

**Differential pressure switches for air,
with mounting angle, incl. connection set**

The mechanical differential pressure switch / differential pressure monitor **PREMASREG® DS 1** with metal angle is used for monitoring above-atmospheric, differential, and below-atmospheric pressures of air and gaseous, non-aggressive media in air ducts, ventilation intake or exhaust devices, as a flow monitor, as a pressure difference detector or pressure monitor for flow detection at electric heating registers, for monitoring V-belts and filters, as air pressure deficiency protection, for monitoring fans and air dampers, or as a limit value controller. The switchpoint is adjusted using the internal precision scale.

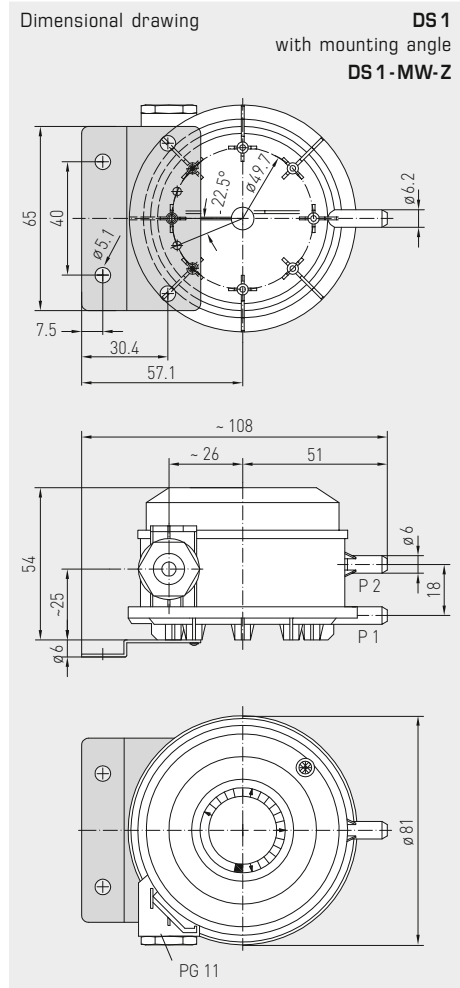
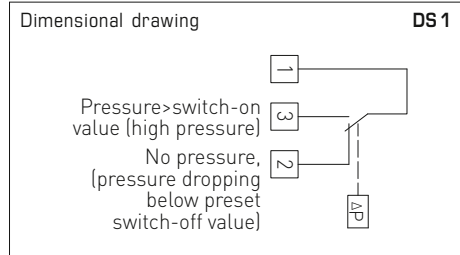
These instruments are factory-calibrated. The differential pressure DS 1 switch is supplied including connection set **ASD-06** (2m connection hose, two pressure connection nipples, screws) and mounting angle **DS1-MW-Z**.

DS 1
with mounting angle



TECHNICAL DATA

Switching capacity: (Contact load)	5 (0.8) A, 250 V AC 4 (0.7) A, 30 V DC
Contact:	single-pole potential-free changeover contact, multi-layer contact, gold-plated (DDC compatible)
Pressure range:	see table, high adjustment accuracy due to individual laser-etched scale for each switch
Enclosure:	base: material PC (10% GF), colour light grey (similar to RAL 7035), snap-on lid: material PC, transparent, cable gland PG 11 with strain relief
Temperature of medium:	-30...+85 °C
Membrane:	silicone, LSR (Liquid Silicon Rubber, tempered at +200 °C, non-outgassing, LABS-free, no emission of varnish-adhesion inhibiting substances), long-term stability of switching points due to trapezoidal bead membranes
Humidity:	< 90% r. H., non-precipitating air
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws on circuit board
Pressure connection:	P1 (+) for higher pressure P2 (-) for lower pressure Ø 6.2 mm (nipples)
Mounting:	with metal angle DS1-MW-Z (included in the scope of delivery) (for other optional shapes, see table) Recommended mounting position: vertical (pressure connections downward) – factory setting; horizontal (cap up / down)
Protection class:	II (according to EN 60 730)
Protection type:	IP 54 with top cover (according to EN 60529)
Standards:	CE conformity, low-voltage directive 2014 / 35 / EU
Tests:	DVGW (according to DIN 1854), VDE 0630, EN 61058, directive on gas devices 2009 / 142 / EU, CE 0085 A P 0918
FUNCTION	Contact 1-2 breaks when pressure / differential pressure rises to the preset value. Contact 1-3 closes when pressure / differential pressure drops and can be used as signal contact.
ACCESSORIES	
ASD-06	Connection set (nipple straight) – (included in the scope of delivery)
DS1-MW-Z	Mounting angle (included in the scope of delivery)
DS1-MW-U	Mounting angle (optional), combination bracket for vertical or horizontal mounting
WS-04	Weather and sun protection hood, 130 x 180 x 135 mm, aus stainless steel

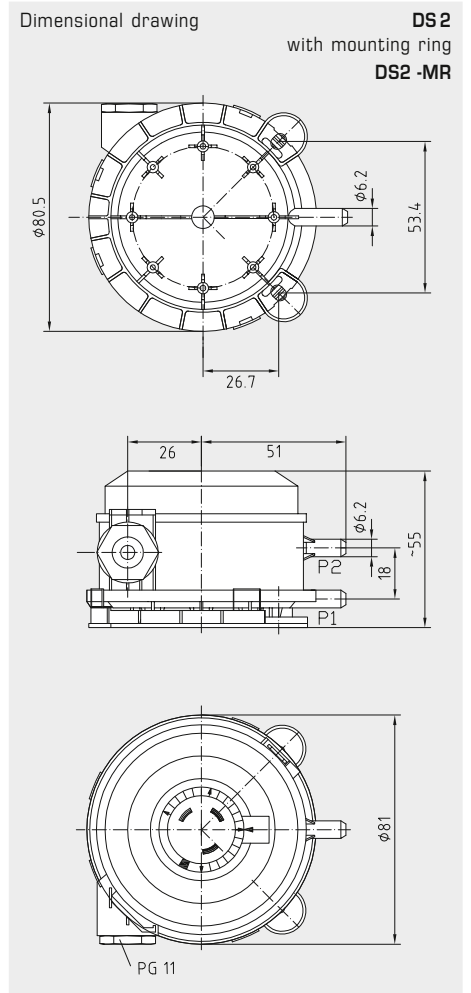
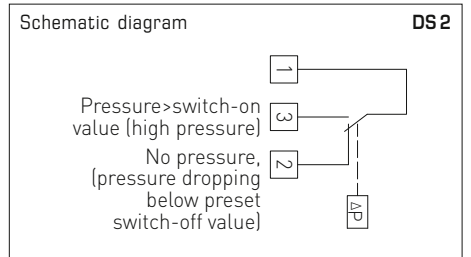




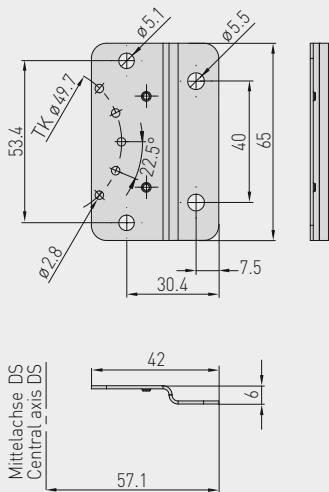
The mechanical differential pressure switch / differential pressure monitor **PREMASREG® DS-2** with 4-hole plastic base ring is used for monitoring above-atmospheric, differential and below-atmospheric pressures of clean air and other gaseous, non-aggressive non-combustible media in air ducts, air intake or exhaust devices, as a pressure difference detector or pressure monitor for flow detection at electric heating registers, for monitoring V-belts and filters, as air pressure deficiency protection, for monitoring fans and air dampers, or as a limit value controller. The switchpoint is adjusted using the internal precision scale. These instruments are factory-calibrated. The differential pressure switch DS 2 is supplied including connection set **ASD-06** (2 m connection hose, two pressure connection nipples, screws) and mounting ring **DS2 -MR**.

TECHNICAL DATA	
Switching capacity: (Contact load)	5 (0.8) A, 250 V AC 4 (0.7) A, 30 V DC
Contact:	single-pole potential-free changeover contact, multi-layer contact, gold-plated (DDC compatible)
Pressure range:	see table, high adjustment accuracy due to individual laser-etched scale for each switch
Enclosure:	base: material PC (10% GF), colour light grey (similar to RAL 7035), snap-on lid: material PC, transparent, cable gland PG 11 with strain relief
Temperature of medium:	-30...+85 °C
Membrane:	silicone, LSR (Liquid Silicon Rubber, tempered at +200 °C, non-outgassing, LABS-free, no emission of varnish-adhesion inhibiting substances), long-term stability of switching points due to trapezoidal bead membranes
Humidity:	< 90% r. H., non-precipitating air
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws on circuit board
Pressure connection:	P1 (+) for higher pressure P2 (-) for lower pressure Ø 6.2 mm (nipples)
Mounting:	by 4-hole base ring, plastic (included in the scope of delivery), recommended mounting position: vertical (pressure connections downward) – factory setting, horizontal (cap up / down)
Protection class:	II (according to EN 60730)
Protection type:	IP 54 with top cover (according to EN 60529)
Standards:	CE conformity, low-voltage directive 2014 / 35 / EU
Tests:	DVGW (according to DIN 1854), VDE 0630, EN 61058, directive on gas devices 2009 / 142 / EU, CE 0085 A P 0918
FUNCTION	Contact 1 - 2 breaks when pressure / differential pressure rises to the preset value. Contact 1 - 3 closes when pressure / differential pressure drops and can be used as signal contact.
ACCESSORIES	
ASD-06	Connection set (nipple straight) – (included in the scope of delivery)
DS2 -MR	Mounting ring (included in the scope of delivery)
WS-04	Weather and sun protection hood, 130 x 180 x 135 mm, aus stainless steel

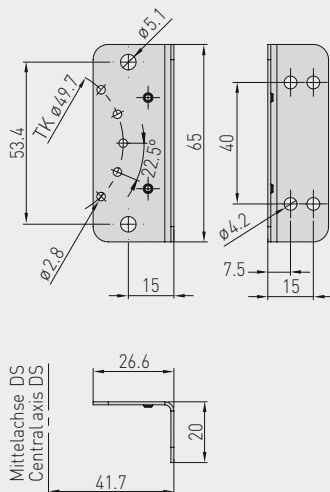
DS2
with mounting ring



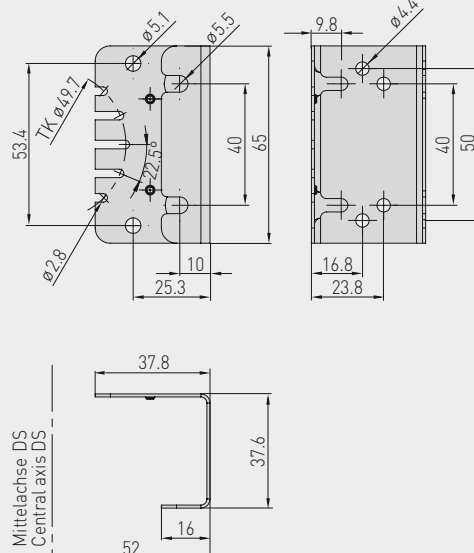
Dimensional drawing **DS 1-MW-Z**
Mounting angle



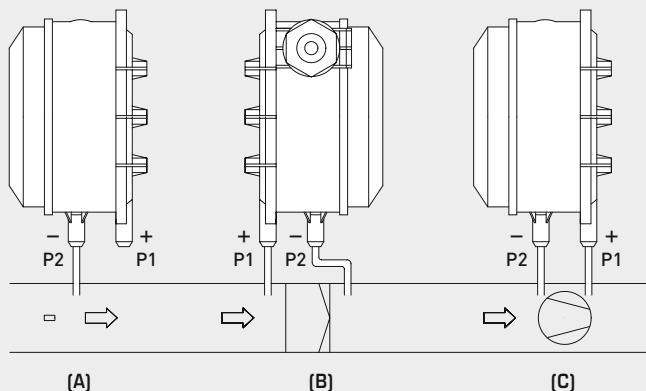
Dimensional drawing **DS 1-MW-L**
Mounting angle



Dimensional drawing **DS 1-MW-U**
Mounting angle



Mounting diagram **DS 1 / DS 2**



DS 1 / DS 2
Connection



Setting potentiometer
(internal setting)

Connecting terminals
secured against
turning

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

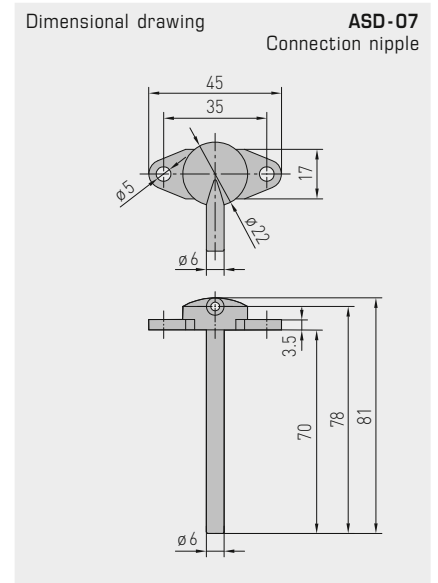
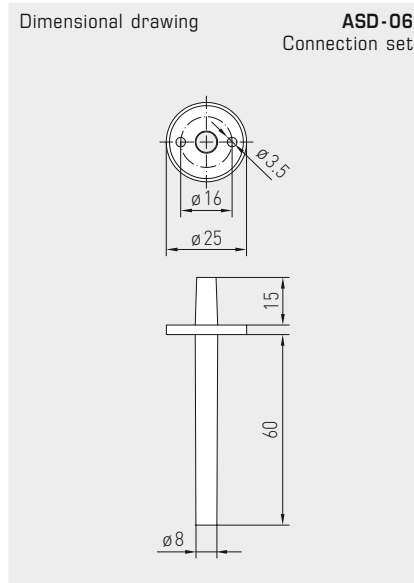
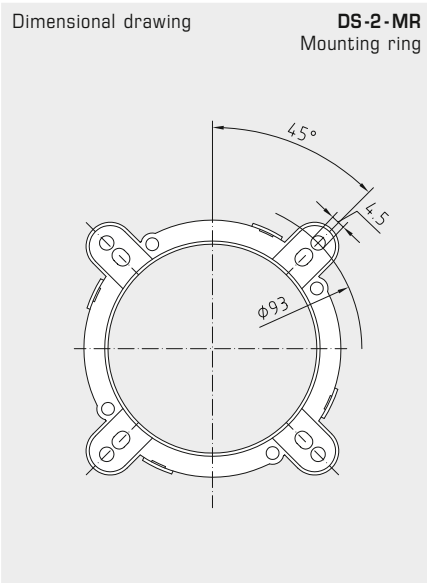
(C) Ventilator:

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



PREMASREG® DS 1 – Differential pressure switches with mounting angle, *Premium*
PREMASREG® DS 2 – Differential pressure switches with mounting ring, *Standard*

Type	Pressure range (adjustable)	Operating Difference approx.	Max. Pressure	Item No.	Price
DS 1 / WG02	<i>Premium</i>			with mounting angle DS-MW-Z	
DS-106	20... 300 Pa (0.2...3.0 mbar)	0.1 mbar ± 15 %	5000 Pa (50 mbar)	1302-4011-0000-000	44,88 €
DS-106 A	50... 500 Pa (0.5...5.0 mbar)	0.2 mbar ± 15 %	5000 Pa (50 mbar)	1302-4012-0000-000	44,88 €
DS-106 B	100... 1000 Pa (1.0...10.0 mbar)	0.4 mbar ± 15 %	5000 Pa (50 mbar)	1302-4013-0000-000	44,88 €
DS-106 C	500... 2000 Pa (5.0...20.0 mbar)	1.0 mbar ± 15 %	5000 Pa (50 mbar)	1302-4014-0000-000	44,88 €
DS-106 D	1000... 5000 Pa (10.0...50.0 mbar)	2.5 mbar ± 15 %	7500 Pa (75 mbar)	1302-4015-0000-000	44,88 €
DS 2 / WG03	<i>Standard</i>			with mounting ring	
DS-205 F	20... 300 Pa (0.2...3.0 mbar)	0.1 mbar ± 15 %	5000 Pa (50 mbar)	1302-4026-0000-000	29,61 €
DS-205 B	50... 500 Pa (0.5...5.0 mbar)	0.2 mbar ± 15 %	5000 Pa (50 mbar)	1302-4022-0000-000	29,61 €
DS-205 D	100... 1000 Pa (1.0...10.0 mbar)	0.4 mbar ± 15 %	5000 Pa (50 mbar)	1302-4027-0000-000	29,61 €
DS-205 E	500... 2000 Pa (5.0...20.0 mbar)	1.0 mbar ± 15 %	5000 Pa (50 mbar)	1302-4028-0000-000	29,61 €
Accessories					
DS-MW-Z	Sheet steel mounting angle in Z-form (DS 1: included in the scope of delivery)			7100-0063-0000-000	11,27 €
DS-MW-L	Sheet steel mounting angle in L-form			7100-0063-1000-000	11,53 €
DS-MW-U	Sheet steel mounting angle in U-form			7100-0060-9000-000	14,18 €
ASD-06	Connection set (included in the scope of delivery), consisting of 2 connection nipples (straight) made of ABS, 2 m PVC hose, soft, and 4 tapping screws			7100-0060-3000-000	6,45 €
ASD-07	2 connection nipples (at 90 degree angle) made of plastic, ABS			7100-0060-7000-000	6,45 €
WS-04	Weather and sun protection hood, 130 x 180 x 135 mm, stainless steel			7100-0040-7000-000	31,62 €

For further information, see last chapter Accessories!