

AC Current transducer AT-B10

Split-core transducer for the electronic measurement of AC waveform currents, with galvanic isolation between the primary circuit (power) and the secondary circuit (measurement). 0-10V DC voltage output proportional to the RMS value of the primary current.



Electrical data

Primary nominal current rms I_{PN} (A.t.Rms)	Output voltage V_{OUT} (V DC)	Type
5	0-10	AT 5 B10
10	0-10	AT 10 B10
20	0-10	AT 20 B10
50	0-10	AT 50 B10
100	0-10	AT 100 B10
150	0-10	AT 150 B10

R_L	Load resistance	≥ 2	M Ω
V_C	Supply voltage		self-powered
V_{SZ}	Output clamping voltage	15	V
$\hat{I}_P$	Overload capability - continuous	120	% of I_{PN}
	- 1 min	150	% of I_{PN}

Performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ (excluding offset)	$< \pm 2$	% of I_{PN}
e_L	Linearity error	$< \pm 0.5$	%
t_r	Response time to 90% of I_P step	< 300	ms
BW	Frequency bandwidth	50/60	Hz

General data

T_A	Ambient operating temperature	- 20 .. + 60	°C
T_S	Ambient storage temperature	- 20 .. + 85	°C
m	Mass	90	g
IPxx	Protection degree	IP40	

$$I_{PN} = 5 \dots 150 \text{ A}$$



Features

- RMS (average) output
- 0-10V DC voltage output
- Split-core type
- $\varnothing$ 16 mm sensing aperture for non-contact measurement
- Terminal output
- Isolated plastic case recognized according to UL 94-V0.

Advantages

- High isolation between primary and secondary circuits
- Compact case
- Cost-effective solution
- Easy installation

Applications

- **Automation and Supervision**
Current measurement for process regulation by distributed PLCs or remote control (e.g. SCADA software)
- **Safety and Condition Monitoring**
Load monitoring for protection systems and predictive maintenance (e.g. conveyers, pumps or HVAC motors)

Application domain

- Energy and Automation

Current Transducer AT-B10

Isolation characteristics

V_b	Rated isolation voltage rms ¹⁾ with IEC 61010-1 standards and following conditions: - Reinforced isolation - Over voltage category CAT III - Pollution degree PD2 - Heterogeneous field	300	V
V_d	Rms voltage for AC isolation test ²⁾ , 50Hz, 1min.	3.5	kV
dCp	Creepage distance	6	mm
dCl	Clearance distance	6	mm
CTI	Comparative tracking index (Group I)	600	

Notes: ¹⁾ If insulated cable is used for the primary circuit, the isolation voltage category can be improved according to the primary cable insulation category (please refer to the cable manufacturer's indications)

²⁾ between primary (completely filling the hole) and secondary.

Safety



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.

Installation and maintenance should be done with main power supply disconnected.

The operator must have an accreditation to install this material.



Caution! Risk of electrical shock

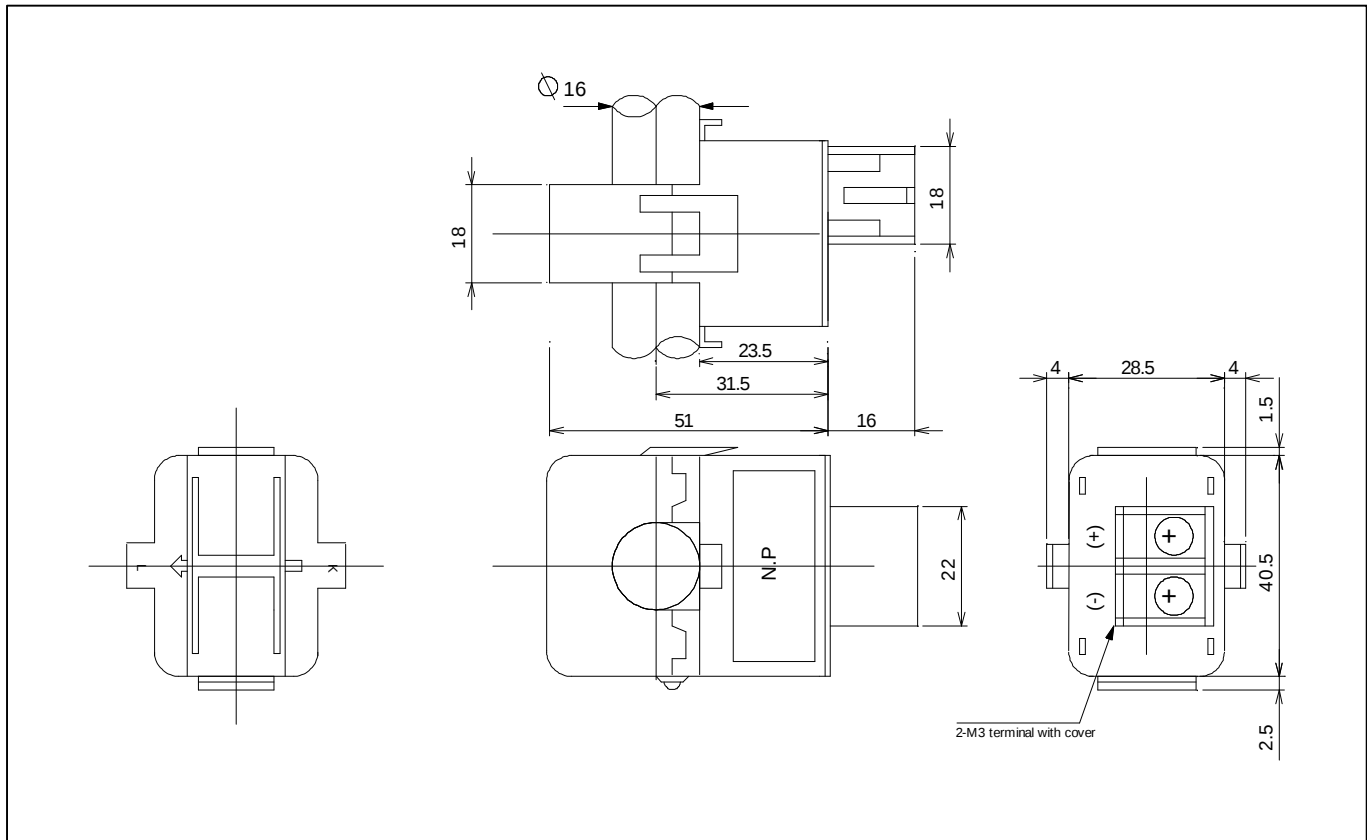
When operating the transducer, certain parts of the module can carry hazardous voltage (e.g. primary conductor).

Ignoring this warning can lead to injury and/or cause serious damage.

The user must take care of all protection guarantee against electrical shock.

This transducer is a built-in device, whose conducting parts must be inaccessible after installation. A protective housing or additional shield could be used.

Dimensions AT-B10 (in mm. 1 mm = 0.0394 inch)



Remark

- ATTENTION: contact areas (air gap) must be kept clean (particle free) to ensure proper performance

Mechanical characteristics

- General tolerance ± 1 mm
- Primary aperture $\varnothing 16$ mm
- Fastening Cable tie

Connections

- Wires up to 2 mm $\varnothing$

