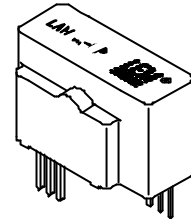


# Current Transducer LAH 100-P

$I_{PN} = 100 \text{ A}$

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	100	A				
$I_P$	Primary current, measuring range <sup>1)</sup>	0 .. 160	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 $\pm 12 \text{ V}$	@ $I_{PN} [\pm \text{A}_{DC}]$	0	63	0	57
			@ $I_{PN} [\text{A}_{RMS}]$ <sup>2)</sup>	0	11	0	5
		with $\pm 15 \text{ V}$	@ $I_{PN} [\pm \text{A}_{DC}]$	20	120	45	114
			@ $I_{PN} [\text{A}_{RMS}]$ <sup>2)</sup>	20	51	45	45
	@ $I_P < I_{PN}$ <sup>3)</sup>						
$I_{SN}$	Secondary nominal r.m.s. current	50	m A				
$K_N$	Conversion ratio	1 : 2000					
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 12 \dots 15$	V				
$I_C$	Current consumption	10 (@ $\pm 15 \text{ V}$ ) <sup>4)</sup>	m A				
$V_d$	R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn	5	k V				
$V_e$	R.m.s. voltage for partial discharge extinction @ 10 pC	> 2	k V				
$V_w$	Impulse withstand voltage 1.2/50 $\mu\text{s}$	> 12	k V				

## Accuracy - Dynamic performance data

$X$	Accuracy <sup>4)</sup> @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.25$	%
$e_L$	Linearity	< 0.15	%
$I_O$	Offset current @ $T_A = 25^\circ\text{C}$	Typ	Max
			$\pm 0.15$ m A
			$\pm 0.10$ $\pm 0.15$ m A
$I_{OM}$	Residual current @ $I_P = 0$ , after an overload of $5 \times I_{PN}$	$\pm 0.10$	$\pm 0.15$ m A
$I_{OT}$	Thermal drift of $I_O$	0°C .. + 70°C	$\pm 0.10$ $\pm 0.40$ m A
		- 25°C .. + 85°C	$\pm 0.10$ $\pm 0.50$ m A
$t_{ra}$	Reaction time @ 10 % of $I_{PN}$	< 200	ns
$t_r$	Response time <sup>5)</sup> @ 90 % of $I_{PN}$	< 500	ns
$di/dt$	di/dt accurately followed	> 200	A/ $\mu\text{s}$
$f$	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	@ $T_A = 70^\circ\text{C}$	115 $\Omega$
		@ $T_A = 85^\circ\text{C}$	121 $\Omega$
	Insulating material group	I	
$m$	Mass Standards <sup>6)</sup>	24	g
		EN 50178	

**Notes :** <sup>1)</sup> For 10 s, with  $R_M \leq 25 \Omega$  ( $V_C = \pm 15 \text{ V}$ ) - <sup>2)</sup> 50 Hz Sinusoidal -  
<sup>3)</sup> The measuring resistance  $R_{M \min}$  may be lower (see "LAH Technical Information" leaflet) - <sup>4)</sup> Without  $I_O$  &  $I_{OM}$  - <sup>5)</sup> With a di/dt of 100 A/ $\mu\text{s}$   
<sup>6)</sup> 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

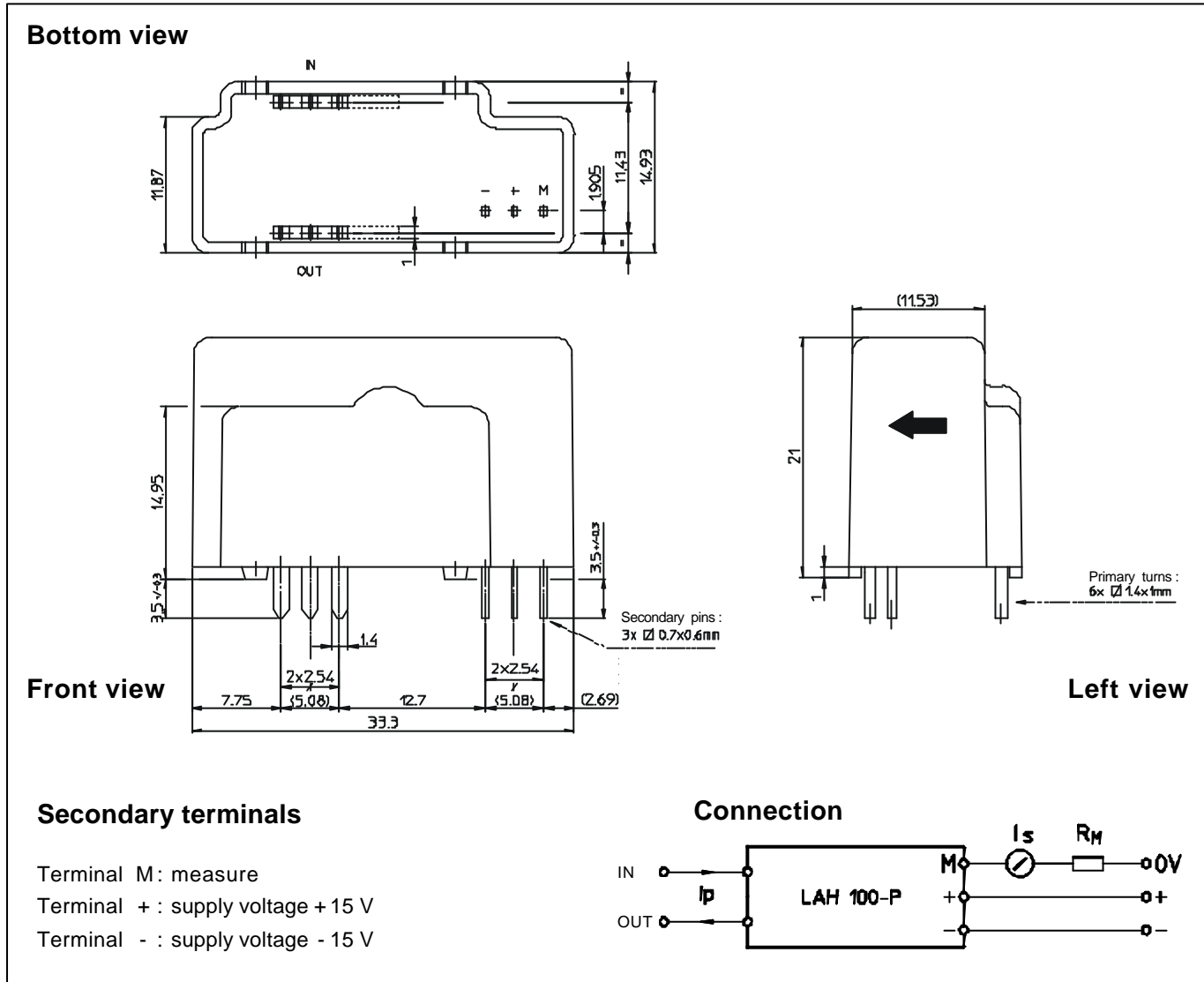
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

## 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.

010820/5

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



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

### Mechanical characteristics

- General tolerance  $\pm 0.2$  mm
- Fastening & connection of primary  
Recommended PCB hole 2 mm
- Fastening & connection of secondary  
Recommended PCB hole 1.2 mm

### Remarks

- $I_S$  is positive when  $I_P$  flows from terminals "IN" to terminals "OUT".
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.