

Current Transducer LT 505-T/SP12

$$I_{PN} = 800 \text{ A}$$

For the electronic measurement of currents : DC, AC, pulsed..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).



16158

Electrical data

I_{PN}	Primary nominal r.m.s. current	800	A
I_P	Primary current, measuring range	0 .. ± 1300	A
R_M	Measuring resistance @	$R_{M \min}$ $R_{M \max}$	
	with $\pm 15 \text{ V}$	0 38.5	Ω
	@ $\pm 800 \text{ A}_{\max}$ @ $\pm 1300 \text{ A}_{\max}$	0 13.3	Ω
I_{SN}	Secondary nominal r.m.s. current	200	mA
K_N	Conversion ratio	1 : 4000	
V_C	Supply voltage ($\pm 5 \%$)	± 15	V
I_C	Current consumption	$24 + I_S$	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	9.5 ¹⁾	kV
		1 ²⁾	kV

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.5	%
e_L	Linearity error	< 0.1	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ	Max
			± 0.5 mA
I_{OT}	Thermal drift of I_O	- 25°C .. + 85°C	± 0.2 mA
		- 40°C .. - 25°C	± 0.4 mA
t_r	Response time ³⁾ @ 90 % of I_{PN}	< 1	μs
di/dt	di/dt accurately followed	> 50	A/ μs
f	Frequency bandwidth (-1 dB)	DC .. 150	kHz

General data

T_A	Ambient operating temperature	- 40 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 45 .. + 90	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 85^\circ\text{C}$	28	Ω
m	Mass	1.4	kg
	Standards	EN 50155: 1995	

Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0.

Special features

- $I_P = 0 .. \pm 1300 \text{ A}$
- $K_N = 1 : 4000$
- $V_C = \pm 15 (\pm 5 \%) \text{ V}$
- $V_d = 9.5 \text{ kV}^{1)}$
- $T_A = - 40^\circ\text{C} .. + 85^\circ\text{C}$
- Shield between primary and secondary
- Connection to secondary circuit on M4 threaded studs
- Potted
- Customer labeling
- Railway equipment.

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.

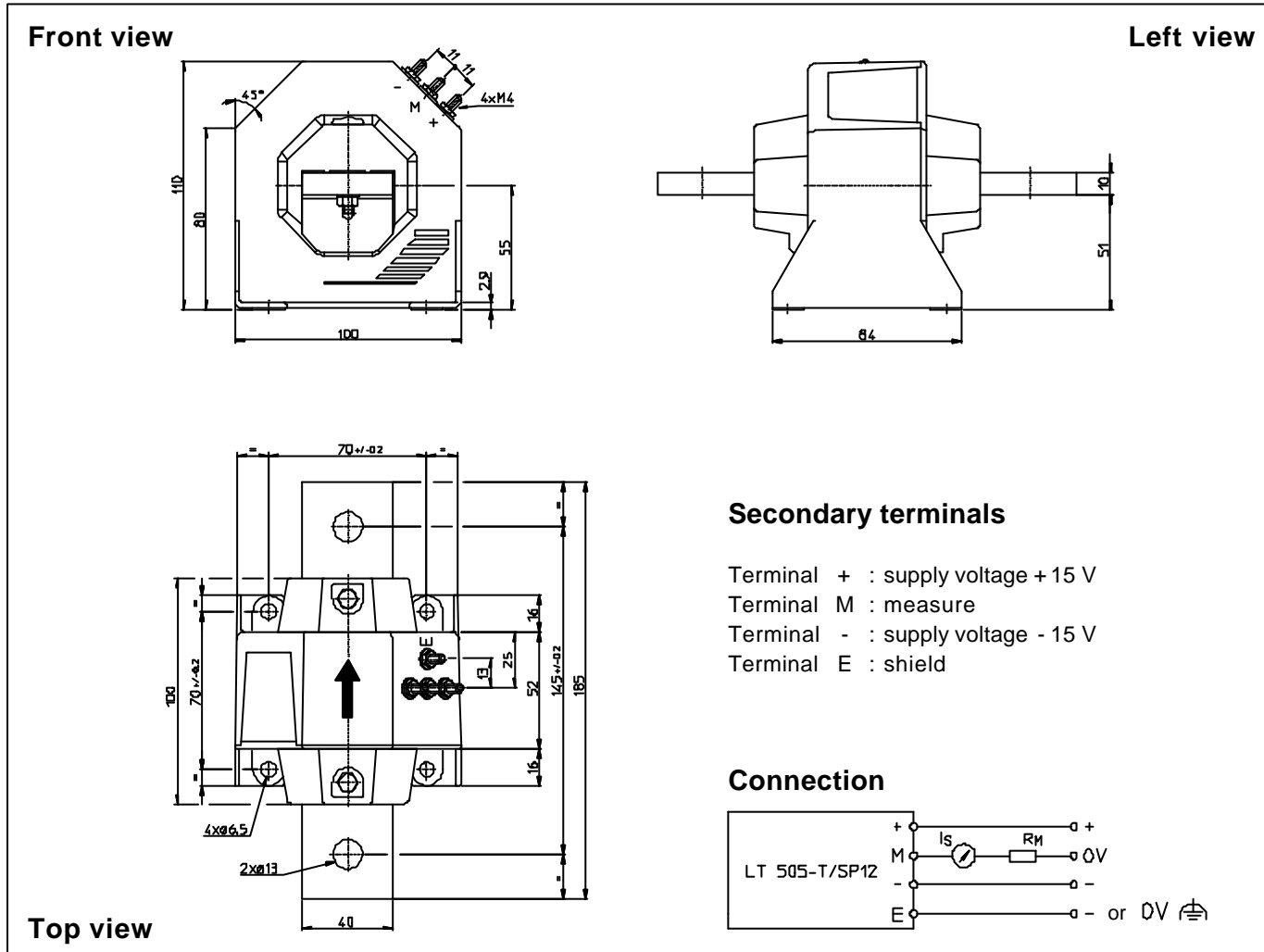
Notes : 1) Between primary and secondary + shield

2) Between secondary and shield

3) With a di/dt of 100 A/ μs .

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Dimensions LT 505-T/SP12 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening 4 holes $\varnothing 6.5$ mm
 4 M6 steel screws
Recommended fastening torque 5 Nm or 3.69 Lb. - Ft.
or by the primary bar
- Primary through-hole 2 holes $\varnothing 13$ mm
- Connection of secondary M4 threaded studs
Recommended fastening torque 1.2 Nm or $.88$ Lb - Ft

Remarks

- I_s is positive when I_p flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100°C .