

**Dual pressure sensor (2 measuring channels),  
measuring transducer for differential pressure and volume flow,  
incl. connection set, calibratable, with Modbus connection**

Maintenance-free, microprocessor-controlled **PREMASGARD® 724x-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 (2 measuring channels, max. ± 7000 Pa) in air. Type variant **724xT** with connection facility for external **Pt1000** sensor (sensor element not included in the scope of delivery) for detecting the temperature (–50...+150°C). International system of units **SI** (default) can be switched to **Imperial** (via Modbus). Incl. 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 and temperature.

**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® 724x-Modbus**  
with cable gland



**PREMASGARD® 724x-Modbus-Q**  
with M12 connector



**PREMASGARD® 724xT-Modbus**  
with cable gland



#### TECHNICAL DATA

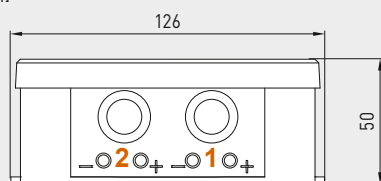
|                            |                                                                                                                                                                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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:           | <b>SI</b> (default) or <b>Imperial</b> (switchable via Modbus)                                                                                                                                                                           |
| Data points:               | differential pressure [Pa] [inWCI], volume flow [m³/h] [CFM], temperature [°C] [°F] – <b>Type 724xT</b> with connection facility for external <b>Pt1000</b> sensor (–50...+150°C) (sensor element not included in the scope of delivery) |
| Pressure type:             | differential pressure <b>(2 measuring channels)</b>                                                                                                                                                                                      |
| Pressure connection:       | with connection <b>nozzles</b> for pressure hose Ø 6 mm                                                                                                                                                                                  |
| Measuring range, pressure: | –500... +500 Pa or<br>–7000...+7000 Pa<br>depending on the device type, see table                                                                                                                                                        |
| Pressure accuracy:         | <b>Type 7249</b> (500 Pa): typically ± 13 Pa at +25 °C<br><b>Type 724x</b> (7000 Pa): typically ± 105 Pa at +25 °C<br>verglichen zu kalibriertem Referenzgerät                                                                           |
| 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                                                                                                                                                                                                                           |
| Bus protocol:              | Modbus (RTU mode), address range 0... <b>247</b> adjustable                                                                                                                                                                              |
| Baud rate:                 | 9600, 19200, 38400 Baud                                                                                                                                                                                                                  |
| Signal filtering:          | 0 s / 1 s / 10 s                                                                                                                                                                                                                         |
| 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 % 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:          | <b>cable gland</b> plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or <b>M12 connector</b> 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:              | <b>IP 65</b> (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:                  | three-line <b>display with illumination</b> , 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                                              |
| <b>ACCESSORIES</b>         | see table                                                                                                                                                                                                                                |
| <b>ASD-06</b>              | <b>Connection set</b> (nipple straight) (included in the scope of delivery)                                                                                                                                                              |

**NEW**

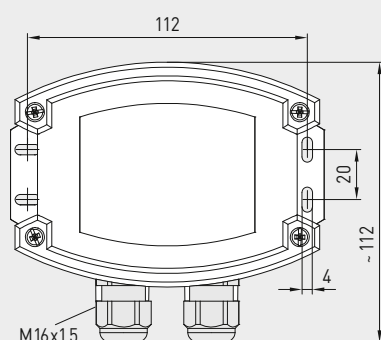
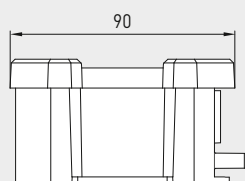
S+S REGELTECHNIK

**PREMASGARD® 724x-Modbus**

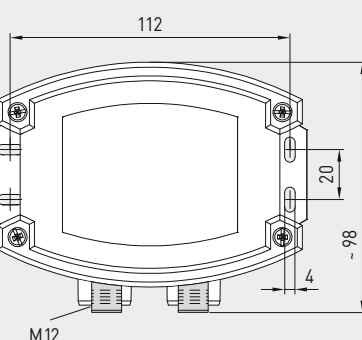
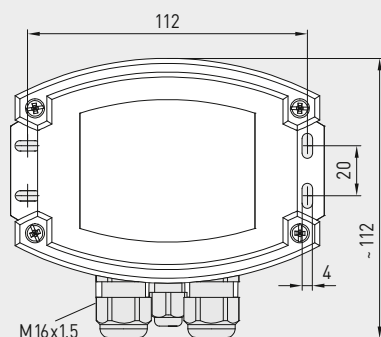
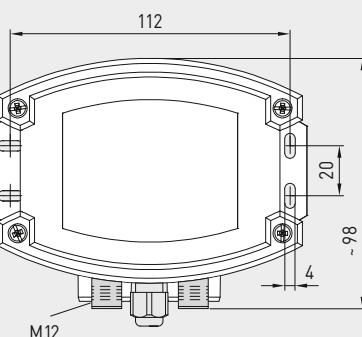
Dual pressure sensor (2 measuring channels),  
measuring transducer for differential pressure and volume flow,  
incl. connection set, calibratable, with Modbus connection

Dimensional drawing  
[mm]

Housing with  
**dual pressure connection**  
(2 measuring channels)  
and **cable gland**

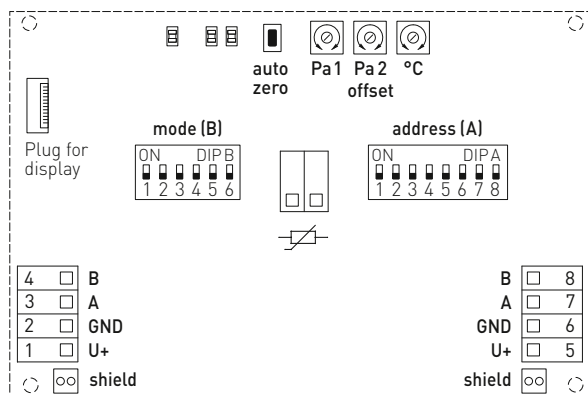
**PREMASGARD® 724x-Modbus**

Housing with  
**dual pressure connection**  
(2 measuring channels)  
and **M12 connector** (male)

**PREMASGARD® 724x-Modbus**  
with cable gland  
and display**PREMASGARD® 724x-Modbus-Q**  
with M12 connector  
and displayDimensional drawing  
[mm]**PREMASGARD® 724xT-Modbus**  
with connection facility  
for external **Pt1000** sensor**PREMASGARD® 724xT-Modbus**  
with cable gland  
and display

Dual pressure sensor (2 measuring channels),  
measuring transducer for differential pressure and volume flow,  
incl. connection set, calibratable, with Modbus connection

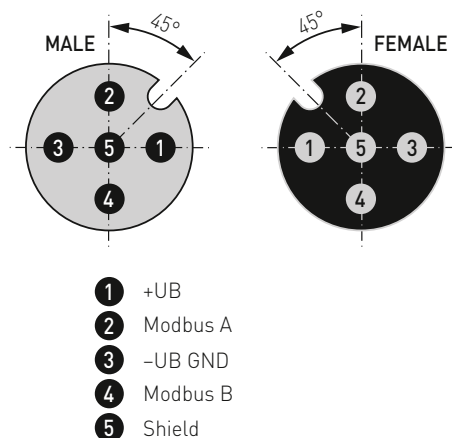
## Schematic diagram PREMASGARD® 724x-Modbus



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

## Pin assignment (M12)

## PREMASGARD® 724x-Modbus



## Display screen (SI or Imperial)

## PREMASGARD® 724x-Modbus



Pressure (channel 1) [Pa] [inWC]



Volume flow rate [m³/h] [CFM]



Pressure (channel 2) [Pa] [inWC]



Temperature (type "T") [°C] [°F]

The display value depends on the set **unit system SI** (default) or **imperial** (can be changed via Modbus).

Actual **pressure** of both channels is shown alternately. The associated measuring channel is visible at the bottom left.

Alternatively, the calculated **volume flow** can also be issued for channel 1 (via the index).

For the device type "T", the actual **temperature** of an external Pt1000 temperature sensor can also be displayed as cyclic (standard) or static (via the index).

## Programmable display screen

## Modbus Tyr 2





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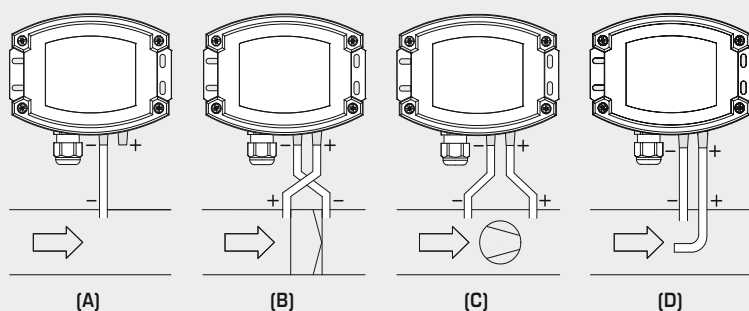


PREMASGARD® 724x-Modbus  
with display



Mounting diagram

PREMASGARD® 724x-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**

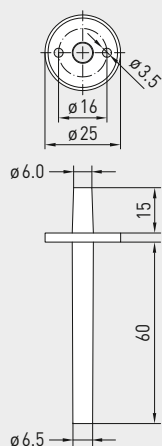
| Measurements / Data points | SI (default)        | → | Imperial |
|----------------------------|---------------------|---|----------|
| Differential pressure      | [Pa]                | → | [inWC]   |
| Volume flow                | [m <sup>3</sup> /h] | → | [CFM]    |
| Temperature                | [°C]                | → | [°F]     |

| Measuring ranges | SI (default)     | → | Imperial         |
|------------------|------------------|---|------------------|
| Typ 7249         | -500...+500 Pa   | → | -2.0...+2.0 inWC |
| Typ 724x         | -7000...+7000 Pa | → | -28...+28 inWC   |
| Typ 724xT        | -50...+150 °C    | → | -58...+302 °F    |

Dual pressure sensor (2 measuring channels),  
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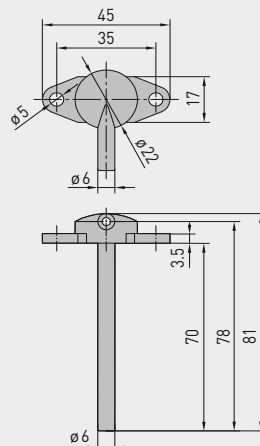
Dimensional drawing  
[mm]

ASD-06



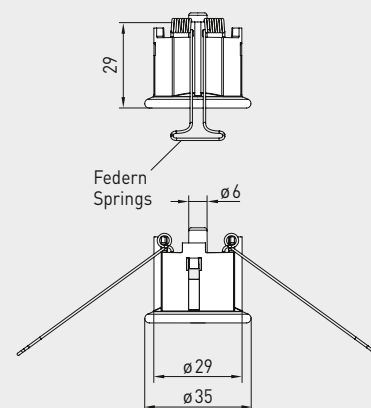
Dimensional drawing  
[mm]

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

|                   |                                                                                                                                                                            |                    |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <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)<br>as an active bus termination                                                                                 | 1906-1300-0000-100 |
| <b>ASD-06</b>     | <b>Connection set</b> (included in the scope of delivery), consisting of<br>2 connection nipples (straight) made of ABS,<br>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-03</b>      | <b>Weather and sun protection hood</b> , 200 x 180 x 150 mm,<br>stainless steel V2A (1.4301)                                                                               | 7100-0040-6000-000 |

For further information, see chapter Accessories!



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Dual pressure sensor (2 measuring channels),  
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incl. connection set, calibratable, with Modbus connection

## PREMASGARD® 724xT-Modbus

with cable gland  
or M12 connector  
and connection facility for Pt1000

## PREMASGARD® 724x-Modbus

with cable gland  
or M12 connector

PREMASGARD®  
724x-Modbus

Dual pressure sensor (2 measuring channels),  
measuring transducer for differential pressure and volume flow, *Deluxe*

Measuring Range  
Pressure / Volume Flow

Type / WG02

Output

Display  
● = Q

Item No.

(1) max. ± 7000 Pa  
(2) max. ± 7000 Pa

## Type 7247

Channel (1) and (2):  
– 7000 ... + 7000 Pa      167332 m³/h  
(k = 2000)

|                               |        |     |                    |
|-------------------------------|--------|-----|--------------------|
| PREMASGARD 7247-Modbus        | Modbus |     | 1301-7224-0950-200 |
| PREMASGARD 7247-Modbus LCD    | Modbus | ■   | 1301-7224-4950-200 |
| PREMASGARD 7247T-Modbus       | Modbus |     | 1301-7224-0950-2W0 |
| PREMASGARD 7247T-Modbus LCD   | Modbus | ■   | 1301-7224-4950-2W0 |
| PREMASGARD 7247-Modbus Q      | Modbus | ●   | 2004-6331-6100-011 |
| PREMASGARD 7247-Modbus Q LCD  | Modbus | ● ■ | 2004-6332-6100-011 |
| PREMASGARD 7247T-Modbus Q     | Modbus | ●   | 2005-6331-6100-011 |
| PREMASGARD 7247T-Modbus Q LCD | Modbus | ● ■ | 2005-6332-6100-011 |

(1) max. ± 500 Pa  
(2) max. ± 7000 Pa

## Type 7249

Channel (1):  
– 500 ... + 500 Pa      44721 m³/h  
Channel (2):  
– 7000 ... + 7000 Pa      167332 m³/h  
(k = 2000)

|                               |        |     |                    |
|-------------------------------|--------|-----|--------------------|
| PREMASGARD 7249-Modbus        | Modbus |     | 1301-7224-0930-200 |
| PREMASGARD 7249-Modbus LCD    | Modbus | ■   | 1301-7224-4930-200 |
| PREMASGARD 7249T-Modbus       | Modbus |     | 1301-7224-0930-2W0 |
| PREMASGARD 7249T-Modbus LCD   | Modbus | ■   | 1301-7224-4930-2W0 |
| PREMASGARD 7249-Modbus Q      | Modbus | ●   | 2004-6331-6100-001 |
| PREMASGARD 7249-Modbus Q LCD  | Modbus | ● ■ | 2004-6332-6100-001 |
| PREMASGARD 7249T-Modbus Q     | Modbus | ●   | 2005-6331-6100-001 |
| PREMASGARD 7249T-Modbus Q LCD | Modbus | ● ■ | 2005-6332-6100-001 |

## Note:

System of units **SI** (default) or **Imperial** (switchable via Modbus).

## Housing variant "Q":

Cable connection with **M12 connector** (male, 5-pin, A-code)

## Housing variant "T":

Connection facility for external **Pt1000** sensor (–50...+150°C)  
(sensor element not included in the scope of delivery)