



### Caution

Before you take the pressure switch into operation, make sure to read these operating instructions thoroughly. In the event of damages due to the nonobservance of these instructions, improper operation or use of the switch for purposes for which it is not intended, the warranty becomes null and void. We shall not be held liable for resultant consequential damages.

The switch is to be installed and removed by technicians only. The applicable certified national safety regulations for the operation of pressure measuring devices shall be observed. In the installed condition the respective devicespecific requirements on the type of protection must be fulfilled.

### Calibration

Note: Only versions that have the number 1 in the fifth place after the point in the product number (691.XXXX1XXXX) can be calibrated.

### Factory setting

Pressure 0, output signal 0 or 4 mA or 15 - 25 mV (typically 20 mV) with voltage output.

Maximum pressure = maximum output signal.

**Calibration options** (example fig. 2)

A = Standard Output signal

B = Calibration range

**Zero point** with potentiometer, varnished white (fig. 3)

With pressure 0, the output signal (A) can be adjusted by + 10 % fs. However, with 0 - 10 V versions at a pressure of 10 % fs, the +/- 10 % adjustment has a low limit of 20 mV (B).

**Slope** with potentiometer, varnished red (fig. 3), +/- 10 % of the full scale output, can be adjusted with application of appropriate pressure.

### Calibration procedure

- Make electrical connection according to diagrams in fig. 1.
- Unscrew four connector fastening screws, pull off connector to render potentiometers accessible.
- With pressure regulator of class 0.6 or better apply lower pressure.
- Adjust zero point output signal with zero point potentiometer (varnished white, fig. 3).
- Apply desired upper pressure and adjust output signal with slope potentiometer (varnished red, fig.3).

- Repeat this process two or three times until the values are within the tolerance range.
- After the calibration apply varnish to all potentiometers again.

Seal tight connection part.

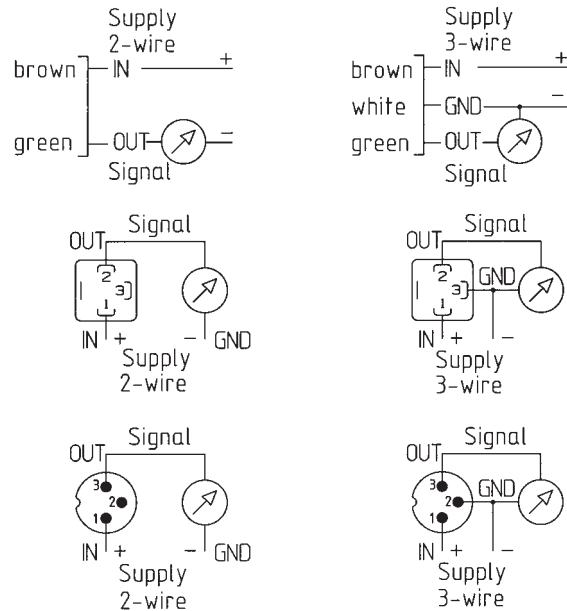


Fig. 2

	NP				
	P = 0	P = 10% FS	P = 60% FS	P = 80% FS	P = 100% FS
0 - 10V	20mV - 1V	20mV - 2V	5.4 - 6.6V	7.2 - 8.8V	9 - 11V
0 - 20mA	0 - 2mA	0 - 4mA	10.8 - 13.2mA	14.4 - 17.6mA	18 - 22mA
4 - 20mA	2.4 - 5.6mA	4 - 7.2mA	12.6 - 14.6mA	15.5 - 18.1mA	18.4 - 21.6mA
A	B	B	B	B	B

**Caution!**  
GND and case have only a capacitive, but not an electrical connection.

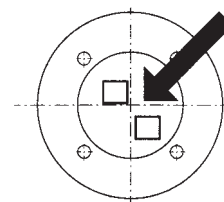


Fig. 3  
NP  
varnished white  
varnished red

## Electromagnetic compatibility

Interference stability	Test standard	Effects
Electrostatic discharge	EN 61000-4-2 8 kV air, 4 kV contact	no failure
High-frequency electromagnetic radiation (HF)	EN 61000-4-3 10 V/m, 80 ... 1 000 MHz	no effect
Conducted HF interference	EN 61000-4-6 10 V, 0.15 - 80 MHz	no effect
Fast transients (burst)	IEN 61000-4-4 2 kV	no failure
Surge	EN 61000-4-5 max. tolerable cable length 10 m	no test
Magnetic fields	EN 61000-4-8 30 A/m, 50 Hz	no effect
Conducted interference Radiation from housing	EN 55022 (CISPR 22) 0.15 ... 30 MHz 30 ... 1 000 MHz, 10 meters	no effect no effect