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## CLI-01 PULSE METER



5 9 0 8 3 1 2 1 5 9 1 7 6 4

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F&F products are covered by an 24 months warranty from date of purchase

### PURPOSE

Pulse meter is intended for counting AC/DC voltage signals, generated by additional peripheral devices in order to determine the number of carried out working cycles in automatic systems, e.g. in order to control the number of press strokes, the number of revolutions of a rotating device, the number of components leaving the production line, etc.

### METER FUNCTIONS

- control panel, enabling programming and the monitoring of device operation
- T input, adapted for operation with AC/DC signal, 5 to 264V amplitude and 50 Hz frequency for AC and 5kHz for DC signals
- possibility to set THRESHOLD parameter (1+99 999 999 range), specifying the limiting number of pulses counted in a single operation cycle

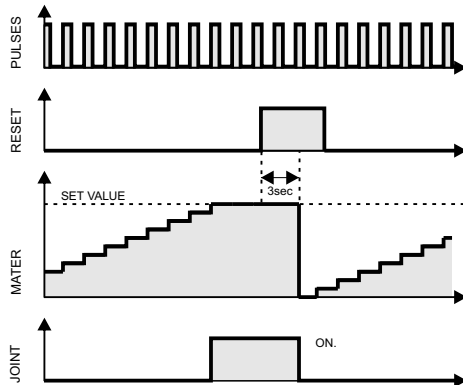
UP and DOWN - to select the next position of menu, and to increase or decrease value of editing parameter.

OK - pass to chosen position of menu and to enter changes

RESET - resetting to the current meter cycle. In programming mode allows return to main menu. If the RESET button is pressed while editing a parameter, it goes out from edit mode without saving changes.

### FUNCTIONING

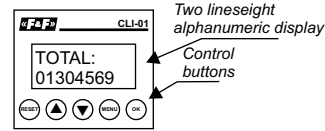
Meter CLI-01 is a one-way meter which counts up. Pulses are counted from zero to a value set by the user.



- external RESET input
- relay output signaling the preset meter state (contact 1 C/O 8A)
- local counter, reset using the external reset input or using RESET button
- total counter for all impulses (loop mode 0 → 99 999 999 → 0 → ... or reset using the meter configuration menu)
- digital filter, enabling the limiting of maximum frequency of the counted pulses (in order to reduce interferences on meter input)
- local and total meter state memory after supply failure
- program menu in three languages: Polish, English or Russian

### Description of display and control panel

The services and programming meter CLI-01 is used mounted on the casing front panel control. It consists of a two lines, eight alphanumeric display, and placed under it keyboard with five buttons.

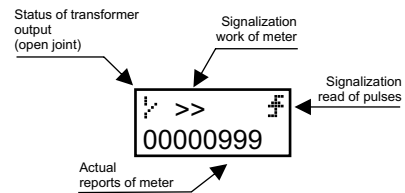


Display present information about the current state of work, and in programming mode allows the configuration of the meter parameters. The buttons on the control panel, perform the following functions:

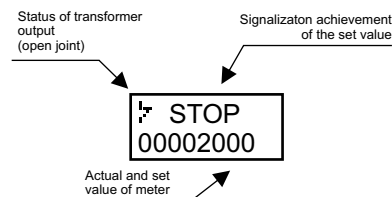
### Button functions:

MENU - pass to programming mode. In the case that the meter is working in the editing parameter mode, of a number, press this button to go to the next edition of the digits.

Device status is indicated by messages on the display. During the counting of pulses on the display, see the following information:

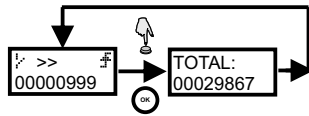


The achievement of the set value is indicated by closure of relay joints. At the same time stops counting pulses, the illumination of display blinking three times, and the display shows the message STOP.



The start of a new cycle is possible only after reset meter from the control panel by pressing the RESET button, or via an external reset input. To protect the system against accidental erasure state of the counter, a zero signal is activated only after three seconds after pressing the RESET button or give a signal to enter reset.

Behind of local meter which is reset after work the button RESET the system is equipped with a total count, which caunt all pulses and reset in a cuse when get full or reset from main menu. To read the value of the total meter, press OK.



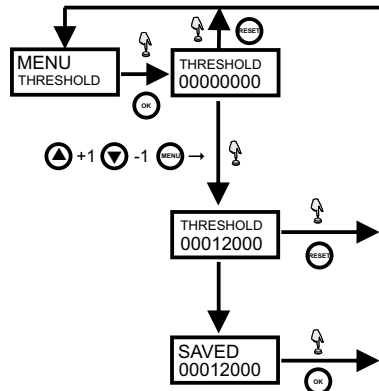
**ATTENTION!**

Counter stores its current state after turning off the voltage. This means that after you re-enable system restore is fed both the meter and the total meter, as well as the transmitter output.

**PROGRAMMING**

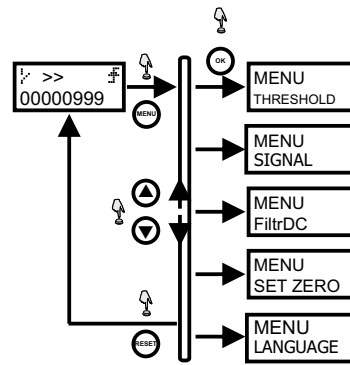
Meter configuration is make by a control panel with a keyboard and display. Passing the programming mode the meter is done by pressing the MENU button.

The parameter changes are indicated by the message saved and given the value of the parameter. In edit mode, you can return by pressing the RESET button, which will result in the abandonment of the changes and return to main menu



**2. Signal (INPUT)**

Menu signal determines whether to implement the counter counting pulses of DC signals or signals for the AC (with a maximum frequency of 50Hz). How to set the measured signal is presented in the following picture:



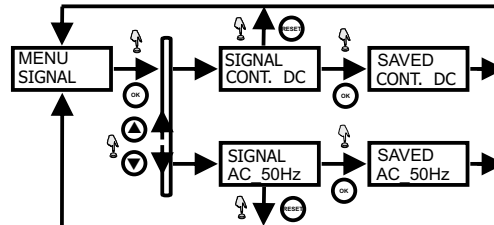
To select menu use buttons UP or DOWN. Pass to chosen menu is possible by pressing button OK. Return to main menu is make by pressing button RESET.

**Menu of meter**

**1. Threshold**

This parameter determines the number of pulses which to be count in each cycle.

After selected the menu Threshold, press OK. Meter goes into edit mode, and the digit being edited is indicated by pulsing cursor. Use the buttons UP and DOWN to set a value on an item number, then use the MENU button to move the cursor to the next digit. After setting all the required numbers, enter a new value by pressing the OK button.



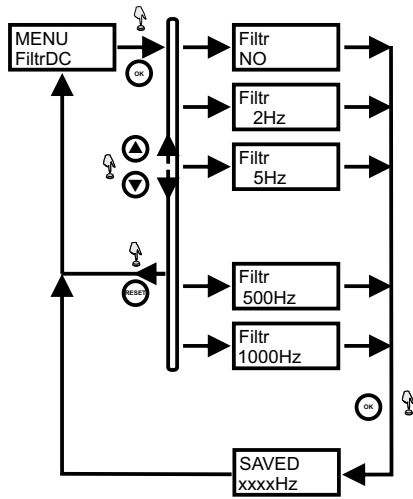
After select a menu signal, press OK. Then, using the UP and DOWN buttons to select the appropriate type of signal and enter the selection with the OK button. Entered message is the record of the name stored measured signal. Exit menu without saving the changes implemented by pressing the RESET button.

**ATTENTION!**

Choosing the type of count input signal is also the choice of type signal for the RESET input.

**3. FiltrDC**

FiltrDC menu is used to define the parameters of the internal digital filter. It can help reduce frequency counting pulses to the set value, and thus reduce the possibility of wrong work of system caused by interference, such as by contact vibration systems. Diagram of the digital filter configuration is presented in the following picture:

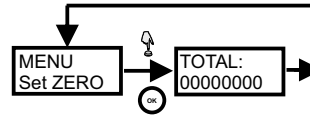


After you select a menu FiltrDC press OK. Then, using the UP and DOWN buttons to select the appropriate frequency filtering and approve it OK. Exit menu without saving changes is possible by pressing the RESET button. Set the menu item in FiltrDC doesn't mean exclusion of the internal filter. FiltrDC doesn't work if you set the meter to the signal AC\_50 Hz.

#### Set ZERO

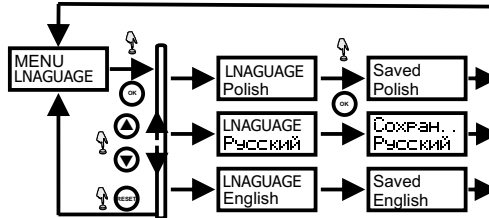
This menu is use to reset value of total meter.

Pressing the OK button will reset reports of total meter to without any additional enter.



#### LANGUAGE

This menu make possibility to choose language in wich will display information .You can choose polish, english, russian language.



To change the language, select the menu language and press OK. Then, using the UP and DOWN buttons to select the language. Enter by OK. Confirmation of changes is displayed in a new language set, which is shown in the above picture. To exit the menu without saving changes is possible by press the RESET button.

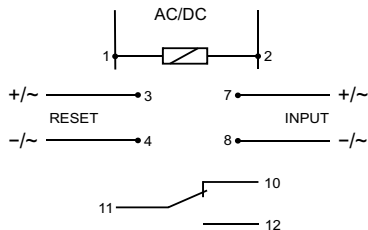
#### ASSEMBLY

1. Take OFF the power switchgearbox in which the device is attached. 2. Put the device to the rail.
3. Connect the power cables to joints 1 and 2.
4. Connect other cables with wiring diagram. Please note that in the cause of work with DC signals, it is important to preserve the appropriate polarity.

#### TECHNICAL DATA

supply	24±264V AC/DC
INPUT: voltage - low status	0+5VAC/DC
voltage - high status	10+264VAC/DC
frequency for signal DC	<5kHz
frequency for signal AC	<50Hz
RESET: voltage	24±264V AC/DC
current load of joint 1P	8A
power consumption	1,5W
working temperature	-20+50°C
connection	screw terminals 2,5mm <sup>2</sup>
dimensions	3 modules (52,5mm)
fixing	on rail TH-35

#### WIRING DIAGRAM



#### ATTENTION!

Do not make yourself any change in the device. It may cause damage to equipment or improper work, which can lead to damage of the controlled device, and the risks for people handling. In such cases, the manufacturer is not liable for any event and may refuse the warranty given to the relay in case of filing a complaint.