

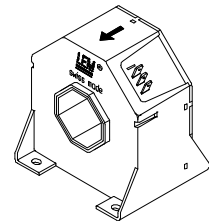
Current Transducer LT 1005-S/SP26

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

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).



16167



Electrical data

I_{PN}	Primary nominal r.m.s. current	1000	A
I_P	Primary current, measuring range	0 .. ± 2800	A
\hat{I}_P	Overload capability during 20 μ s	20	kA
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 $\pm 24 \text{ V}$	@ $\pm 1000 \text{ A}_{max}$	2 60 2.4 58.5 Ω
		@ $\pm 2000 \text{ A}_{max}$	2 16 2.4 14.5 Ω
		@ $\pm 2800 \text{ A}_{max}$	2 3.6 3.5 ¹⁾ 3.5 Ω
I_{SN}	Secondary nominal r.m.s. current	250	mA
K_N	Conversion ratio	1 : 4000	
V_C	Supply voltage ($\pm 3 \%$)	± 24	V
I_C	Current consumption	$30 + I_S$	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

- $I_P = 0 .. \pm 2800 \text{ A}$
- $V_C = \pm 24 (\pm 3 \%) \text{ V}$
- $K_N = 1 : 4000$
- $T_A = -40^\circ\text{C} .. +85^\circ\text{C}$
- Potted
- 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_G	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.4	%
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	-40°C .. -25°C	± 0.35 ± 0.80 mA
		-25°C .. +70°C	± 0.25 ± 0.30 mA
		+70°C .. +85°C	± 0.35 ± 0.70 mA
t_r	Response time ²⁾ @ 90 % of I_{PN}	< 1	μ s
di/dt	di/dt accurately followed	> 50	A/ μ s
f	Frequency bandwidth (-1 dB)	DC .. 150	kHz

General data

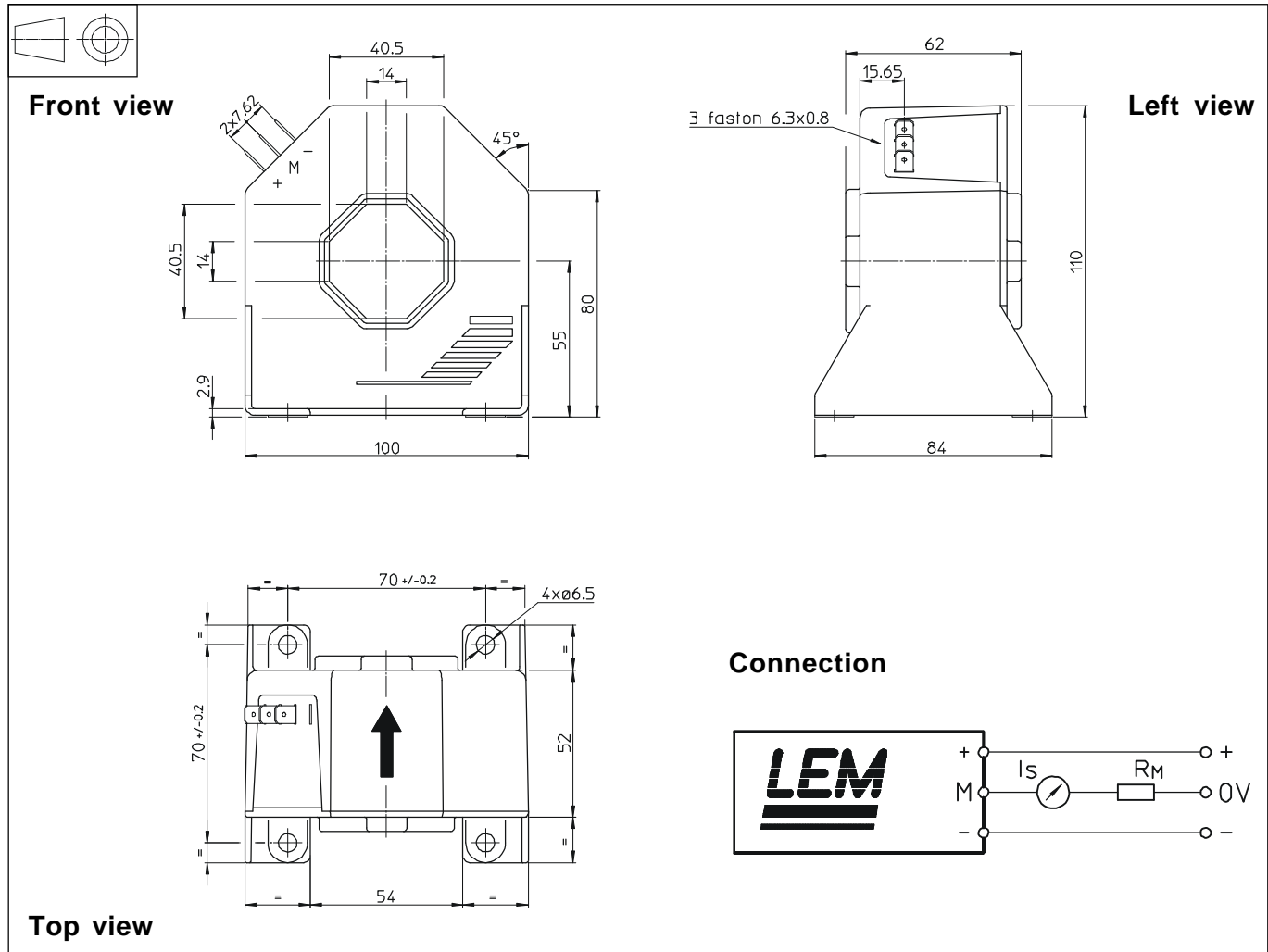
T_A	Ambient operating temperature	-40 .. +85	$^\circ\text{C}$
T_S	Ambient storage temperature	-45 .. +95	$^\circ\text{C}$
R_S	Secondary coil resistance	@ $T_A = 70^\circ\text{C}$	28 Ω
		@ $T_A = 85^\circ\text{C}$	29.5 Ω
m	Mass	600	g
	Standards	EN 50155 : 1995	

Notes : ¹⁾ Measuring range limited to $\pm 2680 \text{ A}$ @ $T_A = 85^\circ\text{C}$

²⁾ With a di/dt of 100 A/ μ s.

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Dimensions LT 1005-S/SP26 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 1.0 mm
- Transducer fastening 4 holes $\varnothing 6.5$ mm
4 M6 steel screws
Recommended fastening torque 5 Nm or 3.69 Lb - Ft
- Primary through-hole 40.5 x 40.5 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.