

Capsule pressure gauge with switch contacts

Stainless steel version, high overpressure safety

Model 632.51

WIKA data sheet PV 26.06



switchGAUGE

Applications

- Control and regulation of industrial processes at measuring points with increased overpressure and scale ranges from 0 ... 2.5 mbar
- Monitoring of plants and switching of electric circuits
- For gaseous, aggressive media, also for aggressive environments
- Process industry: chemical/petro-chemical, power stations, mining, on- and offshore, environmental technology, machine building and general plant construction

Special features

- High overpressure safety up to 50 x full scale value
- High reliability and long service life
- Up to 4 switch contacts per instrument
- Gauges with inductive contacts for use in hazardous areas with ATEX approval
- Gauges with electronic contacts for PLC applications



Capsule pressure gauge model 632.51.100, high overpressure safety with switch contact model 821.12

Description

Wherever the process pressure has to be indicated locally, and, at the same time, circuits are to be made or broken, the Model 632.51 switchGAUGE can be used.

Switch contacts (electrical alarm contacts) make or break an electric control circuit dependent upon the position of the instrument pointer. The switch contacts are adjustable over the full extent of the scale range (see DIN 16085), and are mounted predominantly below the dial, though also partly on top of the dial. The instrument pointer (actual value pointer) moves freely across the entire scale range, independent of the setting.

The set pointer can be adjusted using a removable adjustment key in the window.

Switch contacts consisting of several contacts can also be set to a single set point. Contact actuation is made when the actual value pointer travels beyond or below the desired set point.

The pressure gauge is manufactured in accordance with DIN 16085 and fulfils all requirements of the relevant standards (EN 837-3) and regulations for the on-site display of the operating pressure of pressure vessels. As switch contacts magnetic snap-action contacts, inductive contacts - for requirements to ATEX - or electronic contacts for triggering a PLC are available. For further information on the different switch contacts please see data sheet AC 08.01.

Standard version

Nominal size in mm

100, 160

Accuracy class

1.6

Scale ranges

0 ... 2.5 mbar to 0 ... 100 mbar

or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation

Steady: full scale value

Fluctuating: 0.9 x full scale value

Overpressure safety

50 x full scale value

Operating temperature

Ambient: -20 ... +60 °C

Medium: +100 °C maximum

Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C):

max. ± 0.6 %/10 K of full scale value

Process connection (wetted)

Stainless steel 1.4571

lower mount (LM)

G ½ B (male), 22 mm flats

Pressure element (wetted)

Stainless steel 1.4571

Measuring chamber (wetted)

Stainless steel 1.4571

Sealing (wetted)

PTFE

Movement

Stainless steel

Dial

Aluminium, white, black lettering

Pointer

Aluminium, black

Zero point adjustable

via adjustment device

Case

Stainless steel, with blow-out device

Window

Laminated safety glass

Bezel ring

Cam ring (bayonet type), stainless steel

Electrical connection

Junction box

Ingress protection

IP 54 per EN 60529 / IEC 529

Switch contacts

Magnetic snap-action contact model 821

- No control unit and no extra power supply required
- Direct switching up to 250 V, 1 A
- Up to 4 switch contacts per measuring instrument

Inductive contact model 831

- Long service life due to non-contact sensor
- Additional control unit required (model 904)
- With corresponding control unit suitable for use in Zone 1 / 21 (2 GD) hazardous areas
- Low reaction on the display accuracy
- Fail-safe switching at high switching rates
- Insensitive to corrosion
- Up to 3 switch contacts per measuring instrument

Electronic contact model 830 E

- For direct triggering of a programmable logic controller (PLC)
- 2-wire system (option: 3-wire system)
- Long service life due to non-contact sensor
- Low reaction on the display accuracy
- Fail-safe switching at high switching rates
- Insensitive to corrosion
- Up to 3 switch contacts per measuring instrument

Switching function

The switching function of the switch is indicated by function index 1, 2 or 3.

Model 8xx.1: Contact makes (clockwise rotary motion of the pointer)

Model 8xx.2: Contact breaks (clockwise rotary motion of the pointer)

Model 821.3: Change-over; one contact breaks and one contact makes simultaneously when pointer reaches set point

For further information please see data sheet AC 08.01, electrical switch contacts

Options

- Other process connection
- Sealings (model 910.17, see data sheet AC 09.08)
- Pipe or surface mounting bracket (data sheet AC 09.07)
- Panel or surface mounting flange (consider possible conflict with pressure chamber)
- Indication accuracy class 0.6 or 1.0 ¹⁾
- Higher overpressure safety ¹⁾
- Inductive contacts also in safety version

1) After application related testing

Mounting by means of:

- Rigid tailpipes
- Mounting bracket for wall or pipe mounting (option)
- Mounting flange (option)

CE conformity

EMC directive

2004/108/EC, EN 61326 emission (group 1, class B) and interference immunity (industrial application)

ATEX directive ¹⁾

94/9/EC, II 2 G Ex ia IIC

1) Option

Approvals

- **GOST**, metrology/measurement technology, Russia
- **GOST-R**, import certificate, Russia

Certificates ¹⁾

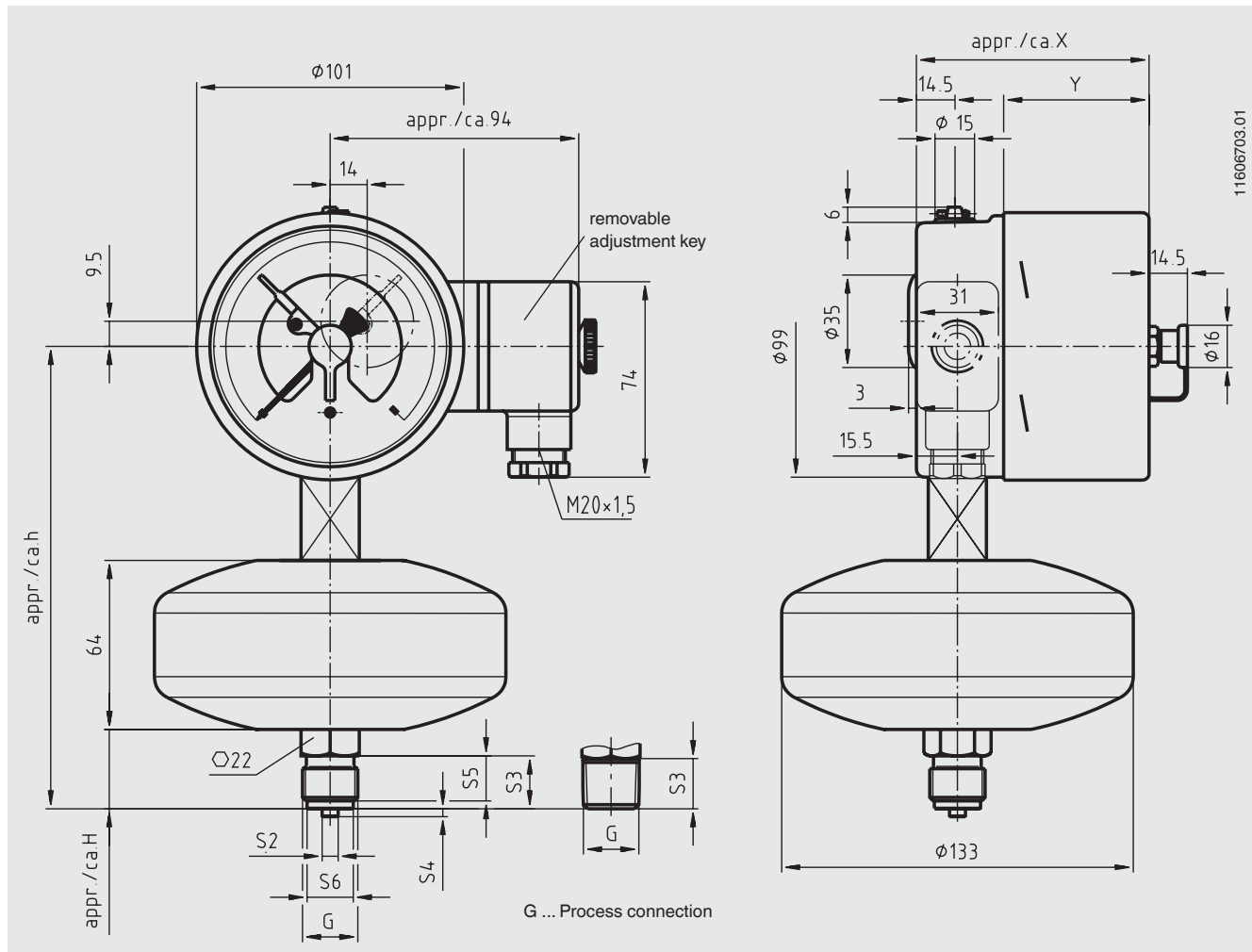
- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. material proof wetted parts metal component, indication accuracy)

1) Option

Approvals and certificates, see website

Dimensions in mm

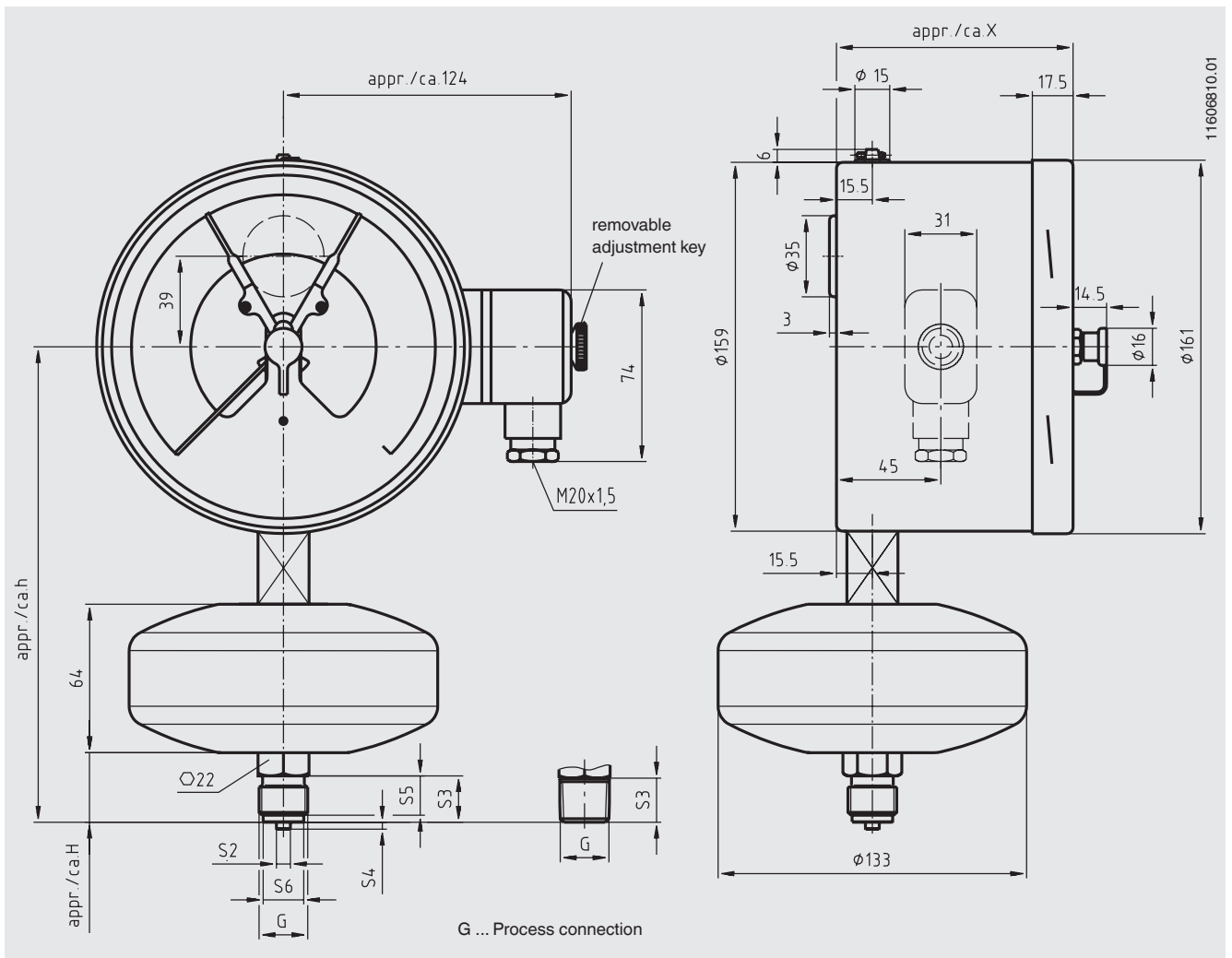
switchGAUGE model 632.51.100 with switch contact model 821, 831 or 830 E



Type of contact	Dimensions in mm	
	X	Y
Single or double contact	88	55
Double contact (SPDT)	113	80
Triple contact	96	63
Quadruple contact	113	80

Process connection	Dimensions in mm						
	h	H	S2	S3	S4	S5	S6
G ½ B	175	30	6	20	3	17	17.5
½ NPT	174	29	-	19	-	-	-

switchGAUGE model 632.51.160 with switch contact model 821, 831 or 830 E



Type of contact	Dimensions in mm X
Single or double contact	102
Double contact (SPDT)	116
Triple contact	102
Quadruple contact	116

Process connection	h	H	S2	S3	S4	S5	S6
G 1/2 B	205	30	6	20	3	17	17.5
1/2 NPT	204	29	-	19	-	-	-

Ordering information

Model / Nominal size / Type of contact and switching function / Scale range / Connection size / Options

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