

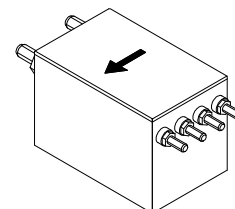
# Current Transducer CT 50-T

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

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 .. $\pm 75$	A
$V_{OUT}$	Analog output voltage	5	V
$K_N$	Conversion ratio	50 A / 5 V	
$R_L$	Load resistance	> 500	$\Omega$
$C_L$	Capacitance loading	$\leq 5$	nF
$t_C$	Output short-circuit duration <sup>1)</sup>	$\infty$	s
$V_C$	Supply voltage ( $\pm 5\%$ )	$\pm 15$	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	$\pm 0.1$	%
$V_O$	Offset voltage @ $I_p = 0$	$T_A = 25^\circ\text{C}$ -25°C .. +70°C	Typ	Max
				$\pm 0.4$ mV $\pm 0.6$ mV
$f$	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 .. +70	$^\circ\text{C}$
$T_S$	Ambient storage temperature	-40 .. +85	$^\circ\text{C}$
$m$	Mass	670	g
	Standards <sup>2)</sup>	EN 50178	

## Applications

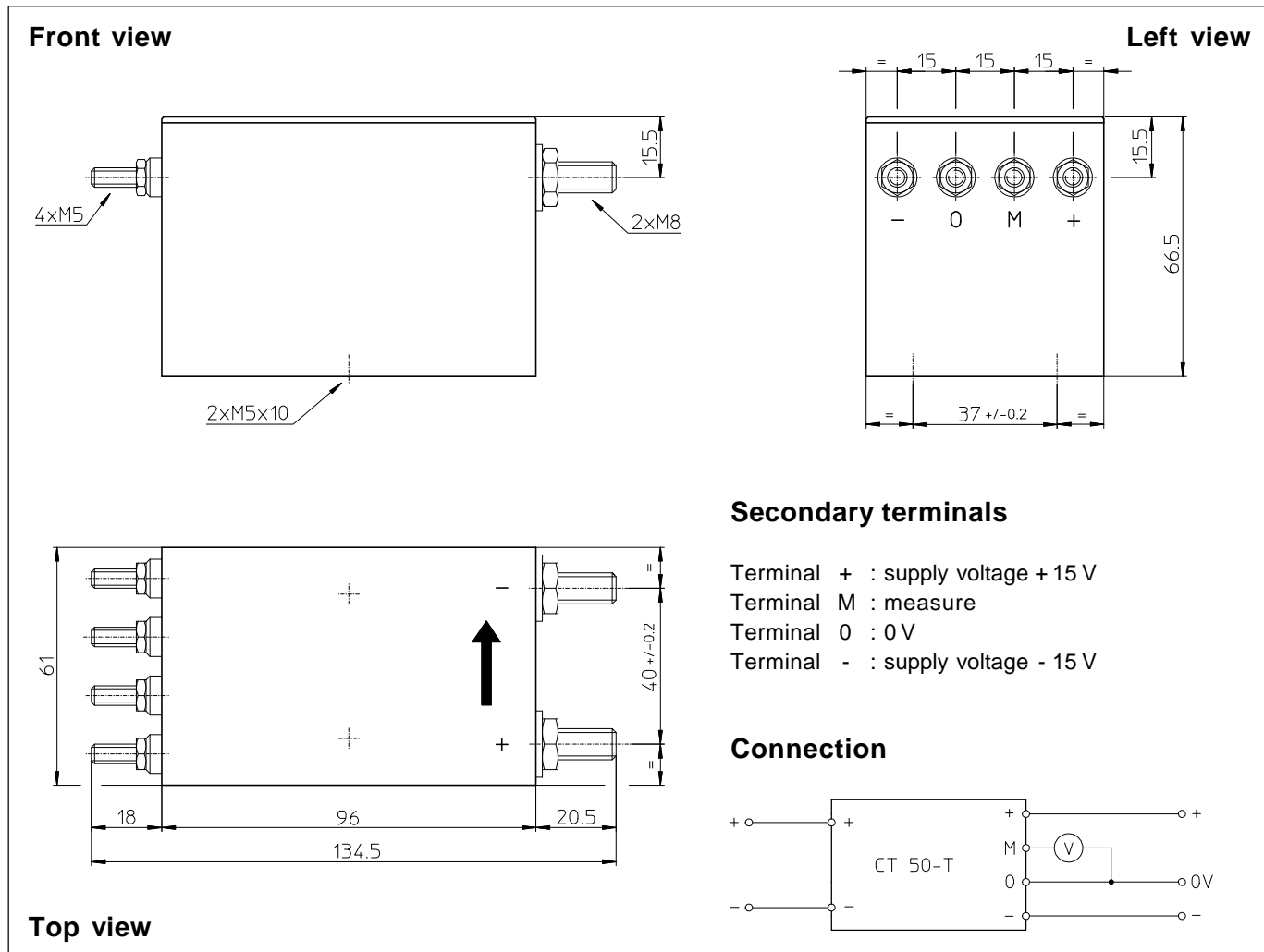
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

**Notes :** <sup>1)</sup> 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

<sup>2)</sup> 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.