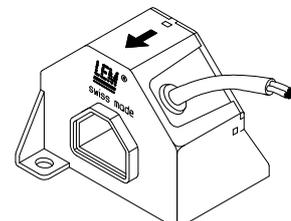# Current Transducer LA 205-S/SP15

I_{PN} = 200 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).

CE

RoHS COMPLIANT 2002/95/EC
16129

Electrical data

I_{PN}	Primary nominal r.m.s. current		200		A
I_P	Primary current, measuring range		0 .. ± 400		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 ± 12 V	@ ± 200 A_{max}	0	68	0	66	Ω
		@ ± 300 A_{max}	0	32	0	30	Ω
	with ± 15 V	@ ± 200 A_{max}	0	95	5	93	Ω
		@ ± 300 A_{max}	0	51	5	49	Ω
		@ ± 400 A_{max}	0	30	5	28	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

X_G	Overall accuracy @ I_{PN} , $T_A = 25°C$		± 0.8	%
e_L	Linearity		< 0.1	%

		Typ	Max	
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 - 40°C .. - 25°C	± 0.30	± 0.80	mA
	- 25°C .. + 85°C	± 0.20	± 0.40	mA

t_{ra}	Reaction time @ 10 % of I_{PN}	< 500	ns
t_r	Response time [4] @ 90 % of I_{PN}	< 1	µs
f	Frequency bandwidth (- 3 dB)	DC .. 100	kHz

General data

T_A	Ambient operating temperature		- 40 .. + 85	°C
T_S	Ambient storage temperature		- 45 .. + 100	°C
R_S	Secondary coil resistance @	$T_A = 70°C$	35	Ω
		$T_A = 85°C$	37	Ω
m	Mass		160	g
	Standards [5]		EN 50178	

Notes : [1] 3 mn/hour @ $V_C = ± 15$ V, $R_M = 5$ Ω
[2] Pollution class 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.

Special features

- T_A = - 40°C .. + 85°C
- Potted
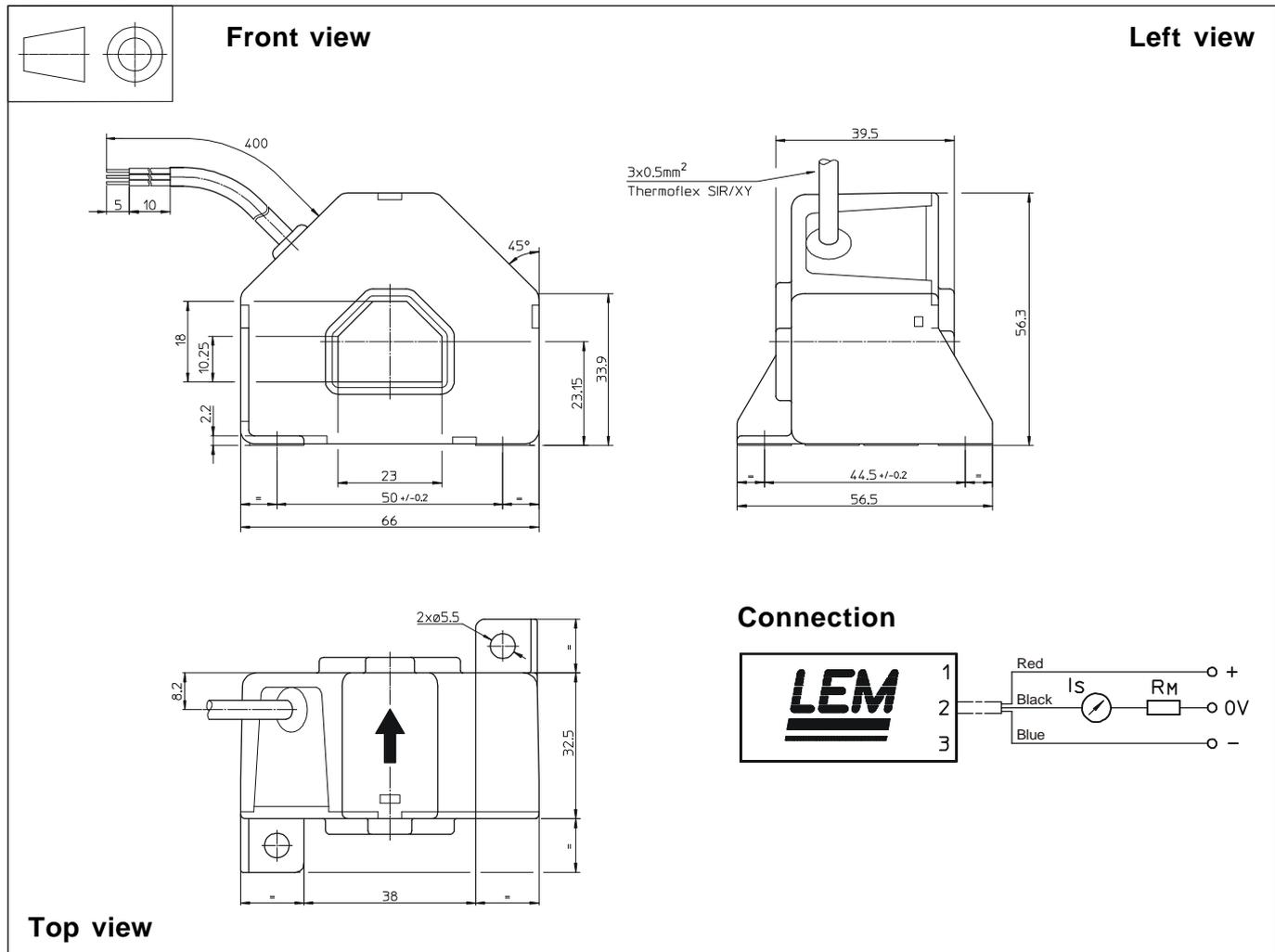- Connection to secondary circuit on cable Thermoflex SIR/XY 3 x 0.5 mm².

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/SP15 (in mm. 1 mm = 0.0394 inch)

Front view

Left view

3x0.5mm²
Thermoflex SIR/XY

Connection

Red			
	Is	Rm	o +
Black			o 0V
Blue			o −

Top view

Mechanical characteristics

- General tolerance   ± 0.5 mm
- Transducer fastening   2 holes ⌀ 5.5 mm
                                         2 M5 steelscrews
  Fastening torque max   4 Nm
- Primary through-hole   23 x 18 mm
- Connection of secondary Cable Thermoflex SIR/XY
                                         3 x 0.5 mm²

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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