

Current Transducer LT 300-S/SP9

$$I_{PN} = 300 \text{ A}$$

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).



Electrical data

I_{PN}	Primary nominal r.m.s. current	300	A
I_p	Primary current, measuring range	0 .. ± 500	A
R_M	Measuring resistance	R_{Mmin} R_{Mmax}	
	with $\pm 15 \text{ V}$	@ $\pm 300 \text{ A}_{max}$	10 52 Ω
		@ $\pm 500 \text{ A}_{max}$	10 17 Ω
	with $\pm 24 \text{ V}$	@ $\pm 300 \text{ A}_{max}$	40 109 Ω
		@ $\pm 500 \text{ A}_{max}$	40 50 Ω
I_{SN}	Secondary nominal r.m.s. current	150	mA
K_N	Conversion ratio	1 : 2000	
V_C	Supply voltage ($\pm 5 \%$)	$\pm 15 \dots 24$	V
I_C	Current consumption	28 (@ $\pm 24 \text{ V}$) + I_S	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6	kV

Features

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

Special features

- $V_C = \pm 15 \dots 24 (\pm 5 \%) \text{ V}$
- $T_A = -25^\circ\text{C} \dots +70^\circ\text{C}$
- 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.

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.5	%
e_L	Linearity	< 0.1	%
I_O	Offset current @ $I_p = 0$, $T_A = 25^\circ\text{C}$	Typ	Max
I_{OT}	Thermal drift of I_O - $25^\circ\text{C} \dots +70^\circ\text{C}$	± 0.3	± 0.7 mA
t_r	Response time ¹⁾ @ 90 % of I_{PN}	< 1	μs
di/dt	di/dt accurately followed	> 50	A/ μs
f	Frequency bandwidth (-1 dB)	DC .. 150	kHz

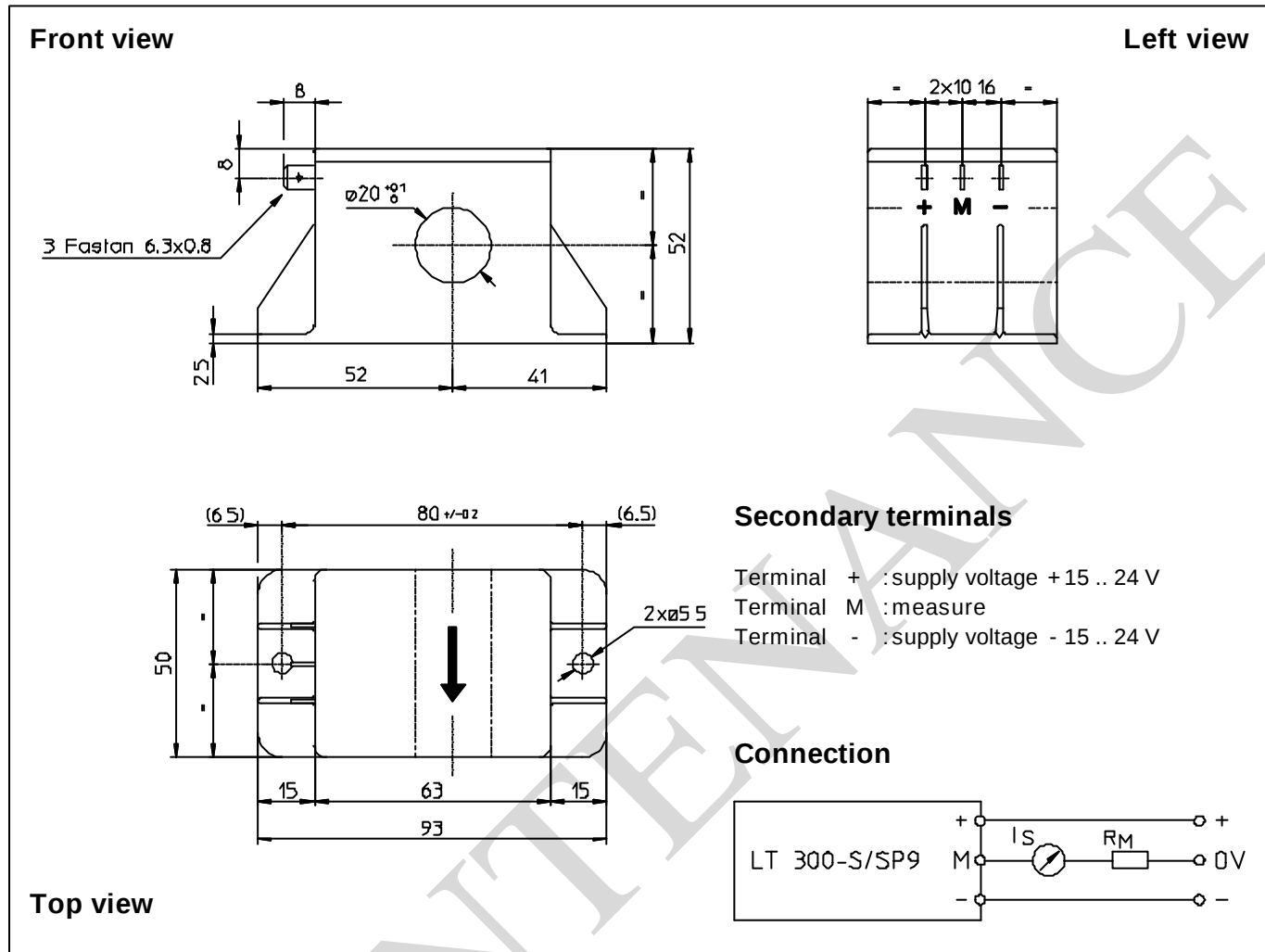
General data

T_A	Ambient operating temperature	-25 .. +70	$^\circ\text{C}$
T_S	Ambient storage temperature	-40 .. +85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	35	Ω
m	Mass	230	g
	Standards ²⁾	EN 50155	

Notes : ¹⁾ With a di/dt of 100 A/ μs

²⁾ A list of corresponding tests is available.

Dimensions LT 300-S/SP9 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.3 mm
- Fastening 2 holes $\varnothing 5.5$ mm
- Primary through-hole $\varnothing 20$ mm
- Connection of secondary Faston 6.3 x 0.8 mm

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.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.

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