Current Transducer LAH 100-P

I_{PN} = 100 A

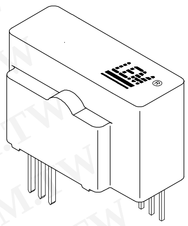
For the electronic measurement of currents : DC, AC, pulsed ..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).

LEM TRANSDUCERS 5 YEARS WARRANTY

CE

RoHS COMPLIANT 2002/95/EC

16052



Electrical data

I_{PN}	Primary nominal r.m.s. current		100			A
I_P	Primary current, measuring range [1]		0 .. 160			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	@ I_{PN} [± A $_{DC}$]	0	63	0 57	Ω
		@ I_{PN} [A $_{RMS}$] [2]	0	11	0 5	Ω
	with ± 15 V	@ I_{PN} [± A $_{DC}$]	20	120	45 114	Ω
		@ I_{PN} [A $_{RMS}$] [2]	20	51	45 45	Ω
		@ I_P < I_{PN} [3]				
I_{SN}	Secondary nominal r.m.s. current		50			mA
K_N	Conversion ratio		1 : 2000			
V_C	Supply voltage (± 5 %)		± 12 .. 15			V
I_C	Current consumption		10 (@ ± 15 V)+I_S			mA
V_d	R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn		5			kV
V_e	R.m.s. voltage for partial discharge extinction @ 10 pC		> 2			kV
$\hat{V}_w$	Impulse withstand voltage 1.2/50 µs		> 12			kV

Accuracy - Dynamic performance data

X	Accuracy [4] @ I_{PN}, T_A = 25°C	± 0.25		%
e_L	Linearity error	< 0.15		%
		Typ	Max	
I_O	Offset current @ T_A = 25°C		± 0.15	mA
I_{OM}	Residual current @ I_P = 0, after an overload of 5 x I_{PN}	± 0.10	± 0.15	mA
I_{OT}	Thermal drift of I_O 0°C .. + 70°C	± 0.10	± 0.40	mA
	- 25°C .. + 85°C	± 0.10	± 0.50	mA
t_{ra}	Reaction time @ 10 % of I_{PN}	< 200		ns
t_r	Response time [5] @ 90 % of I_{PN}	< 500		ns
di/dt	di/dt accurately followed	> 200		A/µs
f	Frequency bandwidth (- 1 dB)	DC .. 200		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	115	Ω
		@ T_A = 85°C	121	Ω
	Insulating material group		I	
m	Mass		24	g
	Standards		EN 50178 : 1997	

Notes : [1] For 10 s, with R_M ≤ 25 Ω (V_C = ± 15 V) - [2] 50 Hz Sinusoidal - [3] The measuring resistance $R_{M\,min}$ may be lower (see "LAH Technical Information" leaflet) - [4] Without I_O & I_{OM} - [5] With a di/dt of 100 A/µs.

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.

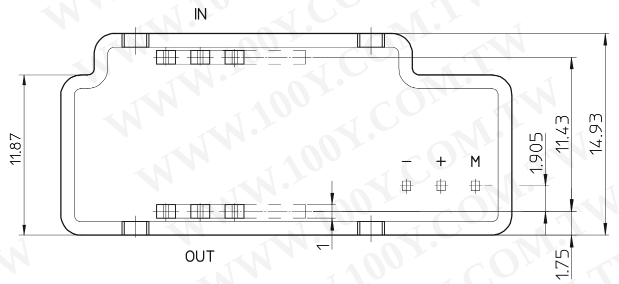
Applications

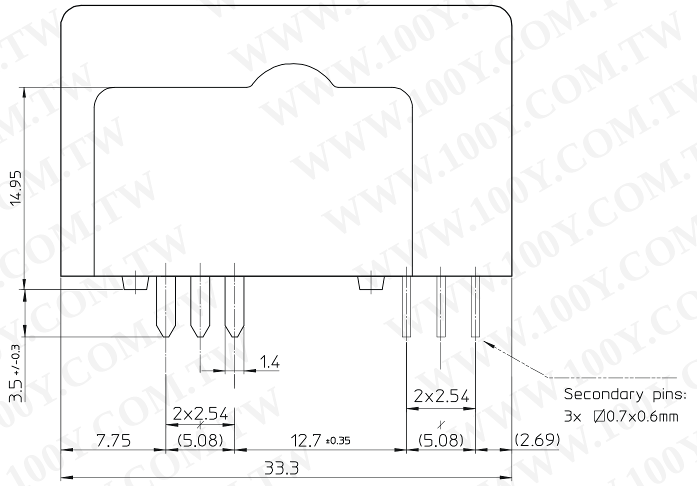
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Dimensions LAH 100-P (in mm. 1 mm = 0.0394 inch)

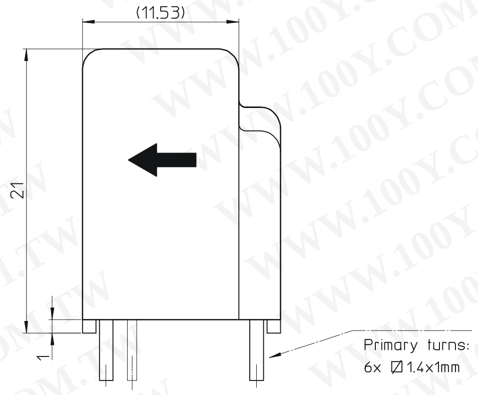
Connection

Bottom view





Left view



Front view

Number of primary turns	Primary current nominal I_{PN} [A]	Primary current maximum I_P [A]	Nominal output current I_{SN} [mA]	Turns ratio K_N	Primary resistance R_P [mΩ]	Primary insertion inductance L_P [µH]
1	100	160	50	1 : 2000	0.08	0.007

Mechanical characteristics

- General tolerance ± 0.2 mm
- Fastening & connection of primary 6 pins 1.4 x 1 mm
  Recommended PCB hole 2 mm
- Fastening & connection of secondary 3 pins 0.7 x 0.6 mm
  Recommended PCB hole 1.2 mm

Remarks

- I_S is positive when I_P flows from terminals "IN" to terminals "OUT".
- The jumper temperature and PCB should not exceed 100°C.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

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