Current Transducer LA 200-SD/SP3

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

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , T_A = 25°C		± 1		%
ε_L	Linearity error		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.2	mA
I_{OM}	Magnetic offset current @ I_P = 0 and specified R_M, after an overload of 3 x I_{PN}			± 0.2	mA
I_{OT}	Temperature variation of I_O	- 30°C .. + 70°C	± 0.1	± 0.3	mA
t_r	Response time [1] to 90 % of I_{PN} step		< 1		µs
di/dt	di/dt accurately followed		> 50		A/µs
BW	Frequency bandwidth (- 1 dB)		DC .. 100		kHz

General data

T_A	Ambient operating temperature	- 30 .. + 70	°C
T_S	Ambient storage temperature	- 40 .. + 85	°C
R_S	Secondary coil resistance @ T_A = 70°C	120	Ω
m	Mass	1.7	kg
	Standards [2]	EN 50155: 1995	

Notes: [1] With a di/dt of 100 A/µs

[2] Standard IEC 61000-4-3 with criteria < 10%.

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 .. ± 500 A
- K_N = 1 : 5000
- V_C = ± 24 (± 10 %) V
- T_A = - 30 .. + 70°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.

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Isolation characteristics

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

Safety

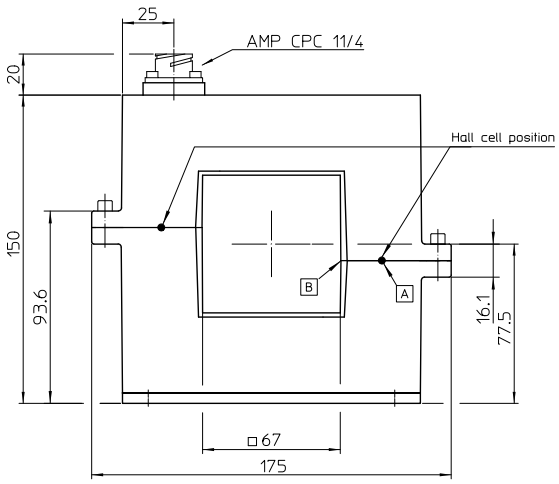
This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.

Caution, risk of electrical shock

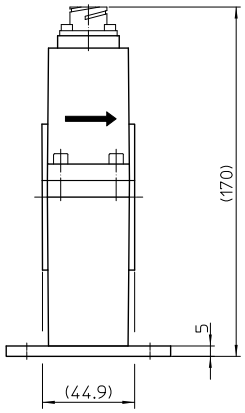
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).
Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a build-in device, whose conducting parts must be inaccessible after installation.
A protective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

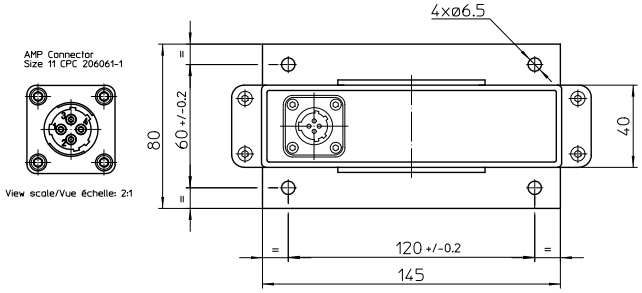
Dimensions LA 200-SD/SP3 (in mm. 1 mm = 0.0394 inch)

Front view



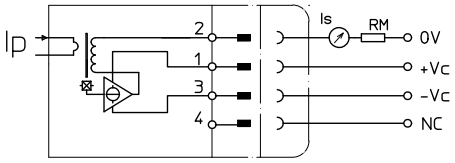
Left view





Top view

Connection



Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening 4 holes Ø 6.5 mm
  4 M6 steel screws
  Recommended fastening torque 4.7 Nm or 3.46 Lb.-Ft.
- Connection of primary through-hole
  ☐ 67 x 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°C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.