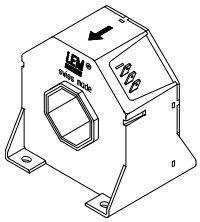
Current Transducer LT 1005-S

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).



Electrical data

				T_A = 70°C		T_A = 85°C	
				$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$	
I_{PN}	Primary nominal r.m.s. current			1000			A
I_P	Primary current, measuring range			0 .. ± 2000			A
R_M	Measuring resistance @						
	with ± 15 V	@ ± 1000 A_{max}		0	22.5	0	18.5	Ω
		@ ± 1200 A_{max}		0	11	0	8	Ω
	with ± 24 V	@ ± 1000 A_{max}		0	65	0	62	Ω
		@ ± 2000 A_{max}		0	10	0	7	Ω
I_{SN}	Secondary nominal r.m.s. current			200			mA
K_N	Conversion ratio			1 : 5000			
V_C	Supply voltage (± 5 %)			± 15 .. 24			V
I_C	Current consumption			30 (@ ± 24 V) + 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			1750			V
	basic isolation			3500			V

Accuracy - Dynamic performance data

			Typ	Max	
X_G	Overall accuracy @ I_{PN} , T_A = 25°C			± 0.4	%
ε_L	Linearity			< 0.1	%
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.4	mA
I_{OT}	Thermal drift of I_O	- 10°C .. + 85°C	± 0.3	± 0.5	mA
t_r	Response time [2] @ 90 % of $I_{P\,max}$			< 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		- 10 .. + 85	°C
T_S	Ambient storage temperature		- 25 .. + 100	°C
R_S	Secondary coil resistance @	T_A = 70°C	43	Ω
		T_A = 85°C	46	Ω
m	Mass		320	g
	Standards [3]		EN 50178	

Features

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

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

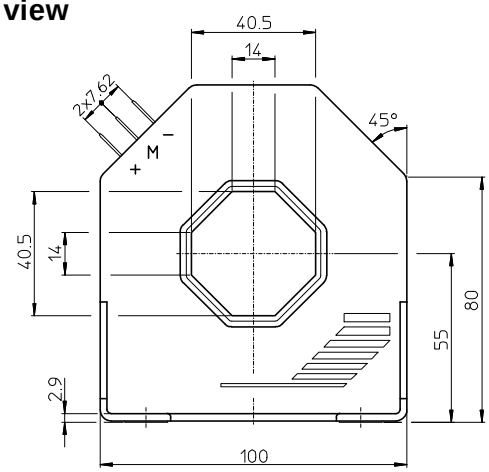
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Notes : [1] Pollution class 2. With a non insulated primary bar which fills the through-hole
[2] With a di/dt of 100 A/µs
[3] A list of corresponding tests is available

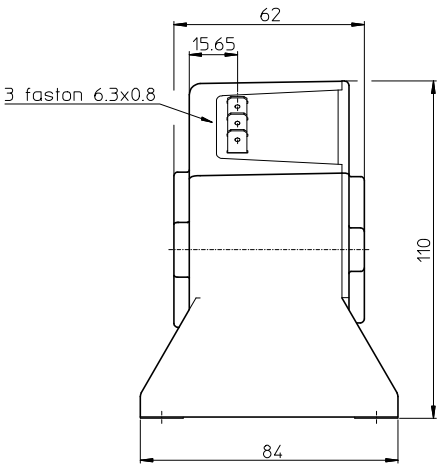
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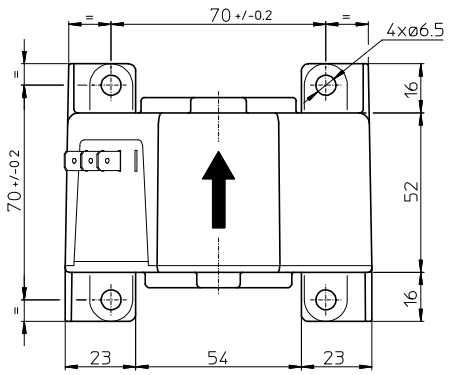
Dimensions LT 1005-S (in mm. 1 mm = 0.0394 inch)

Front view



Left view



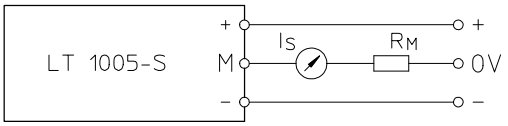


Top view

Secondary terminals

Terminal + : supply voltage + 15 .. 24 V
Terminal M : measure
Terminal - : supply voltage - 15 .. 24 V

Connection



Mechanical characteristics

• General tolerance	± 0.5 mm
• Fastening	4 holes ∅ 6.5 mm
• Primary through-hole	40.5 x 40.5 mm
• Connection of secondary	Faston 6.3 x 0.8 mm

Remarks

- $\mathbf{I}_S$ is positive when $\mathbf{I}_P$ 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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.