

# Current Transducer LA 200-SD/SP3

$$I_{PN} = 200 \text{ A}$$

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



## Electrical data

$I_{PN}$	Primary nominal current rms	200	A
$I_{PM}$	Primary current, measuring range	0 .. $\pm 500$	A
$R_M$	Measuring resistance with $\pm 24 \text{ V}$	$R_{M \min}$	$R_{M \max}$
		@ $\pm 200 \text{ A}_{\max}$	0    350
		@ $\pm 500 \text{ A}_{\max}$	0    55
$I_{SN}$	Secondary nominal current rms	40	mA
$K_N$	Conversion ratio	1 : 5000	
$V_C$	Supply voltage ( $\pm 10 \%$ )	$\pm 24$	V
$I_C$	Current consumption ( $\pm 1\%$ )	$35 + I_S$	mA

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$	$\pm 1$	%
$\epsilon_L$	Linearity error	$< 0.1$	%
$I_O$	Offset current @ $I_p = 0$ , $T_A = 25^\circ\text{C}$	Typ	Max
$I_{OM}$	Magnetic offset current @ $I_p = 0$ and specified $R_M$ , after an overload of $3 \times I_{PN}$		$\pm 0.2$
			$\pm 0.2$
$I_{OT}$	Temperature variation of $I_O$ $-30^\circ\text{C} \dots +70^\circ\text{C}$	$\pm 0.1$	$\pm 0.3$
$t_T$	Response time <sup>1)</sup> to 90 % of $I_{PN}$ step	$< 1$	$\mu\text{s}$
$di/dt$	$di/dt$ accurately followed	$> 50$	A/ $\mu\text{s}$
<b>BW</b>	Frequency bandwidth (-1 dB)	DC .. 100	kHz

## General data

$T_A$	Ambient operating temperature	$-30 \dots +70$	$^\circ\text{C}$
$T_S$	Ambient storage temperature	$-40 \dots +85$	$^\circ\text{C}$
$R_S$	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	120	$\Omega$
$m$	Mass	1.7	kg
	Standards <sup>2)</sup>	EN 50155: 1995	

## Features

- This transducer has a split core. It permits current measurement without cutting the primary circuit (high power)
- Closed loop (compensated) current transducer using the Hall effect
- Isolated plastic case recognized according to UL 94-V0.

## Special features

- $I_{PM} = 0 \dots \pm 500 \text{ A}$
- $K_N = 1 : 5000$
- $V_C = \pm 24 (\pm 10 \%) \text{ V}$
- $T_A = -30 \dots +70^\circ\text{C}$
- Connection to secondary on AMP CPC 11/4 connector
- Base fastening.

## 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

- Single or three phases inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger
- Energy meter.

## Application Domain

- Traction.

Notes: <sup>1)</sup> With a  $di/dt$  of 100 A/ $\mu\text{s}$

<sup>2)</sup> Standard IEC 61000-4-3 with criteria  $< 10\%$ .

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### Isolation characteristics

$V_d$	Rms voltage for AC isolation test, 50 Hz, 1 min	6	kV
		Min	
dCp	Creepage distance	36.5	mm
dCI	Clearance distance	36.5	mm
CTI	Comparative Tracking Index (group IIIa)	375	

### Safety



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).

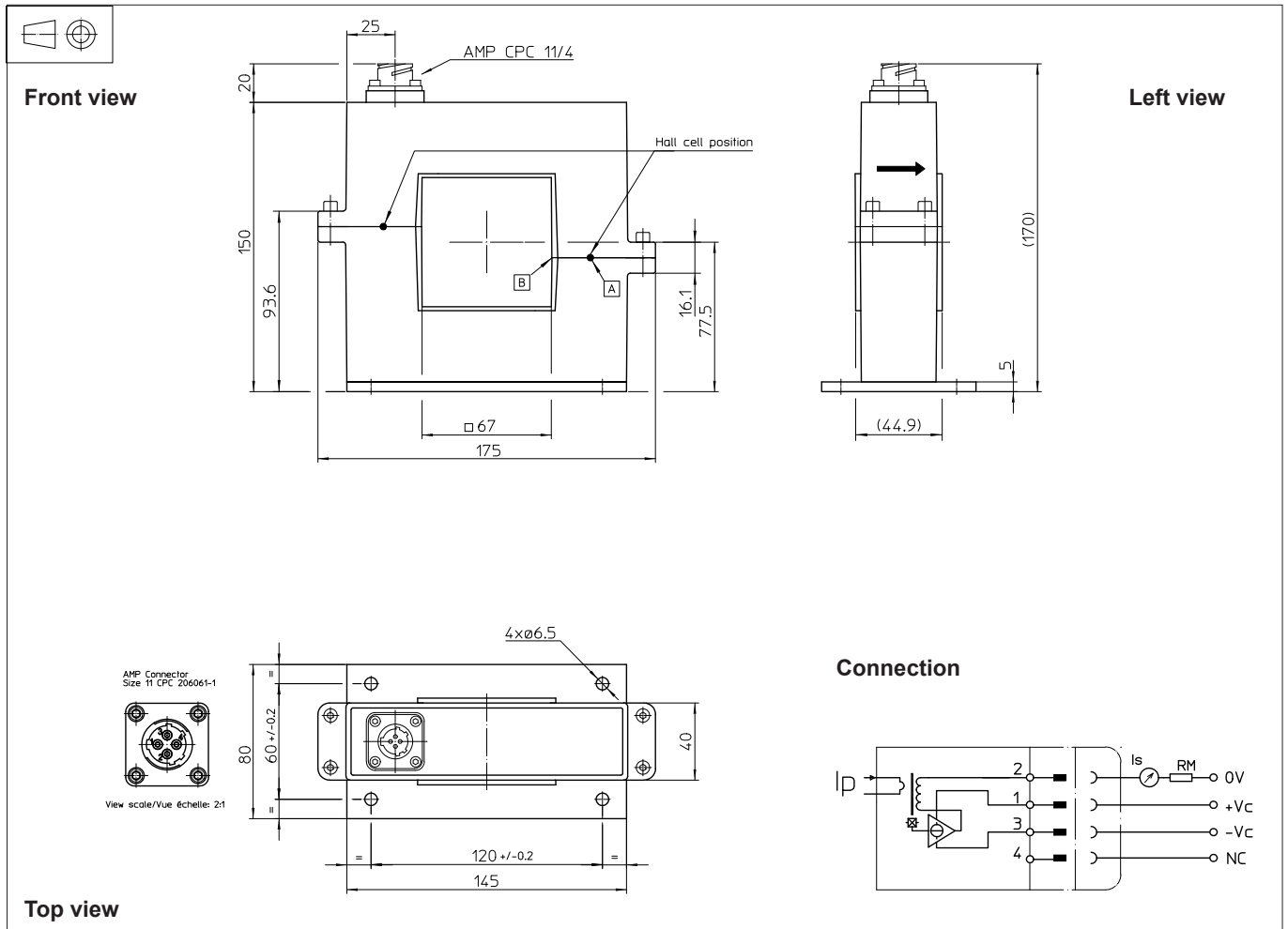
Ignoring this warning can lead to injury and/or cause serious damage.

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 LA 200-SD/SP3 (in mm. 1 mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Transducer fastening  
4 holes  $\varnothing 6.5$  mm  
4 M6 steel screws
- Recommended fastening torque 4.7 Nm or 3.46 Lb.-Ft.
- Connection of primary through-hole  
 $\square 67 \times 67$  mm
- Connection of secondary AMP CPC 11/4

### Remarks

- $I_s$  is positive when  $I_p$  flows from terminal + to terminal -
- Temperature of the primary conductor should not exceed  $100^\circ\text{C}$ .
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.