

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, in an impact-resistant plastic housing with quick-locking screws, connection nozzles for pressure hose (Ø 6 mm), with cable gland or M12 connector according to DIN EN 61076-2-101, optionally with/without display, for measuring the differential pressure (max. ± 7000 Pa) in air. International system of units **SI** (default) can be switched to **Imperial** (via Modbus). Incl. mounting flange and connection set **ASD-06** (2 m 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, volume flow.

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, internal 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



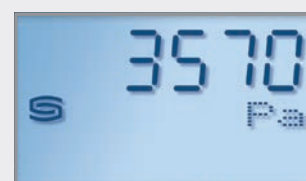
Device version with **M12 connector** (optional)



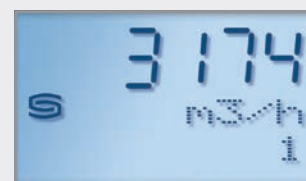
TECHNICAL DATA	
Power supply:	24 V AC (± 20%) and 15...36 V DC
Power consumption:	< 4.8 W / 24 V DC typical; < 6.8 VA / 24 V AC typical
System of units:	SI (default) or Imperial (switchable via Modbus)
Data points:	differential pressure [Pa] [inWC], Volume flow [m³/h] [CFM]
Pressure type:	differential pressure
Pressure connection:	with connection nozzles for pressure hose Ø 6 mm (optional on request with quick connect for PVC fabric pressure hose Ø 6 mm)
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 % per °C
Long-term stability:	± 1 % per year
Communication:	Modbus (RTU cable)
Bus interface:	RS 485, galvanically isolated
Baud rate:	9600, 19200, 38400 Baud
Bus protocol:	Modbus (RTU mode), address range 0... 247 adjustable
Signal filtering:	0 s / 1 s / 10 s
Medium:	clean air and non-aggressive, non-combustible gases
Media contacting parts:	PA6, 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 % RH (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 (Tyr 2)
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 according to EMC directive 2014 / 30 / EU
Optional:	three-line display with illumination , 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)

Display screen (SI or Imperial)

Modbus Tyr 2



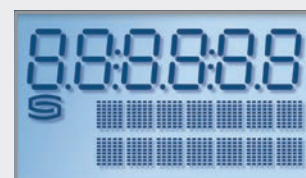
Pressure [Pa] [inWC]



Volume flow rate [m³/h] [CFM]

Programmable display screen

Modbus Tyr 2





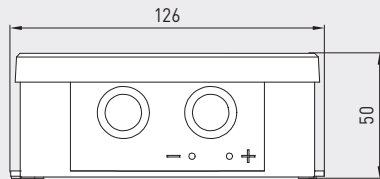
S+S REGELTECHNIK

PREMASGARD® 714x-Modbus

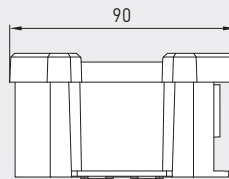
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Dimensional drawing
[mm]

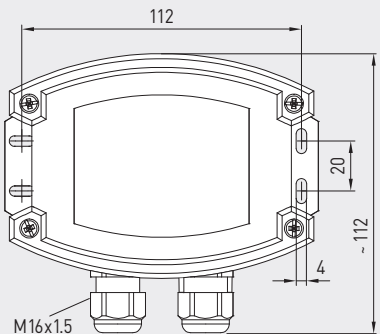
PREMASGARD® 714x-Modbus



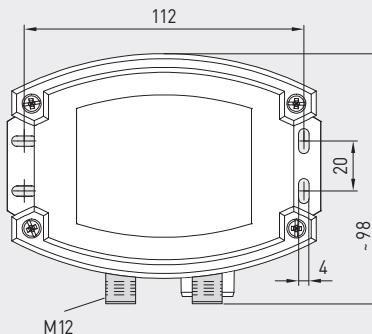
Housing with
pressure port nozzles
and cable gland



Housing with
pressure port nozzles
and M12 connector



Pressure port
for pressure hose



M12 connector
(male)



PREMASGARD® 714x-Modbus
with display

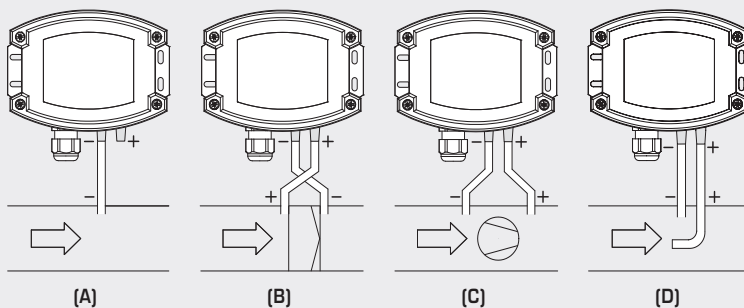


Device version
with cable gland
(as standard)



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

Switchable system of units

Measurements / Data points	SI (default) → Imperial
Differential pressure	[Pa] → [inWC]
Volume flow	[m³/h] → [CFM]

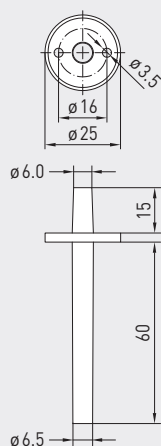
Measuring ranges	SI (default) → Imperial
Type 7148	-500...+500 Pa → -2.0...+2.0 inWC
Type 7147	-7000...+7000 Pa → -28...+28 inWC

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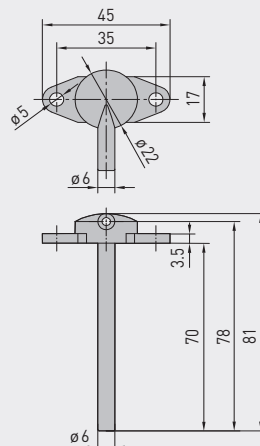
Dimensional drawing
[mm]

ASD-06



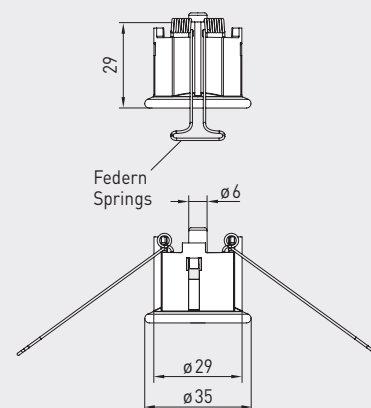
Dimensional drawing
[mm]

ASD-07



Dimensional drawing
[mm]

DAL-01



ASD-06
Connection set



ASD-07
Connection nipple



DAL-01
Pressure outlet



WS-03
Weather and sun protection hood
(optional)

ACCESSORIES

KA2-Modbus	Communication adapter (USB/RS485) for system connection	1906-1200-0000-100
LA-Modbus	Line termination device (with terminating resistor) as an active bus termination	1906-1300-0000-100
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

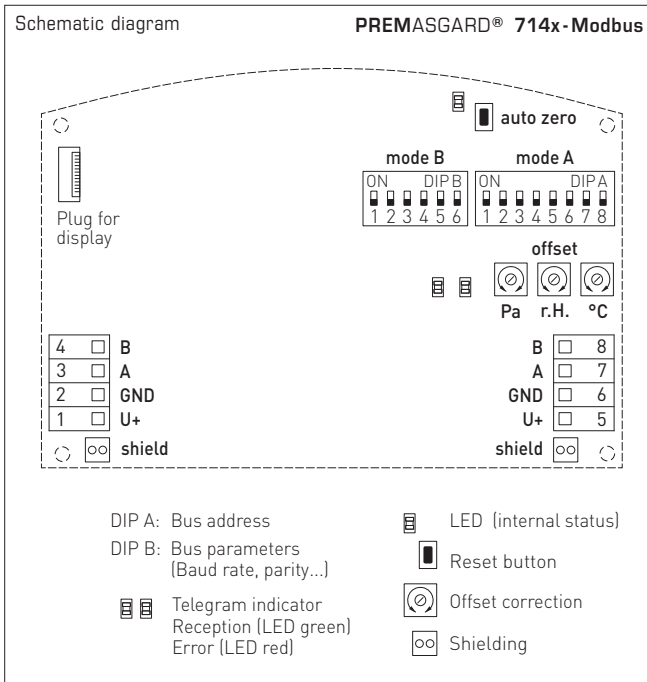
For further information, see chapter Accessories!



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Pressure sensor and measuring transducer for differential pressure and volume flow,
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PREMASGARD® 714x-Modbus
with display



PREMASGARD® 714x-Modbus

Pressure sensor and measuring transducer
for differential pressure and volume flow, *Deluxe*

Measuring Range	Type / WG02	Output	Display	Item no.
Pressure / Volume Flow				
± 500 Pa	Type 7148			
– 500 ... + 500 Pa	44721 m³/h (k = 2000)	PREMASGARD 7148-Modbus	Modbus	1301-7164-0910-20V
		PREMASGARD 7148-Modbus LCD	Modbus	■ 1301-7164-4910-20V
		with automatic zero-point calibration as standard		
± 7000 Pa	Type 7147			
– 7000 ... + 7000 Pa	167332 m³/h (k = 2000)	PREMASGARD 7147-Modbus	Modbus	1301-7164-0950-200
		PREMASGARD 7147-Modbus LCD	Modbus	■ 1301-7164-4950-200
		with optional automatic zero point calibration (Please specify in your order)		
				Extra charge
Optional:	Cable connection with M12 connector (male, 5-pin , A-code)			
Note:	System of units SI (default) or Imperial (switchable via Modbus).			