

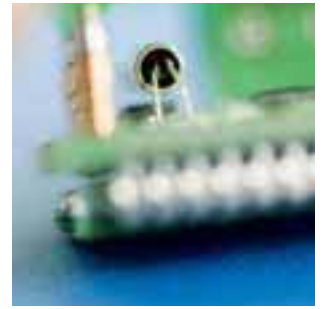
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Pressure sensors

PREMASGARD®

Pressure controllers and switches

PREMASREG®



PREMASGARD®

PORTFOLIO

- Pressure measuring transducers for direct mounting on pressure lines for gaseous and liquid media
- Pressure and differential pressure measuring transducers with hose set for air, gaseous and liquid media

FEATURES

- With active output
- Piezo-resistive measuring elements
- With or without display
- Measuring ranges from 0 to 10,000 Pa (± 5.000 Pa)
- Protection type IP65
- Enclosure made of stainless steel or glass-globe-reinforced polyamide

PREMASREG®

PORTFOLIO

- Differential pressure switches for air and other gaseous, non-combustible media, including hose set

FEATURES

- Pressure ranges up to 5,000 Pa
- Operating difference 0.1 to 2.5 mbar
- Gold-plated multi-layer contact
- Tested for 1 million switching cycles
- Protection type IP54

FIELDS OF APPLICATION

- Process technology, plant and mechanical engineering
- Medical technology and large-scale catering facilities
- Heating, ventilation and air conditioning, clean room technology
- Activation of pumps and pressure lines
- Filter monitoring and deficient air protection
- Rotational speed and limit value control

DF including hose set



Pressure and differential pressure measuring transducers calibrateable, with active output

DF

APPLICATION:

The calibrateable pressure sensors DF are used for measuring above-atmospheric, below-atmospheric or differential pressures in air. A piezo-resistive measuring element guarantees high reliability and accuracy. These pressure sensors are used in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering establishments, for monitoring filters, for level measuring, or for triggering frequency converters. Measured media are air (non-precipitating) or other gaseous, non-aggressive, non-combustible media.

TECHNICAL DATA:

- Power supply: 24V AC/DC for output 0 -10V;
15 - 30 V DC for output 4...20mA
- Measuring ranges:..... see table
- Output signal: 0 -10V or 4...20mA
- Electrical connection: 2- 3-wire connection
- Media temperature: 0... + 50°C
- Pressure connection: 4/6 x 11 mm (hoses $\varnothing = 4/6$ mm)
- Type of pressure: differential pressure
- Medium: air, non-aggressive, non-combustible gases
- Accuracy: $\pm 3\%$ of final value (at 20°C)
- Zero point offset: max. +2% of final value (for voltage output)
- Above-/below-atmospheric pressure:..... max. 10x measuring range
- Long-term stability:..... $\pm 1\%$ per year
- Build-up time: ca. 0.05s
- Hysteresis:..... 0.1% of final value, ranges 25, 50, 100Pa: 1 Pa
- Media contacting parts:..... brass, Ni, Nylon, PU, Si
- Temperature drift values: $\pm 2.5\%$ of final value/10K
- Current consumption: < 20 mA
- Linearity: $\pm 0.8\%$ of final value
- Enclosure: plastic, material polyamide, 30 % glass-globe-reinforced, with quick-locking screws, colour pure white (similar RAL9010)
- Dimensions: 72 x 64 x 39.4 mm
- Electrical connection: 0.14 - 1.5mm² via terminal screws
- Cable union: M16, including strain relief
- Humidity: < 95% r.H., non-precipitating air
- Protection class: III (according to EN 60730)
- Protection type: IP65 (according to IEC 529)
- Standards: CE conformity, electromagnetic compatibility according to EN 61326 + A1 + A2, EMC directive 89/336/EWG low-voltage directive 73/23/EWG
- ACCESSORIES: including hose set ASD-06 (included in the scope of delivery)



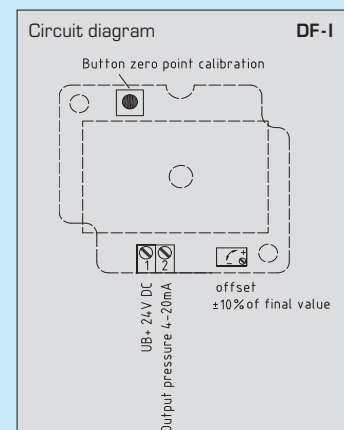
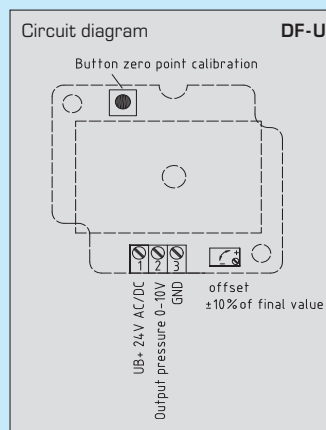
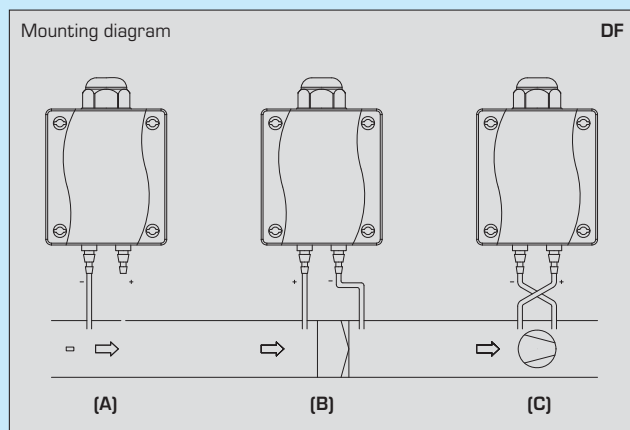
ASD-06



TYPES OF MONITORING:

- (A) Below-atmospheric pressure: P1 (+) is not connected but open against atmosphere
P2 (-) connected to inside duct
- (B) Filter: P1 (+) connected upstream of filter
P2 (-) connected downstream of filter
- (C) Ventilator: P1 (+) connected upstream of ventilator
P2 (-) connected downstream of ventilator

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



SDF including hose set



Pressure and differential pressure measuring transducers with display, calibrateable, with active output

APPLICATION:

The calibrateable pressure sensors SDF are used for measuring above-atmospheric, below-atmospheric or differential pressures in air. A piezo-resistive measuring element guarantees high reliability and accuracy. These pressure sensors are used in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering establishments, for monitoring filters, for level measuring, or for triggering frequency converters. Measured media are air (non-precipitating) or other gaseous, non-aggressive, non-combustible media.

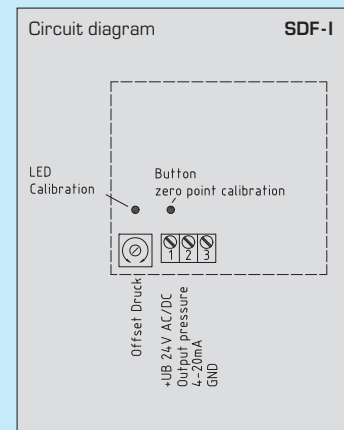
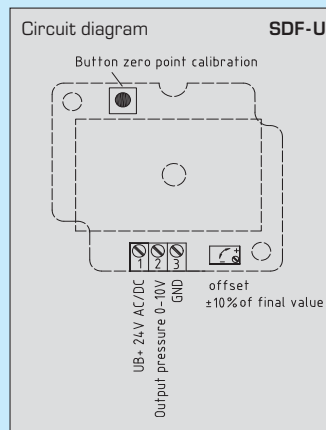
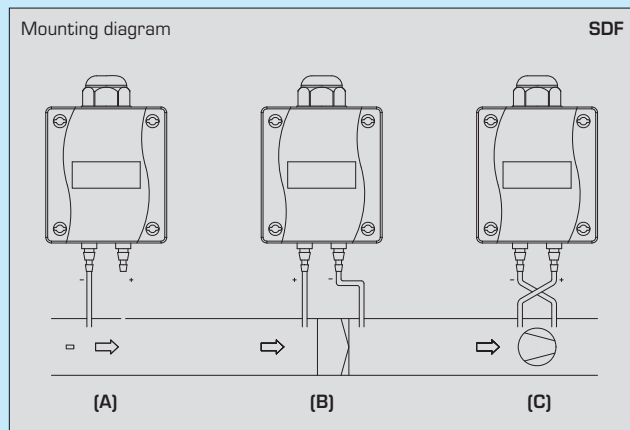
TECHNICAL DATA:

Power supply:	24V AC/DC for output 0-10V; 15-30V DC for output 4...20mA
Measuring ranges:	see table
Output signal:	0-10V or 4...20mA
Electrical connection:	3-wire connection
Media temperature:	0...+50 °C
Pressure connection:	4/6 x 11 mm (hoses $\varnothing = 4/6$ mm)
Type of pressure:	differential pressure
Medium:	air, non-aggressive, non-combustible gases
Accuracy:	$\pm 3\%$ of final value (at 20°C)
Zero point offset:	max. +2% of final value (for voltage output)
Above-/below-atmospheric pressure:	max. 10x measuring range
Long-term stability:	$\pm 1\%$ per year; ranges 25, 50, 100Pa: 1 Pa
Build-up time:	ca. 0.05 s
Hysteresis:	0.1% of final value
Media contacting parts:	brass, Ni, Nylon, PU, Si
Temperature drift values:	$\pm 2.5\%$ of final value/10K
Current consumption:	< 20 mA
Linearity:	$\pm 0.8\%$ of final value
Enclosure:	plastic, material polyamide, 30% glass-globe-reinforced, with quick-locking screws, colour pure white (similarRAL9010)
Dimensions:	SDF-U: 72 x 64 x 39.4 mm SDF-I: 108 x 72.5 x 70 mm
Electrical connection:	0.14 - 1.5mm ² via terminal screws
Cable union:	M16, including strain relief
Humidity:	< 95% r.H., non-precipitating air
Protection class:	III (according to EN 60730)
Protection type:	IP65 (according to IEC 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326 + A1 + A2, EMC directive 89/336/EWG low-voltage directive 73/23/EWG
Features:	including 4-digit display
ACCESSORIES:	including hose set ASD-06 (included in the scope of delivery)

TYPES OF MONITORING:

- (A) Below-atmospheric pressure: P1 (+) is not connected but open against atmosphere
P2 (-) connected to inside duct
- (B) Filter: P1 (+) connected upstream of filter
P2 (-) connected downstream of filter
- (C) Ventilator: P1 (+) connected upstream of ventilator
P2 (-) connected downstream of ventilator

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



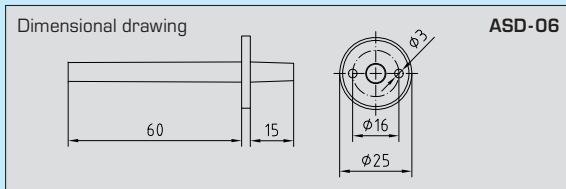
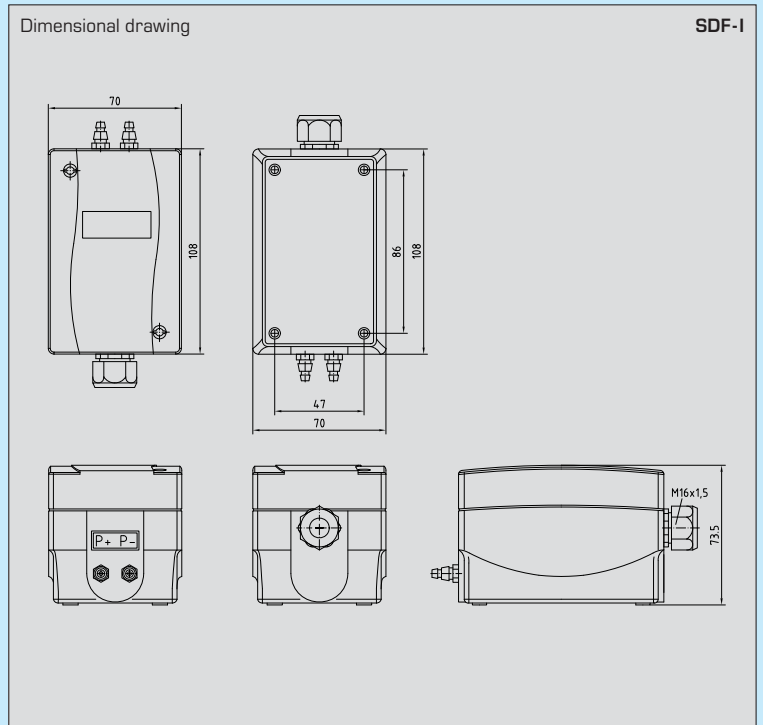
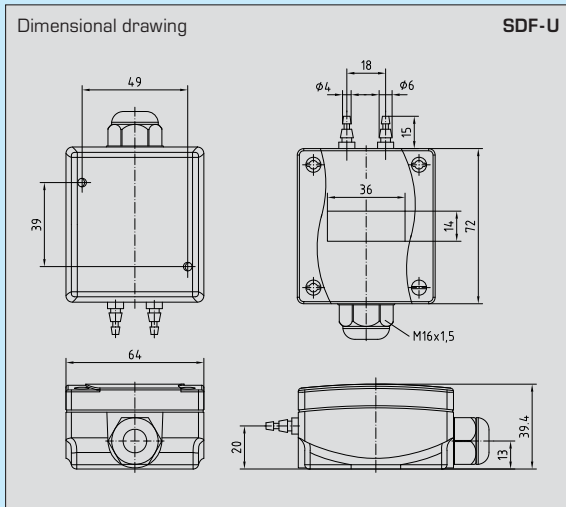
SDF-U



SDF-I



ASD-06



Conversion table for pressure values:

Units	bar	mbar	Pa	kPa	mWs
1 Pa	= 0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mWs
1 kPa	= 0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mWs
1 bar	= 1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mWs
1 mbar	= 0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mWs
1 mWs	= 0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mWs

Pressure measuring transducer SDF-U with display, including hose set:

Type/WG1	Range	Output
SDF-50U	0...50 Pa	0-10V
SDF-100U	0...100 Pa	0-10V
SDF-300U	0...300 Pa	0-10V
SDF-500U	0...500 Pa	0-10V
SDF-1000U	0...1000 Pa	0-10V
SDF-2000U	0...2000 Pa	0-10V
SDF-5000U	0...5000 Pa	0-10V

SDF-25/+25 U	-25...+25 Pa	0-10V
SDF-50/+50 U	-50...+50 Pa	0-10V
SDF-100/+100 U	-100...+100 Pa	0-10V
SDF-500/+500 U	-500...+500 Pa	0-10V
SDF-1000/+1000 U	-1000...+1000 Pa	0-10V
SDF-2000/+2000 U	-2000...+2000 Pa	0-10V

Other pressure ranges selectable at extra charge, see pricelist.

Output square root extracting optional at extra charge, see pricelist.

Pressure measuring transducer SDF-I with display, including hose set:

Type/WG1	Range	Output
SDF-50I	0...50 Pa	4...20 mA
SDF-100I	0...100 Pa	4...20 mA
SDF-300I	0...300 Pa	4...20 mA
SDF-500I	0...500 Pa	4...20 mA
SDF-1000I	0...1000 Pa	4...20 mA
SDF-2000I	0...2000 Pa	4...20 mA
SDF-5000I	0...5000 Pa	4...20 mA

SDF-25/+25 I	-25...+25 Pa	4...20 mA
SDF-50/+50 I	-50...+50 Pa	4...20 mA
SDF-100/+100 I	-100...+100 Pa	4...20 mA
SDF-500/+500 I	-500...+500 Pa	4...20 mA
SDF-1000/+1000 I	-1000...+1000 Pa	4...20 mA
SDF-2000/+2000 I	-2000...+2000 Pa	4...20 mA

Other pressure ranges selectable at extra charge, see pricelist.

Output square root extracting optional at extra charge, see pricelist.

SDF-W including hose set



Pressure and differential pressure measuring transducers with display, with switching/active output

SDF-W

APPLICATION:

The calibrateable pressure sensors SDF are used for measuring above-atmospheric, below-atmospheric or differential pressures in air. A piezo-resistive measuring element guarantees high reliability and accuracy. These pressure sensors are used in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering establishments, for monitoring filters, for level measuring, or for triggering frequency converters. Measured media are air (non-precipitating) or other gaseous, non-aggressive, non-combustible media.

TECHNICAL DATA:

Power supply:	24 V AC/DC
Measuring ranges:	see table
Output signal:	0-10V and 1 x relay as single-pole potential-free changeover contact
Electrical connection:	3-wire connection
Media temperature:	0...+50 °C
Pressure connection:	4/6 x 11 mm (hoses $\varnothing = 4/6$ mm)
Type of pressure:	differential pressure
Medium:	air, non-aggressive, non-combustible gases
Accuracy:	$\pm 3\%$ of final value (at 20°C)
Zero point offset:	max. +2% of final value (for voltage output)
Above-/below-atmospheric pressure:	max. 10x measuring range
Long-term stability:	$\pm 1\%$ per year; ranges 25, 50, 100Pa: 1 Pa
Build-up time:	ca. 0.05 s
Hysteresis:	0.1% of final value
Media contacting parts:	brass, Ni, Nylon, PU, Si
Temperature drift values:	$\pm 2.5\%$ of final value/10K
Current consumption:	< 20 mA
Linearity:	$\pm 0.8\%$ of final value
Enclosure:	plastic, material polyamide, 30% glass-globe-reinforced, colour pure white (similar RAL9010)
Dimensions:	108 x 72.5 x 70 mm
Electrical connection:	0.14 - 1.5mm ² via terminal screws
Cable union:	M16, including strain relief
Humidity:	< 95% r.H., non-precipitating air
Protection class:	III (according to EN 60730)
Protection type:	IP65 (according to IEC 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326 + A1 + A2, EMC directive 89/336/EWG low-voltage directive 73/23/EWG
Features:	including 4-digit display
ACCESSORIES:	including hose set ASD-06 (included in the scope of delivery)



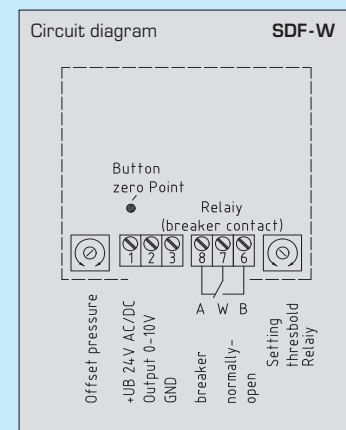
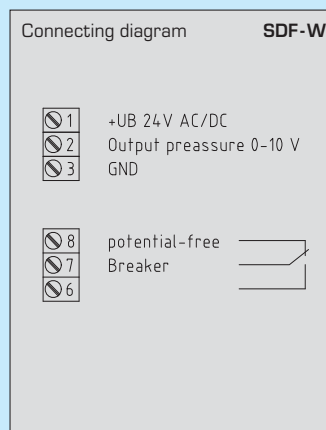
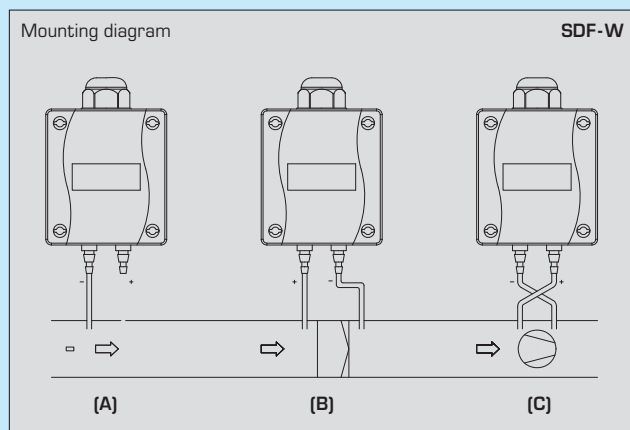
ASD-06

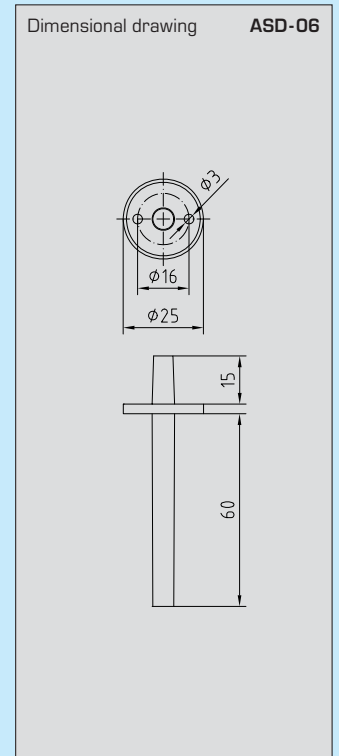
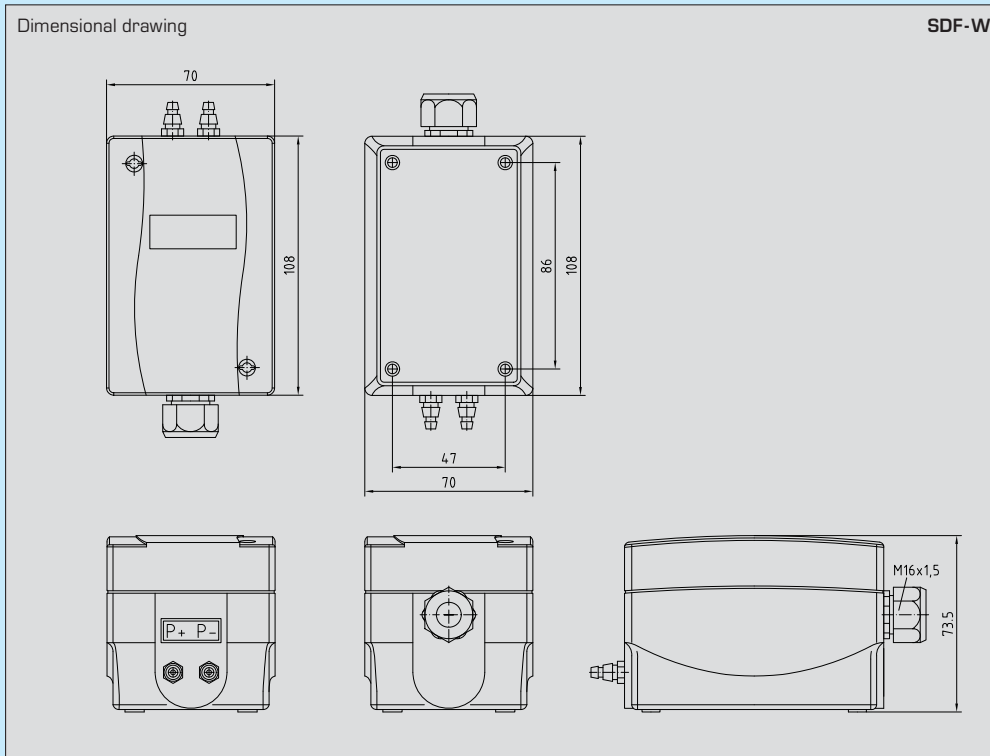


TYPES OF MONITORING:

- (A) Unterdruck: P1 (+) is not connected but open against atmosphere
P2 (-) connected to inside duct
- (B) Filter: P1 (+) connected upstream of filter
P2 (-) connected downstream of filter
- (C) Ventilator: P1 (+) connected upstream of ventilator
P2 (-) connected downstream of ventilator

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





Conversion table for pressure values:

Units	bar	mbar	Pa	kPa	mWs
1 Pa	= 0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mWs
1 kPa	= 0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mWs
1 bar	= 1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mWs
1 mbar	= 0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mWs
1 mWs	= 0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mWs

Pressure measuring transducer SDF-W with display, including hose set:

Type/WG1	Range	Output
SDF-50 W	0...50 Pa	change over contact / 0-10V
SDF-100 W	0...100 Pa	change over contact / 0-10V
SDF-300 W	0...300 Pa	change over contact / 0-10V
SDF-500 W	0...500 Pa	change over contact / 0-10V
SDF-1000 W	0...1000 Pa	change over contact / 0-10V
SDF-2000 W	0...2000 Pa	change over contact / 0-10V
SDF-5000 W	0...5000 Pa	change over contact / 0-10V
SDF-25 / +25 W	-25...+25 Pa	change over contact / 0-10V
SDF-50 / +50 W	-50...+50 Pa	change over contact / 0-10V
SDF-100 / +100 W	-100...+100 Pa	change over contact / 0-10V
SDF-500 / +500 W	-500...+500 Pa	change over contact / 0-10V
SDF-1000 / +1000 W	-1000...+1000 Pa	change over contact / 0-10V
SDF-2000 / +2000 W	-2000...+2000 Pa	change over contact / 0-10V

Other pressure ranges selectable at extra charge, see pricelist.

Output square root extracting optional at extra charge, see pricelist.

SHD including DIN plug connector

Pressure measuring transducer with active output

SHD

APPLICATION:

For measuring pressures in gaseous and liquid media. This pressure transmitter is used in hydraulics, pneumatics, process technology, in mechanical and plant engineering. The stainless steel membrane is totally vacuum-tight.

TECHNICAL DATA:

Power supply: 12-32V DC for output 4...20 mA;
14-30V DC for output 0-10V

Measuring ranges:..... see table

Output signal: 0-10V 3-wire connection,
working resistance $R_A \geq 2 \text{ k}\Omega$ or
4...20 mA 2-wire connection,
working resistance $R_A(\text{Ohm}) = (UB(\text{V}) - 10\text{V}) / 0.02\text{A}$

Electrical connection: 0.14 - 1.5 mm² via terminal screws,
inside right angle plug connector shape C

Pressure connection: 1/2" pipe thread A, including adapter pipe thread 1/4"
(other connections upon request)

Pressure type:..... relative

Measuring principle: thin-film, piezo-resistive on steel membrane

Temperature of medium:..... -40...+100 °C

Mounting: directly on pressure line

Enclosure: stainless steel

Connecting head: plastic, ca. 98x50x34 mm

Medium contacting parts: stainless steel 1.4301 X 5 CRNi 18-10,
O-rings, no silicone oil

Response time:..... 1.5 ms

Class: 0.5%

Total error:..... < 3%

Overload range:..... 2 times

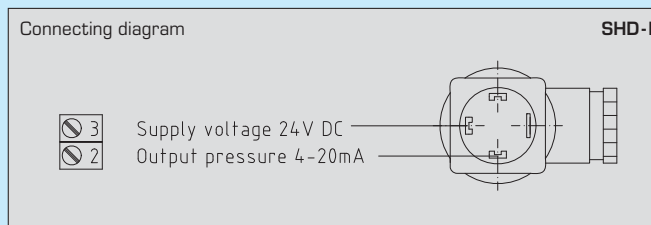
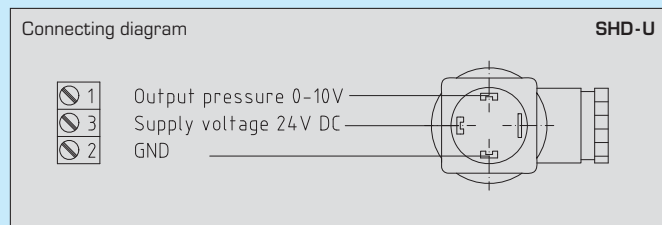
Bursting pressure:..... 3 times

Insulating resistance: $\geq 100 \text{ MOhm}$, at 20 °C (500V DC)

Protection class: III (according to EN 60730)

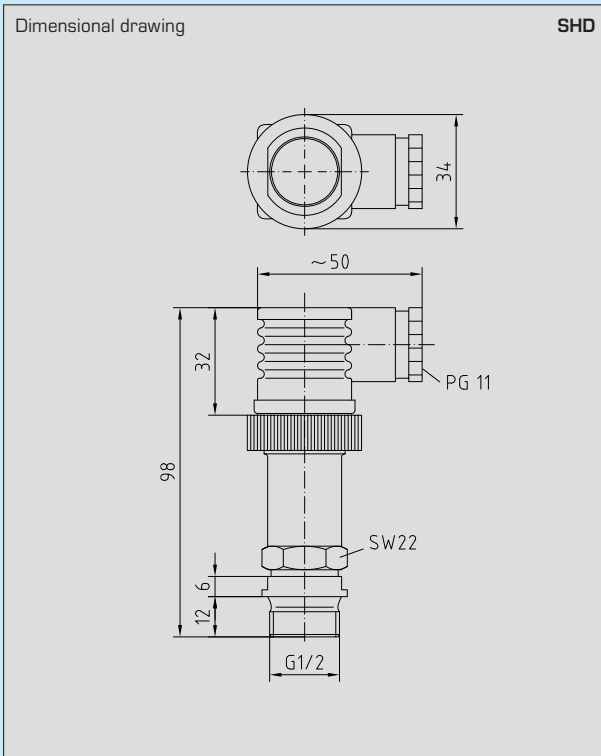
Protection type: IP 65 (according to IEC 529)

Standards: CE conformity,
electromagnetic compatibility
according to EN 61326 + A1 + A2,
EMC directive 89/336/EWG
low-voltage directive 73/23/EWG



Pressure measuring transducer SHD-U, output 0-10V, including DIN plug connector:

Type/WG1	Range	Output
SHD-U 1	0...1 bar	0-10V
SHD-U 2.5	0...2.5 bar	0-10V
SHD-U 6	0...6 bar	0-10V
SHD-U 10	0...10 bar	0-10V
SHD-U 16	0...16 bar	0-10V
SHD-U 25	0...25 bar	0-10V
SHD-U 40	0...40 bar	0-10V



Conversion table for pressure values:

Units	bar	mbar	Pa	kPa	mWs
1 Pa	= 0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mWs
1 kPa	= 0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mWs
1 bar	= 1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mWs
1 mbar	= 0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mWs
1 mWs	= 0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mWs

Pressure measuring transducer SHD-I, output 4...20 mA, including DIN plug connector:

Type/WG1	Range	Output
SHD-I 1	0...1.0 bar	4...20 mA
SHD-I 2.5	0...2.5 bar	4...20 mA
SHD-I 6	0...6.0 bar	4...20 mA
SHD-I 10	0...10 bar	4...20 mA
SHD-I 16	0...16 bar	4...20 mA
SHD-I 25	0...25 bar	4...20 mA
SHD-I 40	0...40 bar	4...20 mA

SHD 652 including mounting angle

Differential pressure transmitter
with active output

SHD 652

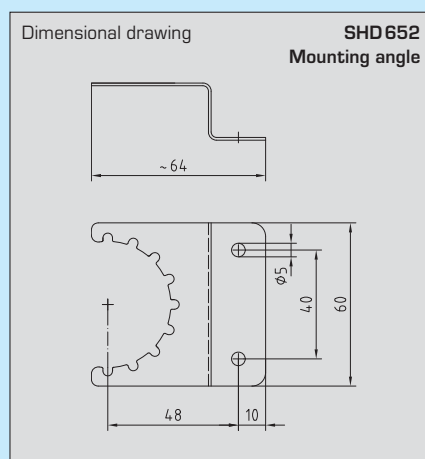
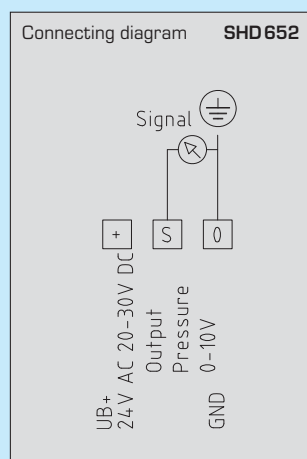
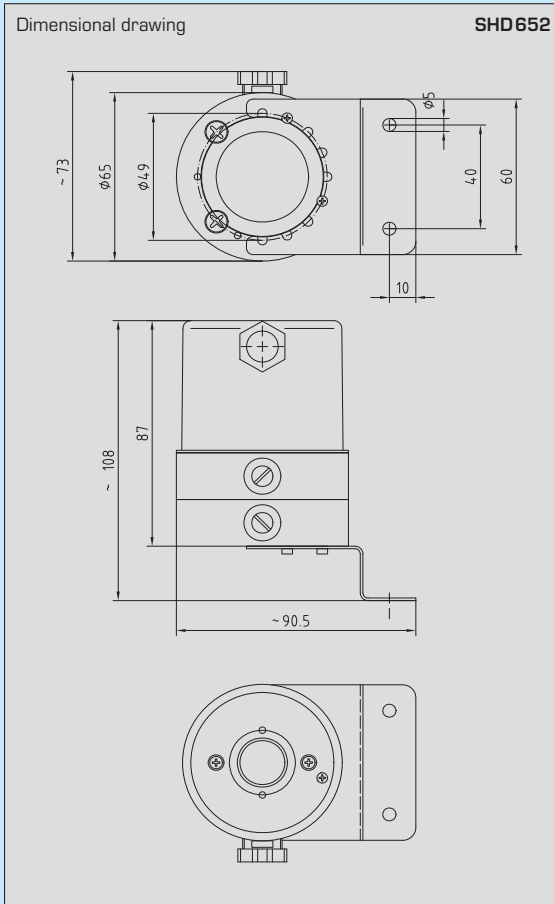
APPLICATION:

For measuring above-atmospheric, below-atmospheric, and differential pressures in gaseous and liquid media. This pressure transmitter is used in piping and hydraulic systems.

Not applicable for ammonia and Freon!

TECHNICAL DATA:

- Power supply: 24 V AC (+15%/-10%)
20-30V DC (optional)
- Measuring ranges:..... see table
- Output signal: 0-10V, 3-wire connection
- Electrical connection: 0.25-1.5 mm²
- Pressure connection: 1/8" pipe thread
- Type of pressure: differential pressure
- Measuring principle: Hall sensor
- Medium: liquid or gaseous
- Temperature of medium:..... -10...+80 °C
- Ambient temperature:..... -25...+60 °C
- Mounting: installation in any position
- Enclosure: anodised aluminium, brass
- Dimensions: 73x87x65 mm
- Connecting head: plastic
- Medium contacting parts: NBR, Viton, EPDM or silicone, aluminium, brass
- Response time:..... < 10 ms
- Class: linearity ≤ 1.5%
hysteresis ≤ 1.5%
- Total error:..... < 3%
- Overload range:..... 10 bar
- Bursting pressure:..... 30 bar
- Insulating resistance: ≥ 100 MOhm, at 20 °C (500V DC)
- Protection class: III (according to EN 60730)
- Protection type: IP 65 (according to IEC 529)
- Standards: CE conformity,
electromagnetic compatibility
according to EN 61326+A1+A2,
EMC directive 89/336/EWG
low-voltage directive 73/23/EWG



Differential pressure transmitter SHD 652, including mounting angle:

Type/WG1	Range	Output
SHD 652 - 90011	5 kPa (0...50 mbar)	0-10V
SHD 652 - 91011	10 kPa (0...100 mbar)	0-10V
SHD 652 - 92011	20 kPa (0...200 mbar)	0-10V
SHD 652 - 93011	50 kPa (0...500 mbar)	0-10V
SHD 652 - 94011	100 kPa (0...1000 mbar)	0-10V

SHD 692 including mounting angle

Differential pressure transmitter with active output

SHD692

APPLICATION:

For measuring above-atmospheric, below-atmospheric, and differential pressures in gaseous and liquid media. This pressure transmitter is used in piping and hydraulic systems.

Not applicable for ammonia and Freon!

TECHNICAL DATA:

Power supply: 24 V AC (+15%/-10%)
18-33V DC

Measuring ranges: see table

Output signal: 0-10V, 3-wire connection

Electrical connection: 0.25 - 1.5 mm²

Pressure connection: pipe union for pipe Ø = 6 mm
1/8" pipe thread B (according to ISO)

Pressure type: differential pressure

Measuring principle: ceramic measuring cell

Medium: liquid or gaseous

Temperature of medium: -15...+80 °C

Mounting: installation in any position

Enclosure: base stainless steel, top plastic

Connecting head: right-angle plug

Medium contacting parts: INOX 1.4305 and ceramics,
sealing material FPM, EPDM, NBR, MVQ

Response time: < 50 ms

Class: 0.5

Total error: < 1.3%

Overload range: see table

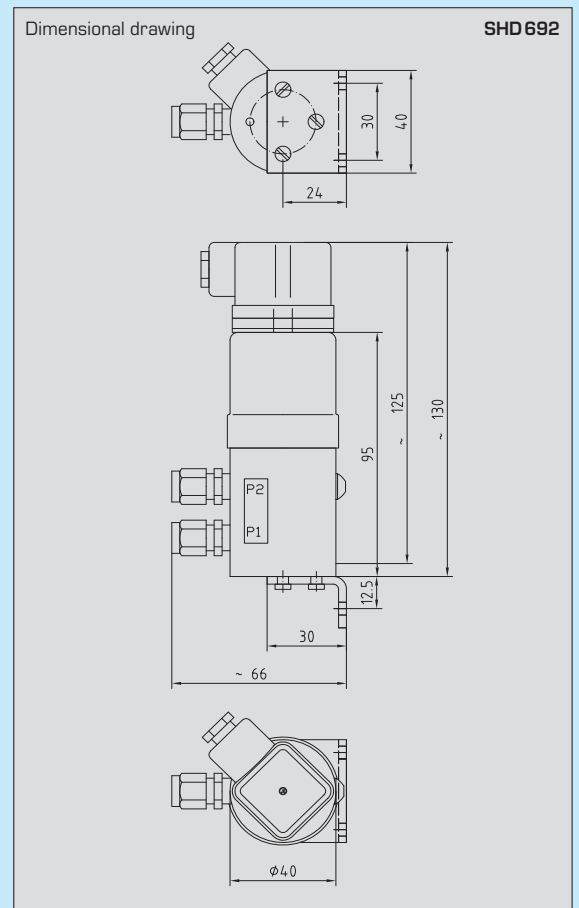
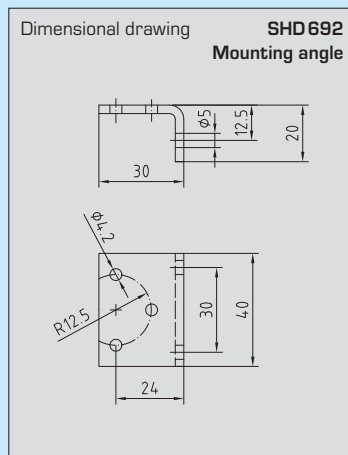
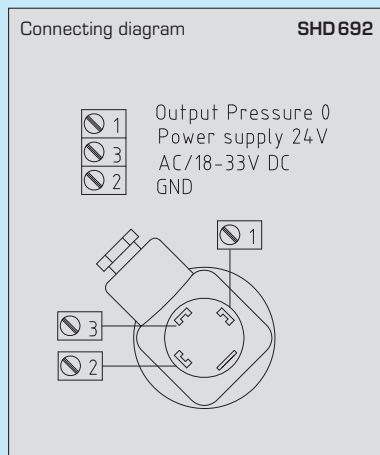
Bursting pressure: 15x upper range limit

Insulating resistance: ≥ 100 MΩ, at 20 °C (500V DC)

Protection class: III (according to EN 60730)

Protection type: IP 65 (according to IEC 529)

Standards: CE conformity,
electromagnetic compatibility
according to EN 61326+A1+A2,
EMC directive 89/336/EWG
low-voltage directive 73/23/EWG



Differential pressure transmitter SHD 692, including mounting angle:

Type/WG1	Range	One-sided overload	Output
SHD 692 - 900	0...0.1 bar	{0.6 bar}	0-10V
SHD 692 - 907	0...0.5 bar	{3 bar}	0-10V
SHD 692 - 912	0...1 bar	{5 bar}	0-10V
SHD 692 - 916	0...2.5 bar	{12 bar}	0-10V
SHD 692 - 918	0...4 bar	{12 bar}	0-10V

Differential pressure switch for air

DS 1

APPLICATION:

For monitoring above-atmospheric, differential and below-atmospheric pressures of air, gaseous, non-aggressive non-combustible media in air ducts, ventilation and exhaust devices. For flow monitoring at electric heating registers, for monitoring V-belts and filters, as protection against air pressure deficiency, or as limit value controller.

TECHNICAL DATA:

- Switching capacity: 5 (0.8) A; 12...250 V AC
(Contact load) 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
- Enclosure: base: material PC, colour light grey (similar RAL7035),
top cover: material ABS, transparent,
mounting bracket: sheet steel,
cable union PG 11
- Enclosure temperature: -30 °C...+85 °C
- Membrane: silicone, LSR
- Humidity: < 90% r.H.,
non-precipitating air
- Electrical connection: 0.14 - 1.5 mm² via terminal screws on circuit board
- Pressure connection : P1 (+) for higher pressure
P2 (-) for lower pressure
Ø 6.2 mm each (nipples)
- Mounting: by metal bracket, included in the scope of delivery
- Protection class: II (according to EN 60730)
- Protection type: IP 54 (according to IEC 529)
- Standards: CE conformity,
low-voltage directive 73/23/EWG
- Tests: DVGW (according to DIN 3398, part 2), VDE 0630, EN 61058,
directive on gas devices 90/396/EWG, CE 0085 A P 0918
- FUNCTION: Contact 1-2 breaks when pressure/differential pressure
rises to the preset value.
Simultaneously, contact 1-3 closes and
can be used as signal contact.
- ACCESSORIES: including hose set ASD-06



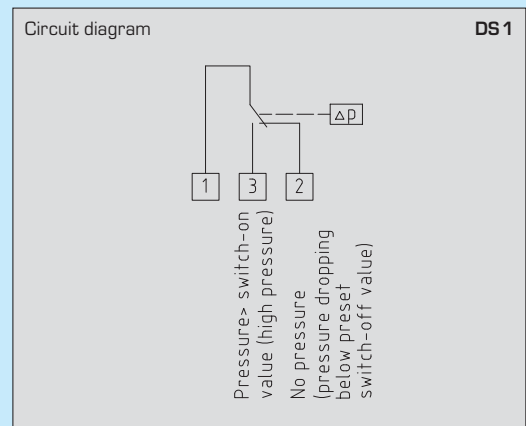
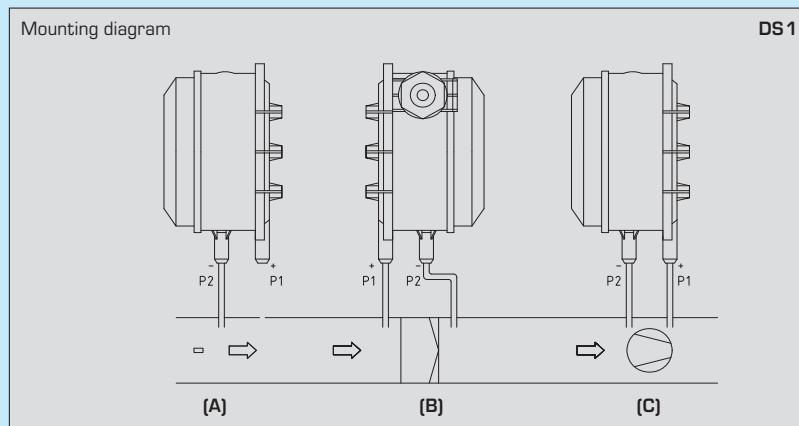
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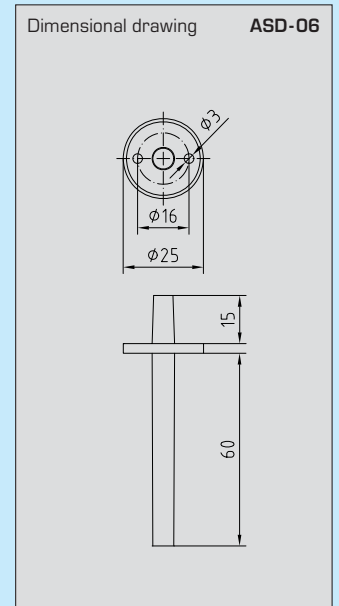
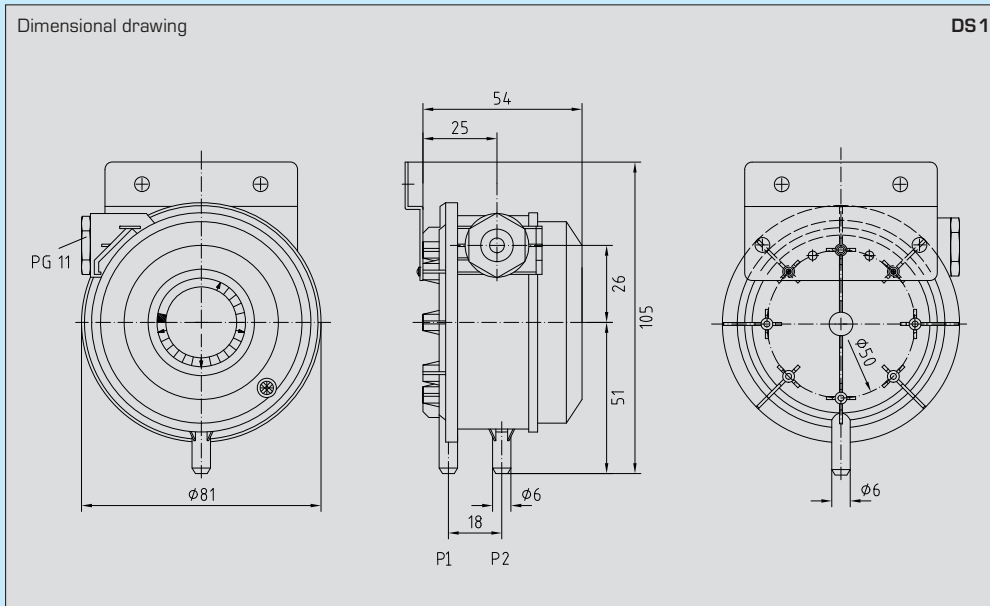


TYPES OF MONITORING:

- (A) Below-atmospheric pressure:** P1 (+) is not connected
but open against atmosphere
P2 (-) connected to inside duct
- (B) Filter:** P1 (+) connected upstream of filter
P2 (-) connected downstream of filter
- (C) Ventilator:** P1 (+) connected upstream of ventilator
P2 (-) connected downstream of ventilator

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





Conversion table for pressure values:

Units	bar	mbar	Pa	kPa	mWs
1 Pa	= 0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mWs
1 kPa	= 0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mWs
1 bar	= 1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mWs
1 mbar	= 0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mWs
1 mWs	= 0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mWs

Differential pressure switch DS 1:

Type/WG2	Pressure range	(adjustable)	Operating difference ca.	Max. pressure
DS-106	20...300 Pa	(0.2 mbar...3.0 mbar)	0.1 mbar +/- 15%	5000 Pa (50 mbar)
DS-106 A	50...500 Pa	(0.5 mbar...5.0 mbar)	0.2 mbar +/- 15%	5000 Pa (50 mbar)
DS-106 B	100...1000 Pa	(1.0 mbar...10.0 mbar)	0.4 mbar +/- 15%	5000 Pa (50 mbar)
DS-106 C	500...2000 Pa	(5.0 mbar...20.0 mbar)	1.0 mbar +/- 15%	5000 Pa (50 mbar)
DS-106 D	1000...5000 Pa	(10.0 mbar...50.0 mbar)	2.5 mbar +/- 15%	7500 Pa (75 mbar)
Accessories:	ASD-06 Connecting kit consisting of 2 plastic nipples (sensor tubes) ABS, 2 m of PVC hose, soft, and 4 tapping screws			

Differential pressure switch for air

DS2

APPLICATION:

For monitoring above-atmospheric, differential and below-atmospheric pressures of air, gaseous, non-aggressive non-combustible media in air ducts, ventilation and exhaust devices. For flow monitoring at electric heating registers, for monitoring V-belts and filters, as protection against air pressure deficiency, or as limit value controller.

TECHNICAL DATA:

Switching capacity:	1.5 (0.4) A; 12...250 V AC
(Contact load)	0.1 A, 24 V DC
Contact:	single-pole potential-free changeover contact, AgCdO, gold-electroplated (DDC compatible)
Pressure range:	see table
Enclosure:	base: material POM, polyamide, colour light grey (similar RAL7035), top cover: material polystyrene, transparent, cable union PG 11
Enclosure temperature:	-20 °C...+85 °C
Humidity:	< 90% r.H., non-precipitating air
Membrane:	silicone, LS 3003
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 each (nipples)
Protection class:	II (according to EN 60730)
Protection type:	IP 54 (according to IEC 529)
Standards:	CE conformity, low-voltage directive 73/23/EWG
Tests:	DVGW (according to DIN EN 60529)
FUNCTION:	Contact 3-1 breaks when pressure/differential pressure rises to the preset value. Simultaneously, contact 3-2 closes and can be used as signal contact.
ACCESSORIES:	including hose set ASD-06



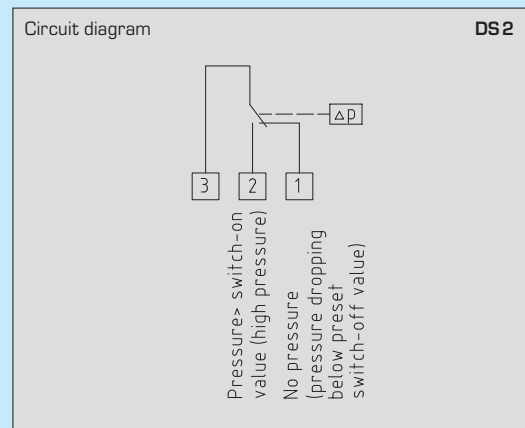
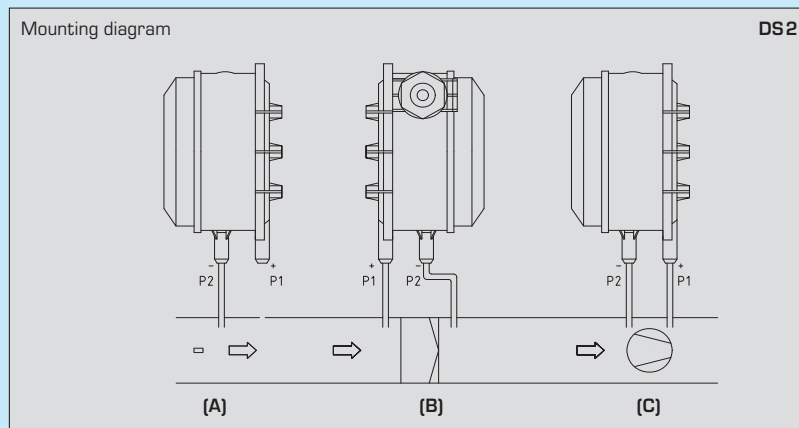
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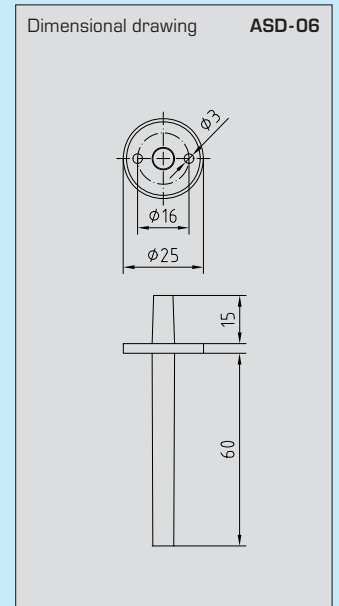
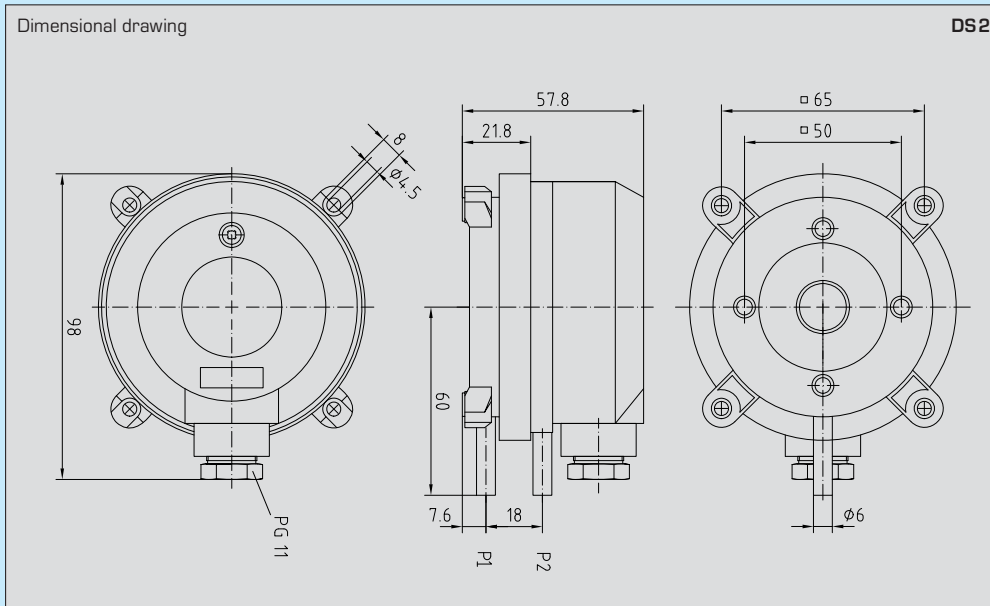


TYPES OF MONITORING:

- (A) Below-atmospheric pressure: P1 (+) is not connected
but open against atmosphere
P2 (-) connected to inside duct
- (B) Filter: P1 (+) connected upstream of filter
P2 (-) connected downstream of filter
- (C) Ventilator: P1 (+) connected upstream of ventilator
P2 (-) connected downstream of ventilator

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





Conversion table for pressure values:

Units	bar	mbar	Pa	kPa	mWs
1 Pa	= 0.00001 bar	0.01 mbar	1 Pa	0.001 kPa	0.000101971 mWs
1 kPa	= 0.01 bar	10 mbar	1000 Pa	1 kPa	0.101971 mWs
1 bar	= 1 bar	1000 mbar	100000 Pa	100 kPa	10.1971 mWs
1 mbar	= 0.001 bar	1 mbar	100 Pa	0.1 kPa	0.0101971 mWs
1 mWs	= 0.0980665 bar	98.0665 mbar	9806.65 Pa	9.80665 kPa	1 mWs

Differential pressure switch DS2:

Type/WG2	Pressure range	(adjustable)	Operating difference ca.	Max. pressure
DS-205 F	20...200 Pa	(0.2 mbar...2.0 mbar)	0.1 mbar +/- 15%	5000 Pa (50 mbar)
DS-205 B	50...500 Pa	(0.5 mbar...5.0 mbar)	0.2 mbar +/- 15%	5000 Pa (50 mbar)
DS-205 D	200...1000 Pa	(1.0 mbar...10.0 mbar)	1.0 mbar +/- 15%	5000 Pa (50 mbar)
DS-205 E	500...2500 Pa	(5.0 mbar...25.0 mbar)	1.5 mbar +/- 15%	5000 Pa (50 mbar)
Accessories:	ASD-06 Connecting kit consisting of 2 plastic nipples (sensor tubes) ABS, 2 m of PVC hose, soft, and 4 tapping screws			