

PIEZUS

CONFIGURATOR

ZCON 100

Operation manual and passport

www.piezus.ru



This manual covers ZCON 100 indicator (hereinafter referred to as "configurator" or "device"); it contains technical data, description of design and other information necessary for proper application and maintenance of the device.

Full name of the device for design documentation:

ZCON 100 configurator

Terms and abbreviations used in the manual:

Span – measurement range; LRL – lower range limit (a.k.a LRV);

1 Purpose of the device

1.1 Configurator allows changing operating parameters of multirange pressure transmitters: switching predefined spans, setting initial value of analog current output signal.

1.2 The device simplifies maintenance and servicing of multirange pressure transmitters made by PIEZUS.

2 Technical specifications

2.1 General technical data

2.1.1 Configurator has two modes of operation:

1) configurator calibration; 2) transmitter configuration: change of its span and adjustment of output signal zero deviation.

2.1.2 The device's housing is plastic; it has a 40 cm cable with DIN 43650 connector (see Figure A.1, Supplement A).

2.1.3 Overall dimensions, mm, max - 200×65×28.

2.1.4 Weight with batteries, max - 0.25 kg.

2.1.5 6 V autonomous power supply (4 AA galvanic batteries, 1.5 V), not included.

2.1.6 Housing ingress protection (GOST 14254) - IP40.

2.2. Operating conditions:

- enclosed explosion-proof spaces free from aggressive vapors and gases;
- ambient air temperature from -10 to +40 °C, relative humidity from 5 to 95% (no moisture condensation);
- atmospheric pressure from 84 to 106.7 kPa.

Resistance to atmospheric pressure puts the device in group R1 under GOST R 52931 (max height above sea level - 1000 m).

Resistance to mechanical attack puts the device in group N2 under GOST R 52931.

2.3 Electromagnetic interference resistance and emission

Electromagnetic emission: the device is a Class A equipment under GOST R 51318.22.

Electromagnetic interference resistance: the device is a class 3 equipment under GOST R 51317.4.3.

3 Safety precautions

3.1 The electric shock hazard class of the device is III (no dangerous voltage); see GOST 12.2.007.0 for full classification.

3.2 Take measures to prevent moisture from getting into the housing and onto connector pins.

4 Using the Configurator

4.1 Setup

There are control buttons and LED indicators on the front panel of the device; see Figure A.2, Supplement A for their description.

Connect configurator to electrical connector of the transmitter. Press ON/OFF button to switch the device on; internal checkup briefly lights up all indicators on the front panel. After the checkup, only indicators describing status of the configurator and the connected transmitter remain lit.

To switch the device off, press and hold the ON/OFF button for 4 seconds; POWER indicator flashes green and the configurator switches off.

Notes:

- 1) configurator switches off automatically after 3 minutes of inactivity;
- 2) POWER indicator flashing green after startup means batteries are depleted and need replacements;
- 3) ERROR indicator flashing red after startup means the connected transmitter cannot be configured;
- 4) LINK indicator flashing green after startup means the connected transmitter malfunctions or cannot be detected by the configurator;

4.2 Configuration mode

Changing transmitter's operating range

After startup, indicators of the available ranges light up green and indicator of the current range flashes: indicator 1 - largest range, indicator 2 - medium range, indicator 3 - smallest range.

Notes:

- 1) indicators 1 and 2 only light up if the connected transmitter is a dual-range device;
- 1) indicator 1 only light up if the connected transmitter is a single range device.

See the transmitter's label for its spans. Besides, you can learn the spans from the ordering code and the transmitter's specifications (available at the manufacturer's website).

To change the transmitter's span, press the button of the span you need set; its indicator starts flashing green, which means the desired range (span) has been set.



ATTENTION! To avoid emergency situations, always put a sticker with the new range on the transmitter's housing after changing it. Also, register the change by writing it down in the "Main technical specifications" section of the transmitter's passport (there is a field for that there).

Stickers are supplied with the configurator and can be supplied separately following your request.

Zero adjustment

In the course of operation, transmitter's zero (output signal) can deviate beyond its accuracy. Such a situation calls for adjustments.

Do the following to adjust zero of the transmitter's output signal:

- 1) supply pressure corresponding to the zero value of the transmitter's output signal;
- 2) press the PRESS TO TRIM ZERO button.

Zero adjustment takes about a second. During adjustment all indicators are off. When adjustment is complete, the indicators light up again, which signals completion of the procedure. In case of error, ERROR indicator flashes red.

4.3 Configurator calibration mode

In the course of operation, the measuring channel characteristic of the device may creep. Such a situation calls for calibration.

We recommend using FLUKE 705/709 or similar loop calibrators. Do the following to calibrate the device:

- 1) connect your configurator to the loop calibrator through DIN 43650 mating connector (pin 1: "+", 2: "-"), then switch both devices on;
- 2) switch the calibrator to the 4 mA current mode (as prescribed in its manual);
- 3) simultaneously press buttons 1 and 3 on the configurator and hold them for 5 seconds; indicators 1, 2 and 3 flash 3 times, signaling the beginning of calibration. Two flashes of indicators 1, 2 and 3 mark successful completion of the process.

If indicators 1, 2, 3 flash sequentially forwards and then backwards, the new current value for "zero" was not accepted (due to lack of signal from the calibrator) and the factory set value was restored.

5 Maintenance

Routine maintenance frequency - at least once a year; it includes calibrating the device.

Always follow safety precautions described in section 3 when doing maintenance.

6 Troubleshooting

Table 1 contains the list of problems that you can remedy without contacting the manufacturer.

Table 1 - Troubleshooting

Problem	Possible reason	Remedy
The device does not turn on.	Batteries are depleted	Replace batteries
ERROR indicator flashes red after a transmitter was connected to the device	The connected transmitter cannot be configured	Replace the transmitter
ERROR indicator flashes red zero adjustment	Zero deviation exceeds 5% / Pressure does not match LRL	Replace transmitter / set pressure matching LRL
LINK indicator flashes green	Transmitter not found or malfunctions	Replace the transmitter

7 Marking

The device bears a label (sticker on the back of the housing) that contains the following information (Figure 1):

- name of the manufacturer;
- name of the device;
- transmitter connector;
- rated supply voltage and its type;
- electric shock protection class (GOST 12.2.007.0);
- ingress protection (IP code) under GOST 14254;
- serial number, production date (month and year);
- bar code (QR code);

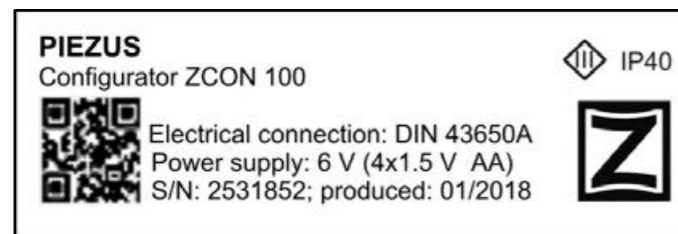


Figure 1 - Device label

8 Package contents

See Table 2 for delivery package contents.

Table 2 - Package contents

Name	Quantity
ZCON 100 configurator (batteries not included)	1 pc
Operation manual and passport (this paper)	1 copy
Set of labels for transmitters	1 pc

9 Transportation and storage

9.1 Transport in packaging; permissible temperature from -25 to +55 °C, relative humidity below 95% (at +35 °C).

9.2 Use roofed transport to deliver the device.

9.3 Store in packaging in closed warehouses; permissible temperature from 0 to +55 °C, relative humidity below 95% (at +35 °C). The air in the warehouse should be free from aggressive vapors and gases.

10 Manufacturer's warranty

10.1 The warranty period is 24 months from the date of sale.

10.2 If the device fails during the warranty period, the manufacturer shall repair or replace it free of charge, provided the customer observes the rules of transportation, storage, mounting and operation.

10.3 Please send your repairs-related inquiries to PIEZUS, to the address specified at www.piezus.ru.

11 Sale and acceptance certificate

ZCON 100 configurator, serial number _____, was manufactured and accepted as required by state standards; the device was acknowledged fully functioning.

Date of manufacture _____

QC seal _____ Sale date _____

12 Periodical calibration information

Calibration date	Next calibration	Full name	Signature

13 Resource and service life

13.1 Operating mode - short-term.

13.2 Mean time between failures: 120,000 h.

13.3 Service life - 12 years.

14 Disposal

14.1 The device contains no precious metals.

14.2 Dispose of as prescribed by regulations adopted by the operator.

Supplement A

Housing and controls



Figure A.1 - Exterior of the configurator

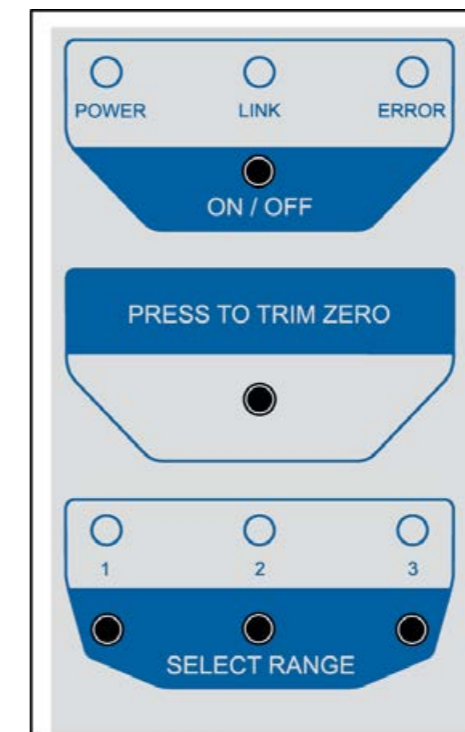


Figure A.2 - Controls descriptions (front panel)