15% / -10%), 18 - 33 V DC for U-variant 24 V DC (± 20%) for I-variant
Measuring ranges:	see table
Output:	0-10 V (3-wire connection) or 4...20 mA (2-wire connection)
Permissible working resistance: (at nominal voltage)	$R_L > 10 \text{ k}\Omega$ for U-variant $R_L < 600 \Omega$ for I-variant
Electrical connection:	0.2 - 1.5 mm ² , via plug-in connector DIN EN 175301-803-A (included in the scope of delivery)
Pressure connection:	screw pipe connection for 6 mm pipe (G 1/8" - 27 NPT internal thread)
Type of pressure:	differential pressure
Measuring principle:	ceramic measuring cell
Medium:	liquid or gaseous
Temperature of medium:	-15...+80 °C
Housing:	stainless steel V2A (1.4305)
Mounting:	by mounting angle (included in the scope of delivery), installation arbitrary
Medium contacting parts:	INOX (1.4305), ceramics, sealing material EPDM
Response time:	< 5 ms
Class:	0.5 %
Total error:	< 1.3 %
Overload range:	see table (one-sided max. pressure)
System pressure:	max. 25 bar (P1 + P2)
Bursting pressure:	1.5 x system pressure
Insulating resistance:	≥ 100 MOhm, at +20 °C (500 V DC)

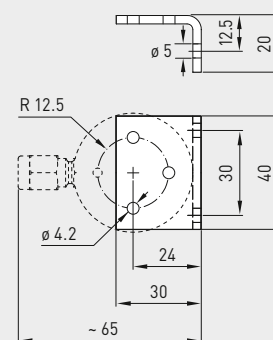
SHD 692-xx-LCD

Display:	display module LCD-SHD , rotatable and tiltable, made of plastic, flame retardant (UL 94 V-0), PC/ABS material, colour black (similar to RAL 9004), housing cover is transparent, for displaying the ACTUAL pressure, min / max pressure or standard signal of the sensor
Display content:	pressure [bar] [kPa] [psi] [inWC] [mWC] [atm] power [V] or current [mA]
System of unitsv:	SI and Imperial (display configurable)
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU



Dimensional drawing
[mm]

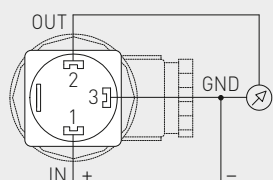
SHD 692
Mounting angle



Connecting diagram

SHD 692-U

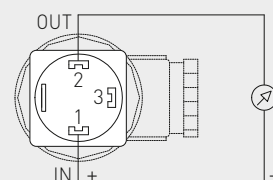
-  2 Output pressure 0-10V
-  3 GND
-  1 Supply voltage UB+ 24V AC / 18-33V DC



Connecting diagram

SHD 692-I

-  2 Output pressure 4...20mA
-  3 Free
-  1 Supply voltage UB+ 24V DC





S+S REGELTECHNIK

PREMASGARD® SHD 692

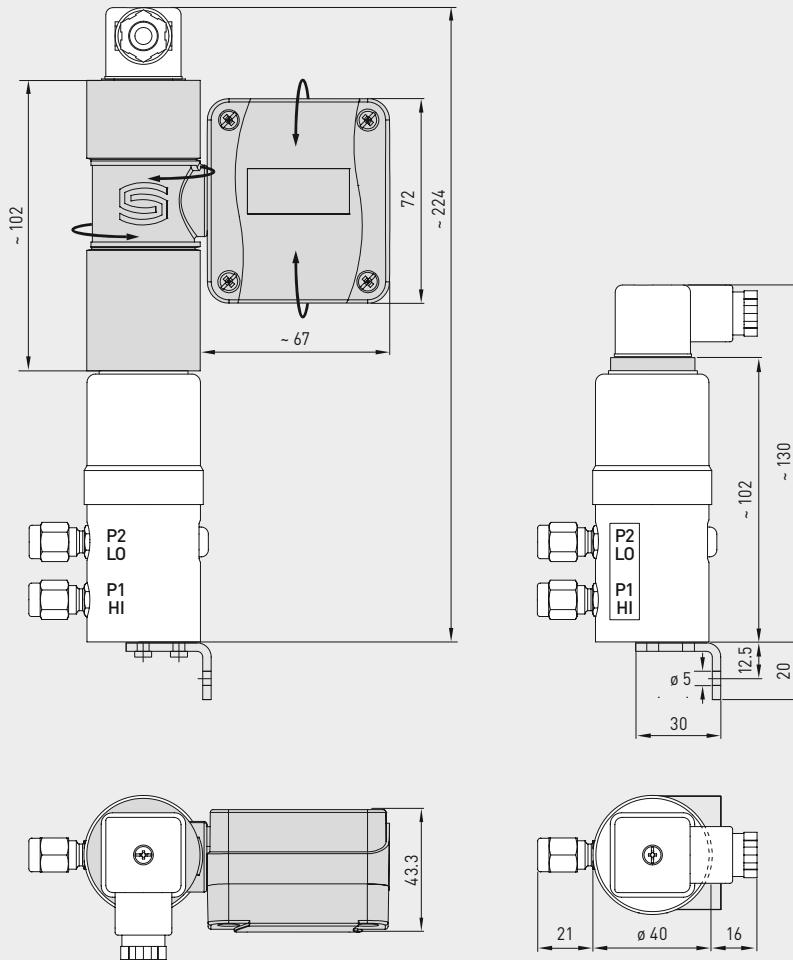
Pressure measuring transducers,
incl. DIN plug-in connectors and mounting angle,
with active output



Dimensional drawing
[mm]

SHD 692

SHD 692



PREMASGARD® SHD 692		Pressure measuring transducers, <i>Deluxe</i> or gaseous and liquid media			
Measuring Range	One-sided max. pressure	Type / WG02	Display	Item No. Output 0-10 V	Item No. Output 4...20 mA
		SHD 692-x = U / I		U - variant	I - variant
0...0,1 bar	0,6 bar	SHD 692-x-900		1301-4121-0500-000	1301-4122-0500-000
		SHD 692-x-900-LCD	■	1301-4121-5500-201	1301-4122-5500-101
0...0,5 bar	3 bar	SHD 692-x-907		1301-4121-0510-000	1301-4122-0510-000
		SHD 692-x-907-LCD	■	1301-4121-5510-201	1301-4122-5510-101
0... 1 bar	5 bar	SHD 692-x-912		1301-4121-0520-000	1301-4122-0520-000
		SHD 692-x-912-LCD	■	1301-4121-5520-201	1301-4122-5520-101
0...2,5 bar	12 bar	SHD 692-x-916		1301-4121-0530-000	1301-4122-0530-000
		SHD 692-x-916-LCD	■	1301-4121-5530-201	1301-4122-5530-101
0... 4 bar	12 bar	SHD 692-x-918		1301-4121-0540-000	1301-4122-0540-000
		SHD 692-x-918-LCD	■	1301-4121-5540-201	1301-4122-5540-101
0... 6 bar	12 bar	SHD 692-x-919		1301-4121-0550-000	1301-4122-0550-000
		SHD 692-x-919-LCD	■	1301-4121-5550-201	1301-4122-5550-101
0... 10 bar	20 bar	SHD 692-x-930		1301-4121-0560-000	1301-4122-0560-000
		SHD 692-x-930-LCD	■	1301-4121-5560-201	1301-4122-5560-101
Note:		Not suitable for ammonia and freon!			

Display module for pressure transmitter SHD / SHD-SD / SHD 692
with DIN EN 175301-803-A connector, configurable, rotatable and tiltable,
with active output

The display module **LCD-SHD** has been specially designed for the pressure transmitter **PREMASGARD® SHD / SHD-SD / SHD 692** with active output (0-10 V / 4...20 mA) and connector DIN EN 175301-803-A. The display can be mechanically rotated and tilted, and the display content can be rotated in increments of 90° to achieve the ideal reading position. In addition to the actual pressure, it can display the min/max measured values or alternatively the output signal of the sensor.

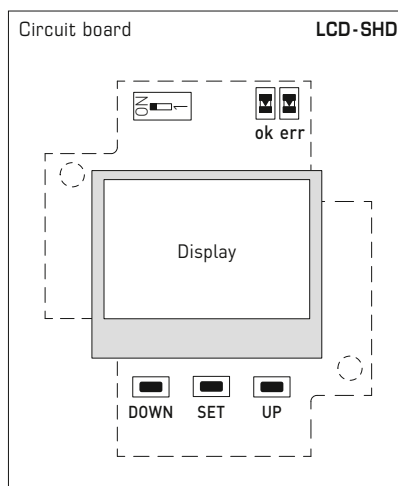
The configured display unit transmits the standard signals from the pressure measuring transducer unchanged and uses them to calculate the pressure in the selected unit for the display. The following parameters can be set: Measuring range of the sensor, physical unit (bar / kPa / psi / inWC / mWC / atm), interval of the min/max values (1h / 6h / 12h / 24h / ∞), number of values for averaging, display mode, direction of the display content, contrast and backlight (for U variant). The unit is configured using micro button switches on the circuit board inside the housing.

TECHNICAL DATA

Power supply:	24 V AC/DC (± 5%) (for U variant) UB _{min} = UB pressure sensor + 6 V DC (for I variant)
Load resistance:	R _L > 100 kOhm (for U variant)
Power consumption:	< 0.85 W (for U variant) < 0.15 W (for I variant)
Input:	0-10 V or 4...20 mA
Output:	0-10 V or 4...20 mA Standard signals from the sensor are forwarded. Indication values on the display are calculated.
Connection type:	3-wire connection (for U variant) or 2-wire connection (for I variant)
Measuring range:	sensor-dependent, measuring range and output unit are configured via the menu
Accuracy:	typically < 0.2 % final value
Temperature dependence:	typically < 0.01 % final value/K
Pressure type:	relative pressure, differential pressure
System of units:	SI and imperial
Display content:	pressure [bar] [kPa] [psi] [inWC] [mWC] [atm], voltage [V] or current [mA]
LCD display:	with backlight (for U variant), cut-out approx. 28 x 16 mm (W x H), configurable, to display the actual pressure, min/max pressure or output signal of the sensor
Display housing:	plastic, flame retardant (UL 94 V-0), material PC/ABS, colour black (similar to RAL 9004), housing cover for display is transparent, with quick-locking screws (slotted/Phillips head combination), rotatable and tiltable, dimensions: approx. 72 x 64 x 43.3 mm
Adapter housing:	plastic, flame retardant (UL 94 V-0), material PC/ABS, colour black (similar to RAL 9004), dimensions: approx. 102 mm, Ø 40 mm
Electrical connection:	via connector DIN EN 175301-803-A
Installation:	simple plug-in assembly, fastened via screw extension (included in the scope of delivery)
Ambient temperature:	storage -20...+75 °C; operation 0...+60 °C
Protection class:	III (according to EN 60730)
Protection type:	IP 65 (according to EN 60529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Compatibility:	pressure measuring transducer type SHD / SHD-SD / SHD 692, other manufacturers on request

SHD-xx-LCD

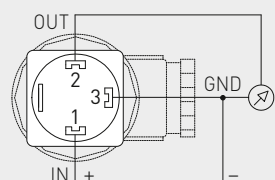
Pressure transmitter with display module
 (Fig. shows type SHD-SD-LCD)



Connecting diagram display module

LCD-SHD-U

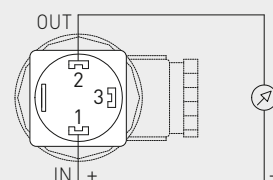
-  2 Output pressure 0-10V
-  3 GND
-  1 Supply voltage UB + 24V AC/DC (± 5%)



Connecting diagram display module

LCD-SHD-I

-  2 Output pressure 4...20mA
-  3 Free
-  1 Supply voltage UB_{min} = sensor + 5V DC



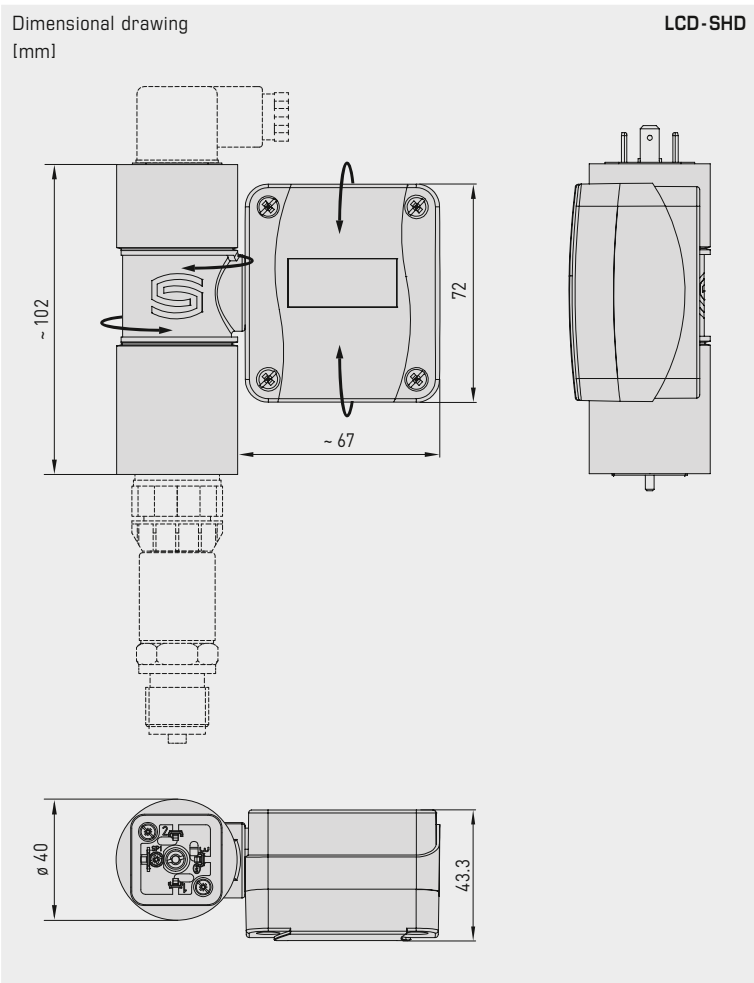


NEW

S+S REGELTECHNIK

PREMASGARD® LCD - SHD

Display module for pressure transmitter SHD / SHD-SD / SHD 692
with DIN EN 175301-803-A connector, configurable, rotatable and tiltable,
with active output



LCD-SHD
Display module with connector
DIN EN 175301-803-A



PREMASGARD® LCD - SHD					
Display module for pressure transmitter with connector DIN EN 175301-803-A, with active output					
Type / WG02	Compatibility with unit type	Input	Output	Display	Item no. (without SHD)
LCD-SHD-I					I variant
LCD-SHD-I	SHD-I SHD-SD-I SHD-692-I	4...20 mA	4...20 mA	■	1301-5112-5000-100
LCD-SHD-U					U variant
LCD-SHD-U	SHD-U SHD-SD-U SHD-692-U	0-10 V	0-10 V	■	1301-5111-5000-200
LCD-SHD-Modbus					Modbus variant
LCD-SHD-Modbus	SHD-U SHD-SD-U SHD-692-U	0-10 V	Modbus RTU	■	1301-5114-5000-200
This device version converts the standard 0-10 V signal into a Modbus signal. For technical data and further information, see chapter 'Modbus'!					
Note					
Backlight for U variant (3-wire connection) can be optionally configured. Compatibility with pressure transmitters from other manufacturers possible upon request.					