

Pressure sensor and measuring transducer for differential pressure and volume flow, incl. connection set, calibratable, with Modbus connection

Maintenance-free, microprocessor-controlled **PREMASGARD® 714x-Modbus** (series) with Modbus connection, impact-resistant plastic housing, optionally with/without display, with cable gland or M12 connector according to DIN EN 61076-2-101, for measuring the differential pressure (max. -7000...+7000 Pa) in air. Incl. connection kit **ASD-06** (2m connecting hose, two pressure port nipples, screws).

The pressure 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 following measured values can be accessed via the Modbus: Differential pressure [Pa], volume flow [m³/h].

Innovative Modbus sensor with galvanically separated RS485 Modbus interface, selectable bus termination resistance, DIP switch for setting the bus parameters and bus address in current-free state, LEDs for telegram status display, two separate push-in terminals and large three-line display (illuminated; with customised programming in the 7-segment and dot-matrix range). The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

PREMASGARD® 714x-Modbus

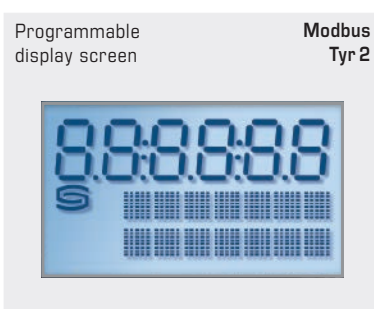
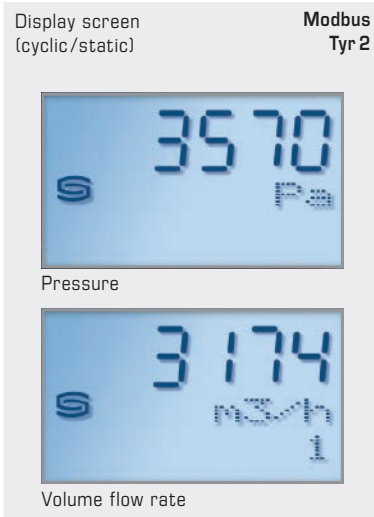


Device version with **M12 connector** (optional)



TECHNICAL DATA

Power supply:	24 V AC (±20%) and 15...36V DC
Power consumption:	< 4.8 W / 24 V DC typical; < 6.8 VA / 24 V AC typical
Pressure type:	Differential pressure
Data points:	Differential pressure [Pa], volume flow [m³/h]
Measuring range, pressure:	-500... +500 Pa or -7000...+7000 Pa depending on the device type, see table
Pressure accuracy:	Type 7148 (500 Pa): typical ± 13 Pa Type 7147 (7000 Pa): typical ± 105 Pa compared to a calibrated reference device
Above- / below-pressure:	max. ± 50 kPa
Zero point offset:	± 10 % measuring range
Hysteresis:	0.3% of final value
Linearity:	< ± 1 % of final value
Temp. drift values:	± 0.1 % / °C
Long-term stability:	± 1 % per year
Bus protocol:	Modbus (RTU mode), address range 0... 247 selectable
Signal filtering:	0 s / 1 s / 10 s
Pressure connection:	with metal nozzles for pressure hose Ø 6 mm
Medium:	clean air and non-aggressive, non-combustible gases
Media contacting parts:	Brass, Ni, Duroplast, Si, epoxy, RTV, BSG, UV silicone gel
Media temperature:	-20...+50 °C (temperature-compensated 0...+50 °C)
Ambient temperature:	-30...+70 °C
Permissible humidity:	0...95% r. H. (non-precipitating air)
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:	126 x 90 x 50 mm (Tyr2)
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)
Electrical connection:	0.2-1.5 mm², via push-in terminals
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, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU
Optional:	Illuminated display , 3-line, programmable, cut-out approx. 70 x 40 mm (W x H), to display the actual pressure or volume flow or an individually programmable display value
ACCESSORIES	see table
ASD-06	Connection set (nipple straight) (included in the scope of delivery)





NEW

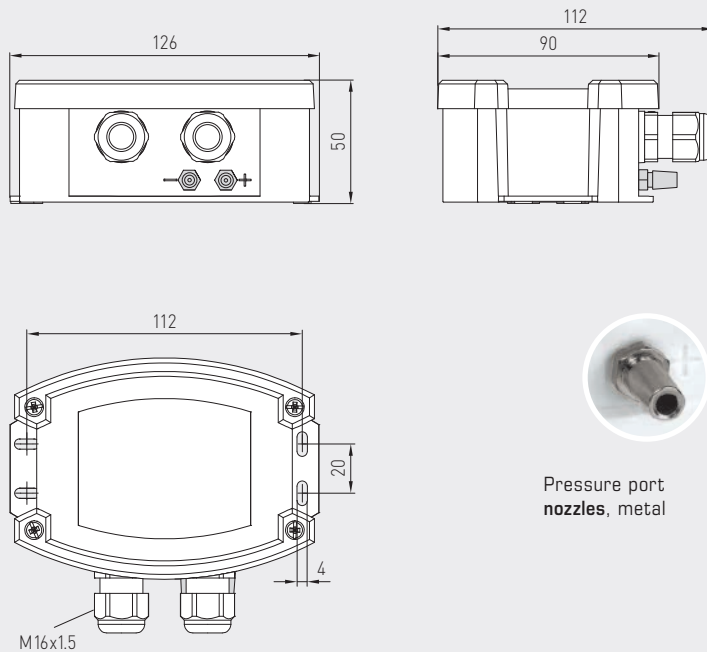
S+S REGELTECHNIK

PREMASGARD® 714x-Modbus

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Dimensional drawing

PREMASGARD® 714x-Modbus



Pressure port nozzles, metal

PREMASGARD® 714x-Modbus with display

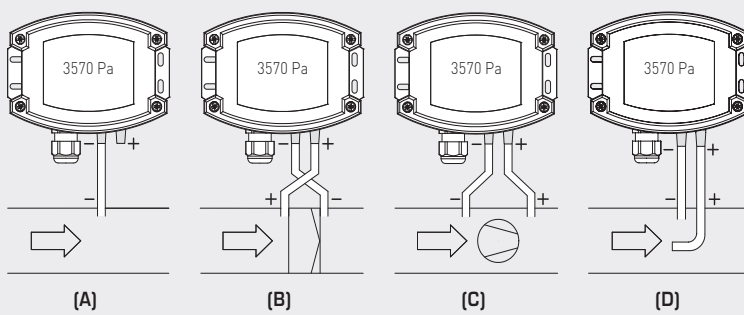


Device version with cable gland (as standard)



Mounting diagram

PREMASGARD® 714x-Modbus



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

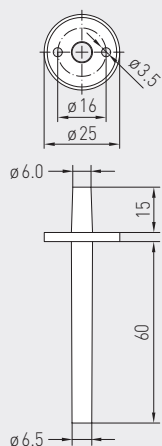
Conversion table for pressure values:

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



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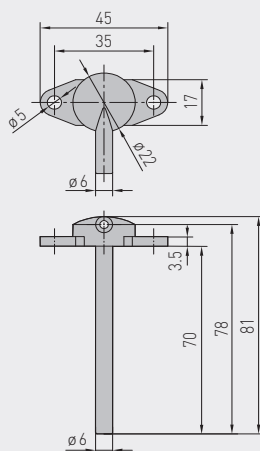
Dimensional drawing ASD-06 Connection set



ASD-06 Connection set



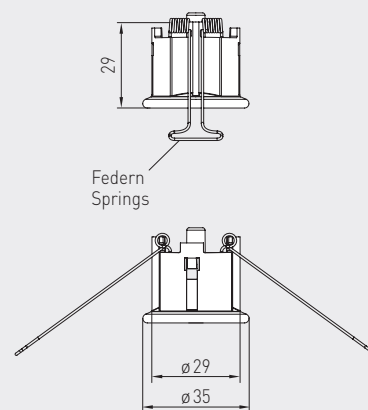
Dimensional drawing ASD-07 Connection nipple



ASD-07 Connection nipple



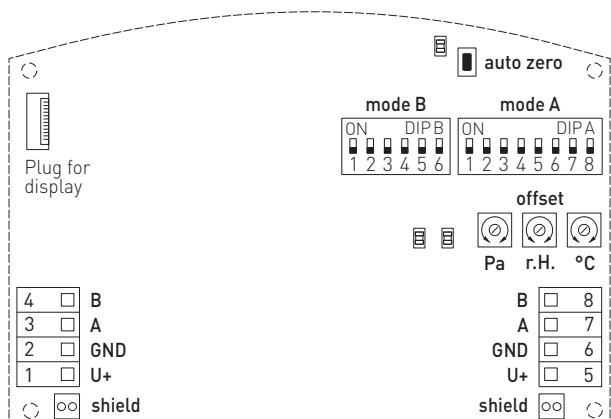
Dimensional drawing DAL-01 Pressure outlet



DAL-01 Pressure outlet



Schematic diagram PREMASGARD® 714x-Modbus



- DIP A: Bus address
- DIP B: Bus parameters (Baud rate, parity...)
- Telegram indicator Reception (LED green) Error (LED red)
- LED (internal status)
- Reset button
- Offset correction
- Shielding

WS-03 Weather and sun protection hood (optional)





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PREMASGARD® 714x-Modbus
with display,
hinged



PREMASGARD® 714x-Modbus		Pressure sensor and measuring transducer for differential pressure and volume flow, <i>Deluxe</i>			
Measuring Range	Type/WG02	Output	Display	Item no.	Price
Pressure / Volume Flow					
- 500...+ 500 Pa	7148				
k = 2000 44721 m³/h	PREMASGARD 7148-Modbus	Modbus		1301-7164-0910-20V	387,72 €
	PREMASGARD 7148-Modbus LCD	Modbus	■	1301-7164-4910-20V	430,92 €
	with automatic zero-point calibration as standard				
- 7000...+ 7000 Pa	7147				
k = 2000 167332 m³/h	PREMASGARD 7147-Modbus	Modbus		1301-7164-0950-200	333,72 €
	PREMASGARD 7147-Modbus LCD	Modbus	■	1301-7164-4950-200	376,92 €
	with optional automatic zero point calibration (Please specify in your order) on request				
Extra charge:	Cable connection with M12 connector according to DIN EN 61076-2-101				on request
Measuring range:	The pressure ranges depend on the device type and can be set via Modbus.				

ACCESSORIES					
KA2-Modbus	Communication adapter (USB/RS485) for system connection			1906-1200-0000-100	203,80 €
LA-Modbus	Line termination device (with terminating resistor) as an active bus termination			1906-1300-0000-100	76,01 €
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	7,28 €
ASD-07	2 connection nipples (at 90 degree angle) made of plastic, ABS			7100-0060-7000-000	7,28 €
DAL-01	Pressure outlet for ceiling or in-wall installation (e.g. in clean rooms)			7300-0060-3000-001	34,07 €
WS-03	Weather and sun protection hood , 200 x 180 x 150 mm, stainless steel V2A (1.4301)			7100-0040-6000-000	42,61 €

For further information, see chapter Accessories!

