

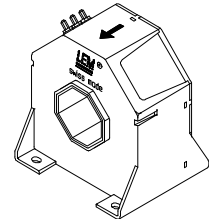
Current Transducer LT 1005-S/SP4

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

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).



0619



Electrical data

I_{PN}	Primary nominal r.m.s. current	1000	A				
I_P	Primary current, measuring range @ $\pm 24 \text{ V}$	0 .. ± 2000	A				
R_M	Measuring resistance @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$			
		R_{Mmin}	R_{Mmax}	R_{Mmin}	R_{Mmax}		
	with $\pm 15 \text{ V}$	@ $\pm 1000 \text{ A}_{max}$	0	24	0	21	Ω
		@ $\pm 1500 \text{ A}_{max}$	0	7	0	4	Ω
	with $\pm 24 \text{ V}$	@ $\pm 1000 \text{ A}_{max}$	5	58	10	55	Ω
		@ $\pm 2000 \text{ A}_{max}$	5	16	10	13	Ω
I_{SN}	Secondary nominal r.m.s. current	250	mA				
K_N	Conversion ratio	1 : 4000					
V_C	Supply voltage ($\pm 5 \%$)	$\pm 15 \dots 24$	V				
I_C	Current consumption	30 (@ $\pm 24 \text{ V}$) + I_S	mA				
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	12	kV				

Features

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

Special features

- $K_N = 1 : 4000$
- $V_d = 12 \text{ kV}$
- $T_A = -40^\circ\text{C} \dots +85^\circ\text{C}$
- Potted
- Connection to secondary circuit on M4 threaded studs
- Personalized label
- Railway equipment.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.4	%
e_L	Linearity error	< 0.1	%
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	Max
			± 0.50 mA
I_{OT}	Thermal drift of I_O	-40°C .. -25°C	± 0.80 mA
		-25°C .. +85°C	$\pm 0.25 \pm 0.70$ 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

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

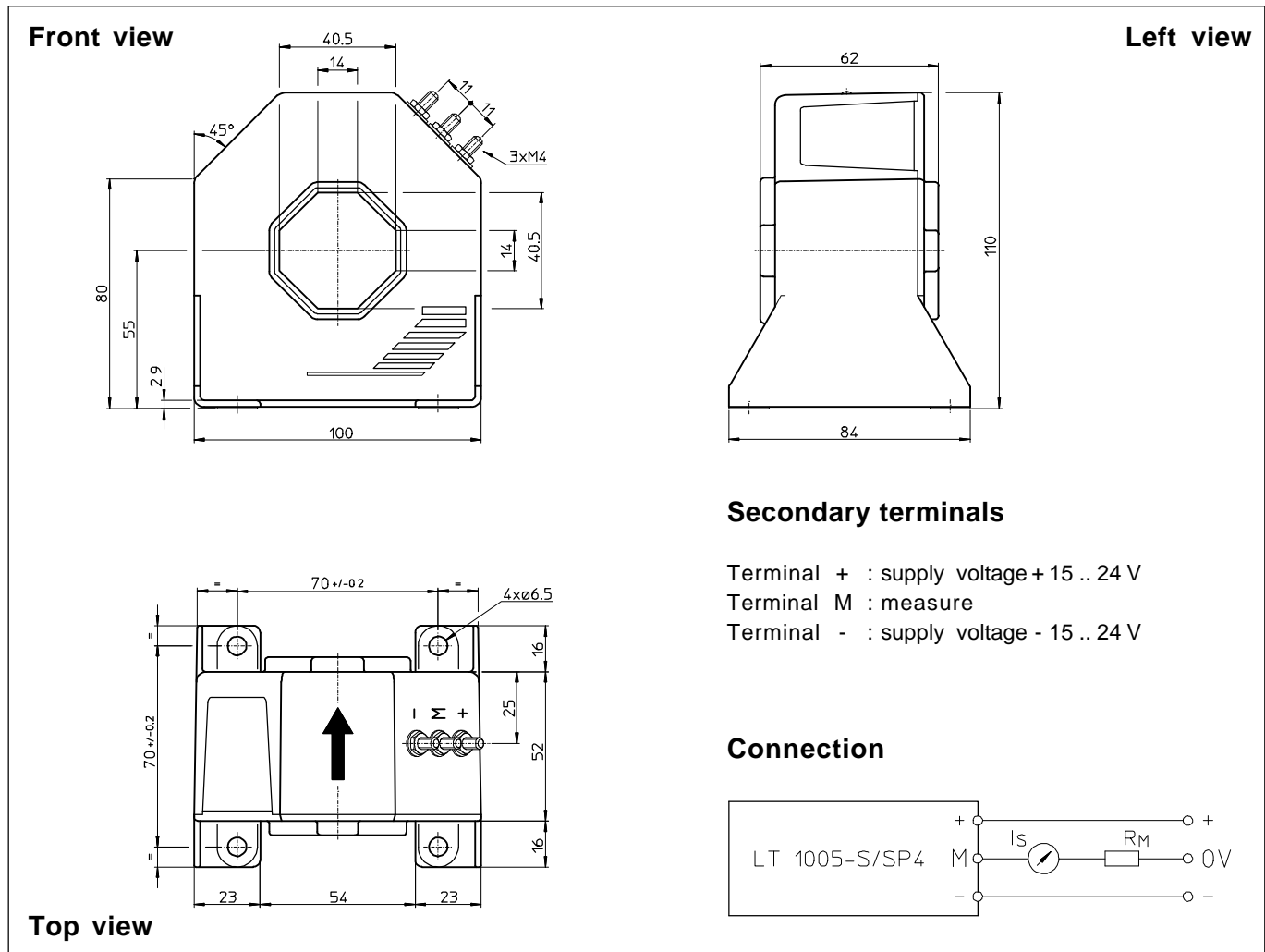
T_A	Ambient operating temperature	-40 .. +85	$^\circ\text{C}$
	Ambient storage temperature	-45 .. +95	$^\circ\text{C}$
R_S	Secondary coil resistance	@ $T_A = 70^\circ\text{C}$	26 Ω
		@ $T_A = 85^\circ\text{C}$	29 Ω
m	Mass	850	g
	Standards	EN 50155	

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.

Note : ¹⁾ With a di/dt of 100 A/ μs .

Dimensions LT 1005-S/SP4 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 1 mm
- Transducer fastening
 - 4 holes $\varnothing 6.5$ mm
 - 4 M6 steel screws
 - Fastening torque maxi 5 Nm or 3.69 Lb - Ft
- 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.