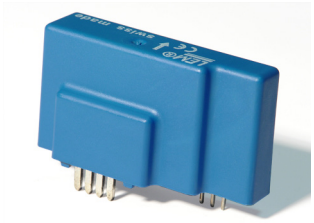
Current Transducer LAH 125-P

I_{PN} = 125 A

For the electronic measurement of currents: DC, AC, pulsed..., with galvanic separation between the primary circuit and the secondary 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 rms current			125				A
I_{PM}	Primary current, measuring range			0 .. ± 200				A
R_M	Measuring resistance @							
	with ± 12 V	@ ± 125 A_{max}		0	49	14	48	Ω
		@ ± 200 A_{max}		0	14	14	15	Ω
	with ± 15 V	@ ± 125 A_{max}		22	72	29	70	Ω
		@ ± 200 A_{max}		22	28	29	29	Ω
I_{SN}	Secondary nominal rms current			125				mA
K_N	Conversion ratio			1 : 1000				
U_C	Supply voltage (± 5 %)			± 12 .. 15				V
I_C	Current consumption			19 (@ ± 15V) + I_S				mA

Accuracy - Dynamic performance data

				Typ	Max	
X	Accuracy @ I_{PN}, T_A = 25 °C			± 0.41		%
ε_L	Linearity error			< 0.15		%
I_O	Offset current @ I_P = 0, T_A = 25 °C				± 0.20	mA
I_{OM}	Magnetic offset current [1] @ I_P = 0 and specified R_M, after an overload of 3 × I_{PN}				± 0.20	mA
I_{OT}	Temperature variation of I_O	- 25 °C .. + 70 °C		± 0.22	± 0.65	mA
		- 40 °C .. + 85 °C		± 0.30	± 0.95	mA
t_{ra}	Reaction time to 10 % of I_{PN}			< 500		ns
t_r	Step response time [2] to 90 % of I_{PN}			< 1		µs
di/dt	di/dt accurately followed			> 100		A/µs
BW	Frequency bandwidth (- 3 dB) @ I_{PN}			DC .. 100		kHz

General data

T_A	Ambient operating temperature		- 40 .. + 85		°C
T_S	Ambient storage temperature		- 40 .. + 90		°C
R_S	Resistance of secondary winding	@ T_A = 70 °C	34		Ω
		@ T_A = 85 °C	35		Ω
m	Mass		30		g
	Standards		EN 50178: 1997		

Notes: [1] The result of the coercive field of the magnetic circuit
[2] With a di/dt of 100 A/µs.

Features

- Closed loop (compensated) current transducer using the Hall effect
- Printed circuit board mounting
- Insulating plastic case recognized according to UL 94-V0.

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- 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.

Application domain

- Industrial.

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Isolation characteristics

U_d	Rms voltage for AC insulation test, 50 Hz, 1 min	5	kV
$\hat{U}_W$	Impulse withstand voltage 1.2/50 µs	12	kV
U_e	Partial discharge extinction rms voltage @ 10pC	> 2	kV
		Min	
d_{Cp}	Creepage distance [1)]	14.25	mm
d_{Cl}	Clearance [1)]	14.25	mm
CTI	Comparative tracking index (group IIIa)	175	

Note: [1)] On PCB with soldering pattern UTEC93-703.

Applications examples

According to EN 50178 and IEC 61010-1 standards and following conditions:

- Over voltage category OV 3
- Pollution degree PD2
- Non-uniform field

	EN 50178	IEC 61010-1
d_{Cp}, d_{Cl}, $\hat{U}_W$	Rated insulation voltage	Nominal voltage
Basic insulation	1250 V	1000 V
Reinforced insulation	630 V	600 V

Safety

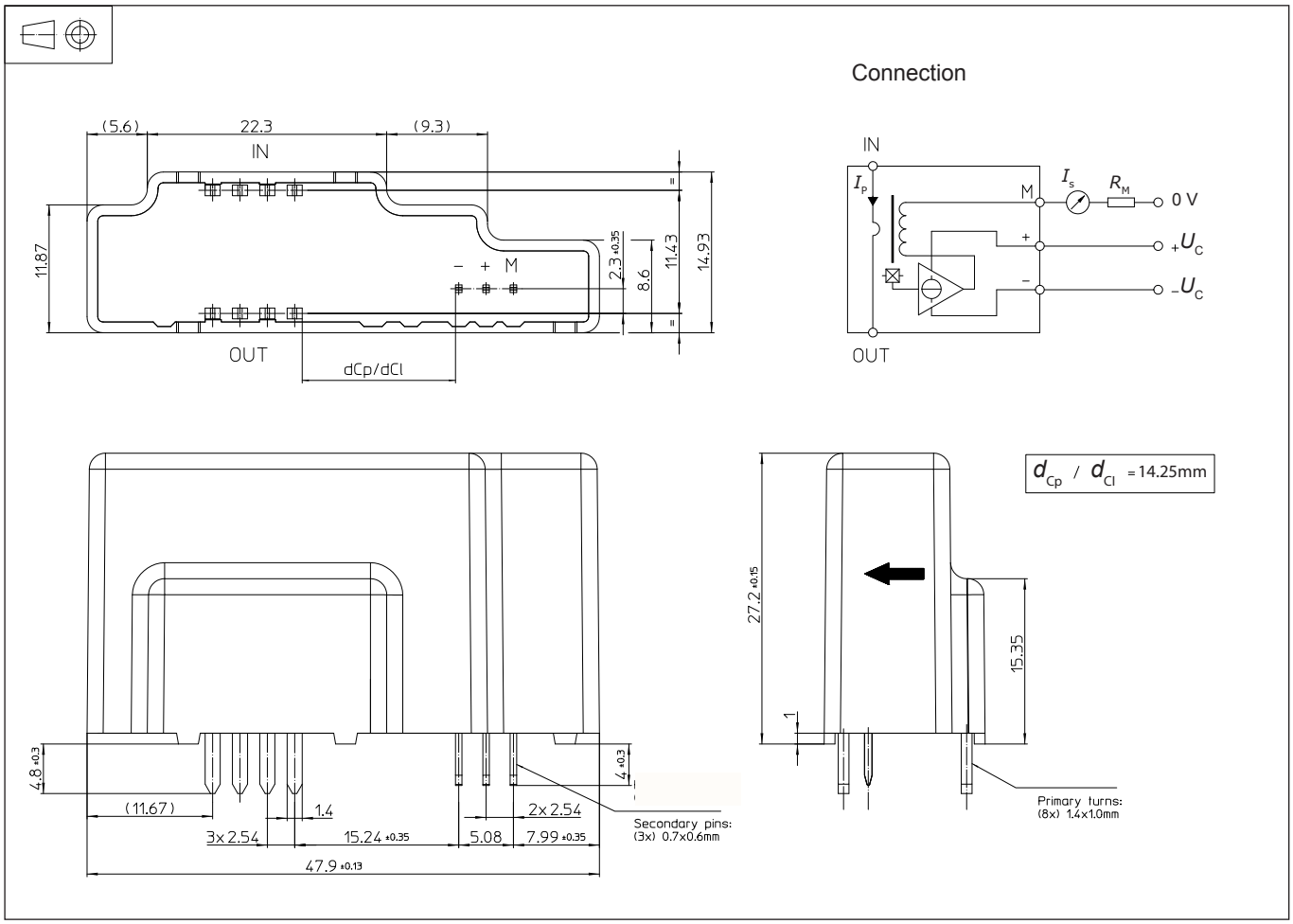
This transducer must be used in limited-energy secondary circuits according to IEC 61010-1.

This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.

Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a build-in device, whose conducting parts must be inaccessible after installation. A protective housing or additional shield could be used.
Main supply must be able to be disconnected.

Dimensions LAH 125-P (in mm)



Mechanical characteristics

• General tolerance	± 0.2 mm
• Fastening & connection of primary	8 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

- The temperature of the primary circuit board trace connected to the primrary pins of the transducer should not exceed 100 °C during operation.
- I_S is positive when I_P flows in the direction of the arrow.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.