Current Transducer LA 205-S/SP21

I_{PN} = 300 A

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

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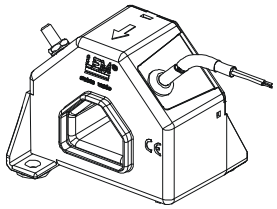

Electrical data

I_{PN}	Primary nominal r.m.s. current				300		A
I_P	Primary current, measuring range				0 .. ± 640		A
$\hat{I}_{P\ max}$	Measuring overload [1]				600		A
R_M	Measuring resistance @		T_A = 70°C		T_A = 85°C		
			$R_{M\ min}$	$R_{M\ max}$	$R_{M\ min}$	$R_{M\ max}$	
	with ± 15 V	@ ± 300 A $_{max}$	0	35	0	30	Ω
		@ ± 350 A $_{max}$	0	15	0	10	Ω
		@ ± 380 A $_{max}$	0	8	0	3	Ω
	with ± 24 V	@ ± 300 A $_{max}$	3	120	3	116	Ω
		@ ± 600 A $_{max}$	3	13	3	10	Ω
		@ ± 640 A $_{max}$	3	6	3	3	Ω
I_{SN}	Secondary nominal r.m.s. current				100		mA
K_N	Conversion ratio				1 : 3000		
V_C	Supply voltage (± 5 %)				± 15 .. 24		V
I_C	Current consumption				35 (@ ± 24 V) + I_S		mA

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}, T_A = 25°C		± 0.8		%
ε_L	Linearity error		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.15	mA
I_{OM}	Residual current [2] @ I_P = 0, after an overload of 3 x I_{PN}			± 0.50	mA
I_{OT}	Thermal drift of I_O	- 25°C .. + 70°C	± 0.20	± 0.50	mA
		- 50°C .. + 85°C		± 0.80	mA
t_{ra}	Reaction time @ 10 % of I_{PN}		< 500		ns
t_r	Response time [3] @ 90 % of I_{PN}		< 1		µs
di/dt	di/dt accurately followed		> 100		A/µs
f	Frequency bandwidth (- 3 dB)		DC .. 100		kHz

General data

T_A	Ambient operating temperature		- 40 (-50) .. + 85	°C
T_S	Ambient storage temperature		- 50 .. + 85	°C
R_S	Secondary coil resistance @	T_A = 70°C	95	Ω
		T_A = 85°C	100	Ω
m	Mass		200	g
	Standards		EN 50155 : 1995	

Notes : [1] 3 mn/hour @ V_C = ± 15 V, R_M = 5 Ω
[2] The result of the coercive field of the magnetic circuit.
[3] With a di/dt of 100 A/µs.

Features

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

Special features

- I_{PN} = 300 A
- I_P = 0 .. ± 640 A
- K_N = 1 : 3000
- V_C = ± 15 .. 24 V (± 5 %)
- T_A = - 40°C (-50°C) .. + 85°C
- Secondary connection on screened cable 3 x 0.5 mm²
- Shield between primary and secondary connected to the cable screening
- Potted
- Railway equipment
- Customer marking.

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

- Traction

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Isolation characteristics

V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6	kV
dCp	Creepage distance	25	mm
dCl	Clearance distance	23.25	mm
CTI	Comparative tracking index (Group III)	225	

Safety

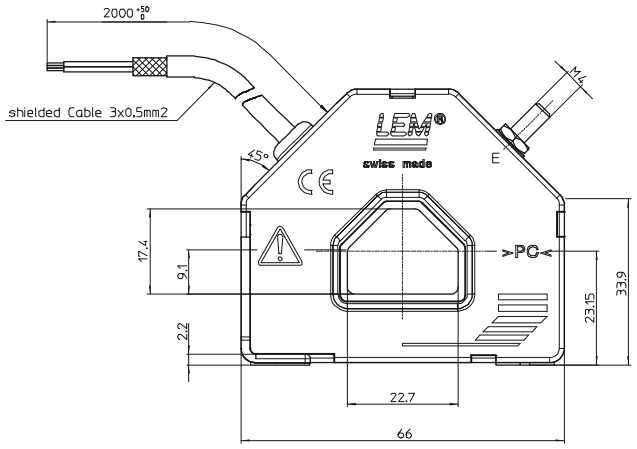
This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacturer's operating instructions.

Caution, risk of electrical shock

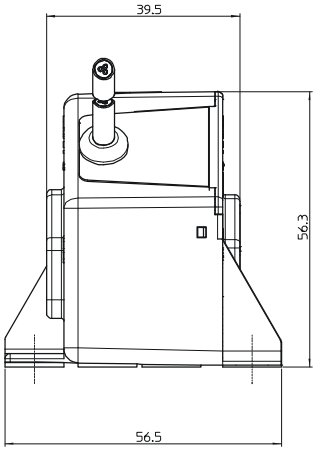
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).
Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a built-in device, whose conducting parts must be inaccessible after installation.
A protective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

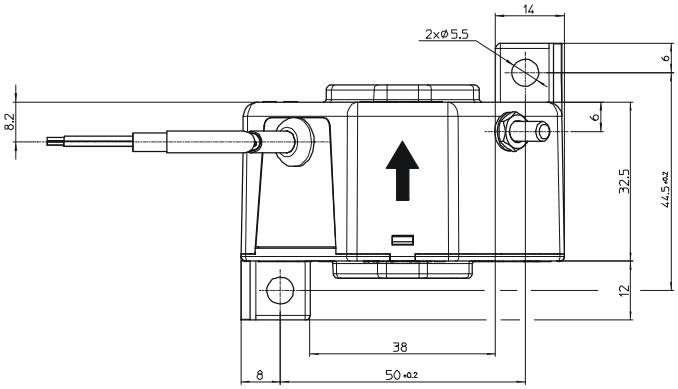
Dimensions LA 205-S/SP21 (in mm. 1 mm = 0.0394 inch)

Front view

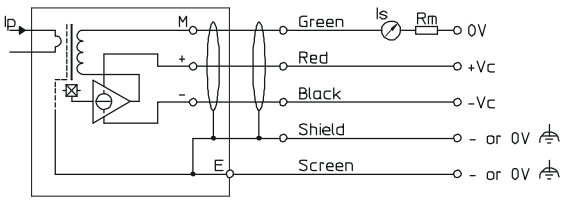


Left view





Connection



Top view

Mechanical characteristics

• General tolerance	± 0.5 mm
• Transducer fastening	2 holes ∅ 5.5 mm
	2 M5 steel screws
Fastening torque max.	4 Nm or 2.96 Lb. - Ft.
• Primary through-hole	22.7 x 17.4 mm
• Connection of secondary	screened cable 3 x 0.5 mm^2
• Connection to terminal E	M4 threaded stud
Fastening torque	1.2 Nm or .88 Lb. - Ft.

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.

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