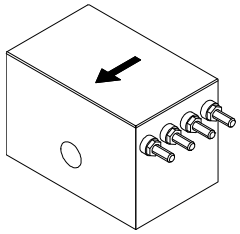
Current Transducer CT 100-S

I_{PN} = 100 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	100	A
I_P	Primary current, measuring range	0 .. ± 150	A
V_{OUT}	Analog output voltage	5	V
K_N	Conversion ratio	100 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 (± 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

Accuracy - Dynamic performance data

			Typ	Max	
X_G	Overall accuracy @ I_{PN}	- 25°C .. + 70°C		± 0.15	%
V_O	Offset voltage @ I_P = 0	T_A = 25°C		± 0.4	mV
		- 25°C .. + 70°C		± 0.6	mV
f	Frequency bandwidth (- 3 dB) @ 10 % of I_{PN}		DC .. 250		kHz

General data

T_A	Ambient operating temperature	- 25 .. + 70	°C
T_S	Ambient storage temperature	- 40 .. + 85	°C
m	Mass	670	g
	Standards [2]	EN 50178	

Features

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

Advanced features

- f = 250 kHz
- X_G = ± 0.15 % (- 25°C .. + 70°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.

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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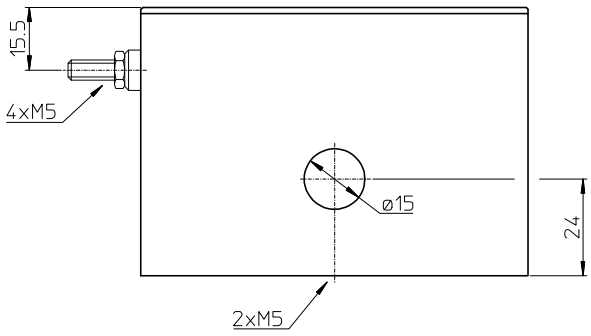
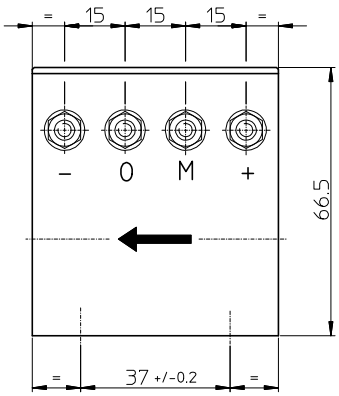
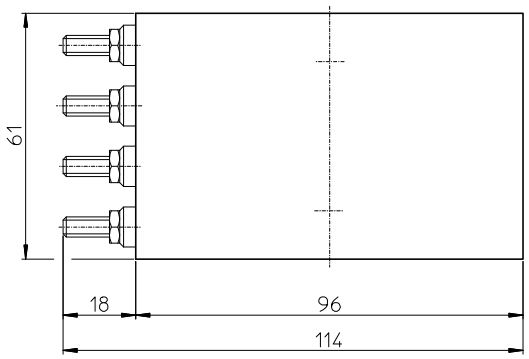
Dimensions CT 100-S (in mm. 1 mm = 0.0394 inch)

Front view



Left view



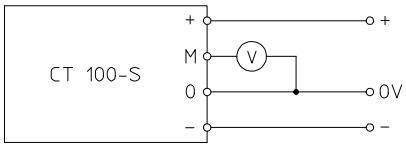


Top view

Secondary terminals

Terminal + : supply voltage + 15 V
Terminal M : measure
Terminal 0 : 0 V
Terminal - : supply voltage - 15 V

Connection



Mechanical characteristics

• General tolerance	± 0.3 mm
• Fastening	2 x M5 screws
• Primary through-hole	∅ 15 mm
• Connection of secondary	M5 threaded studs
Fastening torque	2.2 Nm or 1.62 Lb - Ft

Remarks

- $\mathbf{V}_{OUT}$ is positive when $\mathbf{I}_P$ flows in the direction of the arrow.
- This transducer induces into the primary circuit a square wave of 3.5 mV amplitude (frequency »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.