GRUBATEC
MESS- UND REGELTECHNIK

GRILLO

Operating and installation instructions

Differential pressure gauge - DA2000 series

Document No.: DA2000-02

Issue: 02/2016

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1. General safety instructions

1.1 Signal words for warnings

The safety instructions in this user manual are for hazard prevention.
You are in the operating instructions before an action / work / activity is described in which a hazard may occur.

CAUTION	Identification of a low-risk hazard that may result in property damage or minor bodily injury.

A NOTICE	Signal word for important product information that should be highlighted in particular.

Danger word

Type of hazard

Source of danger
Hazard prevention

1.2 Pictograms and symbols used

The following symbols are used in this guide:

 General hazard symbol (Danger, warning, caution)	 General note

1.3 General Information

A NOTICE

This instruction manual contains information on the proper installation and operation of the differential pressure regulator and is intended solely for the operator and authorized personnel. Following this manual will help to avoid hazards and downtime.

2. Product description

The DA2000 series differential pressure gauges are used to indicate pressure, vacuum or differential pressure of non-aggressive gases.

2.1 Intended Use

The application area includes, for example, air conditioning and ventilation technology for monitoring or controlling fans, room pressure monitoring or filter control.

The DA2000 series differential pressure indicators are used wherever pressure needs to be displayed or monitored using simple means, e.g. in filter systems in ventilation technology.

2.2 Functional description

The DA2000 differential pressure indicators are low-pressure indicators.

The differential pressure to be measured acts on a silicone membrane and deflects it.
against a measuring spring. The deflection is transferred to the display via a pointer mechanism.

To meet your needs, we offer various measuring ranges and optional additional functions for the DA2000.

Optional additional features include:

- Two limit indicators, each in red or green
- Analog outputs 0...10 V or 4...20 mA (DA2000-A)
- Combination with a pressure switch (DA2000-K)
- IP66 protective housing for each product variant (DA2000-S, DA2000-AS, DA2000-KS)
- Radical output (rad-DA2000)
- Scaling in m3 /h
- Dual scale (e.g. in Pa and m3 /h)
- Color scale in desired colors

3. Assembly

The DA2000 series devices are designed for wall mounting or installation in a suitable panel.

Please consider the following factors when selecting a location:
- The mounting surface must be sufficiently firm and free from vibrations.
- The environment must meet the climatic conditions specified in the technical data. fulfill.

CAUTION

Property damage

Read the operating instructions carefully before assembly and commissioning. The device may only be connected and commissioned by experienced personnel.

A NOTICE

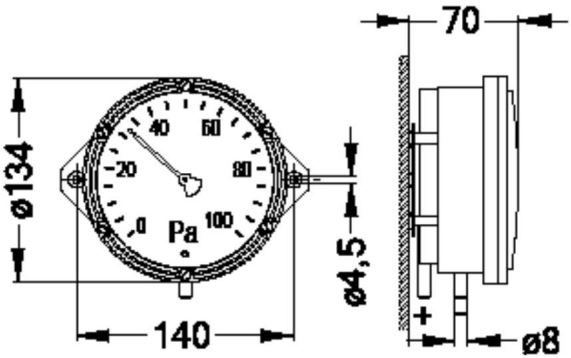
- The device is position-dependent
- The DA2000 must be mounted vertically.
- The DA2000 can be mounted on a wall or board.

3.1 Dimensions

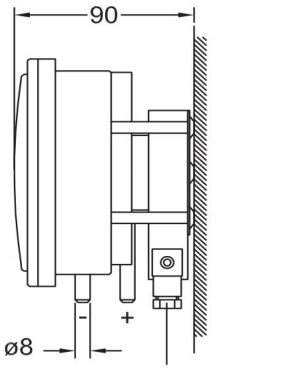
All dimensions in mm.

3.1.1 DA2000 & DA2000-A

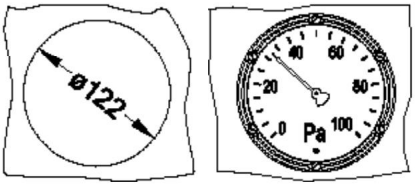
Wall structure DA2000



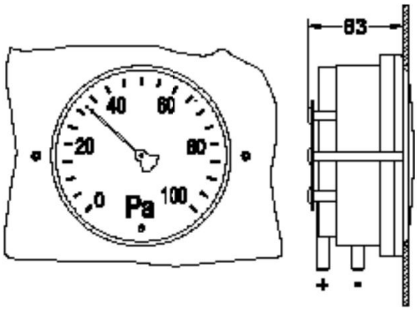
Wall construction DA2000-A



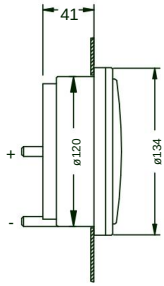
Panel installation (in front of the switchboard)



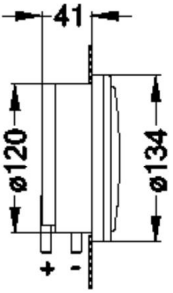
Panel installation (behind the switchboard)

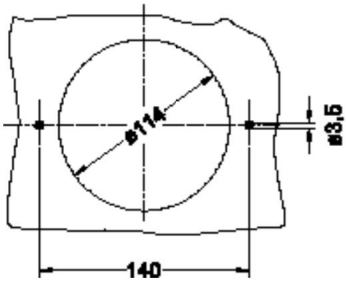


Connection piece
REAR



Connection piece
BELOW



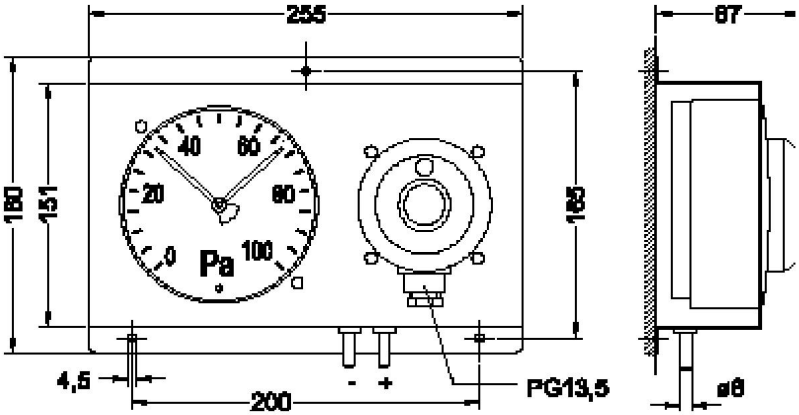


60
80
100

ø122

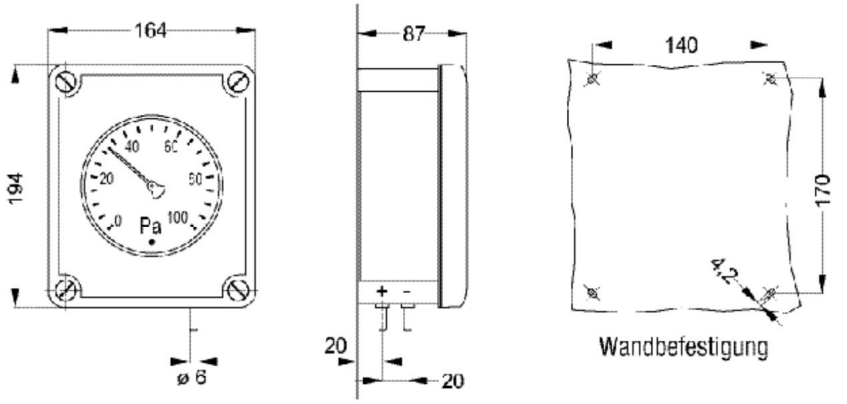
3.1.2 DA2000-K

Wall construction

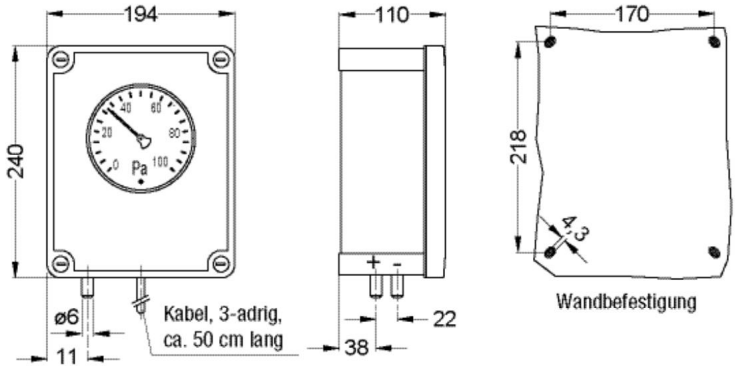


3.1.3 DA2000 series in IP66 protective housing

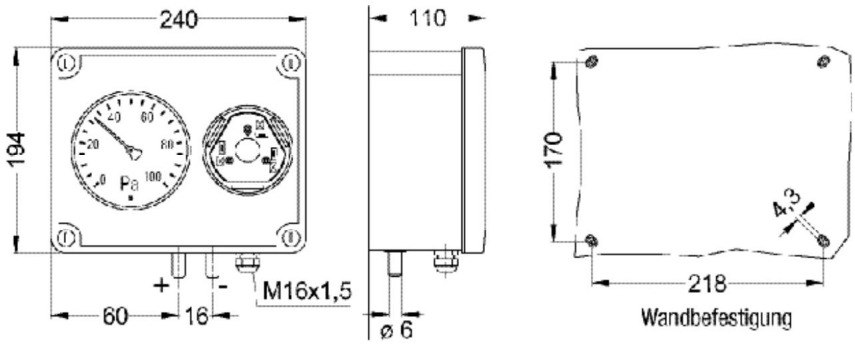
Wall construction DA2000-S



Wall construction DA2000-AS



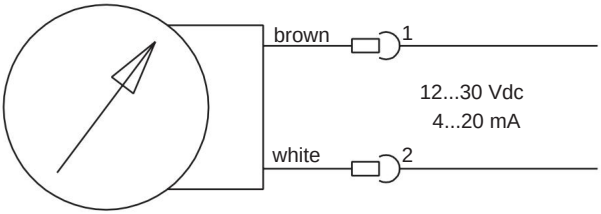
Wall construction DA2000-KS



3.1.4 Electrical connection

DA2000-A

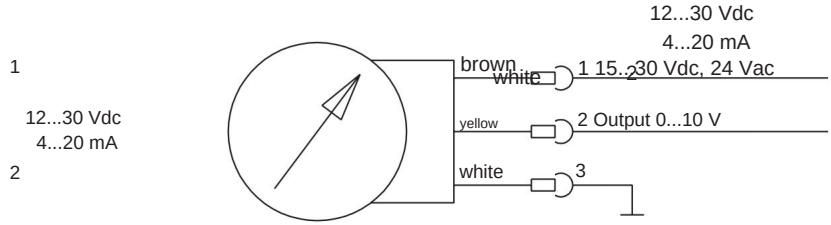
Connection diagram two-wire technology



DA2000-A 1

brown

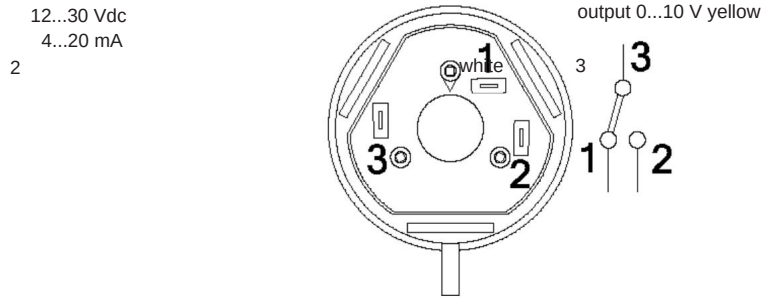
Connection diagram three-wire circuit



DA2000-K

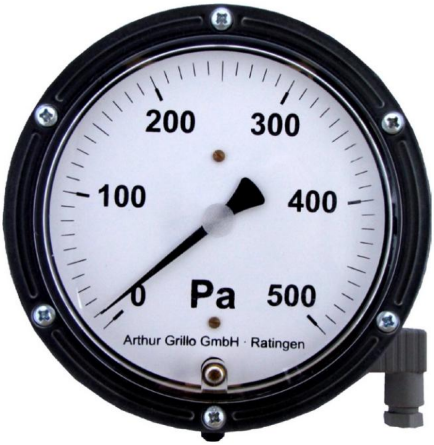
1 brown 1 15...30 Vdc, 24 Vac

Connection diagram pressure switch 2



4. Adjusting the electrical output signal

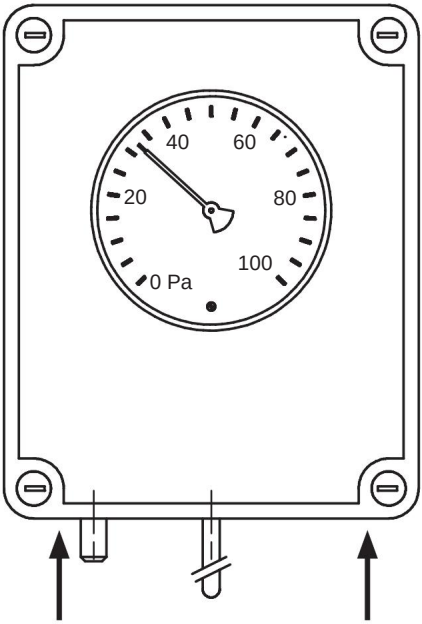
DA2000-A



Settings page for the zero point **O**

Settings page for the End-of-range value **E**

DA2000-AS



Settings page for the zero point **O**

Settings page for the End-of-range value **E**

The differential pressure indicators (with electrical output signal) DA2000-A & DA2000-AS can be easily readjusted on site.

Zero point setting:

1. Mount the device vertically.
2. Connect the operating voltage to the device.
3. Disconnect the hoses from the device - the device will be depressurized.
4. Hold a magnet against the spot marked "0" for one second.
   The marking can be found on the left side of the back of the device.

The electrical output signal goes to zero.

A NOTICE

End value setting only with corresponding
Pressure transmitter possible

End value setting:

1. Set the zero point.
2. Connect the hoses to the device
3. Apply test pressure according to the measuring range.
4. If the final value deviates from the output signal, please perform the following procedure: Hold a magnet against the point marked "E" for one second.
   The marking can be found on the right side of the back of the device.

You have now recalibrated the device and it is ready for use. If you still receive incorrect readings, we are happy to assist you by phone or email.
to advise.

5. Maintenance

DA2000 series devices contain no wear parts or consumables. Maintenance is not required. Upon request, Arthur Grillo GmbH offers annual calibration with a factory certificate. For more information, please contact:

6. Warranty

Warranty and liability claims for personal injury and property damage are excluded if they are due to one or more of the following causes:

• Improper use of the device.
• Improper assembly, commissioning, operation, and maintenance of the device. • Unauthorized structural modifications to the device beyond its intended purpose.
For the sake of. •
Improperly performed repairs.
• Disasters caused by foreign bodies and force majeure.

7. Disposal

When disposing of electronic components and devices, please observe the legal regulations in the user's country regarding their disposal.

8. Technical Data

indicator

Measuring ranges:	0...100 Pa, 0...200 Pa, 0...500 Pa, 0...1000 Pa, 0...2000 Pa, 0...5000 Pa Scale
Display:	length 270° = approx. 250 mm at least
Overload protection:	up to 10 times the measuring range max. 0.2 bar
Static pressure:	Hose nozzles
Pressure connections:	8 mm ø Ultramid/ABS,
Housing:	black, clear lid round outer diameter 134 mm
	-10...50 °C IP 65 approx.
Ambient temperature:	400 g ± 2 %
Protection class:	
Weight:	
Tolerance:	

Pressure switch

Adjustable switching ranges:	20...300 Pa, 30...400 Pa 50...500 Pa, 200...1000 Pa, 500...2500 Pa, 1000...5000 Pa
Tolerance at upper and lower switching points:	± 15%
Switching capacity:	max. 1.5 A / 250 Vac
Life:	mechanical more than 10ÿ switching cycles
Contact arrangement:	Normally closed (NC)
	contact Normally open
	(NO) supply line (COM)

Analog output

Signal range:	0...10 V, three-wire technology,
	supply voltage 15...30 Vdc or 24 Vac; 4...20 mA, two-wire technology, supply voltage
	12...30 Vdc; rectangular connector 16
Electrical connection:	mm or color-coded cable, approx. 50 cm long

Protection class:

IP54 - DA2000, DA2000-A, DA2000-K

IP66 - DA2000-S, DA2000-AS, DA2000-KS

8.1 CE marking

As electrical equipment, the DA2000-A and DA2000-AS fall within the scope of Directive 2004/108/EC (EMC Directive). The following standards were applied within the framework of the EMC Directive:

DIN EN 61000-6-2:2006-03 Correction 1:2011-06	Electromagnetic compatibility (EMC) - Part 6-2: Technical standards - Immunity to interference for industrial areas
DIN EN 61000-6-3:2011-09	Electromagnetic compatibility (EMC) - Part 6-3: Technical basic standards - Interference emission for residential areas, Business and commercial sectors as well as small businesses

You can request the declaration of conformity here: