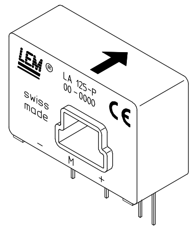
Current Transducer LA 125-P

I_{PN} = 125 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

I_{PN}	Primary nominal r.m.s. current		125				A
I_P	Primary current, measuring range		0 .. ± 200				A
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 ± 12 V	@ ± 125 A $_{max}$	5	52	14	50	Ω
		@ ± 200 A $_{max}$	5	20	14	18	Ω
	with ± 15 V	@ ± 125 A $_{max}$	25	74	40	72	Ω
		@ ± 200 A $_{max}$	25	34	40 [1]	40 [1]	Ω
I_{SN}	Secondary nominal r.m.s. current		125				mA
K_N	Conversion ratio		1 : 1000				
V_C	Supply voltage (± 5 %)		± 12 .. 15				V
I_C	Current consumption		16 (@ ±15 V) + I_S				mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn		3				kV

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , T_A = 25°C	@ ± 15 V (± 5 %)	± 0.60		%
		@ ± 12 .. 15 V (± 5 %)	± 0.80		%
e_L	Linearity		< 0.15		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.40	mA
I_{OM}	Residual current [2] @ I_P = 0, after an overload of 3 x I_{PN}			± 0.50	mA
I_{OT}	Thermal drift of I_O	0°C .. + 70°C	± 0.15	± 0.50	mA
		- 25°C .. + 85°C	± 0.15	± 0.60	mA
t_{ra}	Reaction time @ 10 % of $I_{P\,max}$		< 500		ns
t_r	Response time [3) 4)] @ 90 % of $I_{P\,max}$		< 1		µs
di/dt	di/dt accurately followed [4]		> 200		A/µs
f	Frequency bandwidth [4] (- 1 dB)		DC .. 100		kHz

General data

T_A	Ambient operating temperature		- 25 .. + 85	°C
T_S	Ambient storage temperature		- 40 .. + 90	°C
R_S	Secondary coil resistance @	T_A = 70°C	32	Ω
		T_A = 85°C	33.5	Ω
m	Mass		40	g
	Standards [5]		EN 50178	

Notes :
[1] Measuring range limited to ± 180 A $_{max}$
[2] The result of the coercive field of the magnetic circuit
[3] With a di/dt of 100 A/µs
[4] The primary conductor is best filling the through-hole and/or the return of the primary conductor is above the top of the transducer
[5] A list of corresponding tests is available

Features

- Closed loop (compensated) current transducer using the Hall effect
- Printed circuit board mounting
- 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.

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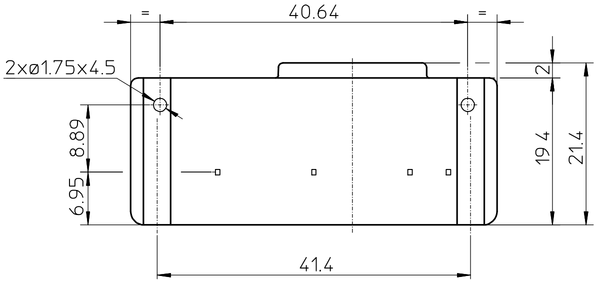
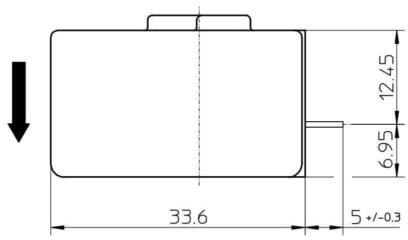
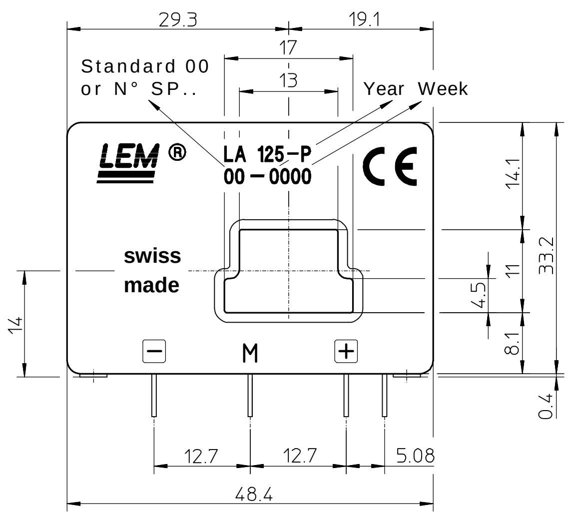
Dimensions LA 125-P (in mm. 1 mm = 0.0394 inch)

Bottom view



Left view



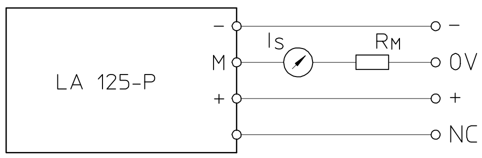


Front view

Secondary terminals

Terminal - : supply voltage - 12 .. 15 V
Terminal M : measure
Terminal + : supply voltage + 12 .. 15 V
Terminal : NC

Connection



Mechanical characteristics

• General tolerance	± 0.2 mm
• Primary through-hole	17 x 11 mm
• Fastening & connection of secondary	4 pins 0.63 x 0.56 mm
Recommended PCB hole	0.9 mm
• Supplementary fastening	2 holes ∅ 1.75 mm
Recommended PCB hole	2.4 mm
Recommended screws	KA 22 x 6
LEM code	47.30.60.006.0

Remarks

- I_S is positive when I_P flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 90°C.
- Dynamic performances (di/dt and response time) are best with a primary bar in low position in the through-hole.
- In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.