

Current Transducer LT 300-S/SP45

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

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 .. ± 600	A
R_M	Measuring resistance	$R_{M \min}$ $R_{M \max}$	
	with $\pm 24 \text{ V}$	@ $\pm 300 \text{ A}_{\max}$	25 140 Ω
		@ $\pm 600 \text{ A}_{\max}$	25 40 Ω
I_{SN}	Secondary nominal r.m.s. current	100	mA
K_N	Conversion ratio	1 : 3000	
V_C	Supply voltage (+ 5 %, - 10 %)	± 24	V
I_C	Current consumption	$28 + I_S$	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	12 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	< 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°C .. + 70°C	± 0.2 ± 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	- 25 .. + 70	$^\circ\text{C}$
T_S	Ambient storage temperature	- 40 .. + 85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	65	Ω
m	Mass	250	g
	Standards	EN 50155	

Features

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

Special features

- $I_P = 0 .. \pm 600 \text{ A}$
- $K_N = 1 : 3000$
- $V_C = \pm 24 (+ 5 \%, - 10\%) \text{ V}$
- $V_d = 12 \text{ kV}^{1)}$
- $T_A = - 25^\circ\text{C} .. + 70^\circ\text{C}$
- Shield between primary and secondary
- Connection to secondary + shield on 4 M4 threaded studs
- VRT Burn-in
- 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

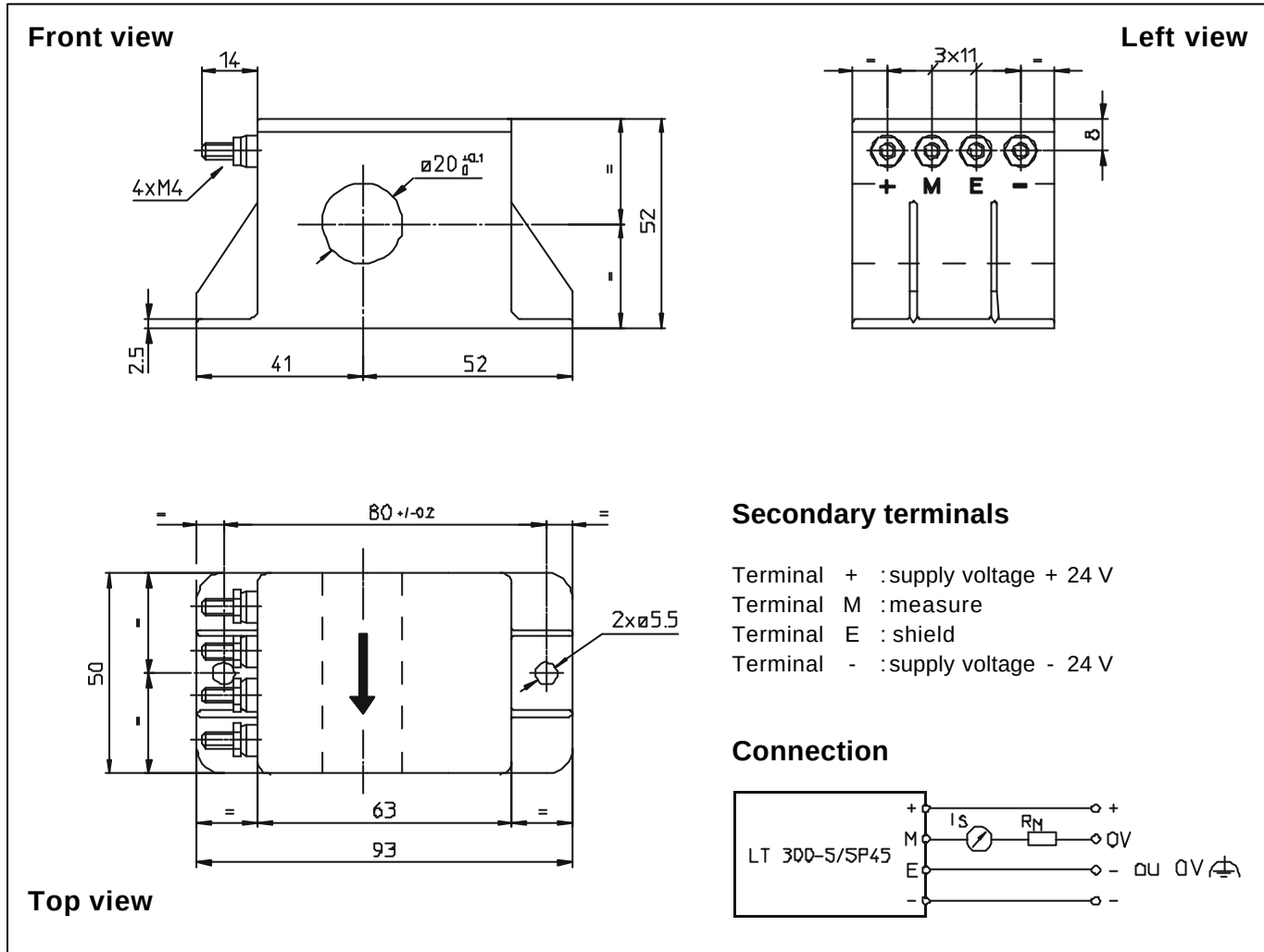
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Notes : ¹⁾ Between primary and secondary + shield

²⁾ Between secondary and shield

³⁾ With a di/dt of 100 A/ μs .

Dimensions LT 300-S/SP45 (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 M4 threaded studs
- 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.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.

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