SF_6 Gas Density Monitoring Pressure Transmitter with Current Output and Dial Indicators. series GDT.857

Aluminium die-casting case
wetted parts are made of st. steel.
the dial indicator base on bellows elastic force
current analog output signal
using the MEMS pressure sensor

General features

- Special software applied for the SF_6 gas Temperature compensation.
- Exact switching output at all temperatures due to excellent software.
- Up to max. 4 micro-switches.
- High shock resistance.
- High switching accuracy and long-time stability
- Excellent long-term stability and accuracy



Application area

- SF_6 gas density monitoring and condition monitoring systems
- High-voltage circuit breakers
- SF_6 Insulated Busbar Systems
- Gas-insulated substations (GIS)

General specification

Monitoring principle
Absolute pressure measuring system with sealed bellows chamber filled with reference SF_6 gas and a special pressure sensor was installed to continuously measure and monitor changes in SF_6 gas density resulting from temperature fluctuations.

Measuring ranges / absolute pressure
Max. pressure range: 0 ... 11 bar abs.

Electric micro-switch
output SPDT / Change-over contact
No. of switchpoints 1…4 Micro-switch
Switch Resistive load AC-250 V / 6(2)A

Switch Resistance of insulation
>100 MΩ, 500 VDC

Accuracy feature
including non-linearity, hysteresis, zero point and full scale error according to IEC 61298-2.
Set point switching: ≤ ±10 kPa@ 20°C
Pressure at 20°C: ≤ ±10 kPa
Temperature: ≤ ±1°C

Pressure element
Bollows st.steel 316L
Bourdon Tube st.steel 316L
Monitoring MEMS Pressure Sensor

Analogue Output
4…20 mA: 0…60 kg / ㎥
0...1250 kPa abs. @20℃
6.5…20 mA: 0…56.1 kg / ㎥
0...1250 kPa abs. @20℃

Sensor power supply 12…30 Vdc, available

Unit for indicater dial kPa, MPa, bar, psi, kgf/㎠

SF6 Gas density measurement GDT.857

Sensor principle: MEMS pressure sensor

Accuracy of MEMS sensor
including non-lenearity, hysteresis, zero point and full scale error according to IEC 61298-2 ± 0.5% FS

Temperature range of
Compensated temperature range: -20…+60℃
Operating/Ambient/Storage: -40…+80℃

Electrical connection Cable gland, M20 x 1.5 / IP67

Pressure connection to device
Threaded, axial and radial
Special connection, axial and radial

Process connection
G1/2" male thread, M20 x 1.5 male thread
Flange mount
Swivel nut and fitting connections

Radial connection Orientation
Bottom (6 o'clock), Left (9 o'clock),
Top (12 o'clock), Right (3 o'clock)

Materials
Wetted parts: st.steel 316L
Housing: Aluminium
Body & connection: st.steel 316L
Bellows: st.steel 316L
Indicator window: Polycarbonate
Dial: Aluminium
Pointer: Plastic in black

Leakage rate ≤5×10^{-10} mbar l/s
Helium leakage inspection

Weight 900 g

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Ordering information

Model code **GDT.857** · ___ · ___ · ___ · ___ · ___ · ___ · ___

Analog output	
O1	4…20 mA
O9	6.5…20 mA

Output signal	
F1	0…15 kg/m3
F2	0…30 kg/m3
F3	0…60 kg/m3
F4	0…28 kg/m3
F5	0…56.1 kg/m3
F6	0…60 kg/m3

Unit of measurement	
B	bar
M	MPa
K	kPa
P	psi
X	kgf/cm2

Color scale marking on main dial		
G	Green marking	scale range
Y	Yellow marking	scale range
R	Red marking	scale range

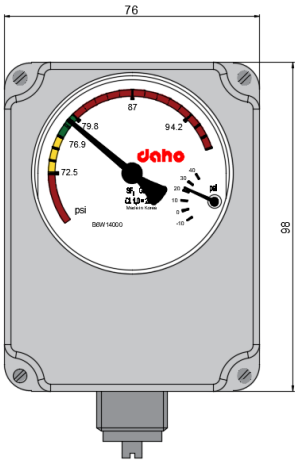
Switch contact		
S1	1 Micro-switch	scale range
S2	2 Micro-switch	scale range
S3	3 Micro-switch	scale range
S4	4 Micro-switch	scale range

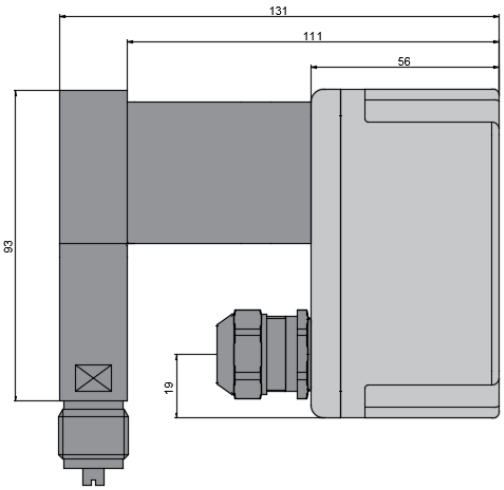
Cable gland, M20 x 1.5	
C1	for cable outdia Ø4…10
C2	for cable outdia Ø7…12.5
C3	for cable outdia Ø8…11
C4	for cable outdia Ø11…14

Process Connection Type	
TA1	Axial threaded connection G1/2" Male
TA2	Axial threaded connection M20x1.5
TZ1	Radial threaded connection G1/2" Male
TZ2	Radial threaded connection M20x1.5
NA1	Axial swivel Nut Connection with M30 x 2
NA2	Axial DN8 Fitting with M26x1.5 Female thread
NA3	Axial In-line DN20 Fitting with M45x2 Female Thread
NA4	Axial 4-Hole Flange Mount
NA5	Axial In-line 3-Bolt Oval/Triangular Flange
NZ1	Radial DN8, M26x1.5 Union Female
NZ2	Radial 2-Bolt Oval Flange Mount

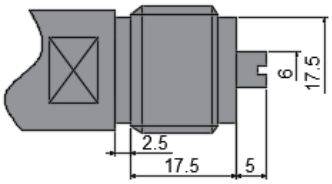
Radial process connection Orientation	
B	Bottom (6 o'clock)
L	Left (9 o'clock)
T	Top (12 o'clock)
R	Right (3 o'clock)

Radial process connection outline drawing

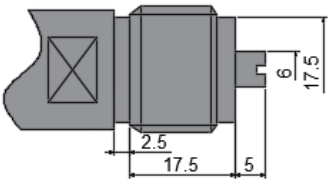




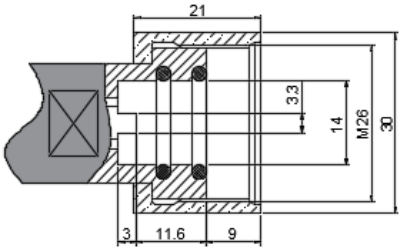
Radial process connections



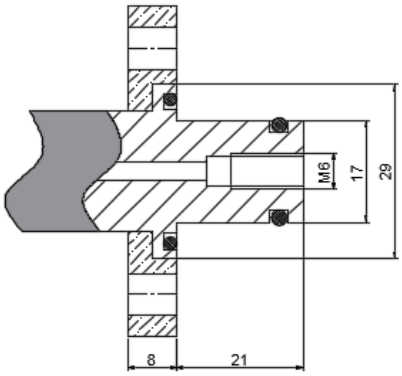
threaded connection G1/2"Male

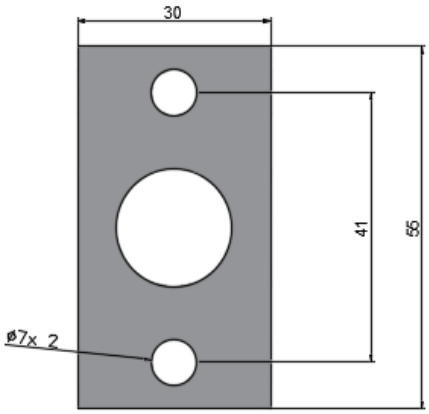


threaded connection M20 x 1.5 Male



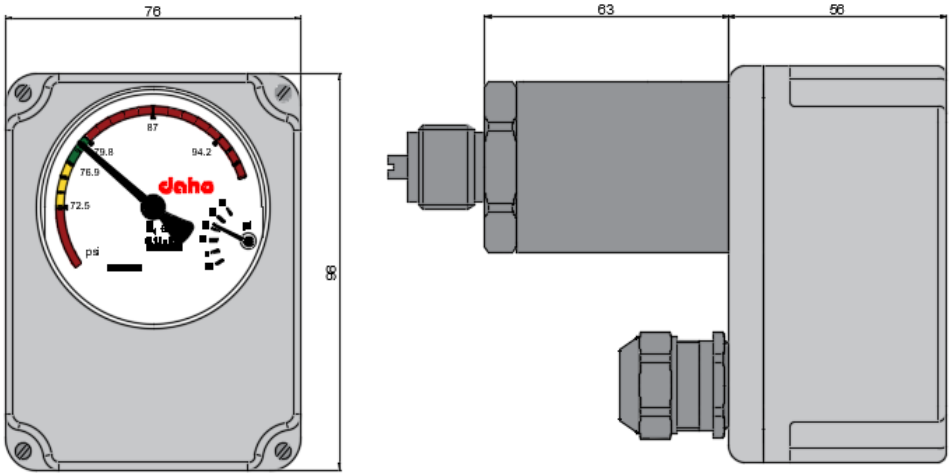
DN8, M26x1.5 Union Female



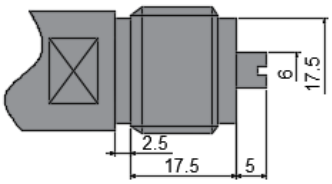


2-Bolt Oval Flange Mount

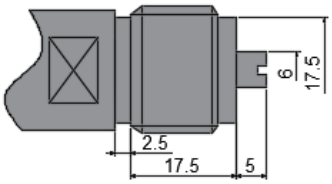
Axial process connection outline drawing



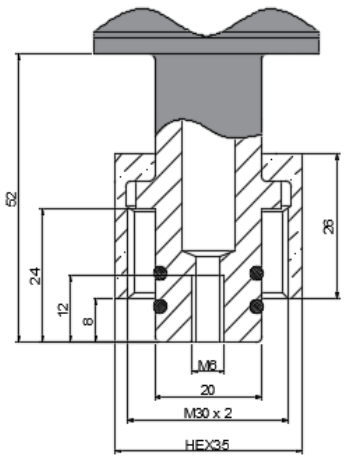
Axial process connections



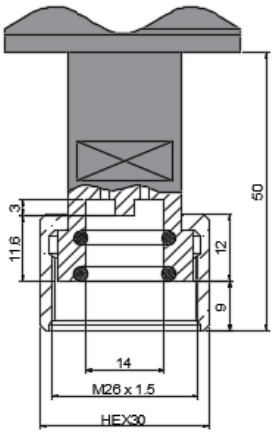
threaded connection G1/2"Male



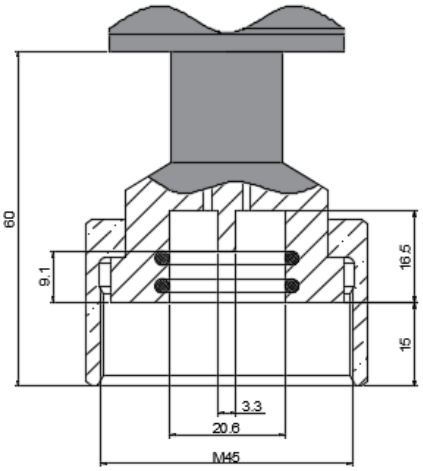
threaded connection M20 x 1.5 Male



Swivel Nut Connection with M30 x 2

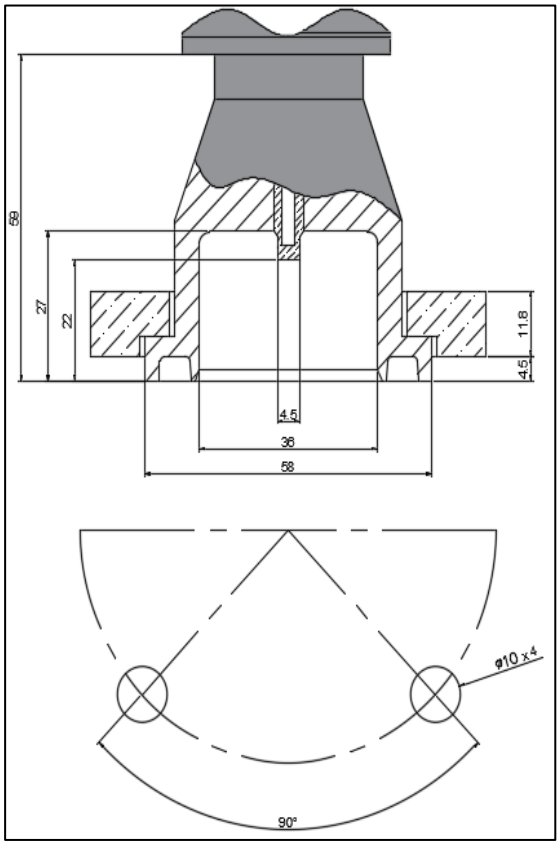


DN8 Fitting with M26x1.5 Female thread

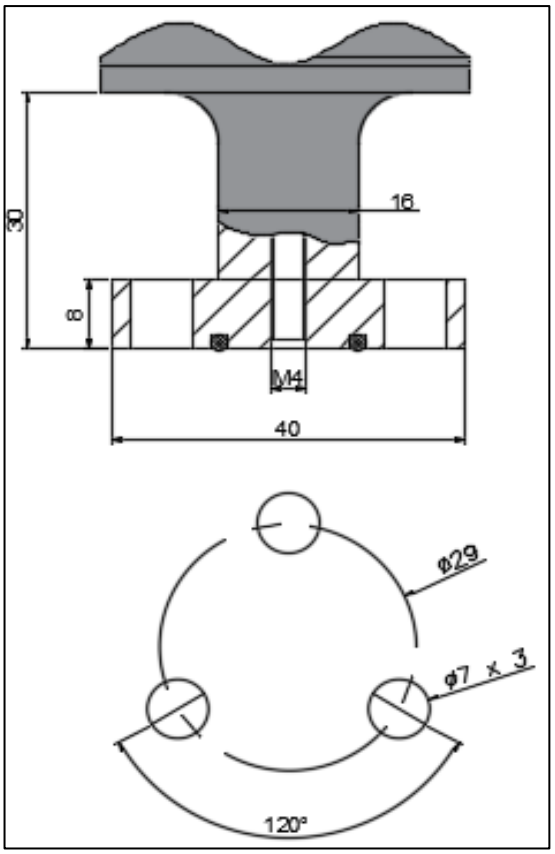


In-line DN20 Fitting with M45x2 Female Thread

Axial process connections

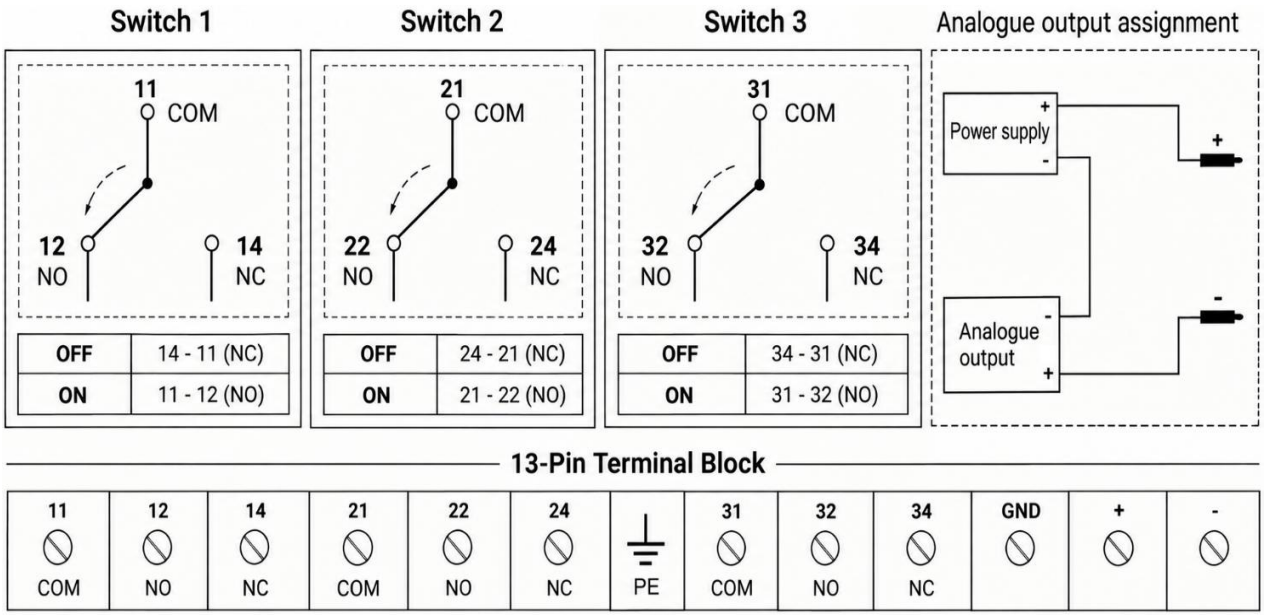


4-Hole Flange Mount



In-line 3-Bolt Oval/Triangular Flange

13 Pin terminal block assignment



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