

# 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.

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



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:	<b>SI</b> (default) or <b>Imperial</b> (switchable via Modbus)
Data points:	Differential pressure [Pa] [inWC]
Pressure type:	Differential pressure
Pressure connection:	with connection <b>nozzles</b> for pressure hose Ø 6 mm
Measuring range, pressure:	<b>-500... +500 Pa</b> or <b>-7000...+7000 Pa</b> depending on the device type, see table
Pressure accuracy:	<b>Type 2328</b> (500 Pa): typical ± 3 Pa at +25 °C <b>Type 2327</b> (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:	<b>Modbus</b> (RTU cable), Bus interface RS 485, <b>galvanically isolated</b> , Baud rate 9600, 19200, 38400 baud <b>or</b> <b>W-Modbus</b> (Wireless Modbus, AES-128 encrypted) Frequency <b>2.4 GHz</b> ISM, Transmission power <b>100 mW</b> , Range <b>max. 500 m</b> (open field) / approx. 50-70 m (inside buildings)
Bus protocol:	Modbus (RTU mode), address range 0... <b>247</b> 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:	<b>cable gland</b> , plastic (M20 x 1.5; with strain relief, exchangeable, inner diameter 8 - 13 mm) <b>or</b> <b>M12 connector</b> according to DIN EN 61076-2-101 (optional on request)
Electrical connection:	0.2 - 1.5 mm <sup>2</sup> , via push-in terminals
Permissible humidity:	< 95 % RH, (non-precipitating air)
Protection class:	III (according to EN 60 730)
Safety class:	<b>IP 65</b> (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 <b>display with illumination</b> , programmable, cut-out approx. 51 x 29 mm (W x H), to display the actual pressure or an individually programmable display value

**PREMASGARD® 232x - wModbus**  
without display  
(wireless)



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



Programmable  
display screen  
**Tyr 3**



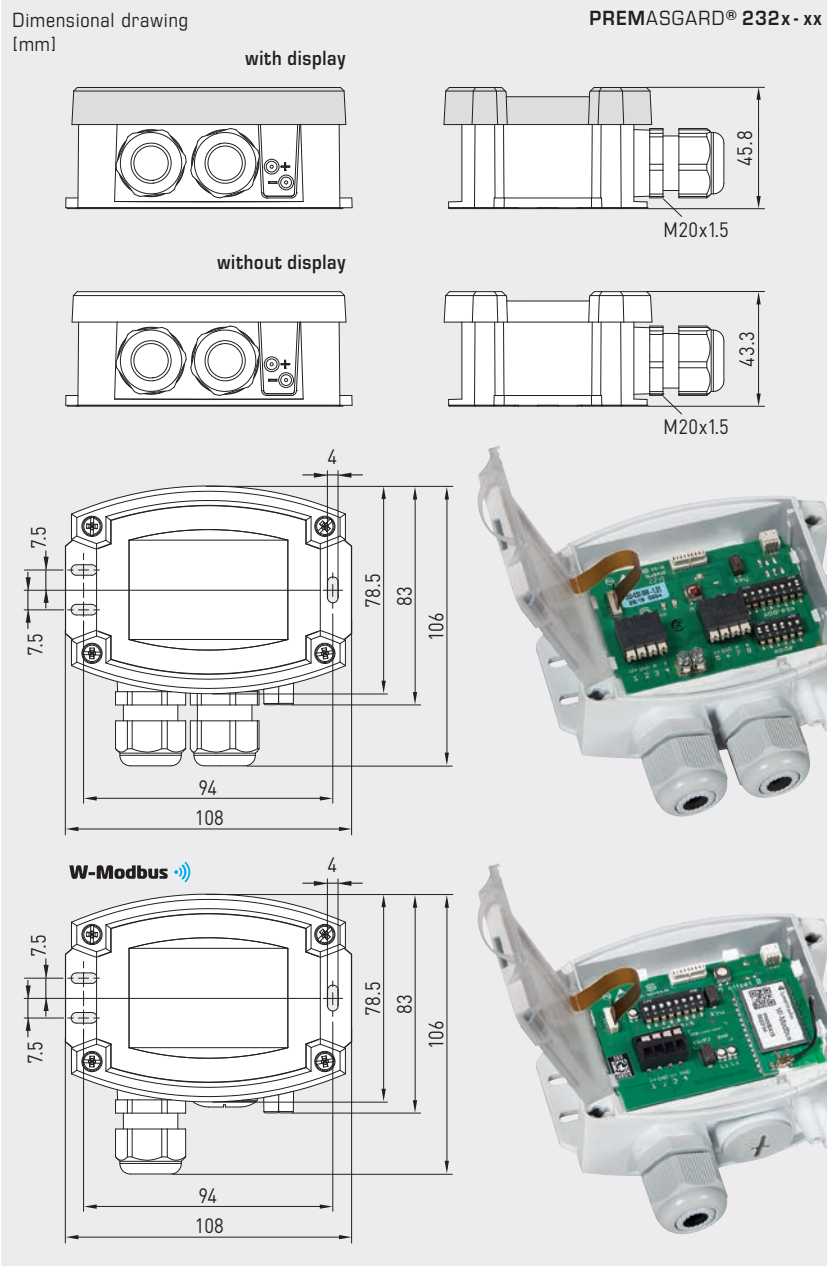


**NEW**

S+S REGELTECHNIK

# PREMASGARD® 232x - Modbus - T3 PREMASGARD® 232x - wModbus

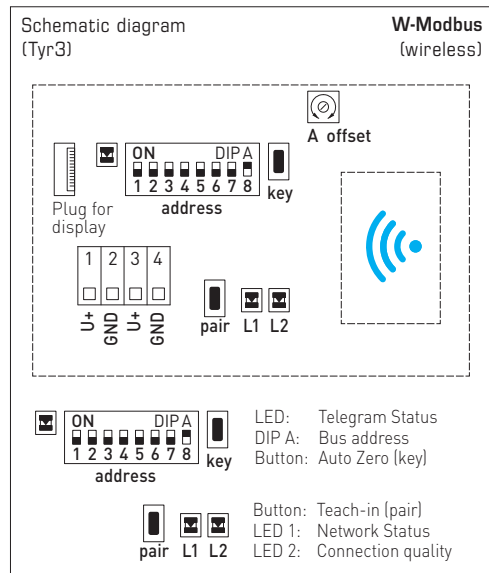
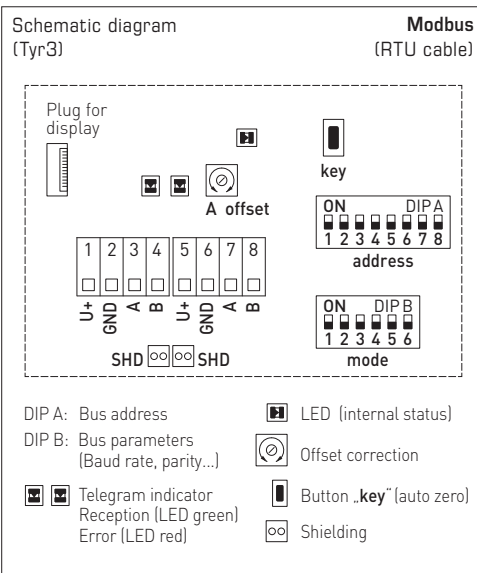
Pressure and differential pressure measuring transducers,  
incl. connection set,  
with Modbus connection or W-Modbus (wireless)



**PREMASGARD® 232x - Modbus - T3**  
with display  
(RTU cable)



**PREMASGARD® 232x - wModbus**  
with display  
(wireless)



**WS-04**  
Weather and sun protection hood  
(optional)



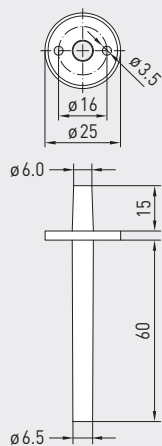
**PREMASGARD® 232x - Modbus -T3**  
**PREMASGARD® 232x - wModbus**



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

S+S REGELTECHNIK

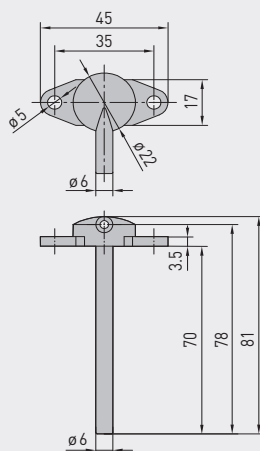
Dimensional drawing [mm] **ASD-06**



**ASD-06**  
Connection set



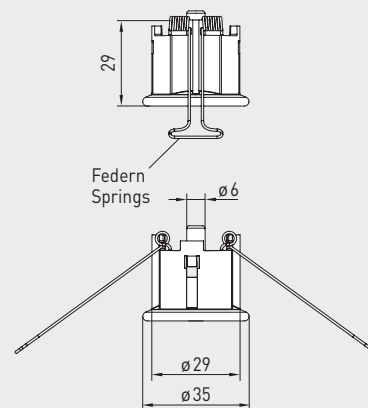
Dimensional drawing [mm] **ASD-07**



**ASD-07**  
Connection nipple



Dimensional drawing [mm] **DAL-01**



**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**

<b>GW-wModbus</b>	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
<b>GW-wModbus Pro</b>	and 'Node Pro' (adapter function for max. 16 wired sensors)	1801-1211-1101-100
<b>KA2-Modbus</b>	<b>Communication adapter</b> (USB/RS485) for system connection	1906-1200-0000-100
<b>LA-Modbus</b>	<b>Line termination device</b> (with terminating resistor) as an active bus termination	1906-1300-0000-100

For further information see the end of the chapter!

**ACCESSORIES**

<b>ASD-06</b>	<b>Connection set (included in the scope of delivery)</b> , consisting of 2 connection nipples (straight) made of ABS, 2 m PVC hose (soft, UV-resistant) and 4 screws	7100-0060-3000-000
<b>ASD-07</b>	<b>2 connection nipples</b> (at 90 degree angle) made of plastic, ABS	7100-0060-7000-000
<b>DAL-01</b>	<b>Pressure outlet</b> for ceiling or in-wall installation (e.g. in clean rooms)	7300-0060-3000-001
<b>WS-04</b>	<b>Weather and sun protection hood</b> , 130 x 180 x 135 mm, stainless steel V2A (1.4301)	7100-0040-7000-000

For further information, see chapter Accessories!

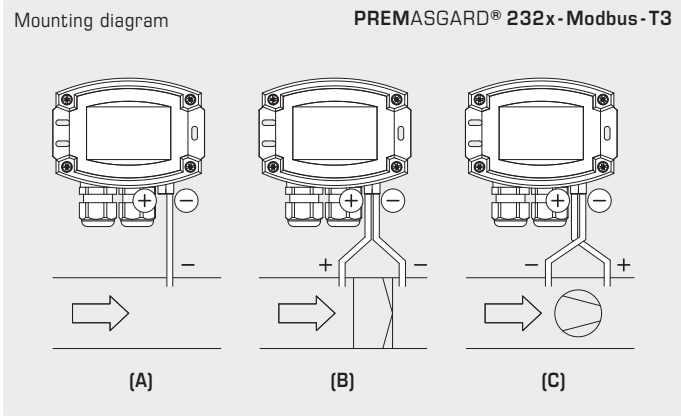


**NEW**

S+S REGELTECHNIK

**PREMASGARD® 232x - Modbus - T3**  
**PREMASGARD® 232x - wModbus**

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



**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 - wModbus**

Pressure 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.
<b>± 500 Pa</b> - 500 ... + 500 Pa	<b>Type 2328</b>			
	PREMASGARD 2328-Modbus	Modbus (RTU cable)		1301-12C4-0910-200
	PREMASGARD 2328-Modbus <b>LCD</b>	Modbus (RTU cable)	■	1301-12C4-4910-200
	PREMASGARD 2328-wModbus	W-Modbus (Wireless)		1301-12CF-0910-200
<b>± 7000 Pa</b> - 7000 ... + 7000 Pa	<b>Type 2327</b>			
	PREMASGARD 2327-Modbus	Modbus (RTU cable)		1301-12C4-0950-200
	PREMASGARD 2327-Modbus <b>LCD</b>	Modbus (RTU cable)	■	1301-12C4-4950-200
	PREMASGARD 2327-wModbus	W-Modbus (Wireless)		1301-12CF-0950-200
Optional:	Cable connection with <b>M12 connector</b> according to DIN EN 61076-2-101			
<b>Note:</b>	System of units <b>SI</b> (default) or <b>Imperial</b> (switchable via Modbus).			