

Current Transducer LA 205-S

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 of	current rms		200		А
I _{PM}	Primary current, r	neasuring range		0 ± 300		А
Î _{P max}	Measuring overloa	ad 1)		600		А
1 max			Τ,=	70°C T	= 85°C	
R _M	Measuring resista	ince			min R _{M max}	x
	with ± 12 V	@ ± 200 A _{max}	0	68 0		Ω
		@ ± 300 A _{max}	0	33 0	30	Ω
	with ± 15 V	@ ± 200 A _{max}	5	95 5	93	Ω
		@ ± 300 A _{max}	5	50 5	49	Ω
I _{sn}	Secondary nomin			100	m	۱A
K	Conversion ratio			1:2000		
V _c	Supply voltage (±	: 5 %)		± 12 15		V
I _c	Current consump	tion		20 (@ ± 15	V) + I _s m	۱A

Accuracy - Dynamic performance data

X _G	Overall accuracy @ I_{PN} , $T_{A} = 25^{\circ}C$	± 0.8		%
		< 0.1		
\mathcal{E}_{L}	Linearity error	< 0.1		%
		Тур	Max	
I _o	Offset current @ $I_P = 0$, $T_A = 25^{\circ}C$		± 0.15	mA
I _{OM}	Magnetic offset current ²) (a) $I_{P} = 0$ and specified \mathbf{R}_{M} ,			mA
	after an overload of 3 x $I_{_{PN}}$		± 0.50	mA
I _{OT}	Temperature variation of I _o - 10°C + 85°C	± 0.15	± 0.30	mA
t _{ra}	Reaction time @ 10 % of I _{PN}	< 500		ns
t	Response time ³⁾ @ 90 % of I _{PN} step	< 1		μs
di/dt	di/dt accurately followed	> 100		A/µs
BW	Frequency bandwidth (- 3 dB)	DC 1	00	kHz

General data

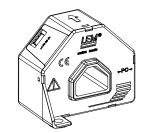
T _A	Ambient operating temperature		- 10 + 85	°C	
Ts	Ambient storage temperature		- 40 + 90	°C	
R _s	Secondary coil resistance	@ T _A = 70°C	35	Ω	
U		@ T _A = 85°C	37	Ω	
т	Mass		110	g	
	Standards		EN 50178: 1997		

<u>Notes</u>: ¹⁾ 3 mn/hour **(2)** $V_{c} = \pm 15 \text{ V}, \text{ R}_{M} = 5 \Omega$

²⁾ The result of the coercive force (Hc) of the magnetic circuit

 $^{3)}$ With a di/dt of 100 A/µs.

I_{PN} = 200 A



Features

- Closed loop (compensated) current transducer using the Hall effect
- Isolated plastic case recognized according to UL 94-V0
- Patent pending.

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.

Application domain

• Industrial.



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Isolation characteristics

V _d	Rms voltage for AC isolation test, 50 Hz, 1 min	6	kV
Ŷ	Impulse withstand voltage 1.2/50 µs	18	kV
		Min	
dCp	Creepage distance	25	mm
dCl	Clearance distance	23.25	mm
СТІ	Comparative Tracking Index (group IIIa)	225	

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
dCp, dCl, \hat{V}_{w}	Rated insulation voltage	Nominal voltage
Single insulation	2500 V	2500 V
Reinforced insulation	1250 V	1250 V

According VDE 0160 (1994):

single insulation 3250 V Reinforced insulation 1625 V

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).

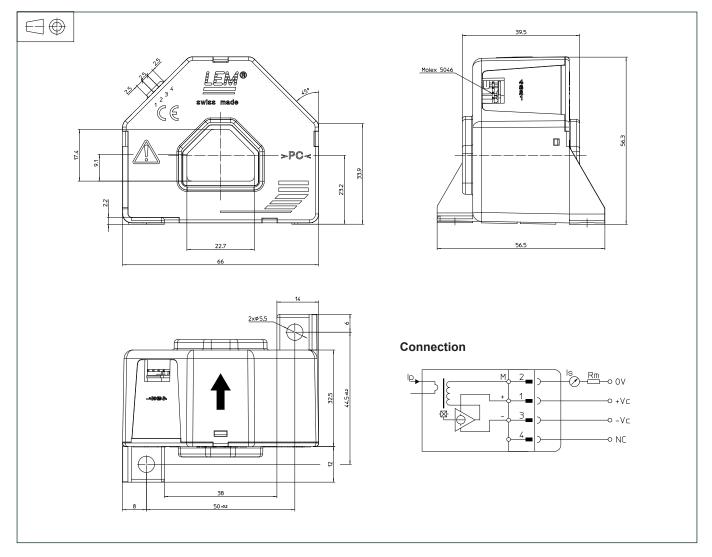
Ignoring this warning can lead to injury and/or cause serious damage.

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 205-S (in mm)



Mechanical characteristics

- General tolerance
- Transducer fastening

Recommended fastening torque 1.2 Nm

- Primary through-hole
- Connection of secondary
- ± 0.5 mm 2 holes Ø 5.5 mm
- 2 M5 steel screws
- 1.2 Nm 22.7 x 17.4 mm
- MOLEX 5046 4 pins tin plated

Remarks

- I_s is positive when I_p flows in the direction of the arrow.
- 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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.