

Pressure and differential pressure measuring transducers,
incl. connection set, compact form,
with Modbus connection

The calibratable **PREMASGARD® 121x-Modbus** series compact pressure sensors with Modbus connection are optionally equipped with display and are used for measuring above-atmospheric, below-atmospheric, or differential pressures of air. The piezo-resistive measuring element is temperature-compensated and guarantees high reliability and accuracy. The pressure transmitters are provided with a push-button for manual zero point calibration and an adjustable offset. Applications of these pressure sensors are in cleanroom, medical and filter technology, at ventilation and air conditioning ducts, at 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. These differential pressure sensors are supplied including connection set **ASD-06** (2m connection hose, two pressure connection nipples, screws).

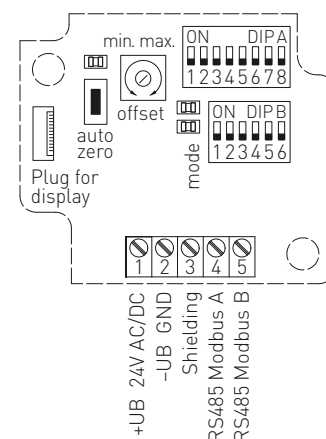
PREMASGARD® 121x - Modbus
Compact form



TECHNICAL DATA

Power supply:	24 V AC (±20%) and 15...36 V DC
Power consumption:	< 1 VA / 24 V DC, < 2.2 VA / 24 V AC
Measuring ranges:	-1000...+1000 Pa or -5000...+5000 Pa , depending on the type of device, see table
Media temperature:	-20...+50 °C
Pressure connection:	4 / 6 x 11 mm (hoses Ø = 4 / 6 mm), metal pressure connection nozzles
Type of pressure:	differential pressure
Medium:	clean air and other non-aggressive, non-combustible gases
Accuracy:	Type 1211 (1000 Pa): ± 5 Pa Type 1215 (5000 Pa): ± 25 Pa compared to the calibrated reference device
Zero point offset:	± 10 % of pressure range (selectable using the offset calibration button with potentiometer on circuit board or using the Modbus interface by remote maintenance)
Above- / below-pressure:	max. 5x pressure range
Long-term stability:	± 1 % per year
Hysteresis:	0.3 % of final value
Media contacting parts:	ms, Ni, Nylon, PU, Si, PVC with plasticisers
Temperature drift values:	± 0.1 % of final value / °C
Linearity:	< ± 1 % of final value
Enclosure:	plastic, UV-stabilised, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!
Enclosure dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable gland:	2x M 12x 1.5 (Y-adapter); with strain relief, exchangeable, max. inner diameter 6 mm
Permissible air humidity:	< 95 % r. H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP65 (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU
Features:	two-line display with illumination , programmable, cutout approx. 36 x 15 mm (W x H), to display ACTUAL pressure or an individually programmable display value (The Modbus interface allows the display to be individually configured in the 7-segment area and in the dot-matrix area.)
ACCESSORIES	see table
MODBUS-Y	Y-adapter for cable gland M16x1.5 (on 2x M12x1.5), plastic (included in the scope of delivery)
ASD-06	Connection set (nipple straight) – (included in the scope of delivery)
ASD-07	Connection nipple (at 90 degree angle)
DAL-01	Pressure outlet for ceiling or in-wall installation (e.g. in clean rooms)

Schematic diagram
PREMASGARD® 121x - Modbus



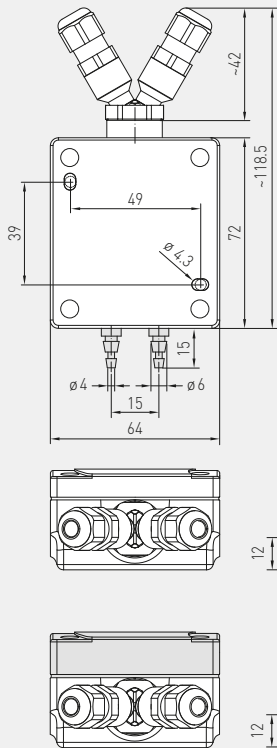
- DIP A: Bus address
- DIP B: Bus parameters (Baud rate, parity ...)
- Telegram indicator
- Reception (LED green)
- Error (LED red)
- LED and pushbutton zero point setting (auto zero)
- Offset correction pressure ca. ± 10% of final value
- Plug for display contact is on the right side



S+S REGELTECHNIK

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Dimensional drawing



PREMASGARD® 121x-Modbus

without display

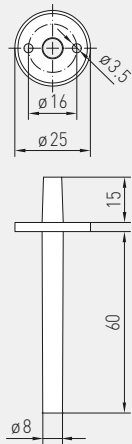
with display

PREMASGARD® 121x-Modbus
Compact form
with display



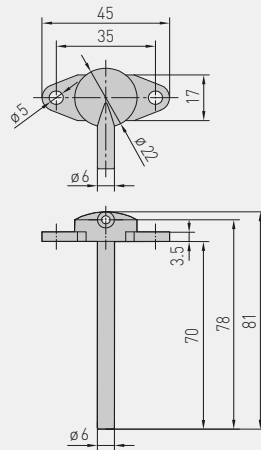
Dimensional drawing

ASD-06
Connection set



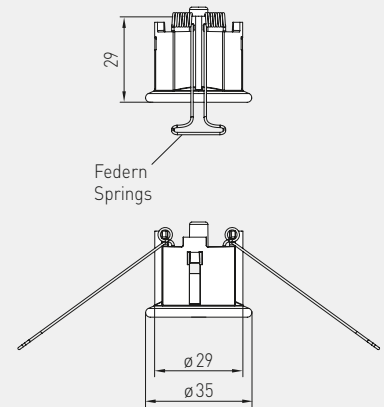
Dimensional drawing

ASD-07
Connection nipple



Dimensional drawing

DAL-01
Pressure outlet



ASD-06
Connection set



ASD-07
Connection nipple



DAL-01
Pressure outlet



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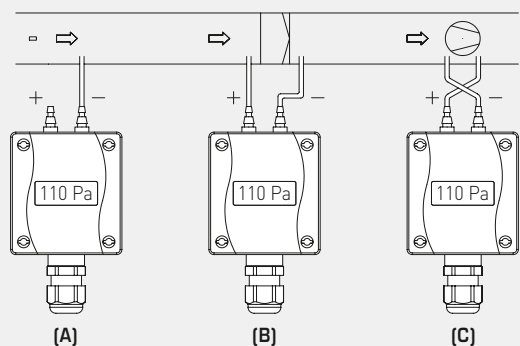
WS-04

Weather and sun protection hood (optional)



Mounting diagram

PREMASGARD® 121x - Modbus



TYPES OF MONITORING:

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

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

Conversion table for pressure values:

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



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PREMASGARD® 121x - Modbus – Pressure and differential pressure measuring transducers

Type / WG01	Measuring Range Pressure range	Output	Display	Item No.	Price
PREMASGARD® 1211 - Modbus	- 1000...+ 1000 Pa				
PREMASGARD 1211-M	-1000...+ 1000 Pa	Modbus		1301-1214-0010-200	
PREMASGARD 1211-M DISPLAY	-1000...+ 1000 Pa	Modbus	■	1301-1214-2010-200	
PREMASGARD® 1215 - Modbus	- 5000...+ 5000 Pa				
PREMASGARD 1215-M	-5000...+ 5000 Pa	Modbus		1301-1214-0050-200	
PREMASGARD 1215-M DISPLAY	-5000...+ 5000 Pa	Modbus	■	1301-1214-2050-200	

Accessories

KA-2	Modbus communication adapter with USB/RS485 interface for system connection or/and as an active bus termination resistance				on request
ASD-06	Connection set (included in the scope of delivery) , consisting of 2 connection nipples (straight) made of ABS, 2 m PVC hose, soft, and 4 tapping screws			7100-0060-3000-000	
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			7100-0040-7000-000	

For further information, see last chapter Accessories!

S+S
BUS

TEMP

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