

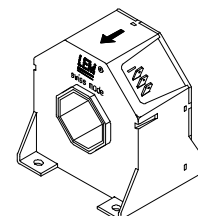
Current Transducer LT 1005-S

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).

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



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Electrical data

I_{PN}	Primary nominal r.m.s. current	1000				A
I_P	Primary current, measuring range	0 .. ± 2000				A
R_M	Measuring resistance @	$T_A = 70^{\circ}\text{C}$		$T_A = 85^{\circ}\text{C}$		
		$R_{M \min}$	$R_{M \max}$	$R_{M \min}$	$R_{M \max}$	
	with $\pm 15 \text{ V}$	@ $\pm 1000 \text{ A}_{\max}$	0 22.5	0 18.5	Ω	
		@ $\pm 1200 \text{ A}_{\max}$	0 11	0 8	Ω	
	with $\pm 24 \text{ V}$	@ $\pm 1000 \text{ A}_{\max}$	0 65	0 62	Ω	
		@ $\pm 2000 \text{ A}_{\max}$	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 ($\pm 5 \%$)	$\pm 15 \dots 24$				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	6				kV
V_b	R.m.s. rated voltage ¹⁾ , safe separation	1750				V
	basic isolation	3500				V

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 - $10^\circ\text{C} \dots +85^\circ\text{C}$	± 0.3	± 0.5 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	- 10 .. + 85	°C						
T_S	Ambient storage temperature	- 25 .. + 100	°C						
R_S	Secondary coil resistance @	<table><tr><td>T_A = 70°C</td><td>43</td><td>Ω</td></tr><tr><td>T_A = 85°C</td><td>46</td><td>Ω</td></tr></table>	T_A = 70°C	43	Ω	T_A = 85°C	46	Ω	
T_A = 70°C	43	Ω							
T_A = 85°C	46	Ω							
m	Mass	550	g						
	Standards	EN 50178: 1997							

Features

- Closed loop (compensated) current transducer using the Hall effect
- Isolated 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

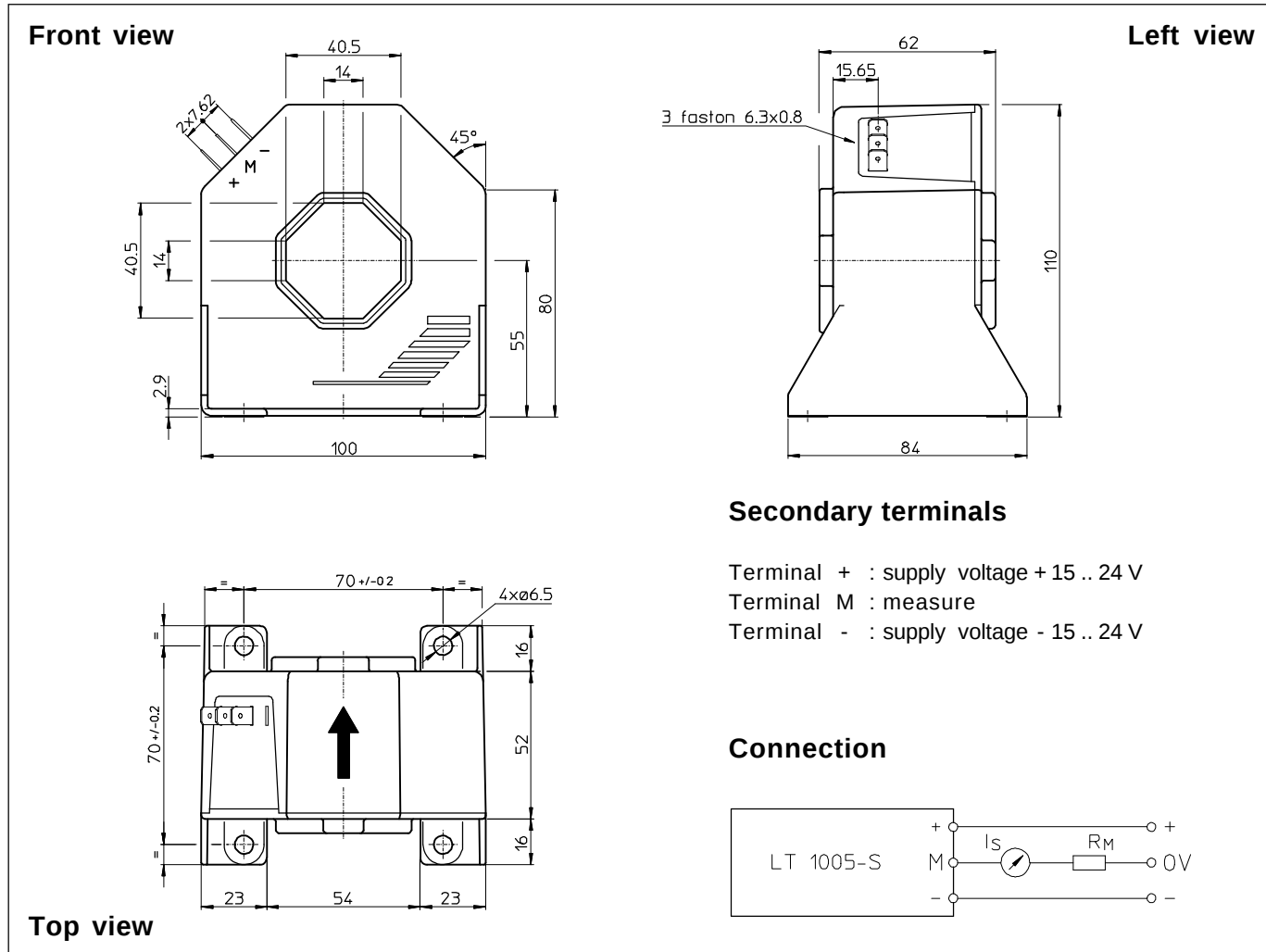
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

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 .

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



Mechanical characteristics

- General tolerance ± 0.5 mm
- Fastening 4 holes $\phi 6.5$ mm
- 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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.