

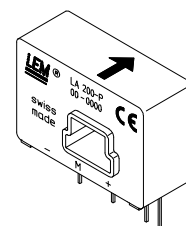
Current Transducer LA 200-P

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).

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



16044



Electrical data

I_{PN}	Primary nominal r.m.s. current	200	A				
I_P	Primary current, measuring range	0 .. ± 300	A				
R_M	Measuring resistance @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$			
		$R_{M \min}$	$R_{M \max}$	$R_{M \min}$	$R_{M \max}$		
		with $\pm 12 \text{ V}$	@ $\pm 200 \text{ A}_{\max}$	0	30	0	26
			@ $\pm 250 \text{ A}_{\max}$	0	8	0	4
	with $\pm 15 \text{ V}$	@ $\pm 200 \text{ A}_{\max}$	0	60	0	56	
		@ $\pm 300 \text{ A}_{\max}$	0	12	0	8	
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	$16 (@ \pm 15 \text{ V}) + I_S$	mA				
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	3	kV				
V_b	R.m.s. rated voltage, ¹⁾	safe separation	900	V			
		basic isolation	450	V			
V_e	R.m.s. voltage for partial discharge extinction	> 1.8	kV				
\hat{V}_W	Impulse withstand voltage 1.2/50 μs	> 8	kV				

Features

- Closed loop (compensated) current transducer using the Hall effect
- Printed circuit board mounting
- 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.

Accuracy - Dynamic performance data

X	Accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	@ $\pm 15 \text{ V} (\pm 5\%)$	± 0.40	%
		@ $\pm 12 \dots 15 \text{ V} (\pm 5\%)$	± 0.65	%
e_L	Linearity error		< 0.15	%
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	± 0.20	mA
		Max	± 0.25	mA
I_{OM}	Residual current ²⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$		± 0.10	mA
I_{OT}	Thermal drift of I_O	$0^\circ\text{C} \dots +70^\circ\text{C}$	± 0.15	mA
		$-40^\circ\text{C} \dots +85^\circ\text{C}$	± 0.15	mA
t_{ra}	Reaction time @ 10 % of $I_{P \max}$		< 500	ns
t_r	Response time ^{3) 4)} @ 90 % of $I_{P \max}$		< 1	μs
di/dt	di/dt accurately followed ⁴⁾		> 200	A/ μs
f	Frequency bandwidth ⁴⁾ (-1 dB)		DC .. 100	kHz

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.

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 @	$T_A = 70^\circ\text{C}$	76	Ω
		$T_A = 85^\circ\text{C}$	80	Ω
m	Mass		40	g
	Standards		EN 50178 : 1997	

Application Domain

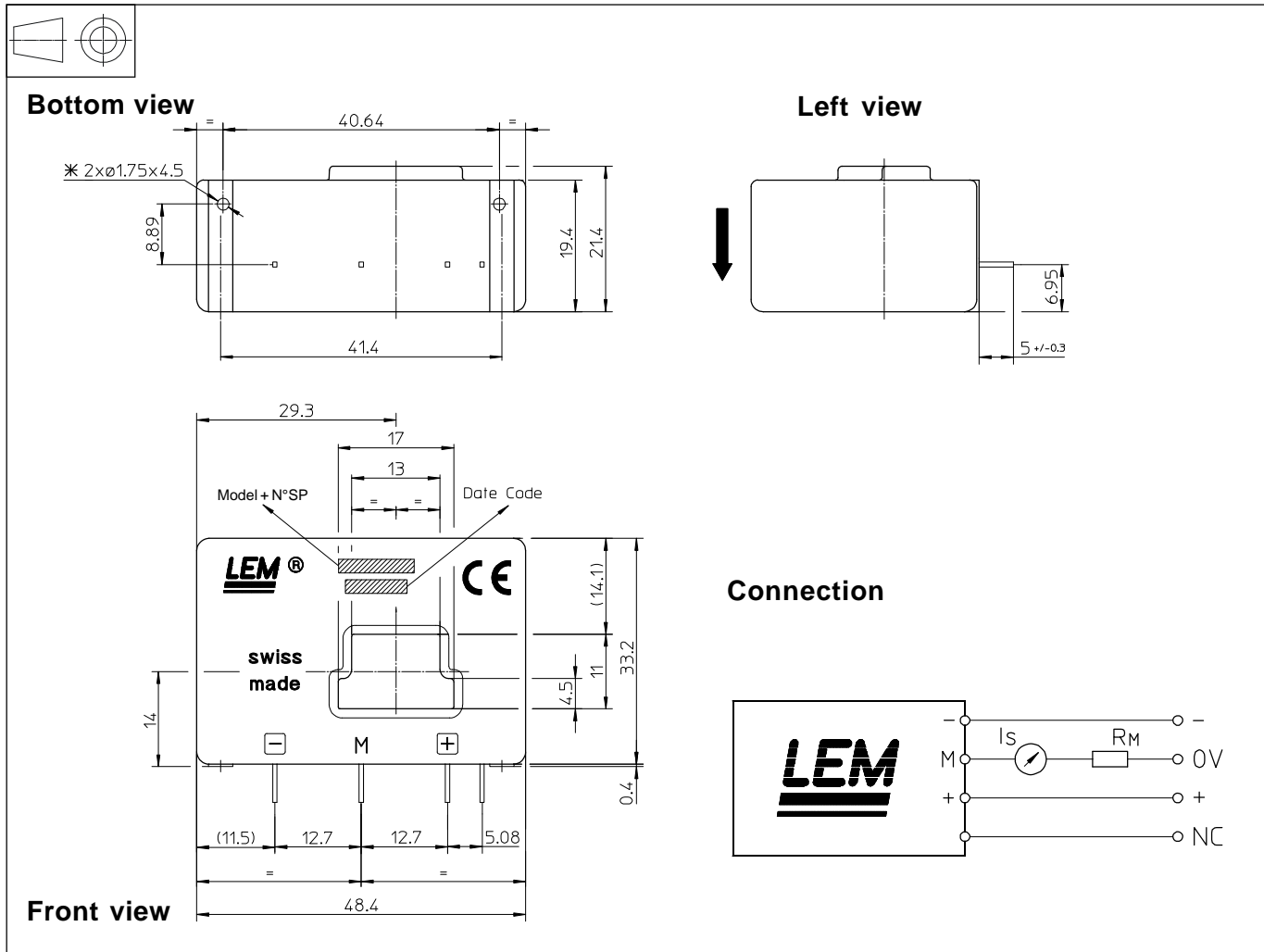
- Industrial.

Notes : ¹⁾ Pollution class 2 ²⁾ The result of the coercive field of the magnetic circuit

³⁾ With a di/dt of 100 A/ μs ⁴⁾The primary conductor is best filling the through-hole and/or the return of the primary conductor is above the top of the transducer.

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

Dimensions LA 200-P (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

• General tolerance	± 0.2 mm
• Primary through-hole	17 x 11 mm
• Fastening & connection of primary	4 pins 0.63 x 0.56 mm
Recommended PCB hole	0.9 mm
• Supplementary fastening	2 holes \varnothing 1.75 mm
Recommended PCB hole	2.4 mm
Recommended screws	PT KA 22 x 6

Remarks

- I_s is positive when I_p flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 90°C.
- Dynamic performances (di/dt and response time) are best with a primary bar in low position in the through-hole.
- In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.