

PREMASGARD® 232x - Modbus -T3

PREMASGARD® 232x - wModbus



Pressure and differential pressure measuring transducers,
incl. connection set,
with Modbus connection or W-Modbus (wireless)

S+S REGELTECHNIK

Maintenance-free pressure sensor **PREMASGARD® 232x-Modbus-T3** (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 (optionally 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). With **wModbus** device version, the W-Modbus (wireless) replaces the RTU cable; the BMS connection is radio-based using a W-Modbus gateway.

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.

Innovative Modbus sensor with galvanically isolated RS485 Modbus interface, switchable bus terminating resistor, DIP switch for setting in current-free state, internal LEDs for telegram status display, push-in terminals and large three-line display (illuminated, individually programmable). The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TECHNICAL DATA

Power supply:	24 V AC (±20%) and 15...36 V DC
Power consumption:	< 1.2 W / 24 V DC; < 1.8 VA / 24 V AC
System of units:	SI (default) or Imperial (switchable via Modbus)
Data points:	Differential pressure [Pa] [inWCI]
Pressure type:	Differential pressure
Pressure connection:	with connection nozzles for 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 2328 (500 Pa): typical ± 3 Pa at +25 °C Type 2327 (7000 Pa): typical ± 35 Pa at +25 °C compared to a calibrated reference device
Above- / below-pressure:	max. ± 50 kPa
Zero point offset:	± 5 % 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
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)
Communication:	Modbus (RTU cable), Bus interface RS 485, galvanically isolated , Baud rate 9600, 19200, 38400 baud or W-Modbus (Wireless Modbus, AES-128 encrypted) Frequency 2.4 GHz ISM, Transmission power 100 mW , Range max. 500 m (open field) / approx. 50 - 70 m (inside buildings)
Bus protocol:	Modbus (RTU mode), address range 0... 247 selectable
Signal filtering:	0 s / 1 s / 10 s
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:	108 x 78.5 x 43.3 mm (Tyr 3 without display) 108 x 78.5 x 45.8 mm (Tyr 3 with display)
Cable connection:	cable gland , plastic (M20 x 1.5; with strain relief, exchangeable, inner diameter 8 - 13 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)
Electrical connection:	0.2 - 1.5 mm², via push-in terminals
Permissible humidity:	< 95 % RH, (non-precipitating air)
Protection class:	III (according to EN 60 730)
Safety class:	IP 65 (according to EN 60 529)
Standards (Modbus):	CE conformity according to EMC Directive 2014 / 30 / EU
Standards (W-Modbus):	CE conformity according to Radio Directive 2014 / 53 / EU
Optional:	three-line display with illumination , programmable, cut-out approx. 51 x 29 mm (W x H), to display the actual pressure or an individually programmable display value

PREMASGARD® 232x-Modbus-T3
without display
(RTU cable)



PREMASGARD® 232x-wModbus
without display
(wireless)



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



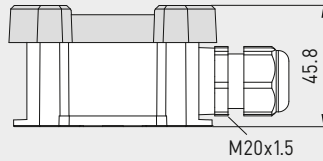
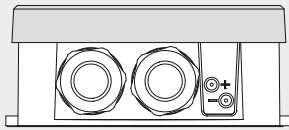
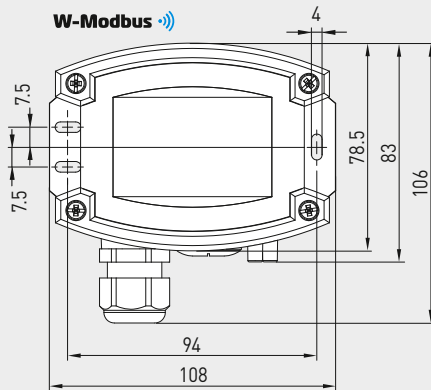
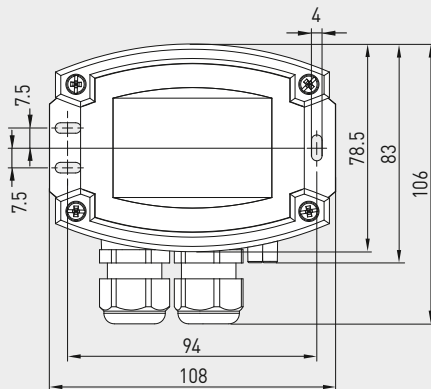
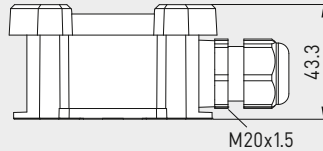
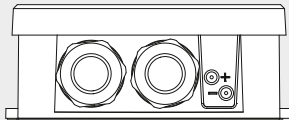
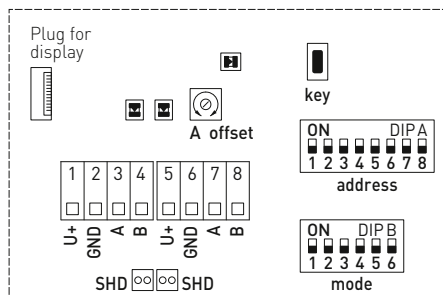
Programmable
display screen

Tyr 3

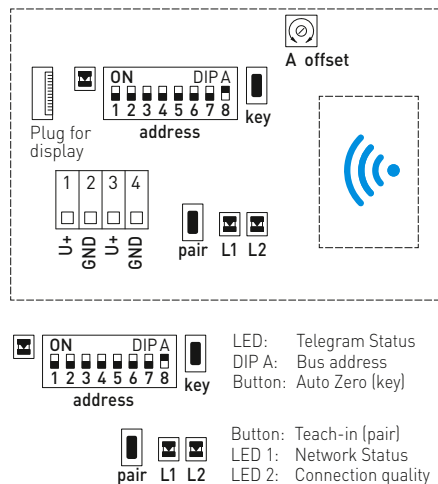


**NEW**

S+S REGELTECHNIK

PREMASGARD® 232x - Modbus - T3
PREMASGARD® 232x - wModbusPressure and differential pressure measuring transducers,
incl. connection set,
with Modbus connection or W-Modbus (wireless)Dimensional drawing
[mm]**PREMASGARD® 232x - xx****with display****without display****PREMASGARD® 232x - Modbus - T3**
with display
(RTU cable)**PREMASGARD® 232x - wModbus**
with display
(wireless)Schematic diagram
(Tyr3)**Modbus**
(RTU cable)

- DIP A: Bus address
DIP B: Bus parameters (Baud rate, parity...)
Telegram indicator Reception (LED green) Error (LED red)
LED (internal status)
Offset correction
Button „key“ (auto zero)
Shielding

Schematic diagram
(Tyr3)**W-Modbus**
(wireless)

- LED: Telegram Status
DIP A: Bus address
Button: Auto Zero (key)
Button: Teach-in (pair)
LED 1: Network Status
LED 2: Connection quality

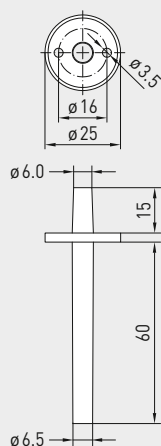
WS-04
Weather and sun protection hood
(optional)

Pressure and differential pressure measuring transducers,
 incl. connection set,
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S+S REGELTECHNIK

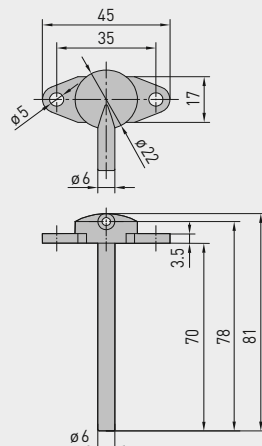
Dimensional drawing
 [mm]

ASD-06



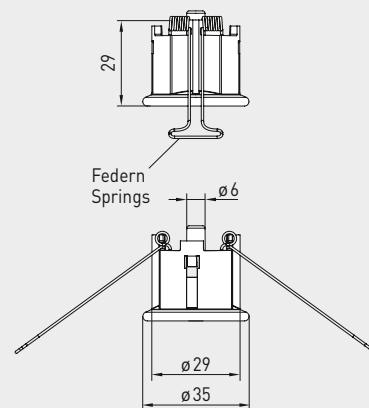
Dimensional drawing
 [mm]

ASD-07



Dimensional drawing
 [mm]

DAL-01



ASD-06
 Connection set



ASD-07
 Connection nipple



DAL-01
 Pressure outlet



Switchable system of units

Measurements / Data points	SI (default) → Imperial
Differential pressure	[Pa] → [inWC]

Measuring ranges	SI (default) → Imperial
Type 2328	– 500...+ 500 Pa → – 2.0...+ 2.0 inWC
Type 2327	– 7000...+ 7000 Pa → – 28...+ 28 inWC

MODBUS ACCESSORIES

GW-wModbus	Gateway with W-Modbus (Wireless) for radio-based connection to Modbus networks, operating modes 'Gateway' (basic function as a base station) and 'Node' (adapter function for max. 1 wired sensor)	1801-1211-1101-000
GW-wModbus Pro	and 'Node Pro' (adapter function for max. 16 wired sensors)	1801-1211-1101-100
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

For further information see the end of the chapter!

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-04	Weather and sun protection hood, 130 x 180 x 135 mm, stainless steel V2A (1.4301)	7100-0040-7000-000

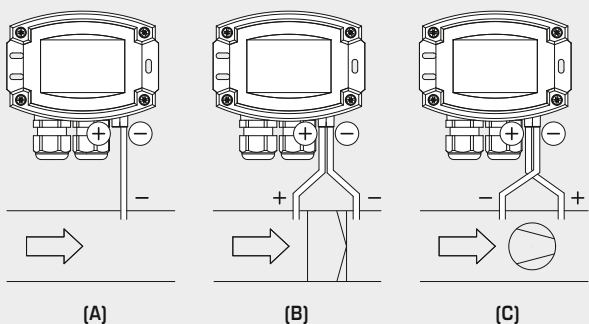
For further information, see chapter Accessories!

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Mounting diagram

PREMASGARD® 232x - Modbus - T3**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

**PREMASGARD® 232x - wModbus**with / without display
(wireless)**PREMASGARD® 232x - Modbus - T3**with / without display
(RTU cable)**PREMASGARD®**
232x - Modbus - T3
232x - wModbusPressure sensor, differential pressure measuring transducer
with with Modbus connection (RTU cable) or
with W-Modbus (Wireless)

Measuring Range Pressure	Type / WG02	Output	Display	Item No.
± 500 Pa	Type 2328			
- 500 ... + 500 Pa	PREMASGARD 2328-Modbus	Modbus (RTU cable)		1301-12C4-0910-200
	PREMASGARD 2328-Modbus LCD	Modbus (RTU cable)	■	1301-12C4-4910-200
	PREMASGARD 2328-wModbus	W-Modbus (Wireless)		1301-12CF-0910-200
	PREMASGARD 2328-wModbus LCD	W-Modbus (Wireless)	■	1301-12CF-4910-200
± 7000 Pa	Type 2327			
- 7000 ... + 7000 Pa	PREMASGARD 2327-Modbus	Modbus (RTU cable)		1301-12C4-0950-200
	PREMASGARD 2327-Modbus LCD	Modbus (RTU cable)	■	1301-12C4-4950-200
	PREMASGARD 2327-wModbus	W-Modbus (Wireless)		1301-12CF-0950-200
	PREMASGARD 2327-wModbus LCD	W-Modbus (Wireless)	■	1301-12CF-4950-200
Optional:				
Cable connection with M12 connector according to DIN EN 61076-2-101				
Note: System of units SI (default) or Imperial (switchable via Modbus).				