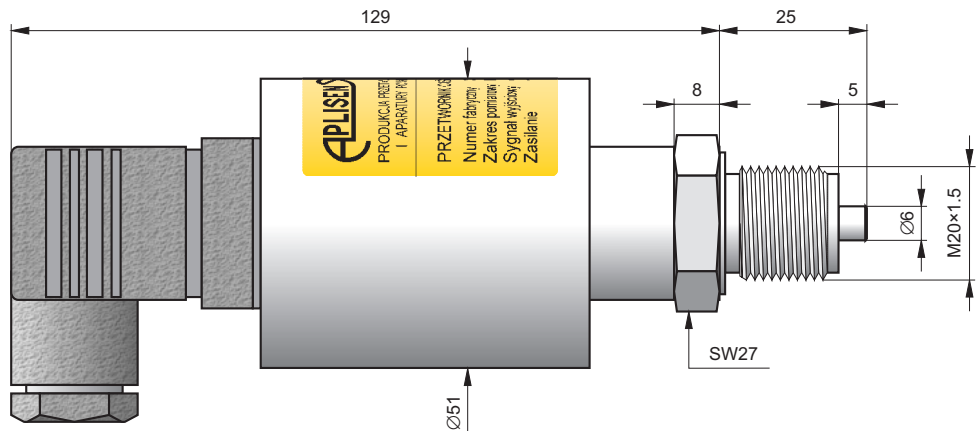


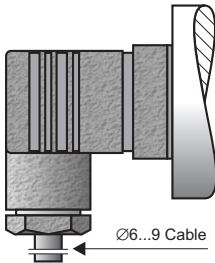
# Smart Pressure Transmitter APC-2000



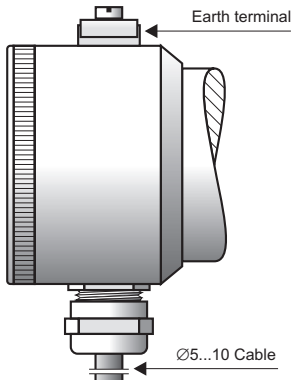
**Aplisens KAP-01  
Communicator**



## Electrical connections



**PD type:**  
Electrical Connector  
DIN 43650 with PG-11  
Packing Gland; IP 65  
rated Ingress Protection



**PZ type:**  
Terminal Box with PG-11  
Packing Gland; IP 65  
rated Ingress Protection

- ✓ Programmable zero shift, range and damping ratio
- ✓ Standard Bell 202 communication (Hart protocol compatible)
- ✓ Accuracy: 0.1%; digital compensation of secondary errors
- ✓ Ex<sub>i</sub>A/I/ICT6 spark proof

### Design and application

Our APC-2000 is designed to measure the pressures, underpressures and absolute pressures of vapours, gases and liquids.

As the active sensing element we have used a piezoresistive silicon sensor. It is separated from the medium by a diaphragm and by a specially selected type of manometric liquid. The housing of the electronic circuit is IP 65 rated.

### Settings

You can select the following settings:

- ◆ Pressure units defining the measuring range,
- ◆ End-points of range,
- ◆ Damping,
- ◆ Inverted characteristics (output signal 20 ÷ 4 mA).

### Calibration

Zero shift and calibration against pressure standard.

### Communication

Hart protocol with 4 ÷ 20 mA signal. Setting and calibration through KAP-01 communicator unit, some Hart compatible communicators or a PC through an RS-Hart interface and Aplsens RAPORT-01 configuration software.

Additional features enabling data exchange with the APC-2000 are:

- ◆ Transmitter identification,
- ◆ Current reading of pressure, output current and percentage of measuring range.

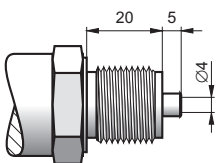
### Installation

Our APC-2000 is light enough to mount directly onto your system. For steam or other hot media, an instrument tubing is required. We recommend a manometric valve before the transmitter for easier installation and for calibration or even replacement of the unit without shutting down the process.

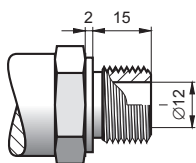
For pressures or liquid levels measured through special process connectors (e.g. in the food and chemical industries) the transmitter is equipped with one of the Aplsens diaphragm seals. Available diaphragm seals and some fittings are described later in this catalogue.

For electrical connection we suggest twisted pair cable. It is advisable to keep a space available in your installation for connecting the communicator.

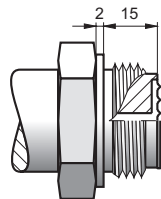
## Process connections



**M pipe stub** M20×1.5,  
internal diameter Ø 4



**P pipe stub** M20×1.5,  
internal diameter Ø 12



**CM30×2 pipe stub**

M30×2 with flush diaphragm  
Basic ranges:  
0...0.1, 0...0.2, 0...0.7,  
0...2.5, 0...7 MPa

**Note:** (CM30×2 spoz.): – hygienic version – sealed-off thread; optionally supplied with a weld-in mounting ring and a seal.

## Measurement ranges

Ref.	Maximum range (MR)	Minimum range	Zero suppression limit	Overpressure limit
1	0...30 MPa	3 MPa	0...27 MPa	45 MPa
2	0...7 MPa	0.7 MPa	0...6.3 MPa	14 MPa
3	0...2.5 MPa	0.25 MPa	0...2.25 MPa	5 MPa
4	0...0.7 MPa	70 kPa	0...0.63 MPa	1.4 MPa
5	-100...150 kPa	20 kPa	-100...130 kPa	400 kPa
6	0...200 kPa**	20 kPa	0...180 kPa	400 kPa
7	0...100 kPa	10 kPa	0...90 kPa	200 kPa
8	-1.5...7 kPa*	1 kPa	-1.5...6 kPa	50 kPa
9	-10...10 kPa*	2 kPa	-10...8 kPa	100 kPa
10	0...110 kPa (abs. pressure)	11 kPa (abs. pressure)	0...99 kPa (abs. pressure)	200 kPa
11	0...700 kPa (abs. pressure)	70 kPa (abs. pressure)	0...630 kPa (abs. pressure)	1.4 MPa
12	0...2.5 MPa (abs. pressure)	0.25 MPa (abs. pressure)	0...2.25 MPa (abs. pressure)	5 MPa
13	0...7 MPa (abs. pressure)	0.7 MPa (abs. pressure)	0...6.3 MPa (abs. pressure)	14 MPa

\* – only without diaphragm seal;

\*\* – only with diaphragm seal or with CM30×2 pipe stub

## Technical Data

### Metrological parameters

**Accuracy**  $\leq \pm 0.1\%$  for the maximum range  
(0.16% for ranges of ref. No 8 and 9)  
 $\leq \pm 0.3\%$  for minimum range  
(0.5% for ranges of ref. No 8 and 9)

**Thermal error**  $< \pm 0.08\%$  (MR) /  $10^\circ\text{C}$   
(0.1% for ranges of ref. No 8 and 9)  
max.  $\pm 0.25\%$  (MR) for the whole thermal compensation range  
(0.4% for ranges of ref. No 8 and 9)

**Thermal compensation range**  $-25...80^\circ\text{C}$

**Damping** of the sensing module 0.3 s  
added electronically 0...30 s

**Error due to  $U_{\text{sup}}$  changes** 0.002% (MR) / V

### Electrical parameters

**Power supply** 10...30 V DC (Ex version: max. 28 V)

**Output signal** 4...20 mA or inverse,  
two wire transmission

**Load resistance**  $R[\Omega] \leq \frac{U_{\text{sup}}[\text{V}] - 10\text{V}}{0.02\text{A}} \cdot 0.95$

**Resistance required for communication** 250...1100  $\Omega$

### Environmental conditions

**Ambient temperature limits**  $-25...80^\circ\text{C}$

**Process temperature limits**  $-25...95^\circ\text{C}$  (direct measurement)

Above  $95^\circ\text{C}$  only through remote diaphragm seals or instrument tubing

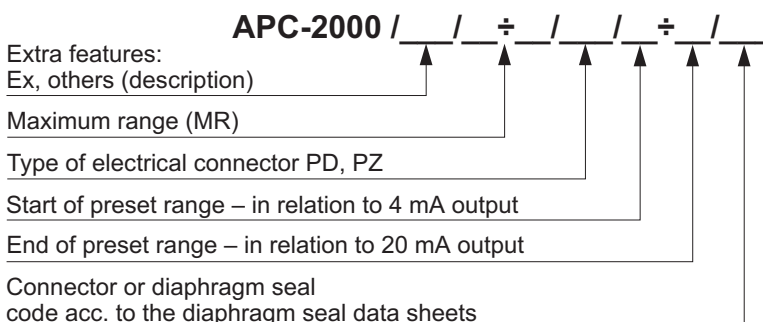
ATTENTION: Make sure no liquid can freeze in the instrument tubing or in your installation close to the transmitter!

**Diaphragm and Connector material:** 00H17N14M2 (316Lss), **Housing material:** 0H18N9 (304ss)

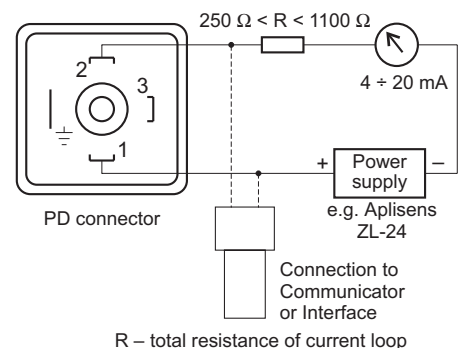
### Extra features, certificates:

- Ex – spark proof
- for other features phone us at: +4822 8140 777

## Ordering procedure



## Electrical diagram



**Example:** APC-2000 Pressure Transmitter / Ex version / maximum range: 0 ÷ 700 kPa ABS / PD connector / preset range: 0 ÷ 600 kPa ABS / process connector M20×1.5  $\varnothing$ 4

is ordered as: **APC-2000 / Ex / 0 ÷ 700 kPa ABS / PD / 0 ÷ 600 kPa ABS / M**

NOTE: if you order the standard version, which is always fitted with M pipe stub and PD electrical connector, you can use simplified notation, for example: **APC-2000 / 0 ÷ 2.5 MPa**