

Heavy Duty contact pressure gauges

with or without dampening
with magnetic snap-action contacts
or inductive alarm contacts

Nominal sizes ND 100

Connection position bottom, radial
or back, eccentric



Description

Contact pressure gauges with electrical alarm contacts are suitable for controlling or regulating process sequences. The contacts open or close electrical circuits in relation to the position of the pointer on the pressure gauge.

Our contact pressure gauges with the Bourdon tube system are used at process pressures of approximately 1 bar and upwards. The media (gases or liquids) may not attack the copper alloy materials used. Liquids may not be too viscous or be susceptible to crystallization. The inexpensive tried and tested Bourdon tube system coupled with a modern modular principle provides a very reliable yet inexpensive contact pressure gauge.

Gauges with liquid filling are damped if pressure pulses or mechanical vibrations arise. This extends the service life and the gauge display remains largely vibration free. The location of the pressure connection at the bottom or back allows different methods of installation.

Electrical alarm contacts are used as magnetic snap-action contacts, especially in harsh industrial conditions. The high contact pressure and the choice of different electrical contact materials enable high currents to be switched reliably. **If the electrical switching capacities of the alarm contacts are exceeded or not reached (see DE 1231) , a relay is to be used to provide an appropriate current rating (DE 1230).**

Inductive alarm contacts operate without physical contact and thus have no unfavourable effects on the pressure measuring system while having an unlimited service life. A control unit is always needed to operate these contacts. Contact pressure gauges with inductive alarm contacts can be used in potentially explosive atmospheres, provided that the appropriate regulations are complied with.

Features

- o Modular construction system ensures high reliability and long service life
- o Liquid dampening provides vibration-free display
- o Overload capacity up to 2,5 x
- o Protection to IP 65
- o Accuracy class 1,0
- o Case, steel black
- o Copper alloy measuring system
- o Up to four alarm contacts possible
- o Suitable for programmable controller

Ranges

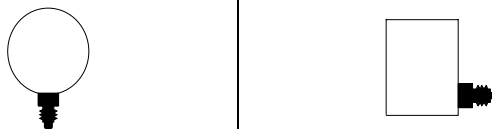
0 ... 1 bar to 0 ... 1000 bar

Applications

Mechanical engineering, plant construction,
water treatment, hydraulic and
pneumatic systems.

**Models: 1601, 1603, 1611, 1613
1791, 1793, 1801, 1803**

Technical data

| Models | 1601 | 1791 | 1603 | 1793 | 1611 | 1801 | 1613 | 1803 | Options | |
|---------------------------------------|--|--------------|-------------------------------------|--------------|-------------------------------------|--------------|-------------------------------------|--------------|---|-----------------------|
| Nominal size | 100 | | | | | | | |  | |
| Symbol | | | | | | | | | | |
| Contact type | Magnetic snap-action | | Inductive | | Magnetic snap-action | | Inductive | | | |
| Number of contacts* | 1 to 4 depending on measuring range | | 1 to 3 depending on measuring range | | 1 to 4 depending on measuring range | | 1 to 3 depending on measuring range | | | |
| Liquid filling | - | Poly-butene | - | Poly-butene | - | Poly-butene | - | Poly-butene | | |
| Electrical connection | Cable connector right hand side 6 screw terminals + PE, cross section of the conducting wire 2,5 mm ² Screw type conduit fitting M20x1,5,outgoing downwards | | | | | | | | back (without pressure relief opening) | |
| Accuracy class | ≤ 1,6 bar: Class 1,6 to EN 837-1 > 1,6 bar: Class 1,0 to EN 837-1 | | | | | | | | | |
| Ranges | 0 ... 1 bar to 0 ... 1000 bar negative or positive / negative and positive gauge pressure | | | | | | | | to 2100 bar | |
| Application | Constant load: up to full scale value Alternating load: up to 0,9 x full scale value short-time: Overload capacity 1,3 x; | | | | | | | | up to 2,5 x (depending on measuring range) | |
| Case | Steel, black finish, pressure relief opening | | | | | | | | Stainless steel 1.4301 | |
| Bezel | Steel, black finish | | | | | | | | Stainless steel 1.4301 | |
| Mounting flange | none | | | | | | | | Steel, black finish or stainless steel 1.4301 Front or rear flange | |
| Window | Plastic cover | Safety glass | Plastic cover | Safety glass | Plastic cover | Safety glass | Plastic cover | Safety glass | | |
| Dial | Aluminium, white, scale and imprint black | | | | | | | | Dual scale | |
| Pointer | Aluminium, black | | | | | | | | | |
| Movement | Copper alloy | | | | | | | | | |
| Measuring element | Bourdon tube, copper alloy up to 40 bar Stainless steel from 60 bar to 1000 bar | | | | | | | | | |
| Pressure connection | Copper alloy | | | | | | | | | |
| - position | radial , bottom | | | | back, eccentric | | | | Other threads on request | |
| - thread | G 1/2 B to DIN ISO 228 | | | | | | | | | |
| Temperatures - Medium - Ambient | Tmin. -20°C, Tmax. 80° C Tmin. -25°C, Tmax. 60° C | | | | | | | | | |
| Temperature drift | 0,3%/10K if deviation from normal temperature 20°C | | | | | | | | | |
| Protection to EN 60 529/IEC 529 | IP 54 | IP 65 | IP 54 | IP 65 | IP 54 | IP 65 | IP 54 | IP 65 | | |
| Orifice | | | | | | | | | | ø 0,3 ; ø 0,4 ; ø 0,8 |
| Weight approx..kg | 0,9 | 1,2 | 0,9 | 1,2 | 0,9 | 1,2 | 0,9 | 1,2 | | |

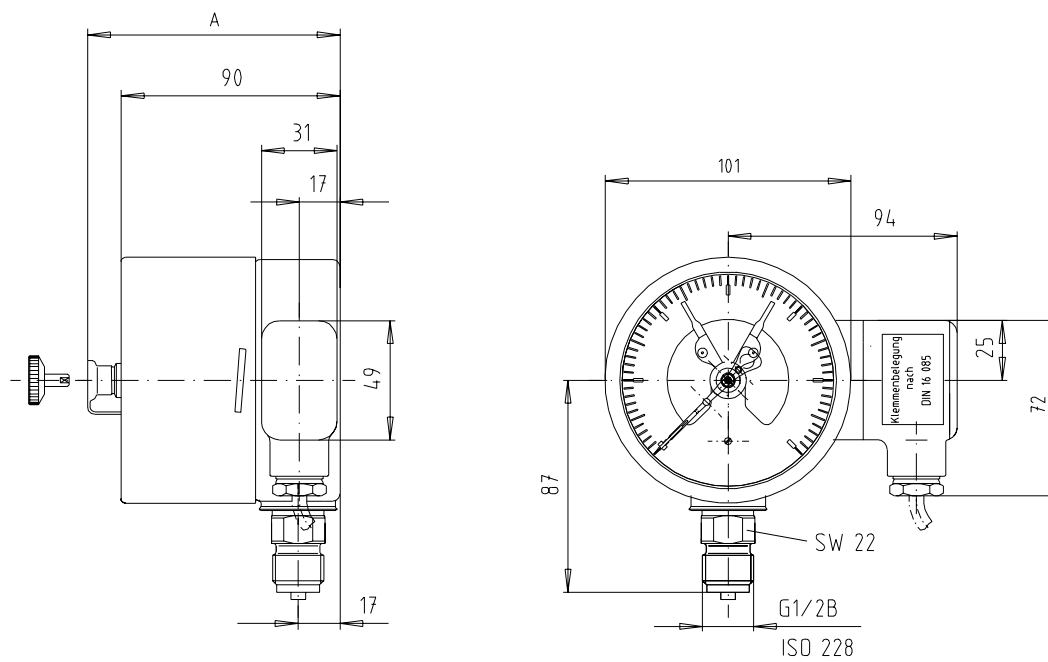
* Number of contacts

| Measuring range | Magnetic snap-action contact | Inductive contact |
|-----------------|------------------------------|-------------------|
| to 1 bar | 2 | 2 |
| 1,6 bar | 2 | 3 |
| above 4 bar | 4 | -- |

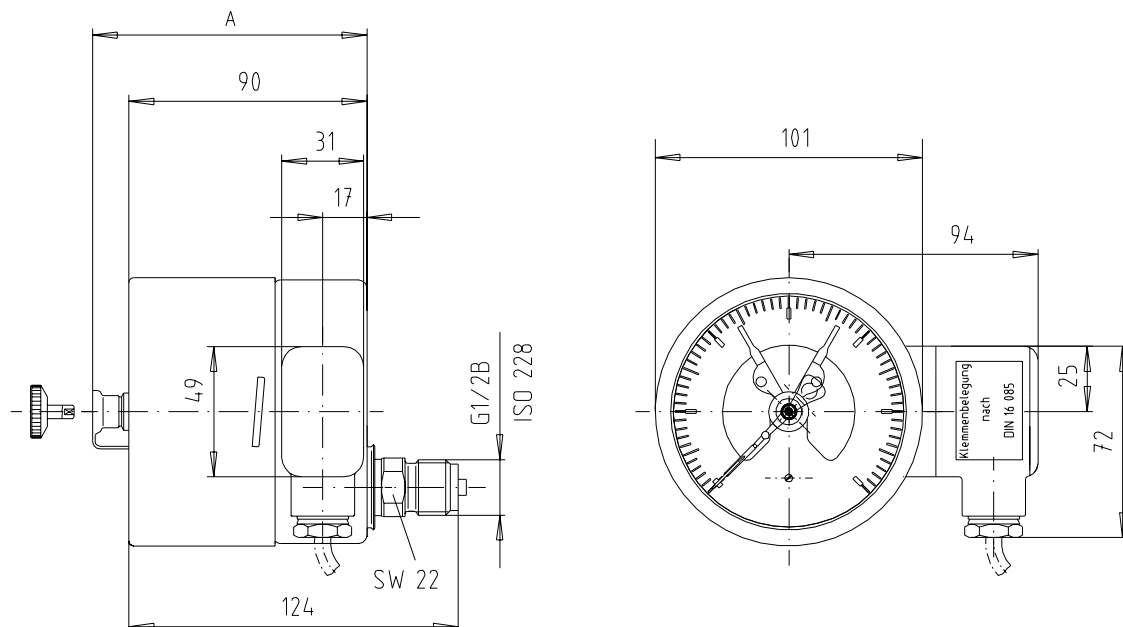
See data sheet - DE 1231 for electrical data
See data sheet - DE 1230 for electrical data

Dimensions

Bottom radial connection, models: 1601, 1603, 1791, 1793.



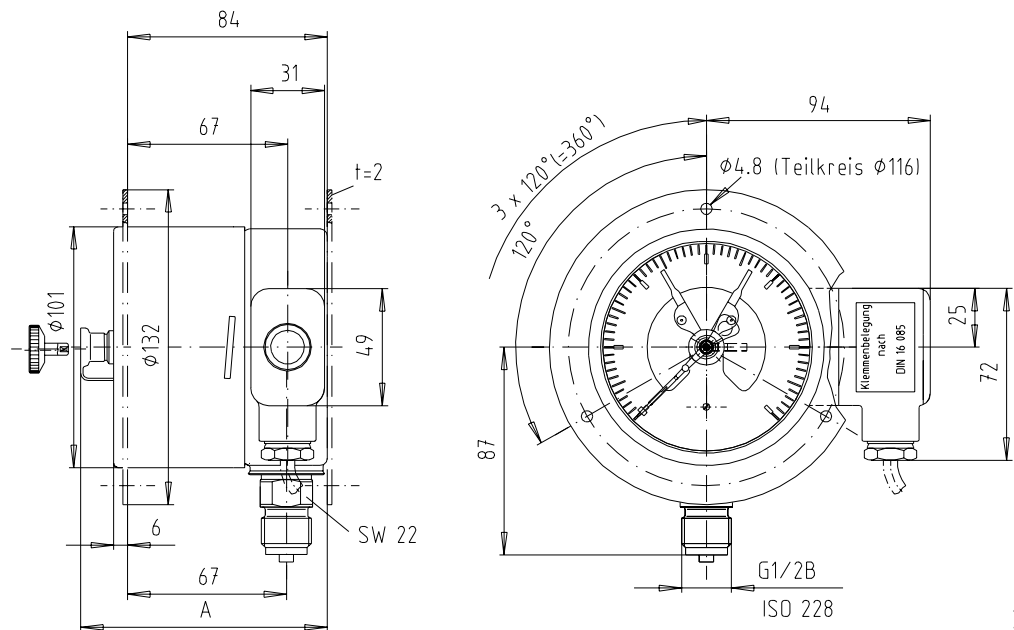
Back eccentric connection, models: 1611, 1613, 1801, 1803.



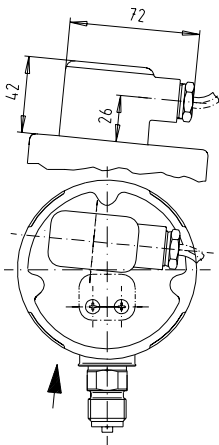
| Model | 1601, 1603, 1611, 1613 | 1791, 1793, 1801, 1803 |
|---------------|------------------------|------------------------|
| Dimension "A" | 104 mm | 108 mm |

Dimensions

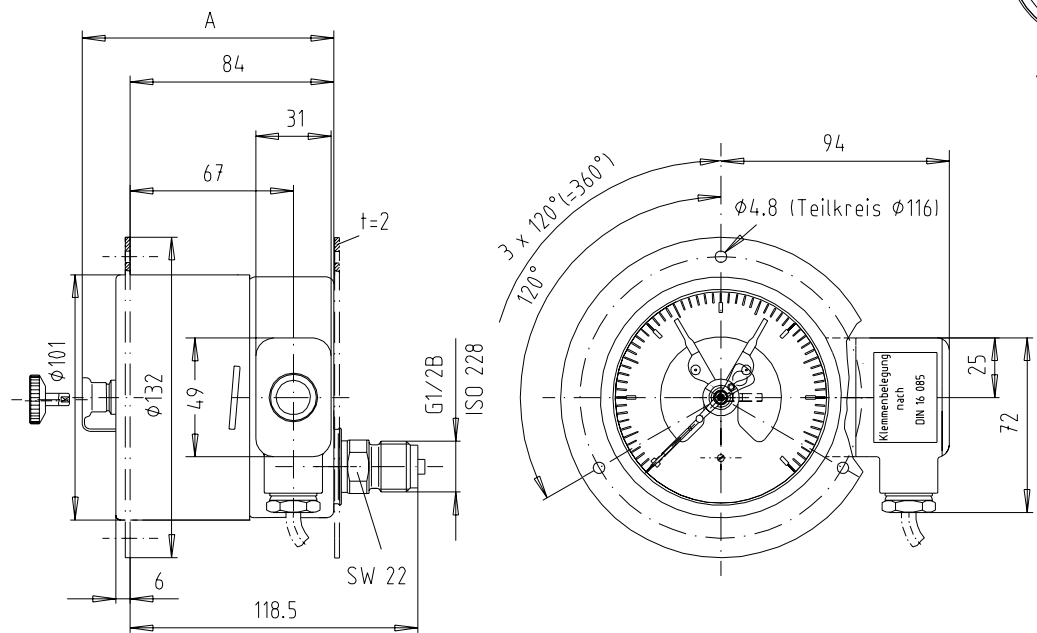
Bottom radial connection, models 1601, 1603, 1791, 1793.
Front / rear mounting flange



Cable junction box, back :



Back eccentric connection, models: 1611, 1613, 1801, 1803.
Front / rear mounting flange



| Models | 1601, 1603, 1611, 1613 | 1791, 1793, 1801, 1803 |
|-----------------|------------------------|------------------------|
| Dimension " A " | 104 mm | 108 mm |