Current Transducer LT 1005-S/SP26

I_{PN} = 1000 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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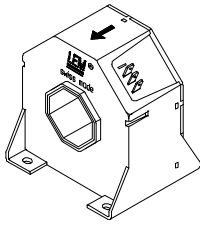

Electrical data

I_{PN}	Primary nominal r.m.s. current				1000			A
I_P	Primary current, measuring range				0 .. ± 2800			A
$\hat{I}_P$	Overload capability during 20 µs				20			kA
R_M	Measuring resistance @		T_A = 70°C		T_A = 85°C			
			$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$		
	with ± 24 V	@ ± 1000 A_{max}	2	60	2.4	58.5		Ω
		@ ± 2000 A_{max}	2	16	2.4	14.5		Ω
		@ ± 2800 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 (± 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

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}, T_A = 25°C		± 0.4		%
ε_L	Linearity		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.50	mA
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		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		- 40 .. + 85	°C
T_S	Ambient storage temperature		- 45 .. + 95	°C
R_S	Secondary coil resistance	@ T_A = 70°C	28	Ω
		@ T_A = 85°C	29.5	Ω
m	Mass		600	g
	Standards		EN 50155 : 1995	

Notes : [1] Measuring range limited to ± 2680 A@ T_A = 85°C
[2] With a di/dt of 100 A/µs.

Features

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

Special features

- I_P = 0 .. ± 2800 A
- V_C = ± 24 (± 3 %) V
- K_N = 1 : 4000
- T_A = - 40°C .. + 85°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.

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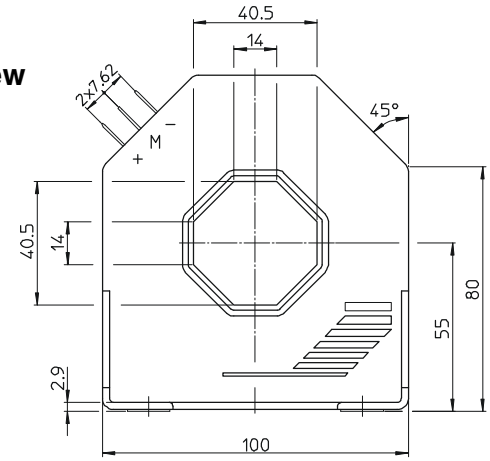
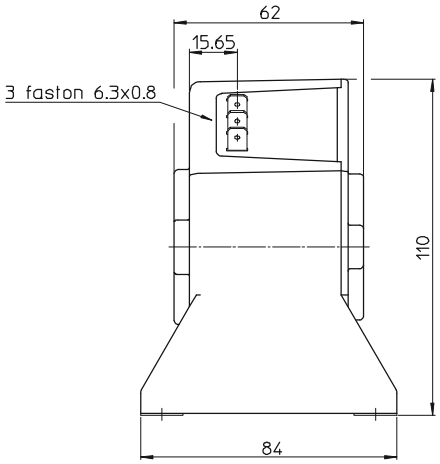
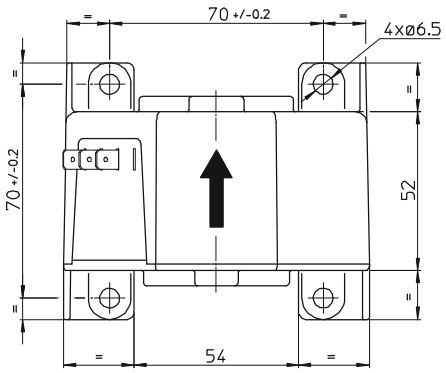
Dimensions LT 1005-S/SP26 (in mm. 1 mm = 0.0394 inch)

Front view



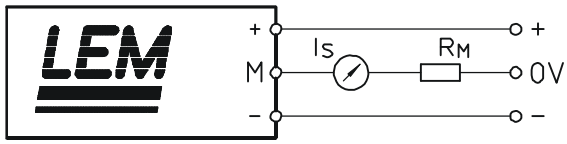
Left view





Top view

Connection



Mechanical characteristics

• General tolerance	± 1.0 mm
• Transducer fastening	4 holes ∅ 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.