Current Transducer LA 205-S/SP1
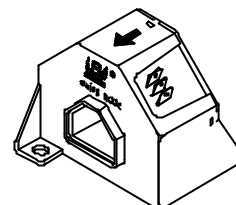
LEM

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

16140

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
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	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 (@ ±15V) + 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		%
ε_L	Linearity error		< 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		EN 50178 : 1997	

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.

Features

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

Special feature

- Connection to secondary circuit on Faston 6.3 x 0.8 mm.

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.

Front view

Left view

3 Faston 6.3x0.8

39.5

56.3

44.5 +/- 0.2

56.5

6

45°

2×Ø5.5

18

10.25

2.2

23.5

33.9

23

50 +/- 0.2

66

B

Connection

Top view

2×Ø5.5

9.75

32.5

12

14

38
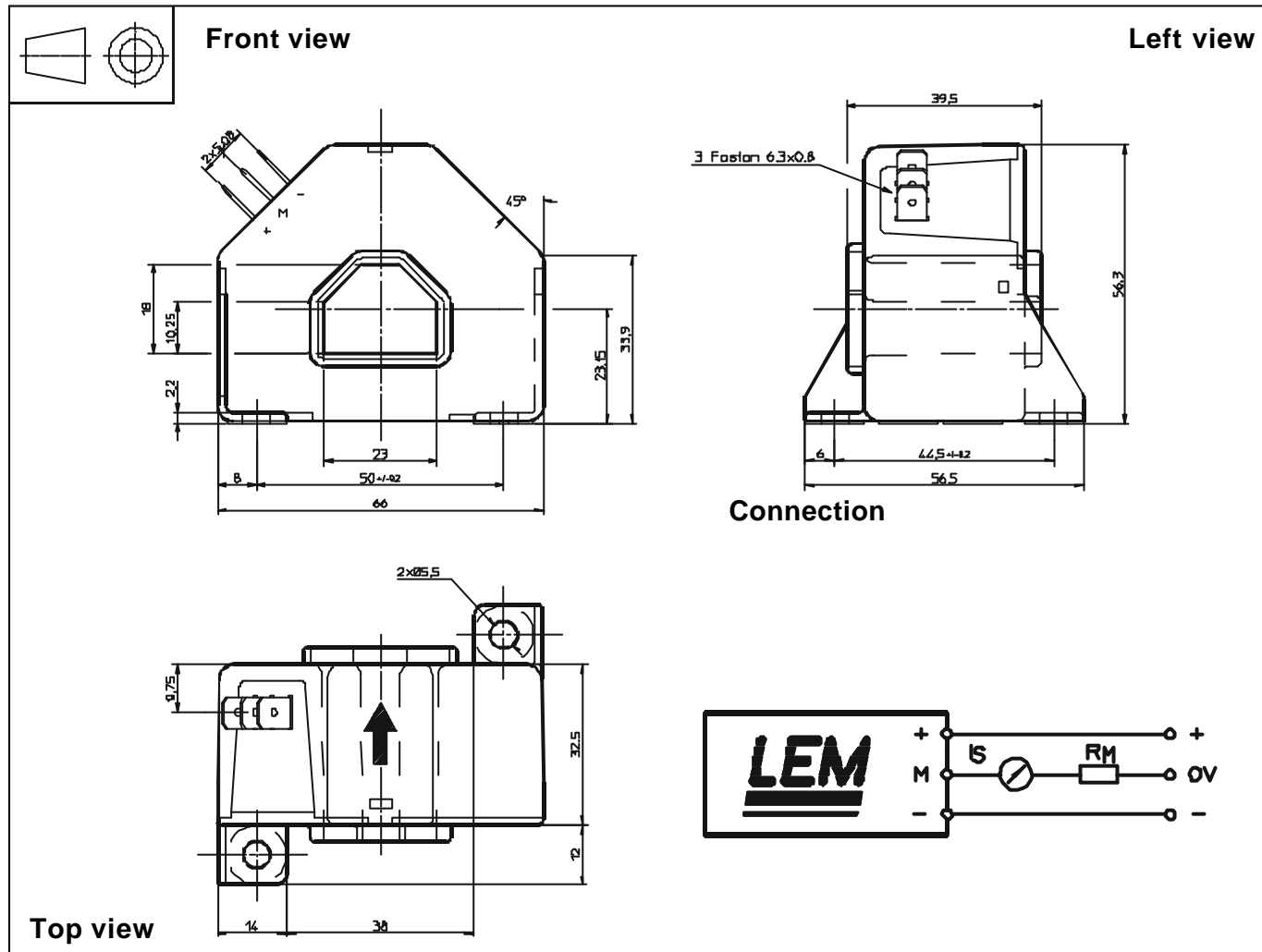
Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening 2 holes ⌀ 5.5 mm
  2 M5 steel screws
  Fastening torque max. 4 Nm or 2.95 Lb. - Ft.
- Primary through-hole 23 x 18 mm
- Connection of secondary Faston 6.3 x 0.8 mm

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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