

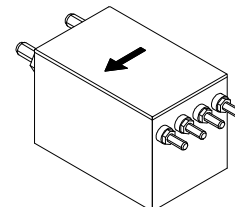
Current Transducer CT 50-T

$$I_{PN} = 50 \text{ A}$$

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).



Preliminary



Electrical data

I_{PN}	Primary nominal r.m.s. current	50	A
I_P	Primary current, measuring range	0 .. ± 75	A
V_{OUT}	Analog output voltage	5	V
K_N	Conversion ratio	50 A / 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	$90 + V_{OUT}/R_L$	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6	kV

Features

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

Advanced features

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

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I _{PN}	- 25°C .. + 70°C	± 0.1	%						
V_O	Offset voltage @ I _P = 0	T _A = 25°C - 25°C .. + 70°C	<table><tr><td>Typ</td><td>Max</td></tr><tr><td></td><td>± 0.4</td></tr><tr><td></td><td>± 0.6</td></tr></table>	Typ	Max		± 0.4		± 0.6	mV mV
Typ	Max									
	± 0.4									
	± 0.6									
f	Frequency bandwidth (- 3 dB) @ 10 % of I _{PN}		DC .. 500	kHz						

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.

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 ²⁾	EN 50178	

Applications

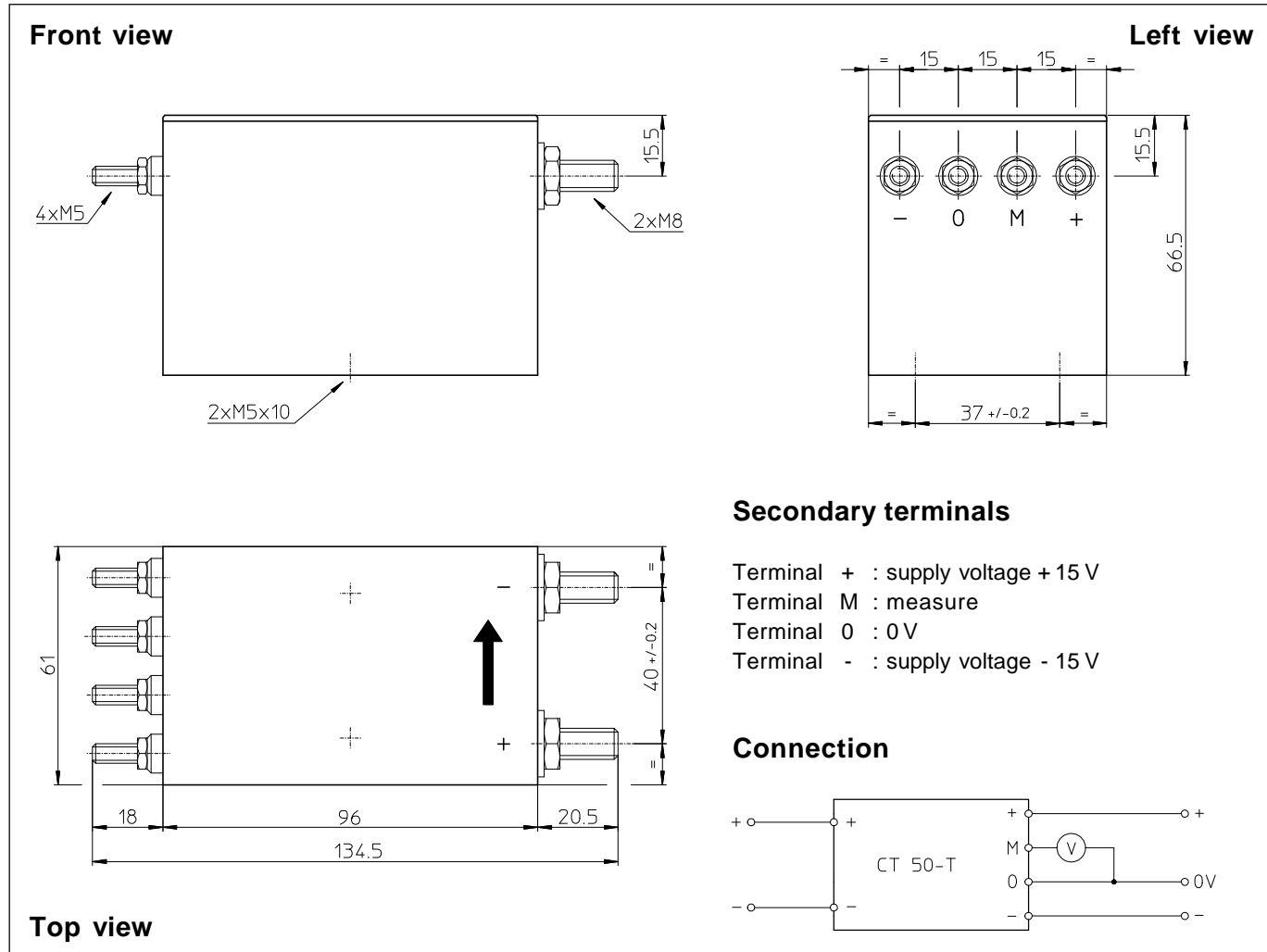
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Notes : 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

²⁾ A list of corresponding tests is available

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Dimensions CT 50-T (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.3 mm
- Fastening 2 x M5 screws
- Connection of primary M8 threaded studs
- Fastening torque 9 Nm or 6.63 Lb - Ft
- 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 7 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.