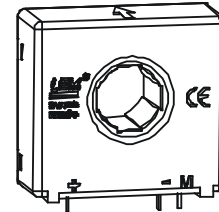


Current Transducer LF 205-P

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).

$$I_{PN} = 200 \text{ A}$$



Electrical data

I_{PN}	Primary nominal r.m.s. current	200	A
I_P	Primary current, measuring range	0 .. ± 420	A
R_M	Measuring resistance @	$T_A = 70^\circ\text{C}$	$T_A = 85^\circ\text{C}$
		$R_{M \min}$	$R_{M \max}$
		$R_{M \min}$	$R_{M \max}$
		$R_{M \min}$	$R_{M \max}$
		$R_{M \min}$	$R_{M \max}$
	with $\pm 12 \text{ V}$	@ $\pm 200 \text{ A}_{\max}$	0 71 0 69 Ω
		@ $\pm 420 \text{ A}_{\max}$	0 14 0 12 Ω
	with $\pm 15 \text{ V}$	@ $\pm 200 \text{ A}_{\max}$	0 100 23 98 Ω
		@ $\pm 420 \text{ A}_{\max}$	0 28 23 26 Ω
I_{SN}	Secondary nominal r.m.s. current	100	mA
K_N	Conversion ratio	1 : 2000	
V_C	Supply voltage ($\pm 5\%$)	$\pm 12 \dots 15$	V
I_C	Current consumption @ $\pm 15 \text{ V}$	$17 + I_S$	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	3.5	kV

Features

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

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.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.5	%
e_L	Linearity	< 0.1	%
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	Max
			± 0.2 mA
			± 0.1 mA
I_{OM}	Residual current ¹⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$	± 0.12	mA
I_{OT}	Thermal drift of I_O - $40^\circ\text{C} \dots +85^\circ\text{C}$	± 0.12	mA
t_{ra}	Reaction time @ 10 % of $I_{P \max}$	< 500	ns
t_r	Response time ²⁾ @ 90 % of $I_{P \max}$	< 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 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 40 .. + 90	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	33	Ω
		@ $T_A = 85^\circ\text{C}$	35 Ω
m	Mass Standards ³⁾	58	g
		EN 50178	

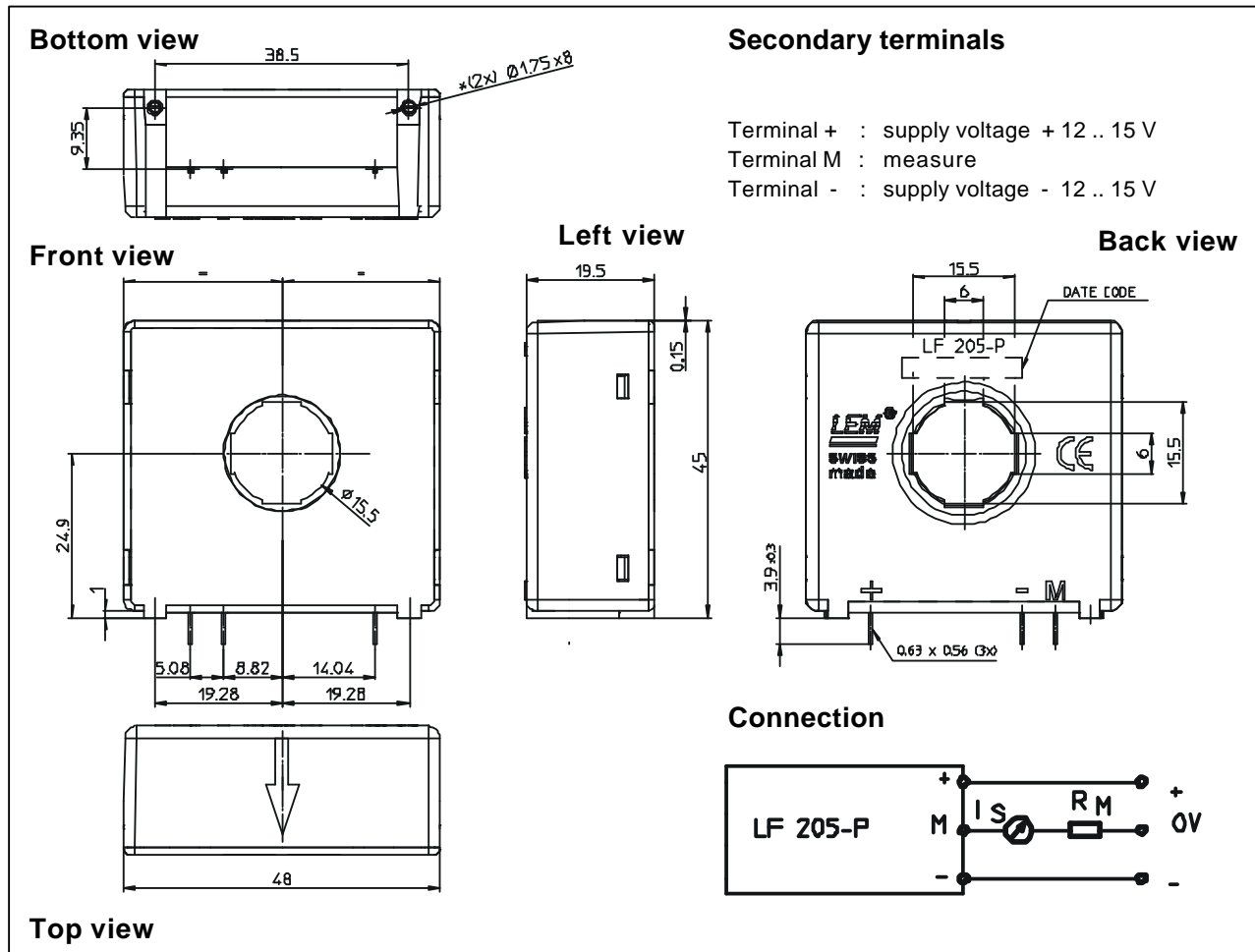
Notes : ¹⁾ The result of the coercive field of the magnetic circuit

²⁾ With a di/dt of 100 A/ μs

³⁾ A list of corresponding tests is available.

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Dimensions LF 205-P (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

• General tolerance	± 0.2 mm
• Fastening & secondary connection	3 pins 0.63x0.56 mm
Recommended PCB hole	∅ 0.9 mm
• Primary through-hole	∅ 15.5 mm
• Supplementary fastening	2 holes ∅ 1.75 mm
Recommended PCB hole	2.4 mm
Recommended screws	KA22 x 6
LEM code	47.30.60.006.0

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.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.