

# Current Transducer LA 150-P

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

$$I_{PN} = 150 \text{ A}$$



46090



## Electrical data

$I_{PNDC}$	Primary continuous direct current (nominal)	150	A
$I_{PN}$	Primary nominal current rms	106	A
$I_{PM}$	Primary current, measuring range	0 .. ± 200	A
$R_M$	Measuring resistance	$T_A = 70^\circ\text{C}$   $T_A = 85^\circ\text{C}$ $R_{M\text{mini}}$ $R_{M\text{maxi}}$   $R_{M\text{mini}}$ $R_{M\text{maxi}}$ 0    30         0    15 $\Omega$	
	@ ±15V, ± 200 A <sub>maxi</sub>		
$I_S$	Secondary current	75	mA
$I_{SN}$	Secondary nominal current rms	53	mA
$K_N$	Conversion ratio	1 : 2000	
$V_C$	Supply voltage (± 5 %)	± 15	V
$I_C$	Current consumption	16 + $I_S$	mA
$V_d$	Rms voltage for AC isolation test, 50 Hz, 1min	2.5	kV

## Accuracy-Dynamic performance data

<b>X</b>	Accuracy @ $I_{PNDC}$ , $T_A = 25^\circ\text{C}$ , ± 15 V (± 5 %)	< ± 1 % of $I_{PNDC}$
<b>e<sub>L</sub></b>	Linearity error (0 .. ± $I_{PNDC}$ )	± 0.25% of $I_{PNDC}$
<b>I<sub>OE</sub></b>	Electrical offset current @ $I_p = 0$ , $T_A = 25^\circ\text{C}$	< ± 0.2 mA
<b>I<sub>OM</sub></b>	Magnetic offset current @ $I_p = 0$ and specified $R_M$ , after an overload of 1 x $I_{PNDC}$	< ± 0.15 mA
<b>I<sub>OT</sub></b>	Temperature variation of $I_O$	< ± 0.005 mA
<b>t<sub>r</sub></b>	Response time to 90% of $I_{PNDC}$ step	< 1 $\mu\text{s}$
<b>di/dt</b>	di/dt accurately followed	> 200 A/ $\mu\text{s}$
<b>BW</b>	Frequency bandwidth (- 1 dB) <sup>1)</sup>	DC .. 150 kHz

## General data

<b>T<sub>A</sub></b>	Ambient operating temperature	- 10 .. + 80 $^\circ\text{C}$
<b>T<sub>S</sub></b>	Ambient storage temperature	- 15 .. + 85 $^\circ\text{C}$
<b>R<sub>S</sub></b>	Secondary coil resistance	80 $\Omega$
<b>m</b>	Mass	25 g
	Standards	EN 50178: 1997

## Features

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

## 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 capacity

## Applications

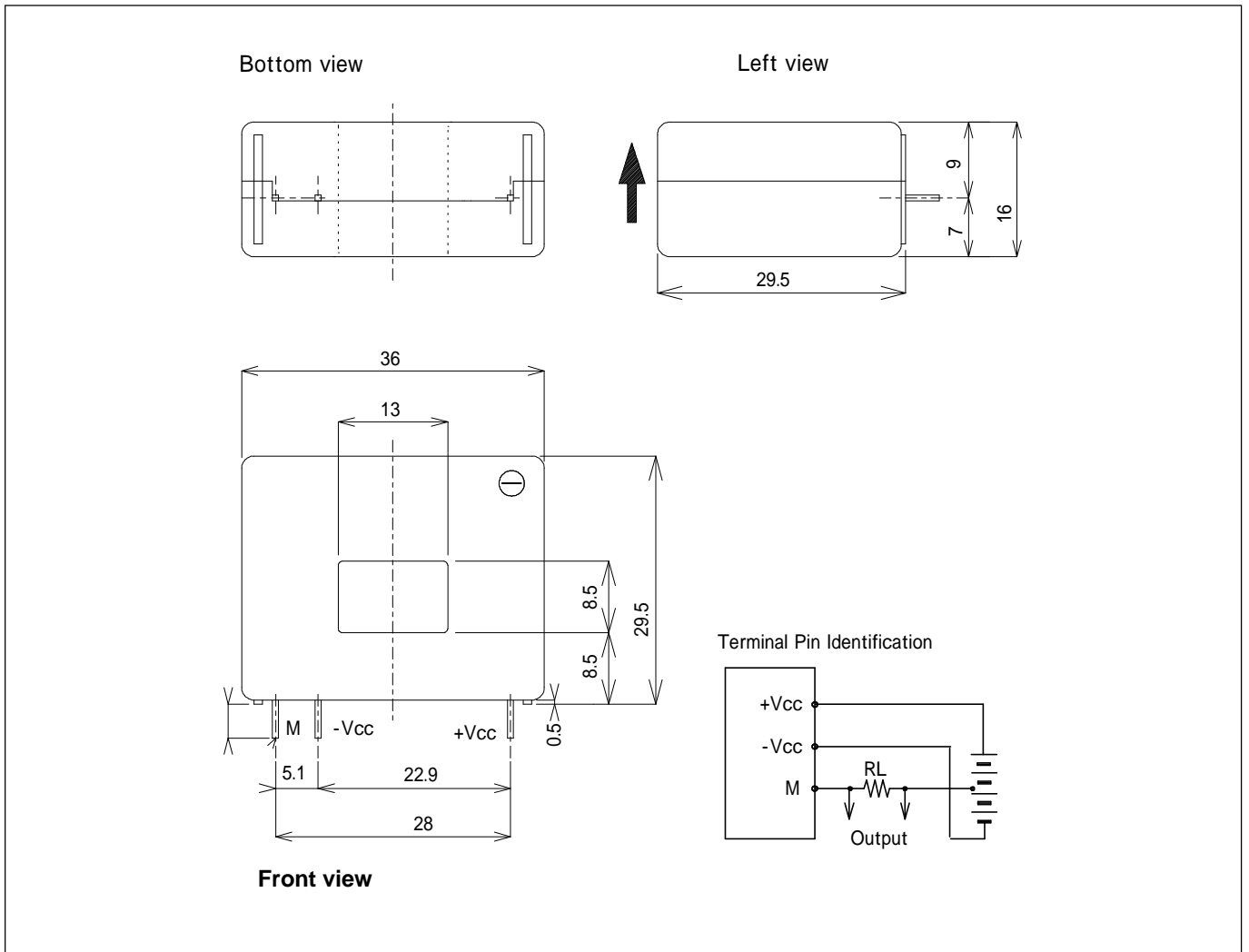
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications

## Application Domain

- Industrial

### Notes :

<sup>1)</sup> Derating is needed to avoid excessive core heating at high frequency.

**Dimensions LA 150-P** (in mm. 1 mm = 0.0394 inch)

**Mechanical characteristics**

- General tolerance  $\pm 0.2$  mm
- Primary through-hole 13 x 8.5 mm
- Fastening & connection of secondary 3 pins
- 0.7 x 0.7 mm
- Recommended PCB hole 1.0 mm

**Safety**


This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following 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 built-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.