

Pressure and differential pressure measuring transducers ($\pm 1.5\%$ / $\pm 3\%$), incl. connection set, compact form, **with Modbus connection**

Quality product for HVAC sector, accuracy $\pm 1.5\%$ or $\pm 3\%$

The calibrateable PREMASGARD® 1210 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 pushbutton 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® 1210
Compact form (Thor III)

TECHNICAL DATA:

- Power supply:24V AC ($\pm 20\%$) and 15 ... 36V DC ($\pm 10\%$)
- Power consumption:< 1VA / 24V DC, < 2,2VA / 24V AC
- Measuring ranges: - 1000...+ 1000 Pa, or
- 5000...+ 5000 Pa,
depending on the type of device, see table
- Bus interface:RS 485, **galvanically isolated**
- Baud rate:9600, 19200, 38400 Baud
- Status indicator:LED green = Telegram valid
LED red = Telegram error
- Media temperature:0 ... +50 °C
- Pressure connection:4 / 6 x 11 mm (hoses $\varnothing = 4 / 6$ mm),
metal pressure connection nozzles
- Type of pressure:differential pressure
- Medium:clean air and other non-aggressive, non-combustible gases
- Accuracy: $\pm 1.5\%$ or $\pm 3\%$ EW (at 20°C)
depending on the type of device
- Zero point offset: $\pm 10\%$ of pressure range end value
- Above- / below-atmospheric pressure:max. 5x pressure range end value
- Long-term stability: $\pm 1\%$ per year
- Hysteresis:0.3% of final value
- Media contacting parts:brass, Ni, Nylon, PU, Si
- Temperature drift values: $\pm 0.1\%$ of final value / °C
- Current consumption:< 20 mA
- Linearity:< $\pm 1\%$ of final value
- Enclosure:plastic, material polyamide, 30% glass-globe-reinforced,
with quick-locking screws (slotted / Phillips head combination),
colour pure white (similar RAL 9010), enclosure cover for display is transparent!
- Enclosure dimensions:72 x 64 x 37.8 mm (Thor III without display)
72 x 64 x 43.3 mm (Thor III with display)
- Cable gland:M 16 x 1.5, including strain relief, exchangeable,
max. inner diameter 10.4 mm
- Electrical connection:0.14 - 1.5 mm², via terminal screws
- Humidity:< 95% r. H., non-precipitating air
- Protection class:III (according to EN 60 730)
- Protection type:IP65 (according to EN 60 529)
- Standards:CE conformity, electromagnetic compatibility
according to EN 61 326 + A1 + A2,
EMC directive 2004 / 108 / EC
- Features:**illuminated single line display**,
cutout ca. 36 x 15 mm (W x H),
to display ACTUAL pressure
- ACCESSORIES:including connection set **ASD-06** (nipple straight)
(included in the scope of delivery)
connection nipple **ASD-07** (at 90 degree angle)
pressure outlet **DAL-1** for ceiling or
in-wall installation (e.g. in clean rooms)

TYPES OF MONITORING:

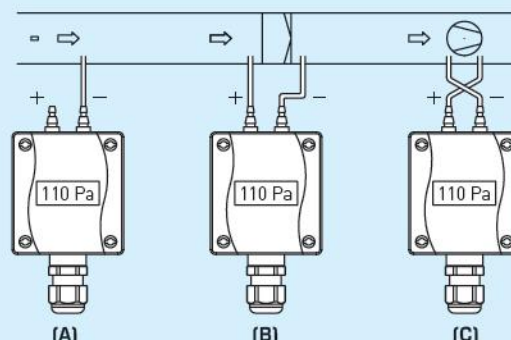
- (A) Below -atmospheric pressure: P1 (+) is not connected
but open against atmosphere
P2 (-) connected to inside of duct
- (B) Filter: P1 (+) connected upstream of filter
P2 (-) connected downstream of filter
- (C) Ventilator: P1 (+) connected downstream of ventilator
P2 (-) connected upstream of ventilator

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



Mounting diagram

PREMASGARD® 1210
Compact form (Thor III)





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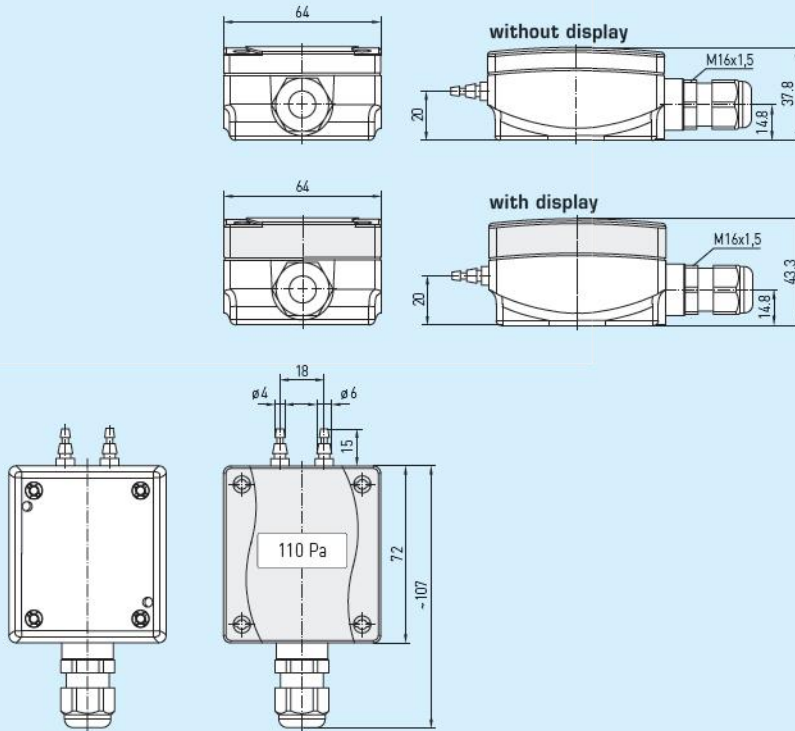
S+S REGELTECHNIK

PREMASGARD® 1210

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Dimensional drawing

PREMASGARD® 1210
Compact form (Thor III)

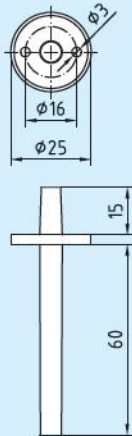


PREMASGARD® 1210
Compact form (Thor III)
with display



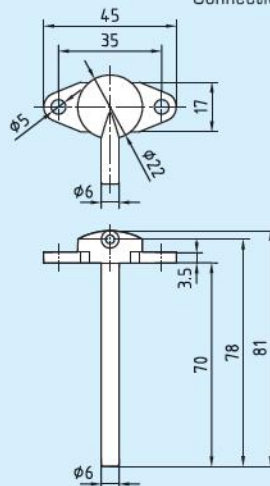
Dimensional drawing

ASD-06
Connection set



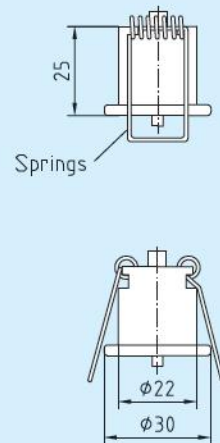
Dimensional drawing

ASD-07
Connection nipple



Dimensional drawing

DAL-1
Pressure outlet



ASD-06
Connection set



ASD-07
Connection nipple



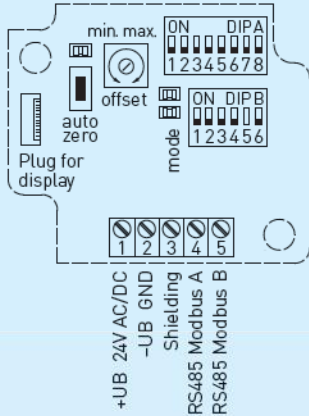
DAL-1
Pressure outlet



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Schematic diagram

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- 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. $\pm 10\%$ of final value
- Plug for display contact is on the right side

DIP switch block [A]
For setting bus address:

Bus address
(binary coded, value selectable from 1 to 247)

DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6	DIP 7	DIP 8
128	64	32	16	8	4	2	1
ON	ON	OFF	OFF	OFF	OFF	OFF	ON

Example shows $128 + 64 + 1 = 193$ as Modbus address.

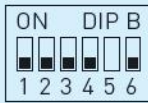
PREMASGARD® 1210
DIP switch [A]



DIP switch block [B]
For setting bus parameters:

Baud rate (selectable)	DIP 1	DIP 2
9600 Baud	ON	OFF
19200 Baud	ON	ON
38400 Baud	OFF	ON
Reserved	OFF	OFF

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DIP switch block [B]
(DIP switch 5 is not assigned)



Parity (selectable)	DIP 3	Parity check (with or without selectable)	DIP 4	Bus termination (with or without selectable)	DIP 6
EVEN-numbered	ON	Active (1 stop bit)	ON	Active	ON
ODD-numbered	OFF	Inactive (2 stop bits)	OFF	Inactive	OFF

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® 1210

incl. connection set

Measuring Range Pressure range	Type / WG1 Features	Output	Display	Item No.
- 1000...+ 1000 Pa				
-1000... + 1000 Pa	PREMASGARD® 1210	Modbus	■	1301-1214-0010-200
-1000... + 1000 Pa	PREMASGARD® 1210 with display	Modbus	■	1301-1214-2010-200
- 5000...+ 5000 Pa				
-5000... + 5000 Pa	PREMASGARD® 1210	Modbus	■	1301-1214-0050-200
-5000... + 5000 Pa	PREMASGARD® 1210 with display	Modbus	■	1301-1214-2050-200

Accessories	Description	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, 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

For further information see last chapter Accessories!

