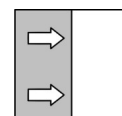


Operating manual

MS11

Contact manometer
for difficult measuring conditions



Masthead

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Version history

Rev. ST4-A 03/20	Version 1 (first edition)
Rev. ST4-B 03/22	Version 2 (UKCA Declaration of Conformity)
Rev. ST4-C 03/23	Version 3 (correction switching hysteresis)

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1 Safety instructions

1.1 General

This operating manual contains basic instructions for the installation, operation and maintenance of the device that must be followed without fail. It must be read by the installer, the operator and the responsible specialist personnel before installing and commissioning the device.

This operating manual is an integral part of the product and therefore needs to be kept close to the instrument in a place that is accessible at all times to the responsible personnel.

The following sections, in particular instructions about the assembly, commissioning and maintenance, contain important information, non-observance of which could pose a threat to humans, animals, the environment and property.

The instrument described in these operating instructions is designed and manufactured in line with the state of the art and good engineering practice.

1.2 Personnel Qualification

The instrument may only be installed and commissioned by specialized personnel familiar with the installation, commissioning and operation of this product.

Specialized personnel are persons who can assess the work they have been assigned and recognize potential dangers by virtue of their specialized training, their skills and experience and their knowledge of the pertinent standards.

1.3 Risks due to Non-Observance of Safety Instructions

Non-observance of these safety instructions, the intended use of the device or the limit values given in the technical specifications can be hazardous or cause harm to persons, the environment or the plant itself.

The supplier of the equipment will not be liable for damage claims if this should happen.

1.4 Safety Instructions for the Operating Company and the Operator

The safety instructions governing correct operation of the instrument must be observed. The operating company must make them available to the installation, maintenance, inspection and operating personnel.

Dangers arising from electrical components, energy discharged by the medium, escaping medium and incorrect installation of the device must be eliminated. See the information in the applicable national and international regulations.

Please observe the information about certification and approvals in the Technical Data section.

1.5 Unauthorised Modification

Modifications of or other technical alterations to the instrument by the customer are not permitted. This also applies to replacement parts. Only the manufacturer is authorised to make any modifications or changes.

1.6 Inadmissible Modes of Operation

The operational safety of this instrument can only be guaranteed if it is used as intended. The instrument model must be suitable for the medium used in the system. The limit values given in the technical data may not be exceeded.

The manufacturer is not liable for damage resulting from improper or incorrect use.

1.7 Safe working practices for maintenance and installation work

The safety instructions given in this operating manual, any nationally applicable regulations on accident prevention and any of the operating company's internal work, operating and safety guidelines must be observed.

The operating company is responsible for ensuring that all required maintenance, inspection and installation work is carried out by qualified specialized personnel.

1.8 Pictogram explanation



DANGER

Type and source of danger

This indicates a **direct** dangerous situation that could lead to death or **serious injury** (highest danger level).

1. Avoid danger by observing the valid safety regulations.



WARNING

Type and source of danger

This indicates a **potentially** dangerous situation that could lead to death or **serious injury** (medium danger level).

1. Avoid danger by observing the valid safety regulations.



CAUTION

Type and source of danger

This indicates a **potentially** dangerous situation that could lead to slight or serious injury, damage or **environmental pollution** (low danger level).

1. Avoid danger by observing the valid safety regulations.



NOTICE

Note / advice

This indicates useful information of advice for efficient and smooth operation.

2 Product and functional description

2.1 Delivery scope

- Contact manometer MS11
- Operating Manual

2.2 Equipment versions

2.2.1 Pressure chamber

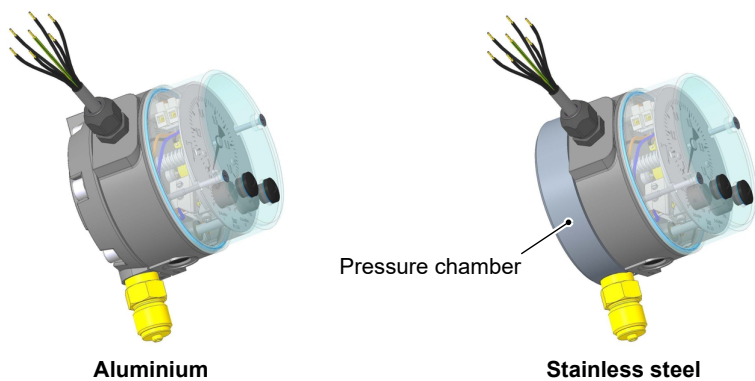


Fig. 1: Material options for the pressure chamber

2.2.2 Assembly

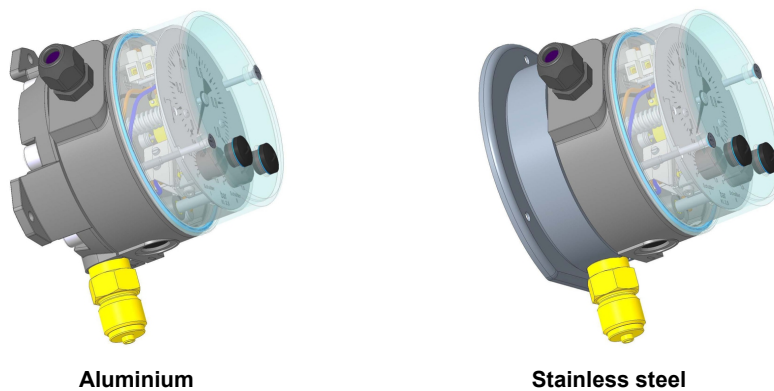


Fig. 2: Wall mounting

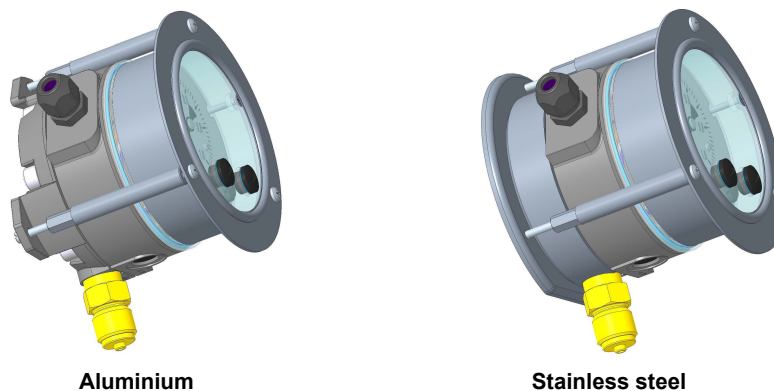
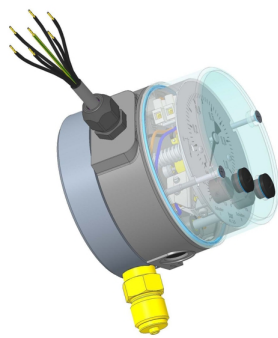


Fig. 3: Mounting the control panel

2.2.3 Protection class

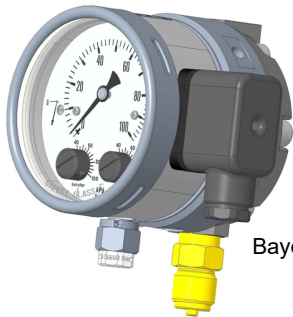


Aluminium pressure chamber

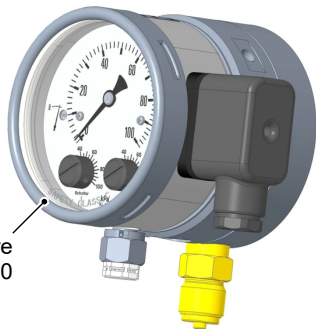


Stainless steel pressure chamber

Fig. 4: Protection class IP55



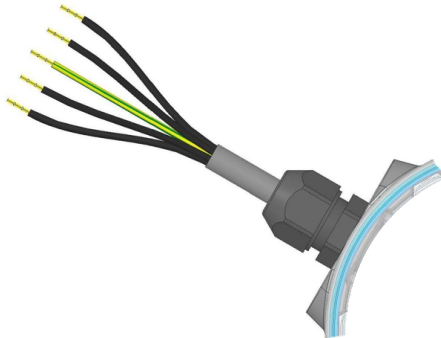
Aluminium pressure chamber



Stainless steel pressure chamber

Fig. 5: Protection class IP65

2.2.4 Electrical connection



Cable connection



Cable socket/plug

Fig. 6: Options for the electrical connection

2.2.5 Type plate

Order code

MS11 02K-A00B1000

Serial number

Devices pressure and voltage-free	
Article no.	MS11 02K-A00B1000
Measuring range	0 - 1 bar
P max.	25 bar
Prod. no.	1506610.01.002
Switching capacity: 5A/250V AC	
Made in Germany	

MESS- UND
REGELTECHNIK
GmbH
D-32107 Bad Salzuffeln

Fig. 7: Type plate

2.3 Intended use

The MS11 contact manometer is a combined measuring and switch device for pressure measurements under difficult conditions, such as pressure impacts, vibrations, frequent switch processes or high requirements on the switch performance.

The device is suitable for gaseous media and fluid media. Please contact the manufacturer before using this unit with dirty or aggressive media because the unit needs to be adapted in terms of the parts that come into contact with the media.

The device can be used as a functional safety components (SIL) as agreed with the manufacturer (see order code).

The device is to be exclusively used for the applications agreed between the manufacturer and the user.

2.4 Function diagram

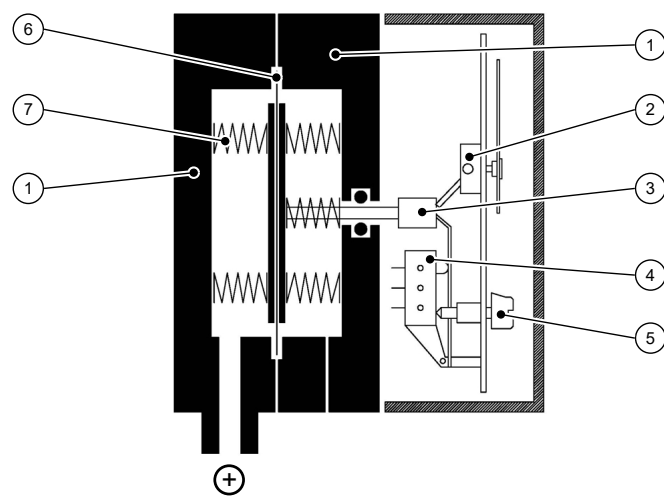


Fig. 8: Function diagram

1 Pressure chamber	2 Motion train
3 Tappet	4 Micro-switch
5 Switch point setting	6 Measuring diaphragm
7 Measuring springs	

2.5 Design and mode of operation

The basis for this measurement and switch unit is a sturdy non-sensitive diaphragm measuring unit that is suitable for measuring over and under-pressure.

In the rest position, the spring forces on both sides of the membrane are balanced out. Due to the pressure or underpressure to be measured, a single-sided force is created on the membrane which shifts the membrane system against the measurement range springs up to compensation of the spring forces. In case of overload, the membrane supports against the metallic support surfaces.

A centrally positioned tappet transfers the movement of the membrane system on the motion train and operating elements of the micro-switches.

3 Assembly

3.1 General

The device is designed for a direct process connection acc. to DIN EN 837. Optionally, the device can also be supplied for wall mounting or with an installed switch panel set.

NOTICE! At the factory, the device is calibrated for vertical installation and only this installation position is allowed.

To ensure safety during installation and maintenance, we recommend installing a suitable shut-off valve on the system (see accessories). A shut-off valve offers the following advantages:

- The device can be depressurized or decommissioned.
- The device can be disconnected from the power supply within the applicable system for repairs or inspections.
- A function test of the device can be performed on-site.

3.2 Process connection

- By authorized and qualified specialized personnel only.
- The pipes need to be depressurized when the instrument is being connected.
- Appropriate steps must be taken to protect the device from pressure surges.
- Check that the device is suitable for the medium being measured.
- Maximum pressures must be observed (cf. Tech. data)

The pressure line must be kept as short as possible and installed without any tight bends to avoid delays.

The pressurized line must be installed on a gradient so that no air pockets can be created when measuring fluids and that no water pockets are created when measuring gas. If the required inclination is not reached, water or air filters must be installed at suitable places.

In the case of fluid media, the pressurized line needs to be vented because different fluid pillars in the lines can distort measurements.

If water is used as a measuring medium, the unit must be protected against frost.

Pulsating pressure on the system side can lead to wear and functional problems. To safeguard this, we recommend installing absorption elements in the pressure line.

Fluid media

In the operational status, the reactor pins need to be set so that the measurement display follows the pressure changes with a delay.

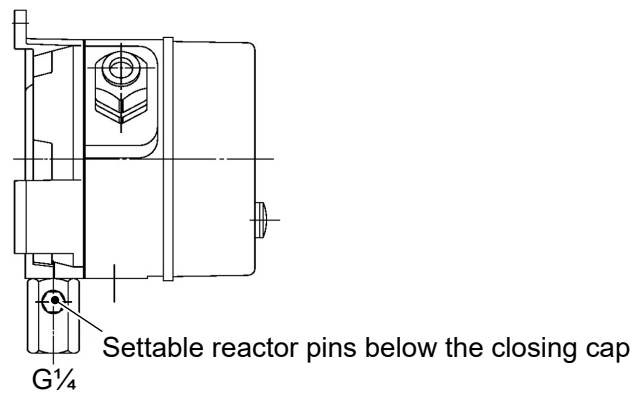


Fig. 9: Damping reactor

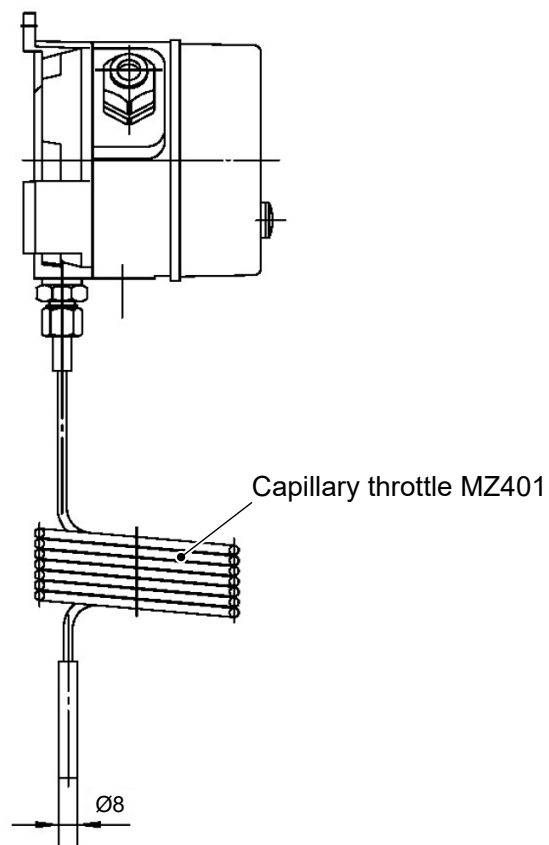
Gaseous media

Fig. 10: Capillary throttle

3.3 Electrical connections

- By authorized and qualified specialized personnel only.
- When connecting the unit, the national and international electro-technical regulations must be observed.
- Disconnect the system from the mains, before electrically connecting the device.
- Install the consumer-adapted fuses.
- Do not connect the connector if strained.

The MS11 can be equipped with one or two micro-switches. Each micro-switch has a changeover contact that is wired as follows.

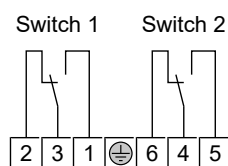


Fig. 11: Electrical connection

Cable socket

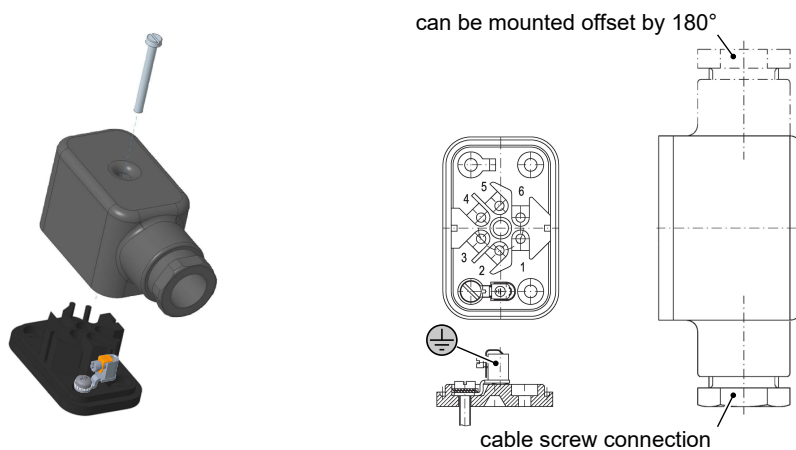


Fig. 12: Cable socket

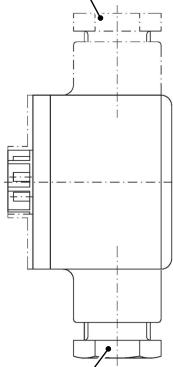
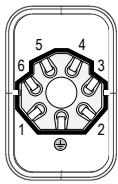
Terminals 1 to 6	Brass	Screw terminal up to 1.5 mm ²
Ground terminal	Nickel-plated brass	Screw terminal up to 2.5 mm ²

Cable screw connection	Polyamide 6	M20x1.5
Sealant	EPDM	
Terminal range		7 to 13 mm

Plug connection



can be mounted offset by 180°



Cable screw connection

Fig. 13: Cable plug

Terminals 1 to 6	Brass	Screw terminal up to 1.5 mm ²
Ground terminal		

Cable screw connection	Polyamide 6	M20x1.5
Sealant	EPDM	
Terminal range		7 to 13 mm

Numbered cables

For models with numbered cables, the cable numbers correspond with the presented terminal numbers.

4 Start-up

4.1 General

All electrical supply, operating and measuring lines, and the pressure connections must have been correctly installed before commissioning. All supply lines are arranged so that there are no mechanical forces acting on the device.

Check that the pressure connections do not leak before commissioning.

4.2 Control elements

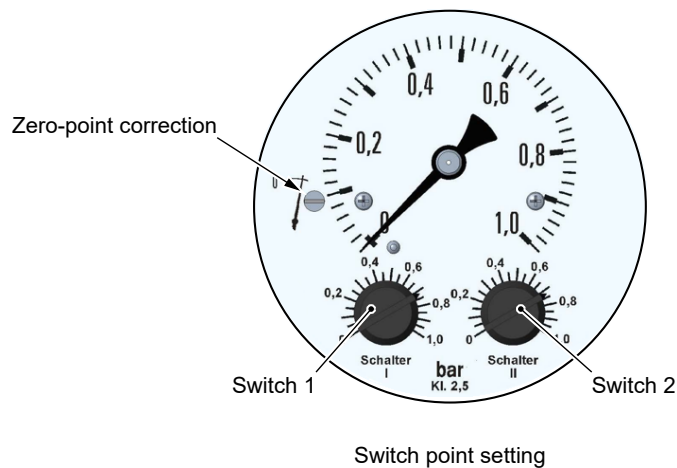
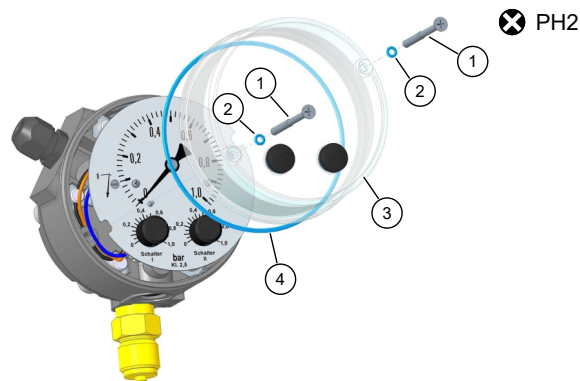


Fig. 14: Control elements

- Depending on the enclosure model, the switch point setting is accessible in different ways.
- The enclosure must be opened to set the zero-point.

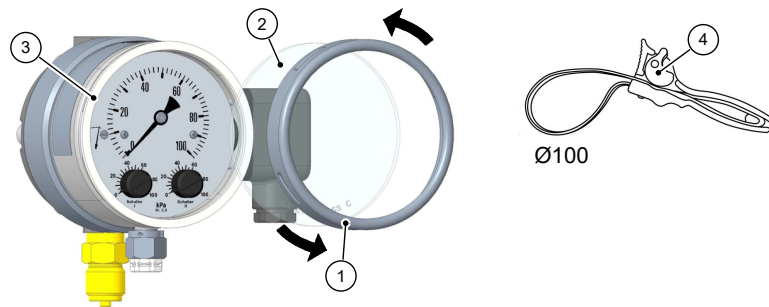
4.3 Opening the enclosure

4.3.1 Enclosure with protection class IP55



1. Remove the attachment screws (1) with a screwdriver. Ensure that the sealing rings (2) do not get lost. The protection class is no longer guaranteed without these sealing rings.
2. Remove the Makrolon in the hood (3) and the seal (4).
3. It is assembled in reverse order. The seal (4) must lie precisely in the groove of the hood before the hood is screwed on.

4.3.2 Enclosure with protection class IP65



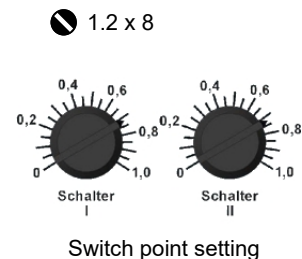
1. Release the bayonet ring (1) by turning to the left. If the bayonet ring cannot be opened by hand, use a pipe wrench (4).
2. Remove the glass pane (2) and the seal (3).
3. It is assembled in reverse order.

The bayonet ring in switch panel installation devices cannot be removed if installed. In this case, the device first needs to be removed before the enclosure can be opened.

4.4 Zero point correction

1. Depressurise the measuring chamber.
2. Open the enclosure
3. Set the measurement value pointer to the zero-point scale (see fig. above ► 13]) using the zero point correction screw.
4. Close the casing.

4.5 Switch point setting



1. Remove the plugs (1) and the seals (2) in the hood and/or open the bayonet ring enclosure.
2. The required switch points can be set on the reference scale guide with a screwdriver. The achievable accuracy is 5 %.
3. Replace the plug and/or the bayonet ring after completing the settings.

4.6 Function test

Remove both plugs in the hood for testing or open the bayonet ring enclosure. If the unit has two micro-switches, the stated test steps must be carried out for both switches. After the test, the switch points need to be reset (see above).

Check when the system is depressurized.

- No measurement is shown and the measurement display point to zero.
- Turn the switch point setting button toward the zero-point until the micro-switch is activated.

Test when the system is operational

- A measurement is shown.
- Turn the switch point setting button toward the measurement until the micro-switch is activated.

5 Servicing

5.1 Maintenance

The instrument is maintenance-free. We recommend the following regular inspection to guarantee reliable operation and a long service life:

- Check the function in combination with downstream components.
- Check the leak-tightness of the pressure connection lines.
- Check the electrical connections.

The exact test cycles need to be adapted to the operating and environmental conditions. In combination with other devices, the operating instructions for the other devices also need to be observed.

5.2 Transport

The measuring device must be protected against impacts. It should be transported in the original packaging or a suitable transport container.

5.3 Service

All defective or faulty devices should be sent directly to our repair department. Please coordinate all shipments with our sales department.



WARNING

Process media residues

Process media residues in and on dismantled devices can be a hazard to people, animals and the environment. Take adequate preventive measures. If required, the devices must be cleaned thoroughly.

Return the device in the original packaging or a suitable transport container.

5.4 Disposal

Please help to protect the environment by always disposing of the work pieces and packaging materials in compliance with the valid national waste and recycling guidelines or reuse them.

6 Technical data

6.1 General Information

Reference conditions (acc. to IEC 61298-1)			
Temperature	+15 ... +25 °C		
Relative humidity	45 ... 75 %		
Air pressure	86 ... 106 kPa	860 ... 1060 mbar	
Installation position	vertical		

6.2 Input variables

Measuring ranges	Measuring accuracy	Overpres- sure	Under-pres- sure
0 ... 250 mbar	± 6.25 mbar	25 bar	- 1 bar
0 ... 400 mbar	± 10 mbar		
0 ... 0.6 bar	± 0.015 bar		
0 ... 1 bar	± 0.025 bar		
0 ... 1.6 bar	± 0.04 bar		
0 ... 2.5 bar	± 0.0625 bar		
0 ... 4 bar	± 0.1 bar		
0 ... 6 bar	± 0.15 bar		
0 ... 10 bar	± 0.25 bar		
0 ... 16 bar	± 0.4 bar		
0 ... 25 bar	± 0.625 bar		
-0.6 ... 0 bar	± 0.015 bar		
-1 ... 0 bar	± 0.025 bar		
-1 ... +0.6 bar	± 0.04 bar		
-1 ... +1.5 bar	± 0.0625 bar		
-1 ... +3 bar	± 0.1 bar		
-1 ... +5 bar	± 0.15 bar		
-1 ... +9 bar	± 0.25 bar		
-1 ... +15 bar	± 0.4 bar		
-1 ... +24 bar	± 0.625 bar		

Rated pressure of the measuring system 25 bar	
Test pressure	1.5 times the rated pressure
Zero-point setting	Arranged in the front panel of the scale
Measuring accuracy	± 2.5% of the measuring span

6.3 Output parameters

Switch contacts	1 to 2 micro-switches
Switching function (per contact)	Changeover contact
Switch point setting	Can be set to reference scales from outside
Smallest settable value	5% of the measuring span
Switch hysteresis	approx 2.5% of the measuring span

Per contact	AC	DC
Switching voltage	250 V	30 V
Switching current	5 A	0.4 A
Switching output	250 VA	10 W

6.4 Operating conditions

Increase ambient temperature	-10 ... +70 °C
Media temperature	-10 ... +70 °C
Storage temperature	-15 ... +75 °C
Enclosure protection class	IP55 or IP65 acc. to EN 60529 depending on model
NSR	EN 61010-1:2010 +A1:2019+A12019/AC:2019
RoHS	EN IEC 6300:2018
SIL2	EN 61508:2010 Parts 1-7

6.5 Construction design

Process connection	Connection shank G½ B DIN EN 837
Electrical connection	Permanently wired numbered cables
	7-pin plug connection
	Cable socket
Installation position	vertical
Dimensions	See dimensional drawings
Weight	Pressure chamber in aluminium 1.2 kg
	Pressure chamber in stainless steel 3.5 kg

6.5.1 Materials

Parts in contact with the medium		
Pressure chamber	Aluminium GkAlSi10(mg); painted black	
	Aluminium GkAlSi10(mg); HART-COAT® surface protection	
	Chromium nickel steel 1.4305	
Measuring diaphragm	NBR	
	VITON®	
	Inconel 718	
Seals	NBR	
	VITON®	
Other inner parts	Rustproof steel 1.4310, 1.4305	
Process connection	Pressure chamber in aluminium	CuZn40
	Pressure chamber in stainless steel	1.4404

Parts with no contact with the medium		
Cover hood	IP55	Makrolon
Bayonet ring housing	IP65	Stainless steel 1.4301
Dial face and needle		Aluminium
Setting buttons		AlCuMgPb 3.1645

6.5.2 Dimensional drawings

All dimensions in mm unless otherwise stated

The following are the dimensional diagrams for the different models of the pressure chambers in aluminium. The dimensional diagrams for the pressure chambers in stainless steel are similar. For this reason, there is no illustration.

6.5.2.1 Standard version (aluminium)

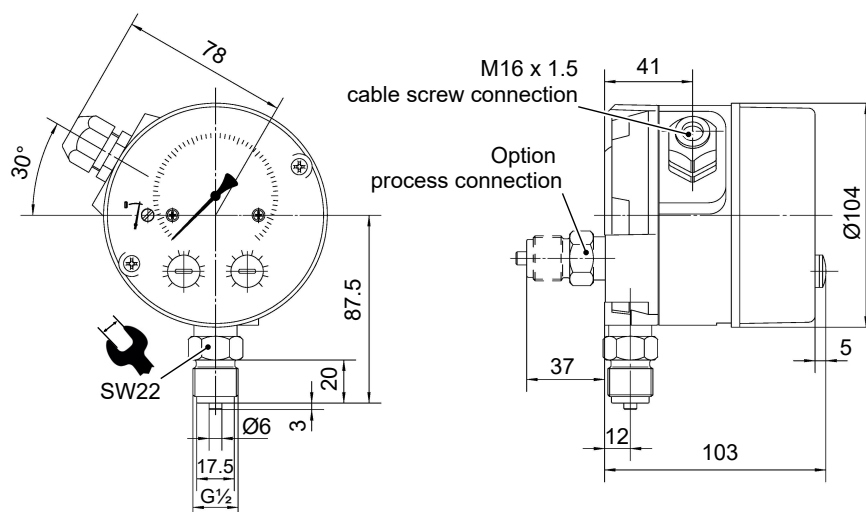


Fig. 15: Model IP55

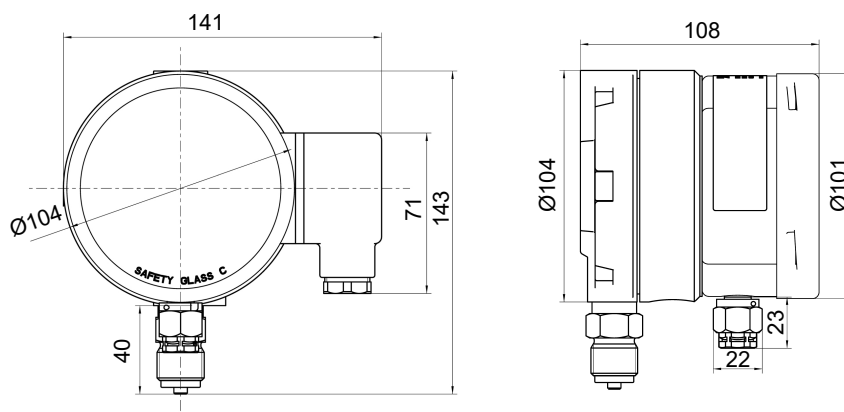


Fig. 16: Model IP65

6.5.2.2 Wall structure (aluminium)

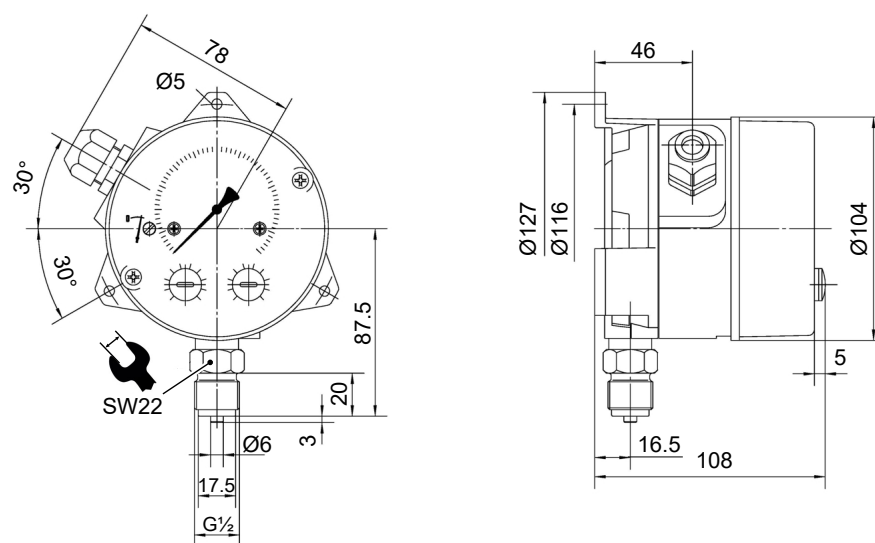


Fig. 17: Model IP55

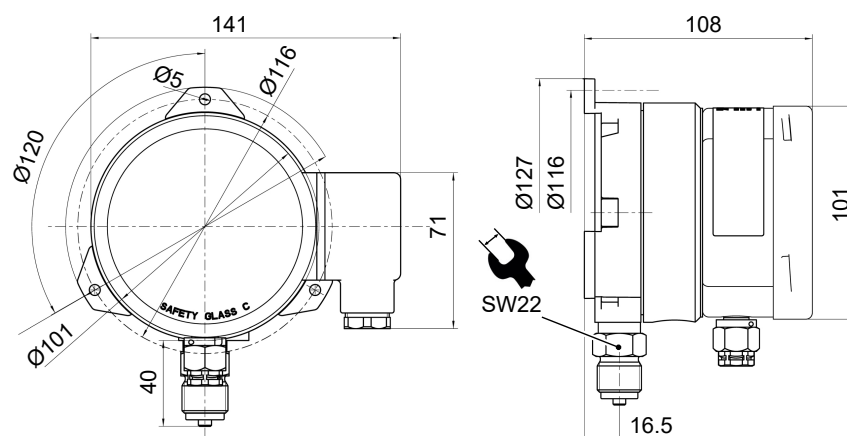


Fig. 18: Model IP65

6.5.2.3 Switch panel installation (aluminium)

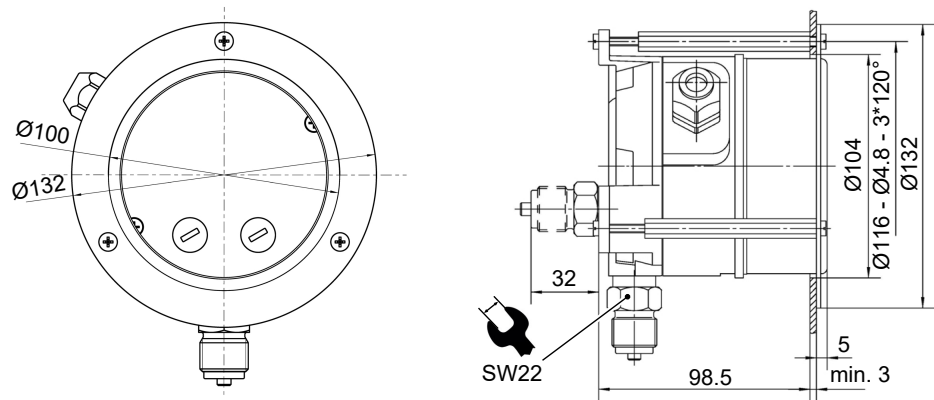


Fig. 19: Model IP55

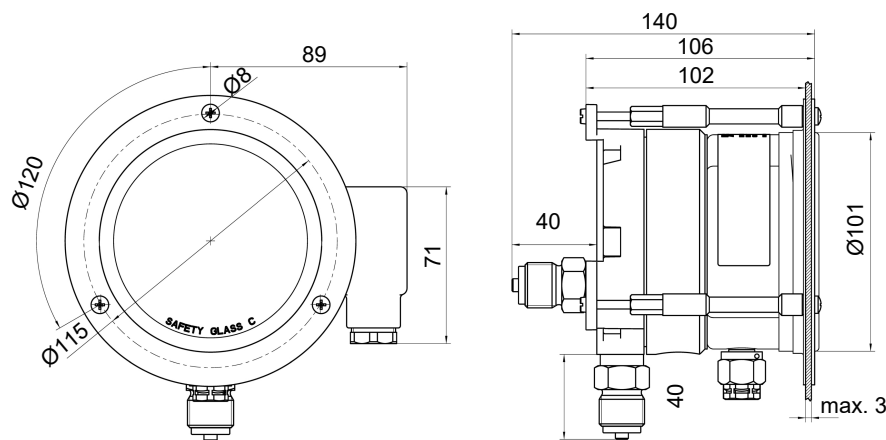
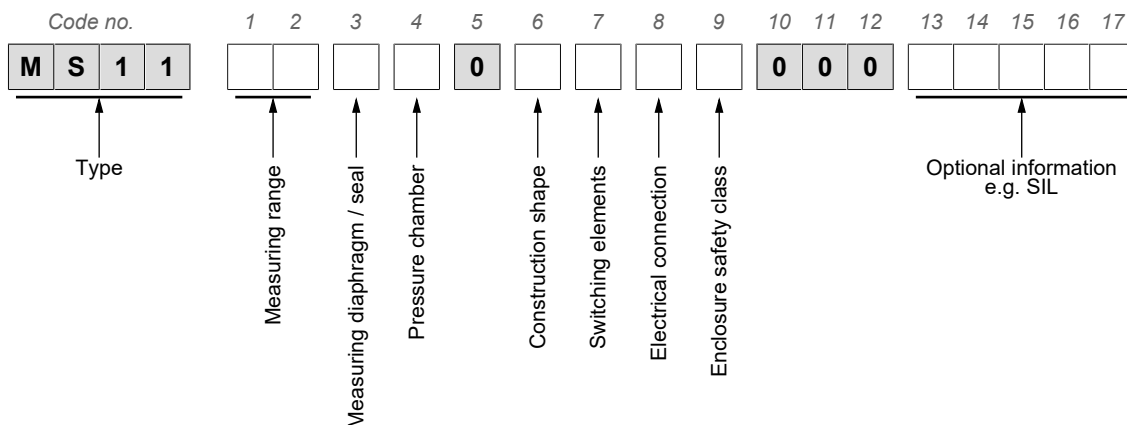


Fig. 20: Model IP65

7 Order codes



Measuring diaphragm			
[1.2]	Measuring range	NBR / VITON	Inconel 718
82	0 ... 250 mbar	x	
83	0 ... 400 mbar	x	
01	0 ... 0.6 bar	x	
02	0 ... 1 bar	x	
03	0 ... 1.6 bar	x	
04	0 ... 2.5 bar	x	
05	0 ... 4 bar	x	
06	0 ... 6 bar	x	
07	0 ... 10 bar	x	
08	0 ... 16 bar	x	
09	0 ... 25 bar		x
30	-0.6 ... 0 bar	x	
31	-1 ... 0 bar	x	
32	-1 ... +0.6 bar	x	
33	-1 ... +1.5 bar	x	
31	-1 ... +3 bar	x	
35	-1 ... +5 bar	x	
36	-1 ... +9 bar	x	
37	-1 ... +15 bar	x	
38	-1 ... +24 bar		x

[3]	Measuring dia- phragm	Sealant	Comment
N	NBR	NBR	
V	VITON®	VITON®	
D	Inconel 718	NBR	Only measuring ranges 0 ... 25 bar
E	Inconel 718	VITON®	Only measuring ranges 0 ... 25 bar

[4]	Pressure chamber	Comment
A	Aluminium	Only measuring range $\leq 0 \dots 16$ bar
D	Aluminium HART COAT®	
W	Stainless steel 1.4305	

[6]	Version
0	Bottom pressure connection with outer thread G $\frac{1}{2}$ B
H	Back pressure connection with outer thread G $\frac{1}{2}$ B
B	Wall mounting; bottom pressure connection with outer thread G $\frac{1}{2}$ B
G	Switch panel installation; bottom pressure connection with outer thread G $\frac{1}{2}$ B
L	Switch panel installation; back pressure connection with outer thread G $\frac{1}{2}$ B

[7]	Switching Elements
A	1 adjustable micro-switch
B	2 adjustable microswitches

[8]	Electrical connection
1	1 metre numbered cable, permanently wired
2	2.50 metre numbered cable, permanently wired
5	5 metre numbered cable, permanently wired
K	Cable connection socket
W	7-pin plug connection

[9]	Casing protection class	Comment
0	IP55	
P	IP65	Only with a cable connection socket or plug connection

[13-17]	Optional information
#####	Code for special models e.g. SIL The code is generated as agreed with our sales team.

Accessories

Please go to our website fischermesstechnik.de for the data sheet MZ for the measuring device accessories such as the shut-off valves, throttles etc.

8 Attachments

8.1 SIL Certificate



Hiermit wird bescheinigt, dass das unten beschriebene Produkt der Firma
This certifies that the product mentioned below from company

Fischer Mess- und Regeltechnik
Bielefelder Straße 37a
32107 Bad Salzuflen
Deutschland

die Anforderungen der folgenden Prüfunterlage(n) erfüllt.
fulfills the requirements of the following test regulations.

Geprüft nach: **EN 61508:2010 Teile/Parts 1-7**
Tested in accordance with:

Beschreibung des Produktes: **Differenzdruck Mess- und Schaltgerät / Differential Pressure Switch**
 (Details s. Anlage 1) **Kontaktmanometer / Contact Pressure Gauge**
Description of product:
 (Details see Annex 1)

Typenbezeichnung: **DS11, DS13 und DS21**
Type Designation: **MS11**

Dieses Zertifikat bescheinigt das Ergebnis der Prüfung an dem vorgestellten Prüfgegenstand. Eine allgemein gültige Aussage über die Qualität der Produkte aus der laufenden Fertigung kann hieraus nicht abgeleitet werden.
This certifies the result of the examination of the product sample submitted by the manufacturer. A general statement concerning the quality of the products from the series manufacture cannot be derived there from.

Registrier-Nr. / *Registered No.* 44 799 13759902
 Prüfbericht Nr. / *Test Report No.* 3526 2583
 Aktenzeichen / *File reference* 8003015248

Gültigkeit / *Validity*
 von / *from* 2020-03-18
 bis / *until* 2025-03-17


 Zertifizierungsstelle der
 TÜV NORD CERT GmbH

Essen, 2020-03-18

TÜV NORD CERT GmbH Langemarckstraße 20 45141 Essen www.tuev-nord-cert.de technology@tuev-nord.de

Bitte beachten Sie auch die umseitigen Hinweise
Please also pay attention to the information stated overleaf

Fig. 21: SIL_4479913759902



ANLAGE ANNEX

Anlage 1, Seite 1 von 1
Annex 1, page 1 of 1

zum Zertifikat Registrier-Nr. / to Certificate Registration No. 44 799 13759902

Allgemeine Angaben
General Information

Siehe auch Seite 1 des Zertifikats
See also page 1 of the certificate

Produktbeschreibung:
Product description:

Differenzdruck Mess- und Schaltgerät / Differential Pressure Switch DS11, DS13, DS21
Kontaktmanometer / Contact Pressure Gauge MS11

Technische Daten:
Technical data:

Sicherheitsparameter / Safety Parameter
SFF = 70 %
PFH = $3,3 \cdot 10^{-11}$ 1/h
HFT = 0
Typ-A-Teilkomponente / Type

Die Geräte können mit einer geeigneten Testung in SIL2 Anwendungen eingesetzt werden.
The components can be used with an appropriate testing in SIL2 applications.


Zertifizierungsstelle der
TÜV NORD CERT GmbH

Essen, 2020-03-18

TÜV NORD CERT GmbH

Langemarckstraße 20

45141 Essen

www.tuev-nord-cert.de

technology@tuev-nord.de

Fig. 22: SIL_4479913759902

8.2 Declarations of conformity



(Translation) **CE**

EU Declaration of Conformity

For the product described as follows

Product designation **Contact Pressure Gauge**

Type designation **MS11**

it is hereby declared that it corresponds with the basic requirements specified in the following designated directives:

2014/35/EU

Low Voltage Directive

2011/65/EU

RoHS Directive

(EU) 2015/863

Delegated Directive amending Annex II to Directive 2011/65/EU

The products were tested in compliance with the following standards.

Low Voltage Directive (LVD)

DIN EN 61010-1:2020-03

EN 61010-1:2010 + A1:2019 + A1:2019/
AC:2019

*Safety requirements for electrical equipment for measurement, control, and laboratory use -
Part 1: General requirements*

DIN EN 61010-1 Berichtigung 1:2022-02

(IEC 61010-1:2010 + COR:2011 + A1:2016,
modified + A1:2016/COR1:2019)

*Safety requirements for electrical equipment for measurement, control, and laboratory use -
Part 1: General requirements German version EN 61010-1:2010 + A1:2019 + A1:2019/
AC:2019; Corrigendum 1*

RoHS Directive (RoHS 2)

DIN EN IEC 63000:2019-05

EN IEC 63000:2018

*Technical documentation for the assessment of electrical and electronic products with re-
spect to the restriction of hazardous substances*

Also they were subjected to the conformity assessment procedure „**Internal production control**“.

Sole responsibility for the issue of this declaration of conformity in relation to fulfilment of the fundamental requirements and the production of the technical documents is with the manufacturer.

Manufacturer

FISCHER Mess- und Regeltechnik GmbH

Bielefelder Str. 37a
32107 Bad Salzufen, Germany

Tel. +49 (0)5222 974 0


Documentation representative

Torsten Malischewski
General Manager R&D

The devices bear the following marking:



Bad Salzufen
18 March 2020



G. Gödde
Managing director

09010230 • CE EN MS11 • Rev. ST4-B • 03/22

1 / 1



Fig. 23: CE_EN_MS11

(Translation) **UK
CA**

UKCA Declaration of Conformity

For the product described as follows

Product designation **Contact Pressure Gauge**
Type designation **MS11**

is hereby declared to comply with the essential requirements, specified in the following UK regulations:

Statutory regulation No.

2016 No. 1101

2021 No. 422

2022 No. 1647

Description

The Electrical Equipment (Safety) Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (Amendment) Regulations 2021

The Hazardous Substances and Packaging (Legislative Functions and Amendment) (EU Exit) Regulations 2020

The products have been tested according to the following standards.

Low Voltage Directive (LVD):

BS EN 61010-1+A1:2017-03-31

Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements

Restriction of Hazardous Substances (RoHS):

BS EN IEC 63000:2018-12-10

Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

The sole responsibility for drawing up this declaration of conformity in relation to the fulfilment of the essential requirements and the preparation of the technical documentation lies with the manufacturer.

Manufacturer

FISCHER Mess- und Regeltechnik GmbH

Bielefelder Str. 37a

32107 Bad Salzufen, Germany

Tel. +49 (0)5222 974 0

The devices bear the following marking:

**UK
CA**

Bad Salzufen
22 March 2022

G. Gödde
Managing director



Fig. 24: UKCA_EN_MS11



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