



OEM Ability!

RUSSIAN MANUFACTURER
OF PROCESS CONTROL INSTRUMENTS



ELEMER-AKD-12K
Industrial pressure controller

ELEMER-AKD-12K

Industrial pressure controller



Application fields:

- Calibration service companies
- Manufacturers of pressure transmitters and gauges
- Industry (laboratories, workshops and production facilities)

Features:

- Wide operating range — from -1 to 100 bar
- High precision — down to $\pm 0.01\%$ FS
- Stability — $\pm 0.005\%$
- Optional barometer (switchable gauge/absolute pressure)
- Built-in compressor — up to 25 bar
- Built-in vacuum pump

Design

High precision pressure controller **ELEMER-AKD-12K** performs fast and stable pressure control in wide range from -1 to 100 bar. It can contain up to 2 reference modules and an optional barometer for absolute, bi-directional and gauge pressure conversion.

The controller is equipped with a built-in high-precision HART-supporting calibrator for pressure transmitters.

It has 4 measuring channels for pressure transmitters with unified outputs and 8 discrete channels for relay testing.

The device is manufactured in a desktop design.

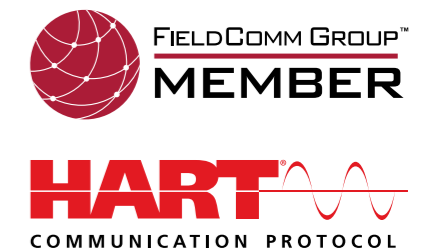


Functionality

A color touch screen with intuitive control ensures maximum simplicity of operation. Switching between the built-in reference modules can be automatic or manual.

The user can work in the following pressure setting modes:

- Input of the required pressure value (set point) by means of the touch screen
- Auto-step function per defined pressure values or in percent increment of calibrated transmitters span
- Initiation of user pre-programmed calibration and test algorithms



Options of pressure transmitters parameters input:

- Setting up by means of the touch screen
- Automatic HART reading

Additional capabilities of the built-in calibrator:

- HART configuration of pressure transmitters
- Automated HART tuning of the current loop generator in pressure transmitters
- Automated sensor calibration by HART protocol
- Relay testing

Calibration protocols:

- Automatic generation of the protocol immediately after calibration. Files can be copied to a USB flash drive;
- Calibrator control and obtaining of the protocol via personal computer software. Files can be printed immediately after calibration.

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General specifications

| | |
|--|---|
| Pressure measuring | Up to 2 reference modules + optional barometric |
| High-precision meter and source module (current loop, voltage measuring) | 4 measuring channels |
| Relay test | 8 discrete inputs |
| Built-in power source 24 V for current loop | for each measuring channel |
| HART ability | for each measuring channel |
| Pressure units | Depends of the market location |
| Design | Desktop case |
| Display | 7" colour LCD with resistive touch screen |
| Interface | USB (master, slave) |
| Pressure ports | 6 mm tube fittings |
| Pressure supply requirement | from 110 % Full Span to 200 bar |
| Pressure media | dry clean air |
| Filters | 10-micron filter on each pressure port |
| Case dimensions | 470 × 197 × 410 mm |
| Weight | 14...17 kg |

Reference sensors ranges

| | |
|----------------|------------------------------------|
| Gauge | from 0...1 bar to 0...100 bar |
| Bi-directional | from -0,1...0,1 bar to -1...25 bar |
| Absolute | from 0...1,2 bar to 0...25 bar |

Metrology specifications of reference modules (sensors)

| Order code | Range of installed modules | Accuracy |
|------------|---------------------------------|--|
| A0 | Full Span ¹⁾ | $\pm 0.01 \% P_{\max}^{2)}$ |
| A | from 0 to 40 % FS ¹⁾ | $\pm 0.01 \% P_{\max}$ |
| | from 40 to 100 % FS | $\pm 0.025 \% \text{ of measured value}$ |
| B | from 0 to 40 % FS | $\pm 0.02 \% P_{\max}$ |
| | from 40 to 100 % FS | $\pm 0.05 \% \text{ of measured value}$ |

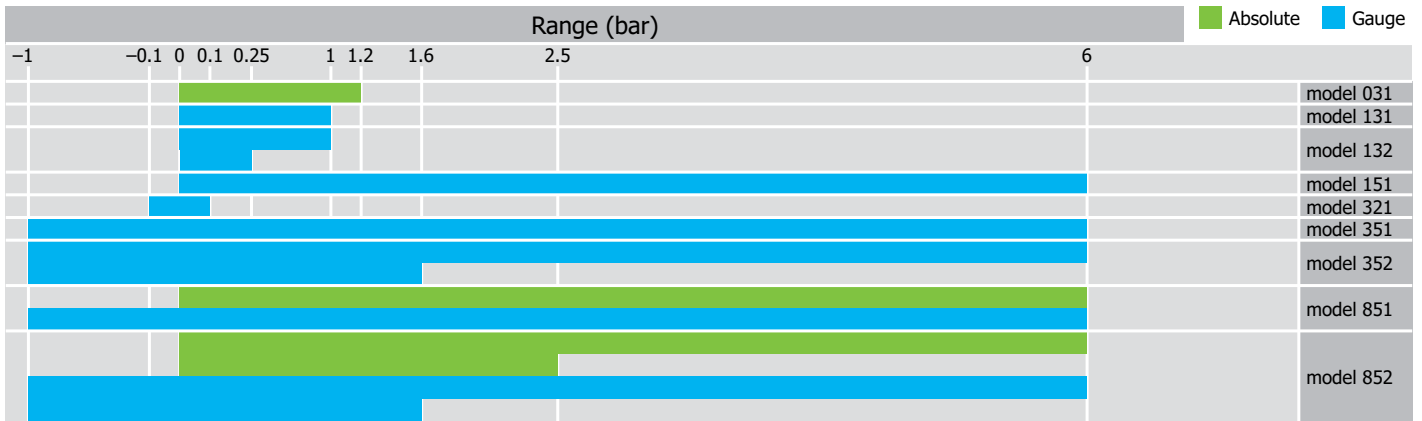
Full Span (FS) = maximum (end) of measuring range — minimum (start) of measuring range

P_{\max} = maximum of measuring range

Metrology specifications of high-precision meter

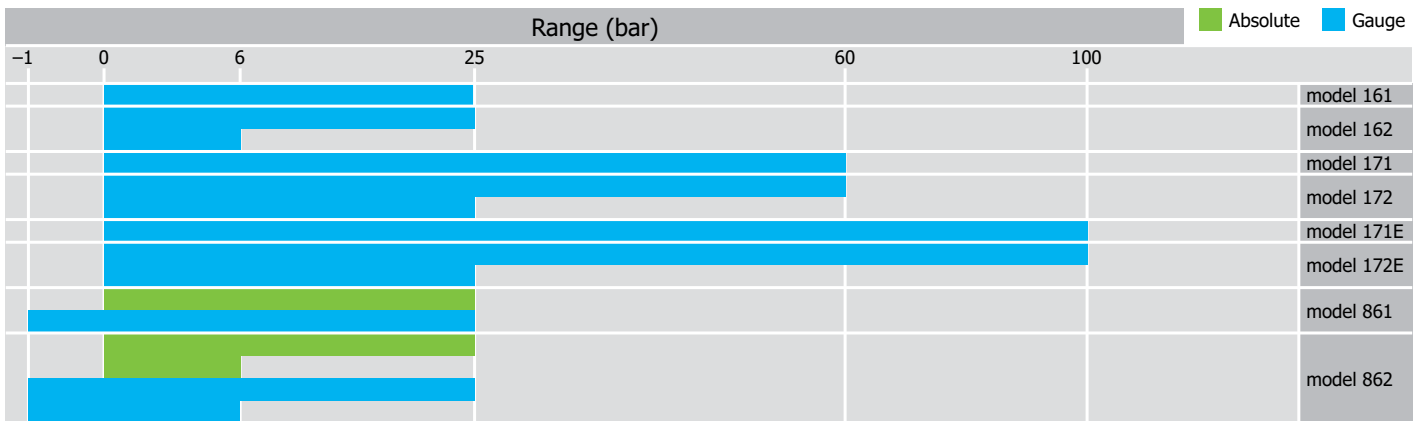
| Type | Range | Accuracy |
|---------|------------|---|
| Current | 0...25 mA | $\pm(10^{-4} \times I + 1) \mu\text{A}$ |
| Voltage | 0...100 mV | $\pm(7 \times 10^{-5} \times U + 3) \mu\text{V}$ |
| | 0...10 V | $\pm(12,5 \times 10^{-5} \times U + 5) \text{mV}$ |

Available low-pressure models



| Model | Pressure type | Pressure type | Range | Order code |
|-------|---------------|----------------|--------------|------------|
| 031 | absolute | 0...1,2 bar | — | A0, A, B |
| 131 | gauge | 0...1 bar | — | A, B |
| 132 | gauge | 0...1 bar | 0...0,25 bar | A, B |
| 151 | gauge | 0...6 bar | — | A, B |
| 321 | gauge | -0,1...0,1 bar | — | A, B |
| 351 | gauge | -1...6 bar | — | A, B |
| 352 | gauge | -1...6 bar | -1...1,6 bar | A, B |
| 851 | absolute | 0...6 bar | — | A0, A, B |
| | gauge | -1...6 bar | | |
| 852 | absolute | 0...6 bar | 0...2,5 bar | A0, A, B |
| | gauge | -1...6 bar | -1...1,6 bar | |

Available high-pressure models



| Model | Pressure type | Pressure type | Range | Order code |
|-------|---------------|---------------|------------|------------|
| 161 | gauge | 0...25 bar | — | A0, A, B |
| 162 | gauge | 0...25 bar | 0...6 bar | A0, A, B |
| 171 | gauge | 0...60 bar | — | A0, A, B |
| 172 | gauge | 0...60 bar | 0...25 bar | A0, A, B |
| 171E | gauge | 0...100 bar | — | A0, A, B |
| 172E | gauge | 0...100 bar | 0...25 bar | A0, A, B |
| 861 | absolute | 0...25 bar | — | A0, A, B |
| | gauge | -1...25 bar | | |
| 862 | absolute | 0...25 bar | 0...6 bar | A0, A, B |
| | gauge | -1...25 bar | -1...6 bar | |



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