

## Measuring instantaneous values of voltage **MN8I, MN8IP**

The MN8I and MN8IP mezzanine modules are designed for measuring instantaneous voltage values via differential channels isolated from each other and control circuits.

Mezzanines perform measurements in the following modes:

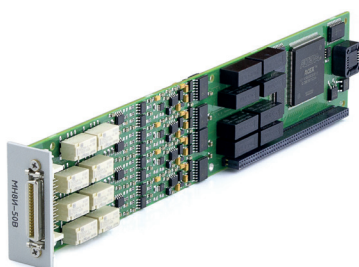
- "One-time" - a single measurement is performed on all channels;
- "Block" - measurements are performed until a pre-set number of samples (results) is received on all channels;
- "Continuous" - measurements are performed on all channels in a continuous loop until the stop command is received

The input lines of the measuring channels provide the possibility of software-controlled connection and disconnection of the control object. Checking the main technical characteristics in self-monitoring mode.

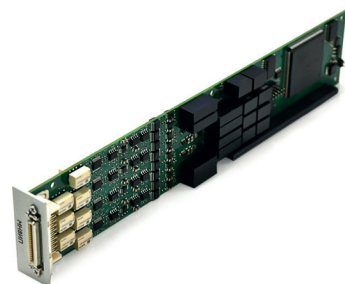
The measuring circuits are galvanically isolated from the housing. Electrical insulation strength of the galvanic isolation is not less than 200 V. The isolation resistance of the galvanic isolation is not less than 20 MOhm. In the off state, all input lines of the mezzanine are galvanically isolated from each other. Electrical insulation strength of the galvanic isolation is not less than 150 V. The isolation resistance of the galvanic isolation is not less than 20 MOhm.

### Specifications

**MN8I-50V  
MN8I-10V  
MN8I-0,1V**



**MN8IP**



Number of measurement channels	8	
The number of bits of the ADC	18	
Measuring range	MN8I-50B: -50 to +50 V MN8I-10B: -10 to +10 V MN8I-0.1 B: -0.1 to +0.1 V	from - 10 to + 10 V; from - 1 to + 1 V; from - 0,1 to + 0,1 V.
Maximum allowable input voltage	MN8I-50B: not less than-75 V, not more than 75 V MN8I-10B: not less than-35 V, not more than 35 V MN8I-0,1B: not less than-35 V, not more than 35 V	not more than 25 V
Hardware averaging of measurement results of the voltage	Number of averages from 1 to 16383 in increments of 1	
Limits of the permissible basic relative error of voltage measurements for all measurement ranges with a minimum sampling period and at an ambient temperature of $+(20 \pm 2) ^\circ\text{C}$	$\pm[0,025 + 0,025 (U_M/U_x - 1)]$ , % where $U_M$ is the value of the upper limit of the range; $U_x$ is the measured value	<ul style="list-style-type: none"> <li>• <math>\pm [0,030 + 0,015 \times (U_M/U_x - 1)]</math> for the range from -10 to 10 V;</li> <li>• <math>\pm [0,030 + 0,015 \times (U_M/U_x - 1)]</math> for the range from 0 to 1 V;</li> <li>• <math>\pm [0,060 + 0,030 \times (U_M/U_x - 1)]</math> for the range from -0.1 to 0.1 V,</li> </ul> where $U_M$ is the value of the upper limit of the range; $U_x$ is the measured value
Bandwidth of measurement channels at the level of -3 dB and with a minimum sampling period, kHz	( $2.1 \pm 0.3$ ) for MN8I-50B; ( $16 \pm 2$ ) for MN8I-10B; ( $13 \pm 2$ ) for MN8I-0.1 B.	( $31 \pm 2$ ) kHz
Input resistance of the measuring channel	1 MOhm	
Sampling period	from 5 ms to 82 ms in increments of no more than 5 ms, from 82 ms to 1 s in increments of no more than 100 $\mu\text{s}$	