

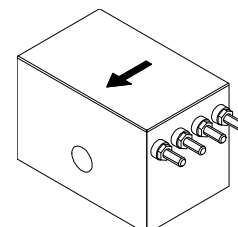
Current Transducer CT 100-S

$$I_{PN} = 100 \text{ A}$$

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).



Provisional



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 ($\pm 5\%$)	± 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

- $f = 250 \text{ kHz}$
- $X_G = \pm 0.15\%$ ($-25^\circ\text{C} \dots +70^\circ\text{C}$).

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}	$-25^\circ\text{C} \dots +70^\circ\text{C}$	± 0.15	%
V_O	Offset voltage @ $I_p = 0$	$T_A = 25^\circ\text{C}$ $-25^\circ\text{C} \dots +70^\circ\text{C}$	Typ	Max
				± 0.4 mV ± 0.6 mV
t_r	Response time ²⁾ @ 90 % de I_{PN}		400	ns
di/dt	di/dt accurately followed		60	A/ μs
f	Frequency bandwidth (-3 dB) @ 10 % of I_{PN}		DC .. 250	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	EN 50178 : 1997	

Applications

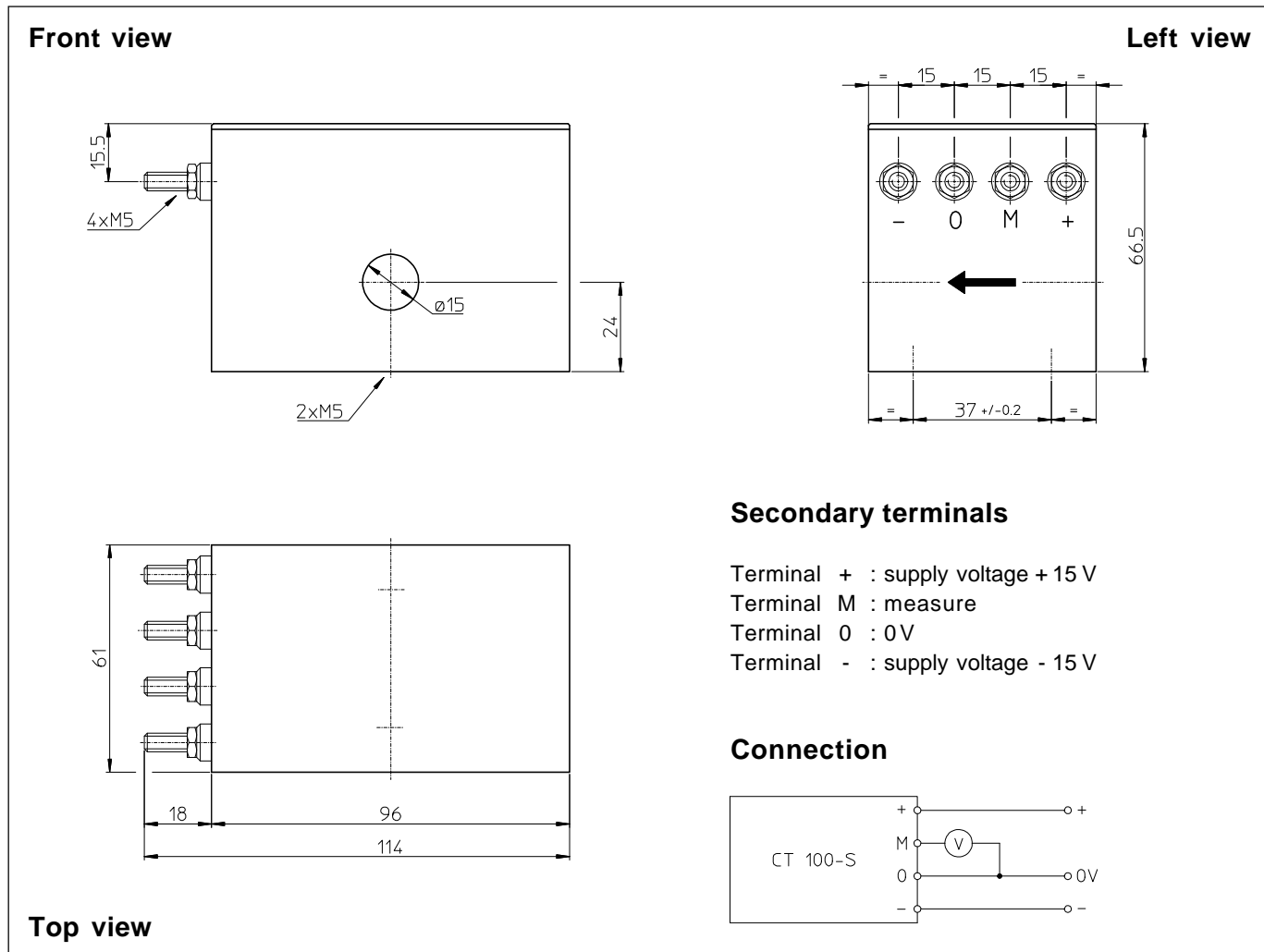
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

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⁾ With a di/dt of 60 A/ μs .

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



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

- 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 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.