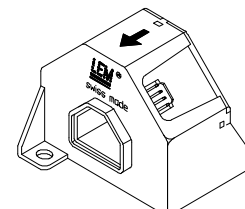# Current Transducer LA 205-S

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).

I_{PN} = 200 A

Electrical data

I_{PN}	Primary nominal r.m.s. current		200	A
I_P	Primary current, measuring range		0 .. ± 300	A
$\hat{I}_{P\,max}$	Measuring overload [1]		600	A

			$T_A = 70°C$		$T_A = 85°C$		
R_M	Measuring resistance @		$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$	
	with ± 12 V	@ ± 200 A$_{max}$	0	68	0	66	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 nominal r.m.s. current	100	mA
K_N	Conversion ratio	1 : 2000	
V_C	Supply voltage (± 5 %)	± 12 .. 15	V
I_C	Current consumption	20 (@ ± 15 V) + I_S	mA
V_b	R.m.s rated voltage [2], safe separation	1625	V
	basic isolation	3250	V

Accuracy - Dynamic performance data

			Typ	Max	
X_G	Overall accuracy @ I_{PN} , $T_A = 25°C$	± 0.8			%
e_L	Linearity	< 0.1			%
I_O	Offset current @ $I_P = 0$, $T_A = 25°C$			± 0.15	mA
I_{OM}	Residual current [3] @ $I_P = 0$, after an overload of 3 x I_{PN}			± 0.50	mA
I_{OT}	Thermal drift of I_O - 10°C .. + 85°C		± 0.15	± 0.30	mA
t_{ra}	Reaction time @ 10 % of I_{PN}		< 500		ns
t_r	Response time [4] @ 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		- 10 .. + 85	°C
T_S	Ambient storage temperature		- 40 .. + 90	°C
R_S	Secondary coil resistance @	$T_A = 70°C$	35	Ω
		$T_A = 85°C$	37	Ω
m	Mass		110	g
	Standards [5]		EN 50178	

Notes : [1] 3 mn/hour @ V_C = ± 15 V, R_M = 5 Ω
[2] Pollution class nr 2. With a non insulated primary bar which fills the through-hole
[3] The result of the coercive field of the magnetic circuit
[4] With a di/dt of 100 A/µs
[5] A list of corresponding tests is available

Features

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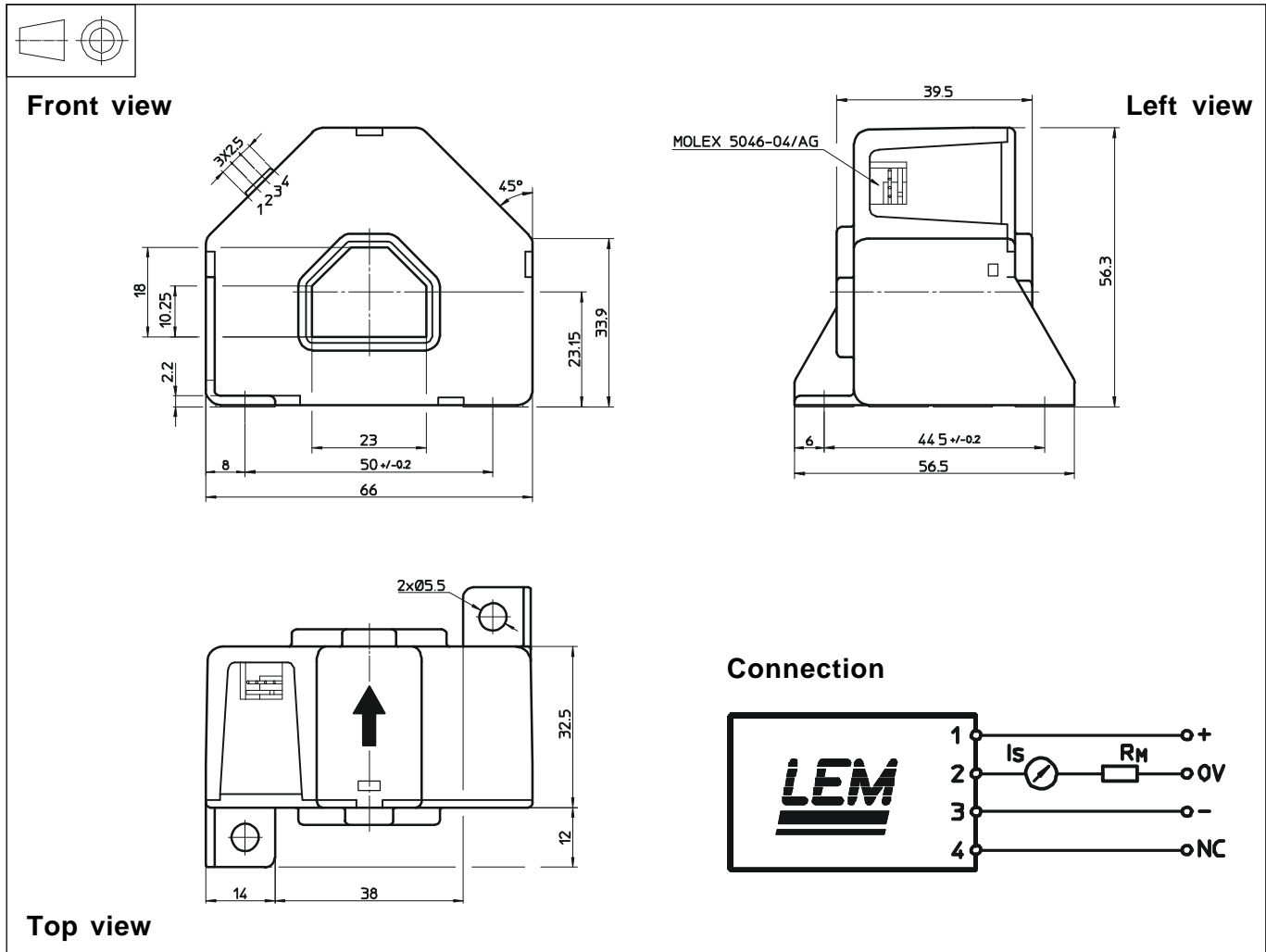- Patent pending.

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.

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

Front view

3X2.5

1 2 3 4

45°

18
10.25
2.2
23.15
33.9
23
8
50 +/-0.2
66

Left view

39.5

MOLEX 5046-04/AG

56.3

6
44.5 +/-0.2
56.5

2×Ø5.5

32.5

12

14
38

Top view

Connection

1   Is   R$_M$ +
2   0V
3   −
4   NC

Mechanical characteristics

- General tolerance   ± 0.5 mm
- Fastening   2 holes ∅ 5.5 mm
- Primary through-hole   23 x 18 mm
- Connection of secondary   Molex 5046-04/AG

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.