

Pressure and differential pressure measuring transducers,  
including connection set, calibratable,  
with multi-range switching and active output

The calibratable **PREMASGARD® 711x** pressure sensors (series) are equipped with eight switchable measuring ranges and equipped with optional display (eight devices in one) and are used to measure above-atmospheric, below-atmospheric, or differential pressures in air. The piezoresistive measuring element is temperature-compensated and guarantees a high degree of reliability and precision. The pressure transmitters feature a pushbutton for manual zero point calibration or an automatic zero point calibration function as well as an adjustable offset.

Applications of these pressure sensors are in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering facilities, for monitoring filters, for level measurement or for triggering frequency converters. Media measured with these pressure transducers are clean air (non-precipitating), or other gaseous non-aggressive, non-combustible media. The differential pressure sensor is supplied including connection set **ASD-06** (2 m connection hose, two pressure connection nipples, screws).

**TECHNICAL DATA**

Power supply:	24 V AC (± 20%); 15...36 V DC for U variant 15...36 V DC for I variant, depending on working resistance, residual ripple stabilised ± 0.3 V
Working resistance:	$R_a(\text{ohm}) = (U_b - 14 \text{ V}) / 0.02 \text{ A}$ for I variant
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	< 2 VA / 24 V DC, < 3.5 VA / 24 V AC
Measuring ranges:	<b>multi-range switching with 8 switchable measuring ranges</b> (see table)
Output signal:	0 -10 V or 4...20 mA
Electrical connection:	2- or 3-wire connection
Media temperature:	-20...+50 °C
Pressure connection:	4 / 6 x 11 mm (hoses Ø = 4 / 6 mm), metal pressure connection nozzles
Type of pressure:	differential pressure
Medium:	clean air and non-aggressive, non-combustible gases
Accuracy:	<b>Type 7112</b> (25 Pa): typically ± 1 Pa <b>Type 7110</b> (100 Pa): typically ± 2 Pa <b>Type 7111</b> (1000 Pa): typically ± 5 Pa <b>Type 7115</b> (5000 Pa): typically ± 25 Pa compared to the calibrated reference device
Sum of Linearity+hysteresis:	< ± 1 % of final value ± 2 % of final value for pressure ranges < ± 250 Pa
Temperature drift values:	± 0.1 % / °C ± 0.3 % / °C for pressure ranges < 250 Pa
Zero point offset:	< ± 0.7 % of final value ± 1.4 % of final value for pressure ranges < 250 Pa
Above- / below- atmospheric pressure:	max. ± 100 hPa
Signal filtering:	<b>switchable 1 s / 10 s</b>
Enclosure:	plastic, UV-stabilised, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!
Dimensions:	126 x 90 x 50 mm (Tyr 2)
Electrical connection:	0.14 - 1.5 mm², via plug-in screw terminal
Cable gland:	M 16 x 1.5; including strain relief
Air humidity:	< 95 % r. H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU, according to EN 61326-1, according to EN 61326-2-3
Equipment:	three-line <b>display with illumination</b> , cutout approx. 70 x 40 mm (W x H), for displaying ACTUAL pressure and for adjusting the automatic zero point calibration

**ACCESSORIES**

<b>ASD-06</b>	Connection set (nipple straight) – (included in the scope of delivery)
<b>ASD-07</b>	Connection nipple (at 90° angle)
<b>DAL-01</b>	Pressure outlet for ceiling or in-wall installation (e.g. in clean rooms)
<b>WS-03</b>	Weather and sun protection hood, 200 x 180 x 150 mm, stainless steel <b>V2A</b> (1.4301)

PREMASGARD® 711x

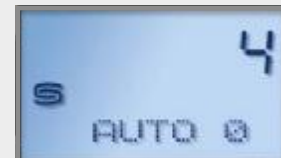


Display  
Automatic zero point calibration



**Standard**

Actual pressure (in Pa)  
Calibration interval (arrows)



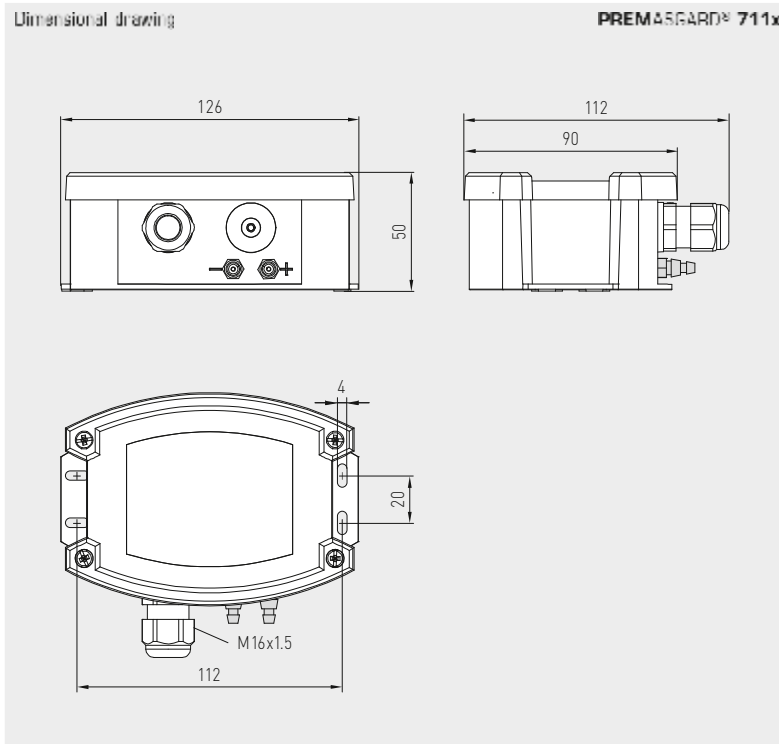
**Zero point calibration  
Active**

Calibration time (in seconds)

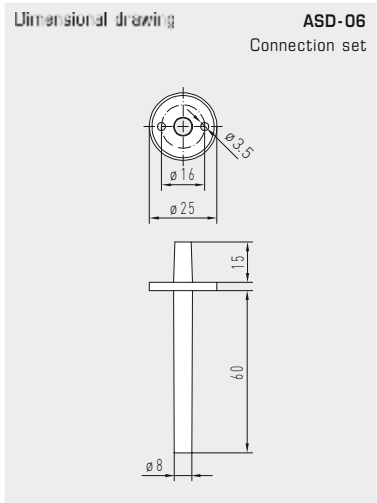


**Adjustment of  
zero point calibration**

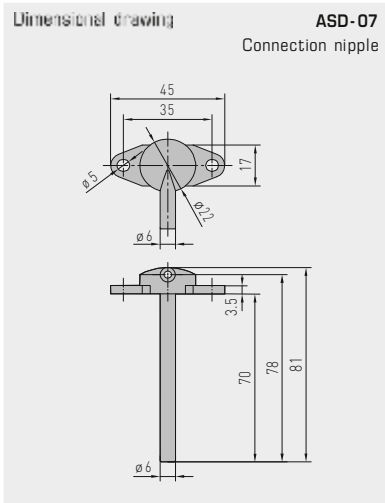
Cycle time (15 min to 24 hours)  
adjustable by potentiometer



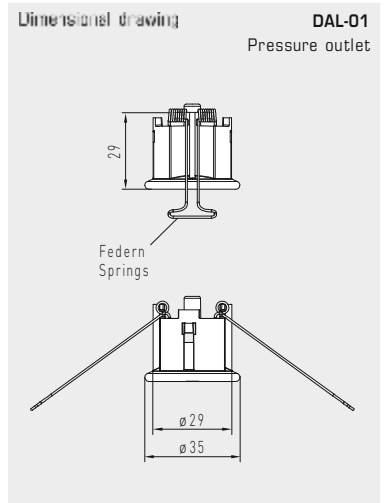
**PREMASGARD® 711x**  
with display



**ASD-06**  
Connection set



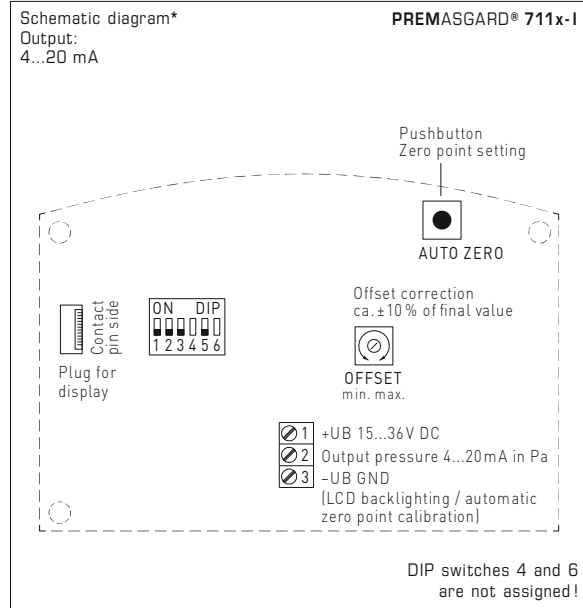
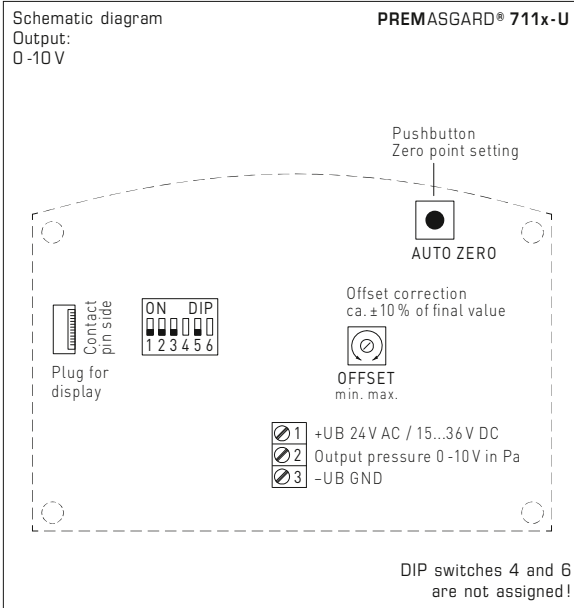
**ASD-07**  
Connection nipple



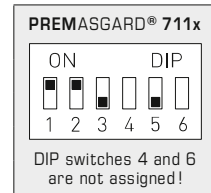
**DAL-01**  
Pressure outlet



Pressure and differential pressure measuring transducers, including connection set, calibratable, with multi-range switching and active output

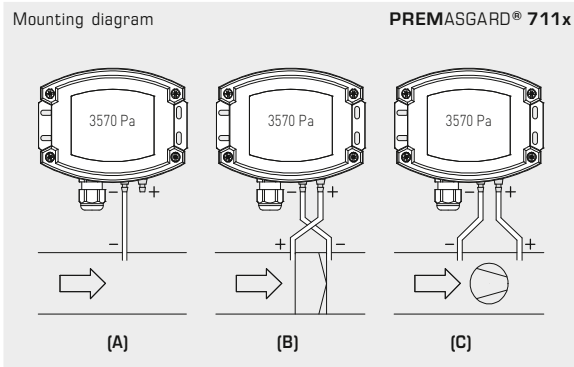


Pressure range (selectable) – max. measuring range (default) is depending to the type of device								DIP 1	DIP 2
0...25 Pa	0...50 Pa	0...100 Pa	0...1000 Pa	-25...+25 Pa	-50...+50 Pa	-100...+100 Pa	-1000...+1000 Pa	OFF	OFF
-	-	0...300 Pa	0...2000 Pa	-	-	-300...+300 Pa	-2000...+2000 Pa	ON	OFF
-	-	0...500 Pa	0...3000 Pa	-	-	-500...+500 Pa	-3000...+3000 Pa	OFF	ON
0...25 Pa	0...100 Pa	0...1000 Pa	0...5000 Pa	-25...+25 Pa	-100...+100 Pa	-1000...+1000 Pa	-5000...+5000 Pa	ON	ON



Measuring range mode (Mode selectable)	DIP 3
Unidirectional (0...+MR) (default)	OFF
Bidirectional (-MR...+MR)	ON

Measurement signal filtering (Time interval selectable)	DIP 5
10 s (default)	OFF
1 s	ON



**TYPES OF MONITORING:**

**(A) Below-atmospheric pressure:**

P1 (+) is not connected but open against atmosphere  
P2 (-) connected to inside of duct

**(B) Filter:**

P1 (+) connected upstream of filter  
P2 (-) connected downstream of filter

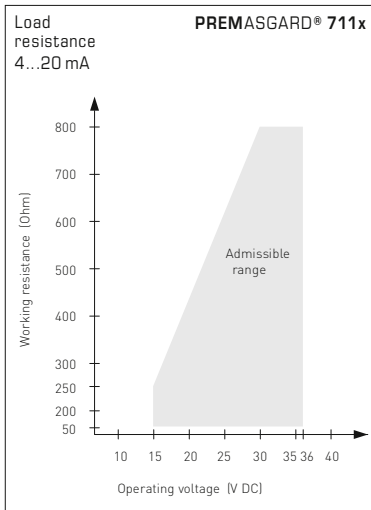
**(C) Ventilator:**

P1 (+) connected downstream of ventilator  
P2 (-) connected upstream of ventilator

Pressure connections at the pressure switch are marked with P1 (+) for higher pressure and P2 (-) for lower pressure.

**Conversion table for pressure values:**

Unit =	bar	mbar	Pa	kPa	mH <sub>2</sub> O
1 Pa	0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mH <sub>2</sub> O
1 kPa	0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mH <sub>2</sub> O
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mH <sub>2</sub> O
1 mbar	0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mH <sub>2</sub> O
1 mH <sub>2</sub> O	0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mH <sub>2</sub> O



PREMASGARD® 711x with display

PREMASGARD® 711x		Pressure and differential pressure measuring transducers, <i>Deluxe</i>		
Pressure range (adjustable)	Type / WG02	Output	Display	Item No.
<b>max. - 1000...+ 1000 Pa</b>		<b>PREMASGARD® 7111</b>		
0... 100 Pa / - 100... + 100 Pa	PREMASGARD 7111-U	0-10 V		1301-7111-0010-200
0... 300 Pa / - 300... + 300 Pa	PREMASGARD 7111-U LCD	0-10 V	■	1301-7111-4010-200
0... 500 Pa / - 500... + 500 Pa	PREMASGARD 7111-I	4...20 mA		1301-7112-0010-100
0... 1000 Pa / - 1000... + 1000 Pa	PREMASGARD 7111-I LCD	4...20 mA	■	1301-7112-4010-100
<b>max. - 5000...+ 5000 Pa</b>		<b>PREMASGARD® 7115</b>		
0... 1000 Pa / - 1000... + 1000 Pa	PREMASGARD 7115-U	0-10 V		1301-7111-0050-200
0... 2000 Pa / - 2000... + 2000 Pa	PREMASGARD 7115-U LCD	0-10 V	■	1301-7111-4050-200
0... 3000 Pa / - 3000... + 3000 Pa	PREMASGARD 7115-I	4...20 mA		1301-7112-0050-100
0... 5000 Pa / - 5000... + 5000 Pa	PREMASGARD 7115-I LCD	4...20 mA	■	1301-7112-4050-100
<b>max. -100...+100 Pa</b>		<b>PREMASGARD® 7110</b>		
0... +50 Pa / -50... +50 Pa	PREMASGARD 7110-U	0-10 V		1301-7111-0110-200
0...+100 Pa / -100...+100 Pa	PREMASGARD 7110-U LCD	0-10 V	■	1301-7111-4110-200
	PREMASGARD 7110-I	4...20 mA		1301-7112-0110-100
	PREMASGARD 7110-I LCD	4...20 mA	■	1301-7112-4110-100
<b>max. -25...+25 Pa</b>		<b>PREMASGARD® 7112</b>		
0... +25 Pa / -25... +25 Pa	PREMASGARD 7112-U	0-10 V		1301-7111-0370-200
	PREMASGARD 7112-U LCD	0-10 V	■	1301-7111-4370-200
	PREMASGARD 7112-I	4...20 mA		1301-7112-0370-200
	PREMASGARD 7112-I LCD	4...20 mA	■	1301-7112-4370-200
<b>Equipped as standard with automatic zero point calibration (3-wire connection)</b>				
Multi-range switching:	The <b>pressure ranges</b> depend on the device type and can be set via DIP switches.			
Extra charge:	Other special measuring ranges up to max. 5000 Pa <b>with optional automatic zero point calibration</b> (please specify in your order)			
<b>Accessories</b>				
<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, and 4 tapping 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, stainless steel <b>V2A</b> (1.4301)			7100-0040-6000-000
For further information, see last chapter Accessories!				



# PREMASREG® 711x

Pressure and differential pressure measuring transducers/switches, incl. connection set, with multi-range switching and adjustable, switching and active output



The electronic **PREMASREG® 711x** pressure sensors and switches are equipped with eight switchable measuring ranges, one switching output and one continuous output, and a display for setting the switchpoint and to display the ACTUAL pressure (eight devices in one, plus differential pressure switch / differential pressure monitor, continuous pressure sensor in a single device). The pressure sensor is used for above-atmospheric, below-atmospheric, or differential pressure measurement in clean air with limit value switching. The piezo-resistive measuring element guarantees a high degree of reliability and accuracy. Applications of these pressure sensors are in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering facilities, for monitoring filters, for level measurement or for triggering frequency converters. Media measured with these pressure transducers are air (non-precipitating), or other gaseous non-aggressive, non-combustible media. The pressure sensor has a manual zero point pushbutton and an offset potentiometer for final value and switchpoint correction. Fine adjustment by the user is possible at any time. The delivery includes the connection set **ASD-06** (2 m connection hose, two pressure connection nipples, screws).

## TECHNICAL DATA

Voltage supply:	24V AC / DC (±20%)
Load resistance:	$R_L > 5\text{ k}\Omega$
Power consumption:	$< 1\text{ VA} / 24\text{ V DC}, < 2.2\text{ VA} / 24\text{ V AC}$
Measuring ranges:	<b>multi-range switching with 8 switchable measuring ranges</b> (see table)
Output signal:	0 -10V 1 changeover contact (24V), 1 A ohmic load
Electrical connection:	3-wire connection (U)
Media temperature:	-20...+50 °C
Pressure connection:	4 / 6 x 11 mm (hoses $\varnothing = 4 / 6\text{ mm}$ ), metal pressure connection nozzles
Type of pressure:	differential pressure
Medium:	clean air and non-aggressive, non-combustible gases
Accuracy:	<b>Type 7111</b> (1000 Pa): typically $\pm 5\text{ Pa}$ <b>Type 7115</b> (5000 Pa): typically $\pm 25\text{ Pa}$ compared to the calibrated reference device
Sum of Linearity+hysteresis:	$< \pm 1\%$ of final value
Temp. drift values:	$\pm 0.1\%$ / °C
Zero point offset:	$< \pm 0.7\%$ of final value
Above- / below-atmospheric pressure:	max. $\pm 100\text{ hPa}$
Signal filtering:	<b>switchable 1 s / 10 s</b>
Setting increment $\Delta p$ :	1% of pressure range (100 Pa => 1 Pa; 5000 Pa => 50 Pa)
Switching hysteresis:	$\pm 1\%$ of pressure range (100 Pa => $\pm 1\text{ Pa}$ ; 5000 Pa => $\pm 50\text{ Pa}$ )
Enclosure:	plastic, UV-stabilised, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!
Dimensions:	126 x 90 x 50 mm (Tyr 2)
Electrical connection:	0.14 - 1.5 mm <sup>2</sup> , via plug-in screw terminal
Cable gland:	M 16 x 1.5; including strain relief
Air humidity:	$< 95\%$ r. H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU, according to EN 61326-1, according to EN 61326-2-3
Equipment:	three-line <b>display with illumination</b> , cutout approx. 70 x 40 mm (W x H), for displaying ACTUAL pressure and /or SETPOINT pressure and for adjusting the automatic zero point calibration

ACCESSORIES	
<b>ASD-06</b>	Connection set (nipple straight) – (included in the scope of delivery)
<b>ASD-07</b>	Connection nipple (at 90° angle)
<b>DAL-01</b>	Pressure outlet for ceiling or in-wall installation (e.g. in clean rooms)
<b>WS-03</b>	Weather and sun protection hood, 200 x 180 x 150 mm, stainless steel <b>V2A</b> (1.4301)

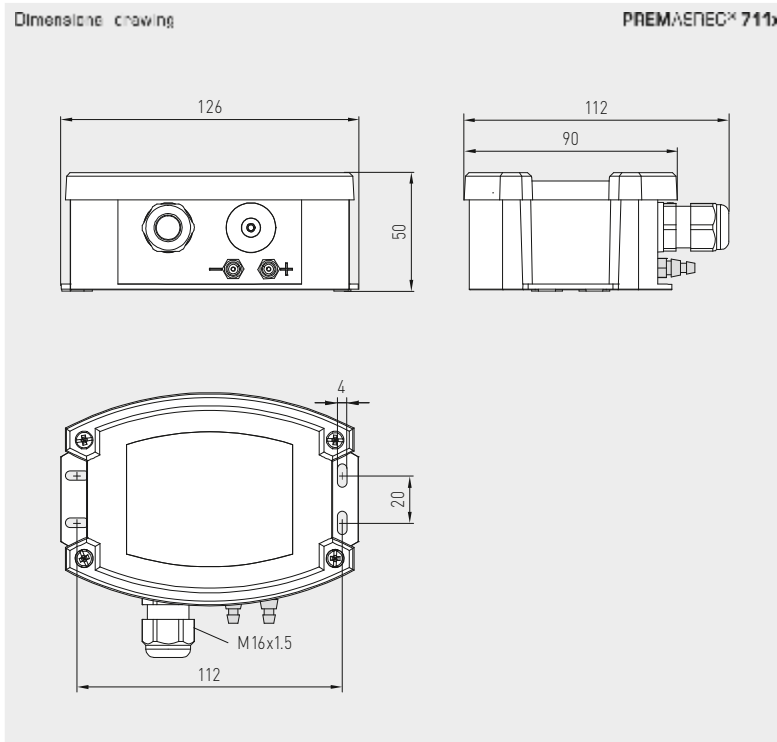
Display

**Automatic zero point calibration**

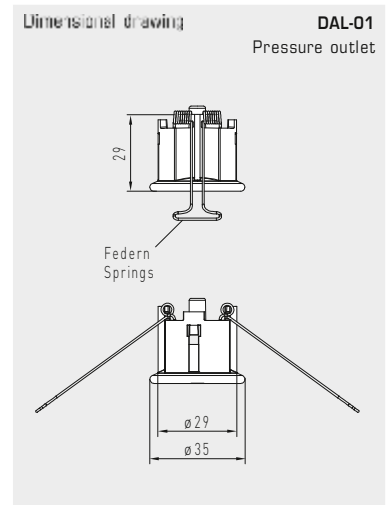
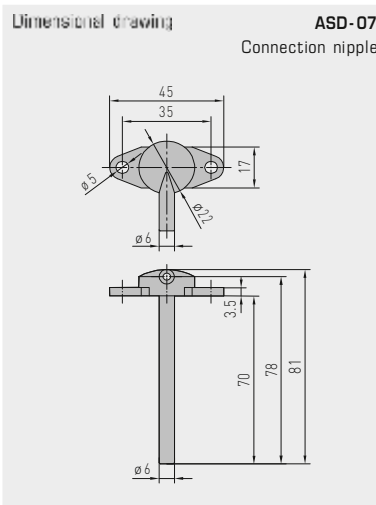
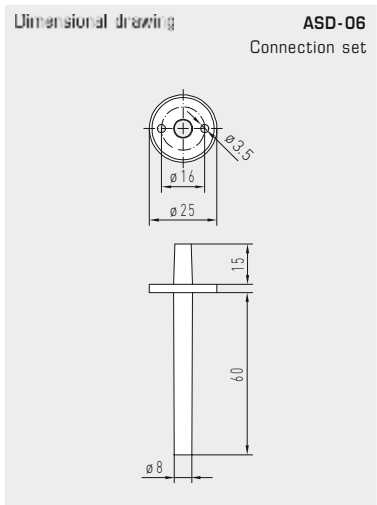
**Standard**  
Actual pressure (in Pa)  
Calibration interval (arrows)

**Zero point calibration Active**  
Calibration time (in seconds)

**Adjustment of zero point calibration**  
Cycle time (15 min to 24 hours) adjustable by potentiometer



**PREMASREG® 711x**  
with display



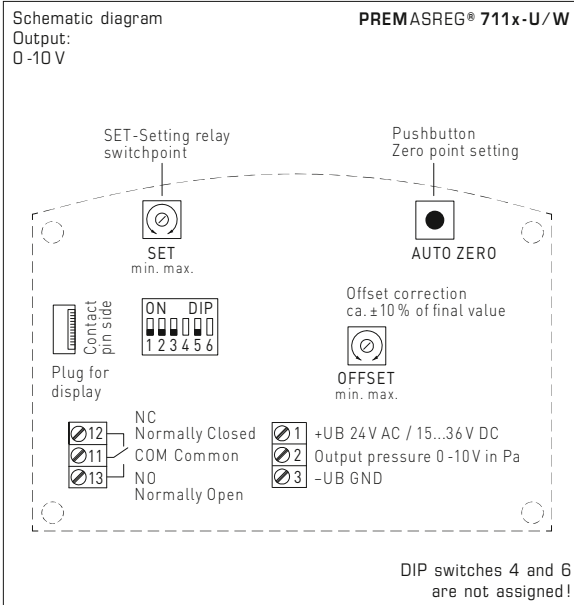
**ASD-06**  
Connection set

**ASD-07**  
Connection nipple

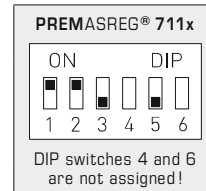
**DAL-01**  
Pressure outlet



Pressure and differential pressure measuring transducers/switches, incl. connection set, with multi-range switching and adjustable, switching and active output

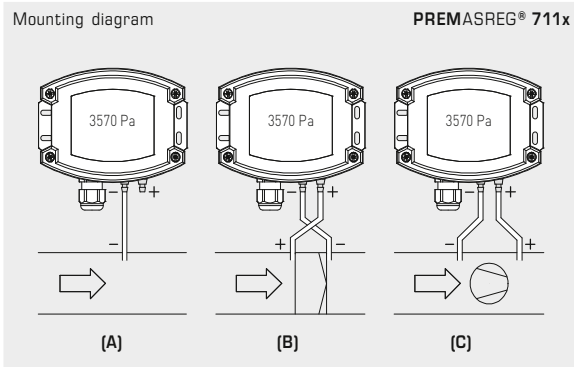


Pressure range (selectable) – max. measuring range (default) is depending to the type of device				DIP 1	DIP 2
0...100 Pa	0...1000 Pa	-100...+100 Pa	-1000...+1000 Pa	OFF	OFF
0...300 Pa	0...2000 Pa	-300...+300 Pa	-2000...+2000 Pa	ON	OFF
0...500 Pa	0...3000 Pa	-500...+500 Pa	-3000...+3000 Pa	OFF	ON
0...1000 Pa	0...5000 Pa	-1000...+1000 Pa	-5000...+5000 Pa	ON	ON



Measuring range mode (Mode selectable)	DIP 3
Unidirectional (0...+MR) (default)	OFF
Bidirectional (-MR...+MR)	ON

Measurement signal filtering (Time interval selectable)	DIP 5
10 s (default)	OFF
1 s	ON



**TYPES OF MONITORING:**

- (A) Below-atmospheric pressure:  
P1 (+) is not connected but open against 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

Pressure connections at the pressure switch are marked with P1 (+) for higher pressure and P2 (-) for lower pressure.

Conversion table for pressure values:

Unit =	bar	mbar	Pa	kPa	mH <sub>2</sub> O
1 Pa	0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mH <sub>2</sub> O
1 kPa	0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mH <sub>2</sub> O
1 bar	1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mH <sub>2</sub> O
1 mbar	0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mH <sub>2</sub> O
1 mH <sub>2</sub> O	0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mH <sub>2</sub> O





**WS-03**  
Weather and sun protection hood  
(optional)



**PREMASREG® 711x**  
with display



PREMASREG® 711x		Pressure and differential pressure measuring transducers/switches, <i>Deluxe</i>		
Pressure range (adjustable)	Type / WG02	Output	Display	Item No.
<b>max. - 1000...+ 1000 Pa</b>	<b>PREMASREG® 7111</b>			
0... 100 Pa / - 100... + 100 Pa	PREMASREG 7111-U/W LCD	0-10 V 1x Changeover contact	■	1302-7111-4011-200
0... 300 Pa / - 300... + 300 Pa				
0... 500 Pa / - 500... + 500 Pa				
0... 1000 Pa / -1000... + 1000 Pa				
<b>max. - 5000...+ 5000 Pa</b>	<b>PREMASREG® 7115</b>			
0... 1000 Pa / - 1000... + 1000 Pa	PREMASREG 7115-U/W LCD	0-10 V 1x Changeover contact	■	1302-7111-4051-200
0... 2000 Pa / - 2000... + 2000 Pa				
0... 3000 Pa / - 3000... + 3000 Pa				
0... 5000 Pa / - 5000... + 5000 Pa				
Multi-range switching:	The <b>pressure ranges</b> depend on the device type and can be set via DIP switches.			
Extra charge:	Other special measuring ranges up to max. 5000 Pa <b>with optional automatic zero point calibration</b> (please specify in your order)			
<b>Accessories</b>				
<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, and 4 tapping 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, stainless steel <b>V2A</b> (1.4301)			7100-0040-6000-000
For further information, see last chapter Accessories!				