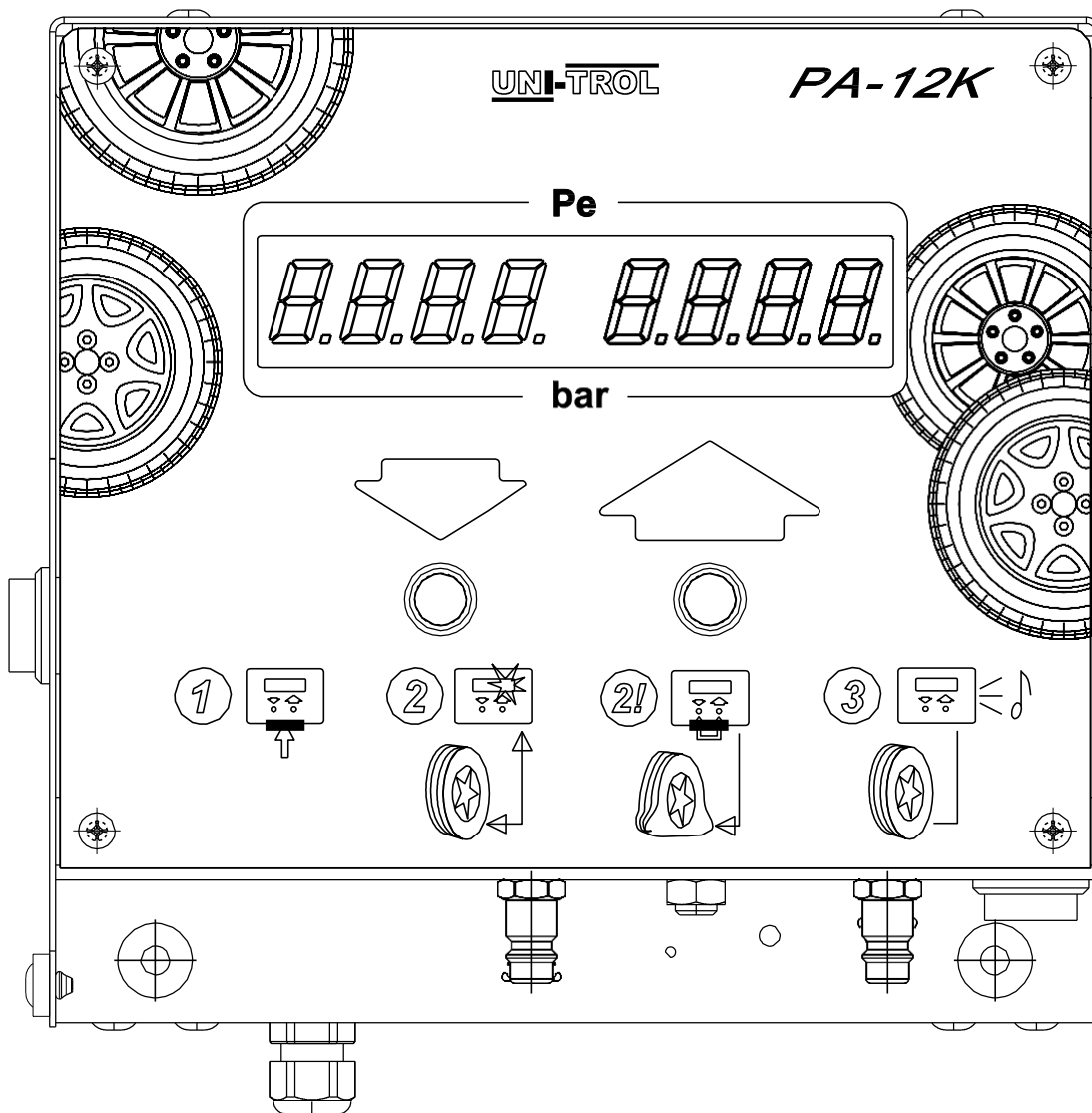




# TYRE PRESSURE MEASUREMENT AND CONTROL DEVICE

## PA-12K



OPERATING MANUAL  
TECHNICAL DOCUMENTATION DTR

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## ***UNI - TROL Sp. z o.o.***

**WYWAŻARKI KOMPUTEROWE I MONTAŻOWNICE DO KÓŁ  
WYPOSAŻENIE WARSZTATOWE  
WYPOSAŻENIE STACJI DIAGNOSTYCZNYCH**

\*\*\*\*\*

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# 1. GENERAL INFORMATION - PURPOSE

The PA - 12K device was designed for the tyres pressure measurement and control. Any other application of this device is improper and therefore forbidden. Before starting any work with the PA - 12K device, you should carefully read and understand the operating instructions and get acquainted with the user's workstand instructions placed on the device's front panel.

The producer and salesperson bear no responsibility for any injuries to persons or device damage resulting from improper device operation. The instruction manual should be kept in a place that is easily accessible during the PA - 12K device operation.

# 2. TECHNICAL DATA

electrical supply	230 V; 50 Hz	+10%; -15%
power consumption	30 VA	
pneumatic supply	max. 1.05 MPa	
measurement range	0 ÷ 0.99 MPa	
measurement precision	± 0.01 MPa	
device weight	10 kg	
dimensions (width/height/depth)	320 x 280 x 260	
temperature	0 ÷ +45°	
humidity	up to 95 %	
speech synthesizer	the device generates voice instructions and messages about emergency situations during the tyre pressure control	

### 3. EQUIPMENT - SPECIFICATION

The device is equipped with:

3.1. Pneumatic spiral conduit with double fitting for wheel tyre pumping(length -15m)	pcs - 1
1.2 Rubber conduit with a terminal to be put on a wheel valve	pcs - 1
1.3 Rigid conduit with two-sided terminal for pumping of twin wheel tyres	pcs - 1
1.4 Quick-change connector with a herringbone terminal for the connection of supply conduit	pcs - 1
1.5 Rubber hole plugs	pcs - 2
3.6. Fuse-element 500 mA	pcs - 1
3.7 Attached documents	
- instruction manual	pcs - 1
- conformity certificate	pcs - 1
- type approval decision	pcs - 1
- verification certificate	pcs - 1
- guarantee certificate	pcs - 1
3.8 Accessories	
Complete dehydrator filter intended for fixing directly on the device	pcs - 1

## 4. GENEAL SAFETY RULES

The PA -10K device should be connected to the installation equipped with protection contact and external supply voltage switch.

On the back side of the device housing there is a fuse-element with rated value of 500mA It is not permitted to use fuse-elements with different ratings in case of exchange.

In order to connect the device to the air supply network you have to use a pneumatic hose with 16 MPa strength and not longer than 15m.

## 5. STRUCTURE AND OPERATING DECSRIPTION

Any unauthorised change or constructional modification of the device, especially of the pneumatic, measurement and protection system, absolves the producer and the salesman from any responsibility.

The PA -12K is a stationary device adapted for fixing it to a vertical wall

On the front panel of the device there is:

a digital display

buttons for the adjustment of the requested pressure

a loudspeaker

At the bottom of the device housing there are two connection pipes intended for the supply and pumping conduits.

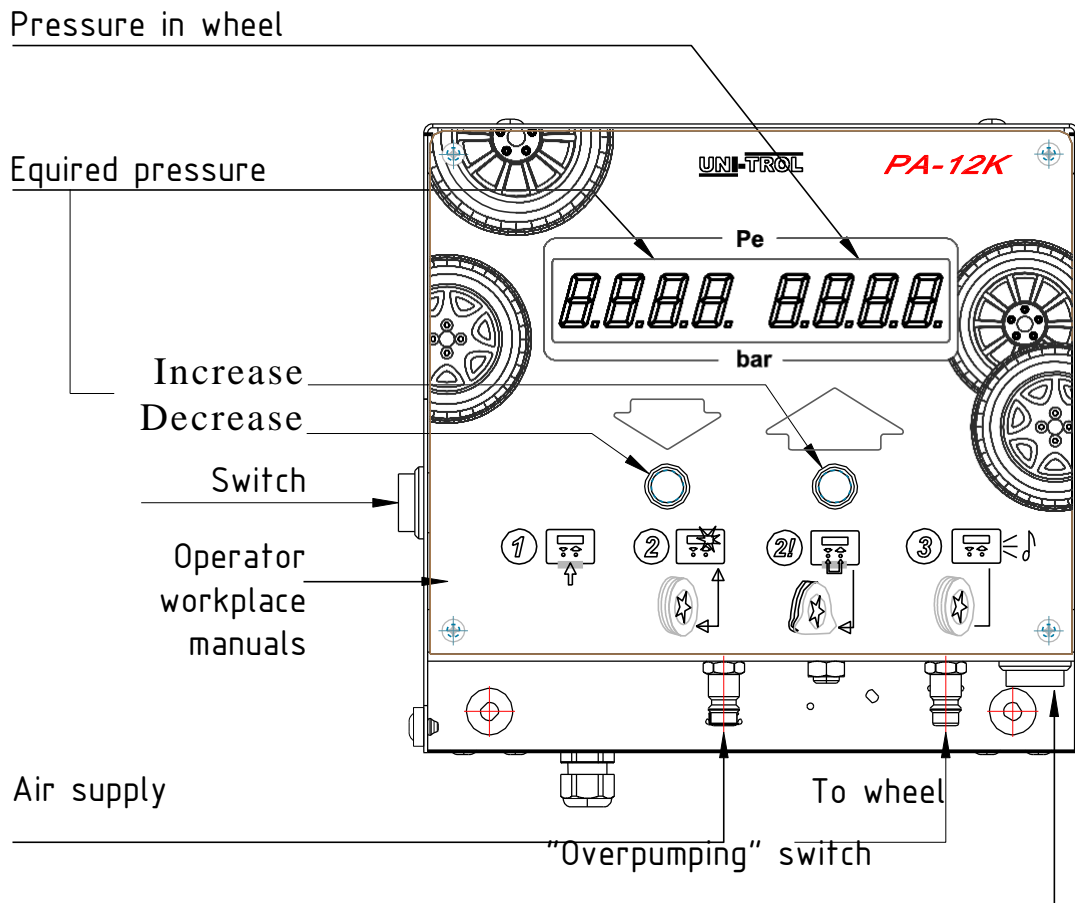
The four- digit display consists of two two-digit indicators. The left red-coloured indicator displays the requested pumping pressure and the right green-coloured indicator displays the current pressure value inside the pumping hose.

Pressure transducer enables accurate measurement of tire pressure. Two solenoid valves controlled by a microprocessor dose the air flow so that the tire pressure is balanced with the desired pressure.

**ATTENTION:**

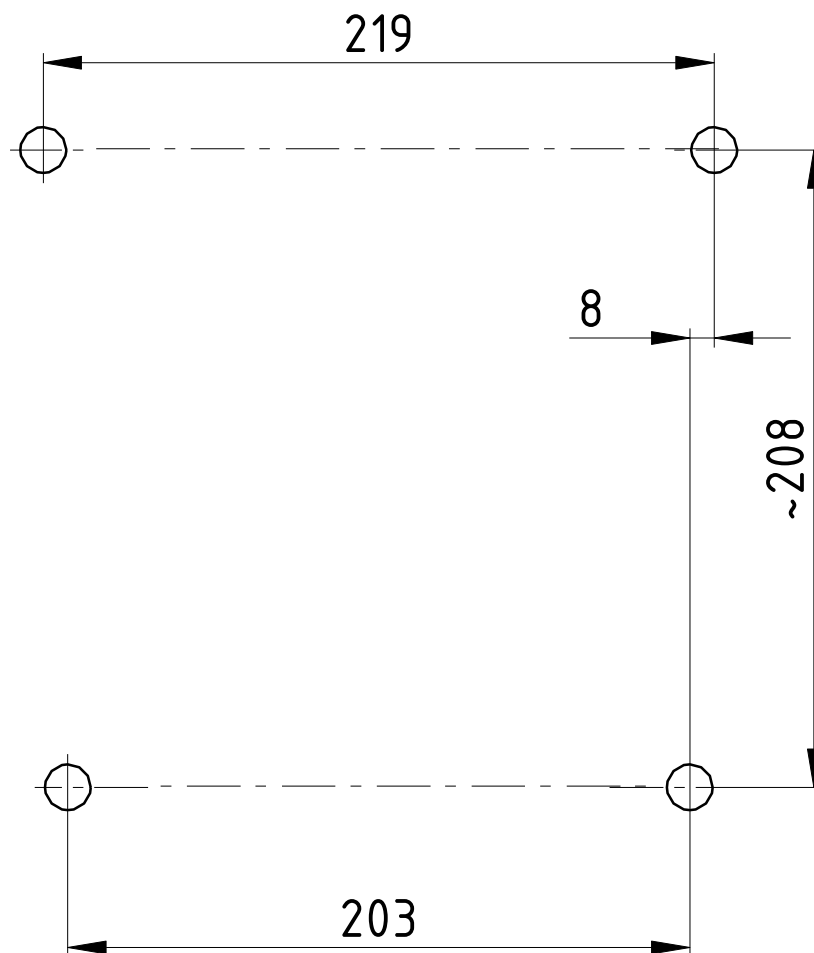
The supplied air pressure must not exceed 13 bar (1.3 MPa). The exceeding this value may damage the device.

Description of the device operating elements is shown in the following figure:



## 6.INSTALLATION

The device should be installed on a vertical wall in the neighbourhood of an electrical and pneumatic network. Four holes should be drilled according to the drawing below. The two upper points are used for hanging the housing (you can use hooks or bolts with large heads), the two lower ones are used for the attachment and immobilization of the housing



## 7. OPERATING MANUAL PA-12K

You should observe in full the sequence of device connection operations.  
The first thing to do is to switch on the air supply and after that the electrical supply

### 7.1. SWITCHING ON

After switching on the electrical supply, the device measures the supply pressure and stores its value. That is why it is impossible to set the requested pressure by means of control buttons if the supply pressure is not present (improper sequence of supply connections). In this case the device generates the message "OUT OF RANGE" because the requested pressure set on the device panel will always exceed the supply pressure. You should then switch off and on the device again in order to reset it.

### 7.2. WAITING MODE

After the supply connection there will appear the inscription PA-12K on the digital indicator. If we press any button the voice user's instructions will start. These instructions are also printed on the device front panel. By pressing any button we can stop the generation of these voice instructions and enter the readiness state.

### 7.3. READINESS MODE

The readiness state of the device is indicated by displaying the pressure value inside the pumping conduit on the right green indicator (if the pumping conduit is not connected to the wheel valve then this pressure value equals 00) and the requested pressure value on the left red indicator.

### 7.4. VOICE SYNTHESIZER SWITCH ON/OFF

The generation of voice messages can be turned on or off. If during switching on the electrical supply we hold down the pressure decrease button, messages "WILL BE TURNED OFF" will be turned on if we hold down the pressure increase button during switching on the electrical supply. The holding-down time of the buttons in both cases is 3s.



## 8.TYRE PRESSURE MEASUREMENT AND CONTROL

### 8.1. REQUIRED PRESSURE SETTING

#### **ATTENTION!**

**Supply pressure should be higher than the required pressure by at least 0.05 MPa.**

With the left button (arrow downwards) we decrease the pressure value and with the right button (arrow upwards) we increase it.

One single touch of a button results in the pressure change of 0.01 MPa Holding down a button for a while results in automatic repetition of its operation thus facilitating changes within higher range.

### 8.2 WHEEL PUMPING

After setting the pressure value to which the wheel should be pumped up. you have to put the pumping hose terminal on the wheel valve

**It is very important** to carry out this operation carefully. Any air leaks at the hose terminal are not permitted.

On the right (green) Indicator should appear the stable pressure value of the wheel

The device will start pumping if for a few seconds the pressure of the connected hose is stable, different from the pressure set on the left red indicator and higher than 0.03 MPa The 0.03 MPa limit was introduced to avoid pumping cycle start when the pumping hose is not connected to the wheel

When pumping the wheel that has zero pressure the pumping cycle is activated manually by pressing **both buttons simultaneously**

The start and the termination of the pumping cycle is confirmed by acoustic signals and voice messages.

The pumping cycle can be stopped by pressing any button. It is useful when we want to change the pressure during pumping cycle. In such a case the message of cycle interruption will be sent and the pumping cycle will be suspended If the pumping hose is still connected to the wheel the device will automatically restart its operation after a while

When the pressure of the pumped wheel reaches the requested pressure then the pumping cycle is terminated (both indicators, red and green, display the same value).

### 8.3 FAILURE ALARM

The PA-12K device controls the pumping process and in case of any irregularities stops the process and signals them with a message The failure situations are signalled in the following cases

- 1 if during the pumping cycle it is detected that the current pressure is lower than the pressure before the pumping cycle start.
- 2 if after bleeding the pressure has increased.
- 3 if during the pumping cycle, after five trials, the wheel pressure has not changed
- 4 if there is no supply pressure.

The supply pressure is additionally controlled by the maximum pressure limit which can be set to the value lower than the supply pressure by 0.05 MPa. Any attempt to exceed this value will generate the message "out of range" and the maximum requested pressure value remains unchanged.

#### 8.4."OVERPUMPING"

For wheels pumped up to max. 2.8 bar pressure it is possible to activate the function

"Overpumping". In this mode the wheel is pumped to a pressure of 3.5 bar and then the device reduces the pressure in the wheel to the one set on the display. This function is activated by a switch located at the bottom of the device (see the drawing on page 6)

## 9. OPERATIONAL REQUIREMENTS AND REMARKS

### ATTENTION !

### IMPORTANT !

The air supply installation is equipped with a dehydrator filter 10 pm which should be placed as near as possible to the device (directly on it if possible). Users of air installations most frequently apply one filter placed at the compressor It does not protect the device valves from any impurities which can be found in the supply air pipes (rust pieces). In this case it is necessary to place an additional filter **directly by the device**.

**Maximum pressure of the installation 1.05 MPa**

**Length of the pumping hose up to 15 m**

- The device can be installed outdoors but should be protected from direct influence of the atmospheric conditions. It is not recommended to locate the device in a very sunny place because it can result in overheating or making it difficult to read display indications.
- Switching on the device, **the first thing to do is to switch on the air supply and thereafter the electrical supply** (the device measures the supply pressure directly after switching it on)  
It is very important that the hose terminal is correctly put on the valve during wheel pumping Any irregularities might lead to the loss of the device synchronisation That is why it is recommended to keep the hose terminal in a good technical condition
- It is not recommended to use a too long pumping hose The device can handle any hose but the pumping process will take more time.
- It is not recommended to put on the hose any pumping guns or tips with a stop valve
- After the removal of the wheel the pumping hose must be **open** (zero pressure). It is necessary for the correct operation of the device

## 10. TROUBLESHOOTING

Malfunction type	Solution
After switching on the supply the device shows no sign of operation. Dark display	Check the supply voltage and the device fuse If the supply voltage is correct and the fuse is good then transfer the device to the service.
After switching on the supply, with the wheel being disconnected (pumping hose pressure equals zero), the right indicator shows non-zero value.	Carry out service zeroing of the device See the description in this manual. If it does not help transfer the device to the service
After pressing the increase button (arrow upwards) the device shows no reaction or displays "out of range"	Check the supply pressure - it is too low or was zero when the electrical supply was switched on. Initialize the device by momentary switching off the electrical supply").
The pumping cycle and the stabilisation time of the pumping hose pressure are too long. This can result in failure signalling	Incorrect connection of the hose terminal and the wheel valve or faulty valve Correct the connection or exchange the valve.
Audible hiss of the air escaping from the device interior Possible maladjustment of the device.	Leak or impure valves Transfer the device to the service

\*) If the device is permanently connected to the electrical network and momentary switching off the supply is troublesome then you can initialise the device by quick multiple (3-4 times) pressing, without holding down, simultaneously both buttons of the requested pressure control.

## **11. PACKING - TRANSPORT**

The device is packed in a carton protecting it from mechanical damage during transportation.

## **12. WARRANTY - SERVICE**

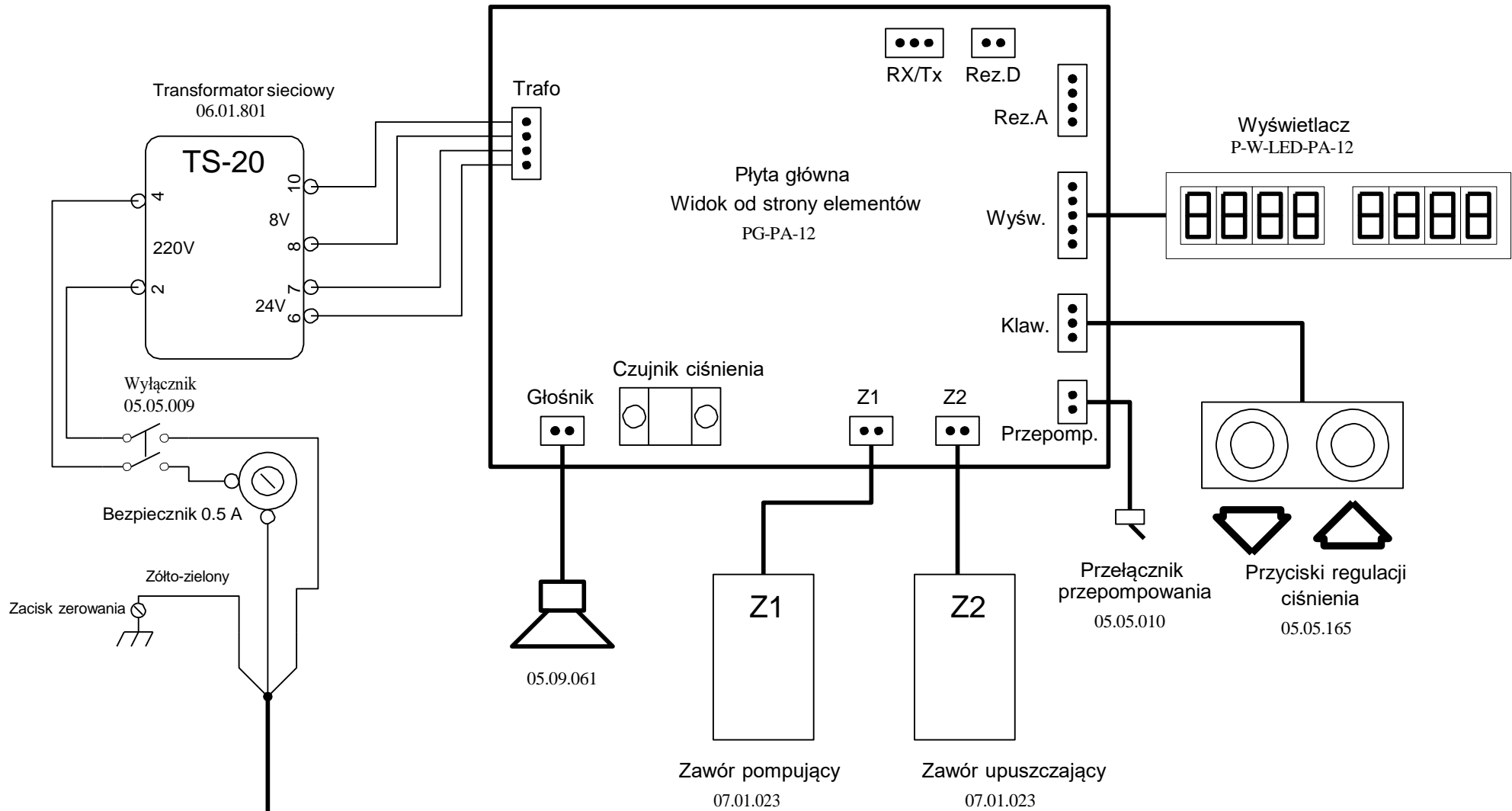
All repairs are carried out by the manufacture. Any repairs carried out by the user without prior notification to the manufacturer results in the loss of guarantee The warranty period of the PA-12K device is 12 months.

### 13. SPARE PARTS LIST

- |                             |                 |
|-----------------------------|-----------------|
| 1. Valve of EVT 307 type    | no. 07. 01. 008 |
| 2. Display panel for PA-10K | no 06 03 020    |
| 3. Mam panel for PA-10K     | no. 06. 03 019  |
| 4 Loudspeaker GD 10/2       | no. 05. 09 061  |
| 5. Transformer TS-20        | no. 06. 01. 801 |
| 6. Push-button              | no. 05. 09. 164 |

### 14. PERIODICAL OPERATIONAL INSPECTION

The device should have a valid verification certificate. If within the certificate validity there appears suspicion that manometer's deviations exceed the limits of admissible deviations then you have to check the correctness of device indications on your own or send the device to the producer.



PA-12K – electrical scheme

# **WORKPLACE MANUAL**

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## **PA-12K**

Set the wheel pressure with buttons up ▲ o r  
d o w n ▼ .

Left (red) indicator shows the required pressure.

Put the tube end on wheel valve.

Right (green) indicator shows the wheel  
pressure.

Pumping starts automatically if pressure in the  
wheel differs from the required one.

Press both buttons simultaneously to pump  
the wheel of pressure less than 0,3 bar (0,03  
MPa).

Sound signal indicates the end of pumping (both  
indicators show the same value).