

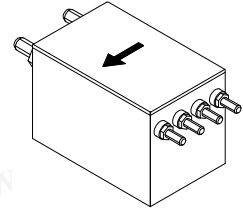
# Current Transducer CT 50-T

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

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).



0632



## Electrical data

$I_{PN}$	Primary nominal current rms	50	A
$I_{PM}$	Primary current, measuring range	0 .. ± 75	A
$V_{OUT}$	Output voltage (Analog)	5	V
$K_N$	Conversion ratio	50 A / 5 V	
$R_L$	Load resistance	> 500	Ω
$C_L$	Capacitive loading	£ 5	nF
$t_C$	Output short-circuit duration <sup>1)</sup>	∞	s
$V_C$	Supply voltage (± 5 %)	± 15	V
$I_C$	Current consumption	90 + $V_{OUT}/R_L$	mA

## Features

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

## Advanced features

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

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}$	- 25°C .. + 70°C	± 0.1	%
			Max	
$V_O$	Offset voltage @ $I_p = 0$	$T_A = 25^\circ\text{C}$	± 0.4	mV
		- 25°C .. + 70°C	± 0.6	mV
$BW$	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	°C
$T_S$	Ambient storage temperature	- 40 .. + 85	°C
$m$	Mass	670	g
	Standards	EN 50178: 1997	

## 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.

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

**Note:** <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.

## Current Transducer CT 50-T

### Isolation characteristics

$V_d$	Rms voltage for AC isolation test, 50/60 Hz, 1 min	6	kV
$\hat{V}_w$	Impulse withstand voltage 1.2/50 $\mu$ s	> 9.5	kV
		Min	
dCp	Creepage distance	101	mm
dCl	Clearance distance	101	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

### 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.

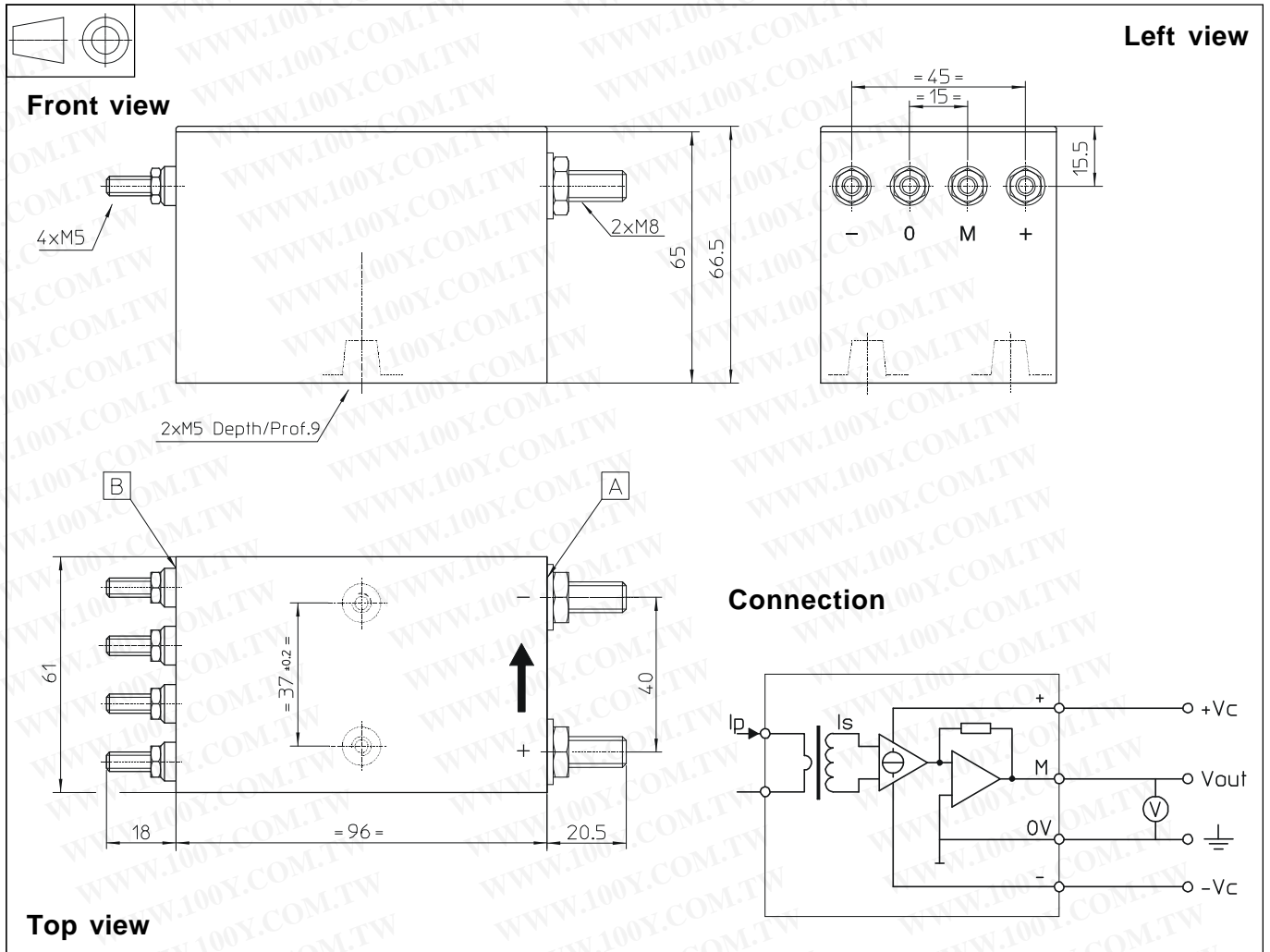
This transducer is a built-in device, whose conducting parts must be inaccessible after installation.

A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

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



### Mechanical characteristics

- General tolerance  $\pm 0.3$  mm
- Transducer fastening  
2 M5 holes screws  
2 M5 steel screws
- Connection of primary  
M8 threaded studs  
Recommended fastening torque 9 Nm or 6.63 Lb - Ft
- Connection of secondary  
M5 threaded studs  
Recommended 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.

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)