

TI08 is an economical 4-digit programmable process indicator / trip alarm unit with an input for linear current, voltage, and resistive signals. The device can be ordered with up to 2 relay outputs and for mains or low-voltage AC/DC supply.

Electro-Magnetic Interference (EMI) Issues

Important note:
A built-in RC noise suppression circuit is connected in parallel with relay contacts. Full AC voltage isolation is NOT provided when relay contacts are open. Small AC current (≈ 1.5 mA at 230 VAC) still flows through the RC circuit!

- ◆ All signal wires must be shielded. They must not be packaged together with power cables!
- ◆ Never lay the signal wires close to inductive or capacitive noise sources, such as relays, contactors, motors, etc.!
- ◆ All shields have to be grounded ONLY at one end, as closer as possible to the indicator terminals!
- ◆ Avoid sharing supply lines with powerful consumers, especially with inductive loads, switched on and off.
- ◆ To stop unwelcome interference signals entering through the power supply lines, use shielded 1:1 isolation transformer!
- ◆ Shunt all switched (not only those switched by the indicator) inductive consumers with special suppression networks: RC group and varistor - for AC loads, or diode - for DC loads.
- ◆ If the indicator operates in a very powerful EMI area, it has to be mounted inside a grounded metal shielding box!

Mounting

- ◆ Place TI08 into an appropriate panel cut-out.
- ◆ Tighten it into place using the enclosed mounting bracket(s).

Input Filtration

Low-pass filter

This first-order filter acts ONLY within a certain band around filter output value. This has been designed to cut periodic noises outside the communication signal spectrum.

- ◆ Filter operation is defined by two parameters: **Filter Time** (defines filter time constant) and **Filter Band** (defines filter active band around filter output value).
- ◆ If the newly measured value differs from the filter output by more than **Filter Band**, the filter resets with a new initial output value (newly measured value).

Error Messaging

- ◆ g++7 (over range) - display value over Input High + 10 or sensor damaged.
- ◆ L_V (under range) - display value below Input Low - 10 or sensor damaged.

Under-range messages are not displayed

Declaration of Conformity



We hereby declare that this device has been manufactured in compliance with standards EN 61010 and EN 61326, and meets the requirements of Directives 2004/108/EC, 2006/95/EC and 2011/65/EC.

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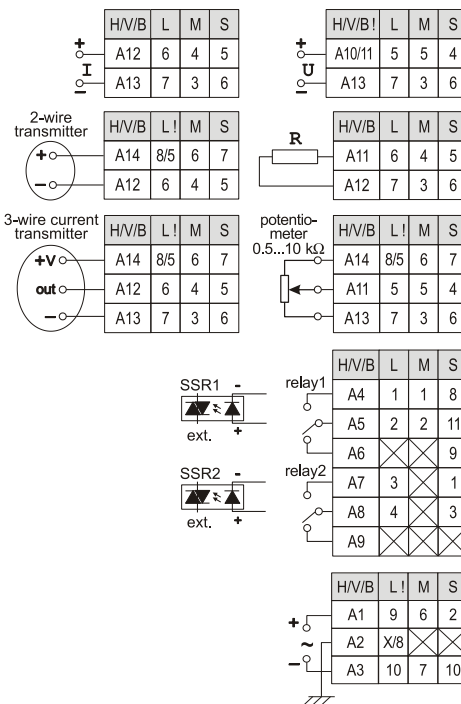
Waste Disposal



Do not dispose of electronic devices together with household waste material!

If disposed of within European Union, this product should be treated and recycled in accordance with the laws of your jurisdiction implementing the WEEE Directive 2002/96 on the Waste Electrical and Electronic Equipment.

Wiring



Input signal wiring
Connect the input with regard to its type through the respective and depending on the case type (see 'Specifications') terminals. Voltage transmitters must be powered from external sources!









Output wiring
Connect the outputs with regard to their types (see 'Specifications') via the respective terminals.

Power supply wiring
Connect the right power supply voltage for your device (see 'Specifications').

- Important notes:**
- ◆ With cases 'B', 'H', and 'V', use terminal A10 for range 0...10 V, and terminal A11 – for other.
 - ◆ In case of a TI08-L with 90...250 VAC/DC power supply, use terminal 8 for grounding, and 5 – for input wiring, and adjust the jumper as shown on the device label.
 - ◆ Connecting a potentiometer requires excitation voltage of 5 V, 10 mA (see 'Specifications').


Parametric level

This level contains the control algorithm parameters. If no alarm output is installed, this level does not show up.

- ◆ Enter from Basic level by pressing  and holding  until PAr appears on the display. Release the key. If the key is not released on time, T108 enters Configuration level.
- ◆ Choose a parameter using  and .
- ◆ To enter parameter value adjustment mode, press .
- ◆ If no key has been pressed for a while, the device automatically returns to Basic level, storing all confirmed changes.
- ◆ To exit, select parameter rtn and press .
- ◆ For quick exiting and saving, use key combination  + .

Configuration level

This level contains the configuration parameters of the device.

- ◆ Enter from Basic level by pressing and holding  until con appears.
- ◆ To access and adjust the configuration parameters, follow the algorithm described in 'Parametric level'.

Value	Unit	Notes
0, 0.0, 0.00, 0.000	-	when indicating values with the input-signal measurement unit (ISU)
u10, u5, i0, i4	-	u10 (0...10 V), u5 (0...5 V; potentiometer 0.5...10 kΩ), i0 (0...20 mA), i4 (4...20 mA)
-1999 ... 9999	ISU	
-1999 ... 9999	ISU	
-1999 ... 9999	ISU	OFFSET
0 ... 255	-	higher value for better filtration
0 ... 3000	-	
no, YES	-	For authorized personnel ONLY!
-	-	
0 ... 9999	ISU	
0 ... 9999	ISU	
0 ... 9999	sec.	
0 ... 9999	sec.	
++L_ _V++	-	++L_ (relay ON under set point), _V++ (relay ON over set point)
0 ... 255	sec.	Value '0' disables Pulse mode.
0 ... 255	sec.	Value '0' disables Pulse mode.
0 ... 9999	ISU	
0 ... 9999	ISU	
++L_ _V++	-	++L_ (relay ON under set point), _V++ (relay ON over set point)
-	-	
-1999 ... 9999	ISU	within operating range limits Input Low ... Input High
-1999 ... 9999	ISU	within operating range limits Input Low ... Input High
d"EY, ESP, E"EY	-	d"EY (keyboard disabled), ESP (only set-point adjustment enabled), E"EY (keyboard enabled)
-	-	

E.g.: changing Point Position value from (x1) to (x0.1) would change a Set-point value

and Input High, check the PV(100%) value when potentiometer slide is positioned at 100%. set new Input High value as calculated by the formula:

Indicator parameters

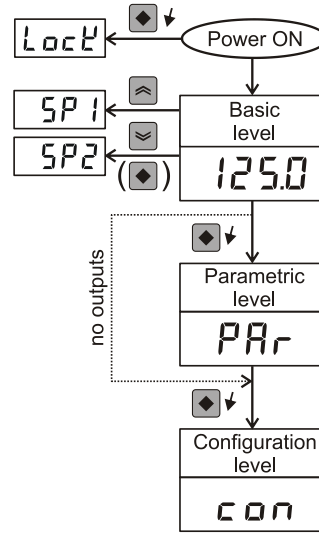
TI08 is a programmable device whose service behavior is determined by a set of parameters. All the parameters, along with their names, symbols, and value ranges, are given in Table 1.

Setting numerical parameter value

- ◆ Enter parameter value adjustment mode (see 'Program Levels').
- ◆ The whole part of the value together with the left zeroes appears on the display, and the rightmost digit blinks.
- ◆ To increase or decrease the blinking digit value, use respectively or .
- ◆ The 3 rightmost digits can accept values from 0 to 9, and the leftmost digit can also accept the values '-' and '.'.
- ◆ To select another digit, press .
- ◆ Confirm the adjusted value by pressing simultaneously + .
- ◆ If the new value has not been confirmed and no key has been pressed for a certain period of time, value adjustment automatically ceases, and the parameter retains its initial value.

Setting symbolic parameter value

- ◆ Enter parameter value adjustment mode (see 'Program Levels').
- ◆ Read the blinking parameter value.
- ◆ To change the value, use and , and to confirm, press + .
- ◆ If the new value has not been confirmed and no key has been pressed for a certain period of time, value adjustment automatically ceases, and the parameter retains its initial value.



Programming order

- ◆ Unlock the keyboard;
- ◆ Set the parameters from Configuration level;
- ◆ Set the parameters from Parametric level;
- ◆ Adjust alarm set points;
- ◆ Lock the keyboard (if needed).

Hidden level

- ◆ Hold depressed while turning the power on and until 'Loc' appears.
- ◆ Set keyboard locking mode.
- ◆ To exit, use or to select parameter rtn, then press .

Basic level

- At power-on, TI08 enters Basic level. At this level, the device indicates the measured input value (PV) with a resolution, according to the Point Position parameter.
- ◆ To enter parameter value adjustment mode for Set Point 1, press .
 - ◆ To enter parameter value adjustment mode for Set Point 2, press + for cases 'L' and 'M'.