

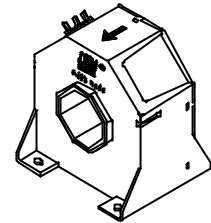
Current Transducer LT 1005-S/SP3

$$I_{PN} = 1000 \text{ A}$$

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).



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Electrical data

I_{PN}	Primary nominal r.m.s. current	1000	A
I_p	Primary current, measuring range	0 .. ± 1800	A
R_M	Measuring resistance with $\pm 15 \text{ V}$	$R_{M \min}$	$R_{M \max}$
		@ $\pm 1000 \text{ A}_{\max}$	0 22 Ω
		@ $\pm 1800 \text{ A}_{\max}$	0 5 Ω
I_{SN}	Secondary nominal r.m.s. current	333	mA
K_N	Conversion ratio	1 : 3000	
V_C	Supply voltage ($\pm 5 \%$)	± 15	V
I_C	Current consumption	$25 + I_S$	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6	kV
V_b	R.m.s. rated voltage ¹⁾ , safe separation basic isolation	1750	V
		3500	V

Features

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

Special features

- $I_p = 0 .. \pm 1800 \text{ A}$
- $K_N = 1 : 3000$
- $V_C = \pm 15 (\pm 5 \%) \text{ V}$
- $T_A = -25^\circ\text{C} .. +70^\circ\text{C}$
- Connection to secondary circuit on M4 threaded studs
- Potted
- Railway equipment.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.4	%
ϵ_L	Linearity	< 0.1	%
I_O	Offset current @ $I_p = 0, T_A = 25^\circ\text{C}$	Typ	Max
			± 0.7 mA
I_{OT}	Thermal drift of I_O -25°C .. +70°C	± 0.3	± 0.7 mA
t_r	Response time ²⁾ @ 90 % of I_{PN}	< 1	μs
di/dt	di/dt accurately followed	> 50	A/ μs
f	Frequency bandwidth (-1 dB)	DC .. 150	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 .. +70	$^\circ\text{C}$
T_S	Ambient storage temperature	-40 .. +85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	17	Ω
m	Mass	600	g
	Standards	EN 50155	

Applications

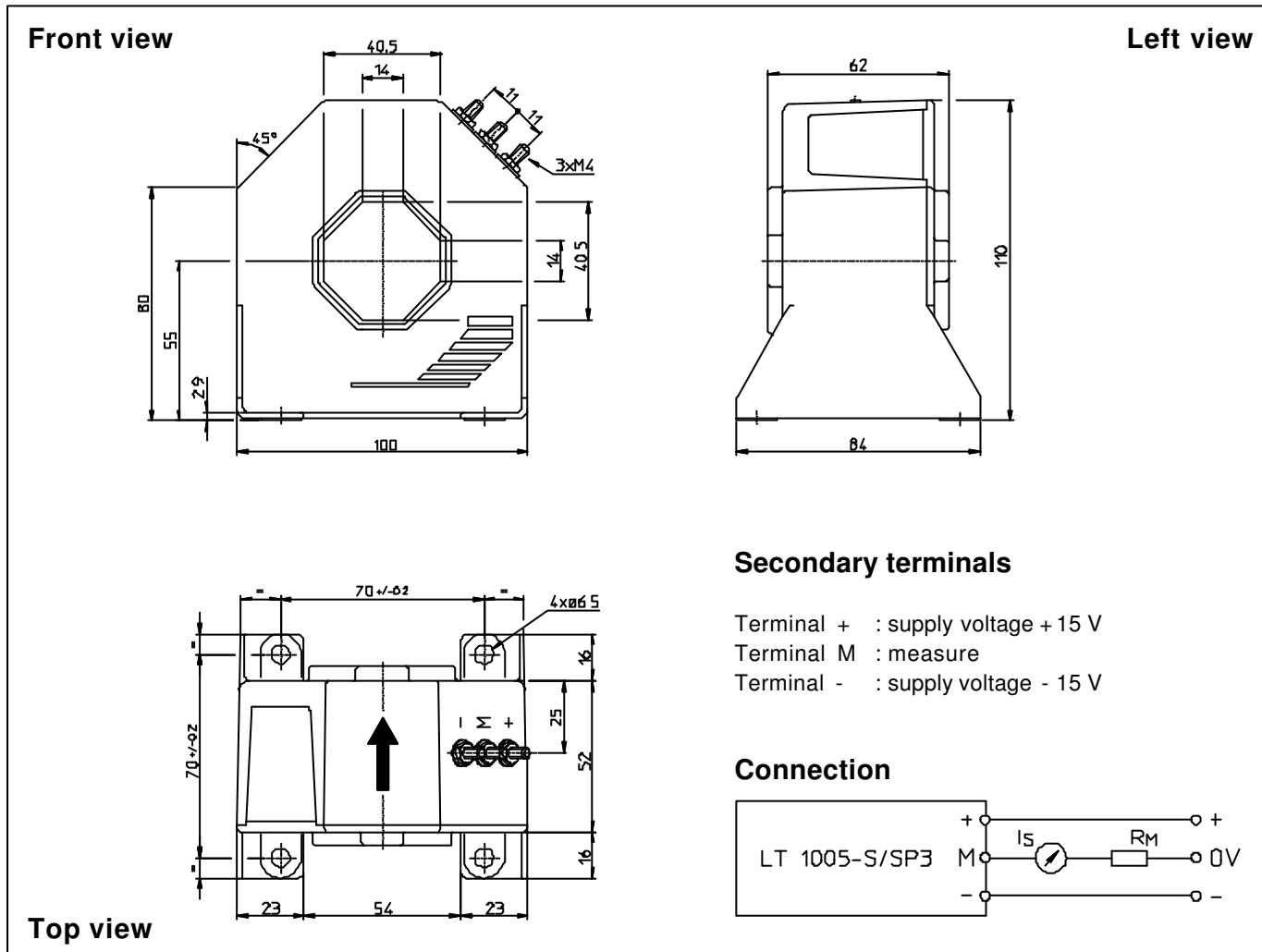
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Notes : ¹⁾ Pollution class 2. With a non insulated primary bar which fills the through-hole

²⁾ With a di/dt of 100 A/ μs .

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Dimensions LT 1005-S/SP3 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 1 mm
- Fastening 4 holes $\varnothing 6.5$ mm
- Primary through-hole 40.5 x 40.5 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.