

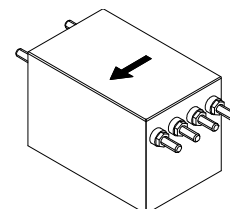
Current Transducer CT 5 .. 25-T

$$I_{PN} = 5 \dots 25 \text{ A}$$

For very accurate measurements of currents : DC, AC, pulsed..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).



0632



Electrical data

Primary nominal current	Primary current, measuring range	Conversion ratio	Type
I_{PN} (A r.m.s.)	I_P (A)	K_N (A/V)	
5	7.5	5 A/5 V	CT 5-T
10	15	10 A/ 5 V	CT 10-T
25	37.5	25 A/5 V	CT 25-T

V_{OUT}	Analog output voltage	5	V
R_L	Load resistance	> 500	Ω
C_L	Capacitance loading	£ 5	nF
t_C	Output short-circuit duration ¹⁾	¥	s
V_C	Supply voltage ($\pm 5\%$)	± 15	V
I_C	Current consumption	$30 + V_{OUT}/R_L$	mA

Features

- Closed loop (compensated) current transducer
- Insulated plastic case recognized according to UL 94-V0
- Patent pending.

Advanced features

- $f = 500 \text{ kHz}$
- $X_G = \pm 0.1\%$ ($-25^\circ\text{C} \dots +70^\circ\text{C}$).

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Application domain

- Industrial.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}	$-25^\circ\text{C} \dots +70^\circ\text{C}$	± 0.1	%
V_O	Offset voltage @ $I_P = 0$	$T_A = 25^\circ\text{C}$ $-25^\circ\text{C} \dots +70^\circ\text{C}$	Max ± 0.4 ± 0.6	mV mV
f	Frequency bandwidth (-3 dB) @ 10% of I_{PN}		DC .. 500	kHz
t_r	Response time		< 1	μs

General data

T_A	Ambient operating temperature	$-25 \dots +70$	$^\circ\text{C}$
T_S	Ambient storage temperature	$-40 \dots +85$	$^\circ\text{C}$
m	Mass	670	g
	Standards	EN 50178 : 1996	

Note: ¹⁾ If the short-circuit has a duration more than 1 s, the primary current of the supply voltage must be interrupted for a short time to restore the transducer to proper working order. The internal protection is done by PTC resistors.

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Isolation characteristics

V_d	R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn	6	kV
\hat{V}_w	Impulse withstand voltage 1.2/50 μ s	> 9.5	kV
		Min	
dCp	Creepage distance ⁵⁾	104.5	mm
dCl	Clearance distance	104.5	mm
CTI	Comparative Tracking Index (Group III b)	225	

Application examples

According to EN 50178 and IEC 61010-1 standards and following conditions :

- Over voltage category OV 3
- Pollution degree PD2
- Non-uniform field

	EN 50178	IEC 61010-1
dCp, dCl, \hat{V}_w	Rated isolation voltage	Nominal voltage
Single isolation	1000 V	1000 V
Reinforced isolation	600 V	600 V

Note : ⁵⁾ Between M5 screws and M5.

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.



Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).

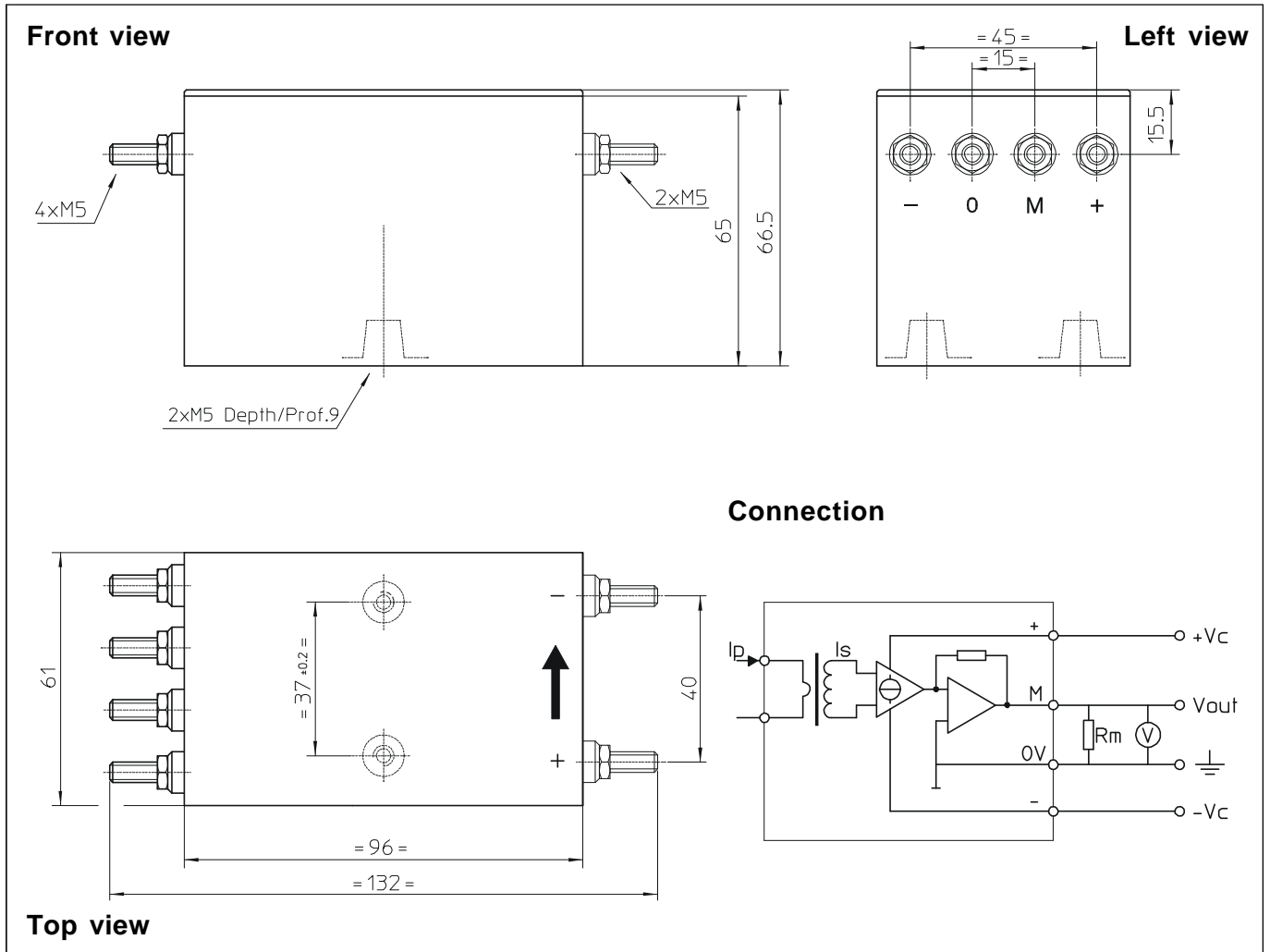
Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a built-in device, whose conducting parts must be inaccessible after installation.

A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

Dimensions CT 5 .. 25-T (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.3 mm
- Transducer fastening
 - 2 holes M5 screws
 - 2 steel screws M5
- Connection of primary M5 threaded studs
- Connection of secondary M5 threaded studs
- Fastening torque 2.2 Nm or 1.62 Lb - Ft

Remarks

- V_{OUT} is positive when I_p flows in the direction of the arrow.
- This transducer induces into the primary circuit a square wave of 70 mV amplitude (frequency $\gg 220$ Hz). This voltage can induce an AC current in the primary if the primary impedance is low.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.