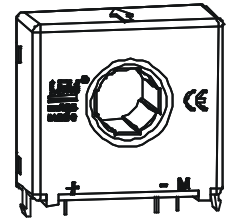


Current Transducer LF 205-P/SP1

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

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).



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 @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$			
			$R_{M \min}$	$R_{M \max}$	$R_{M \min}$	$R_{M \max}$	
		with $\pm 12 \text{ V}$	@ $\pm 200 \text{ A}_{\max}$	0	71	0	69
			@ $\pm 420 \text{ A}_{\max}$	0	14	0	12
		with $\pm 15 \text{ V}$	@ $\pm 200 \text{ A}_{\max}$	0	100	23	98
	@ $\pm 420 \text{ A}_{\max}$	0	28	23	26		
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.

Special features

- Mounting clips molded into the transducer housing, attach to printed circuit boards 1.6mm thick.

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_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
I_{OM}	Residual current ¹⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$	± 0.1	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

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

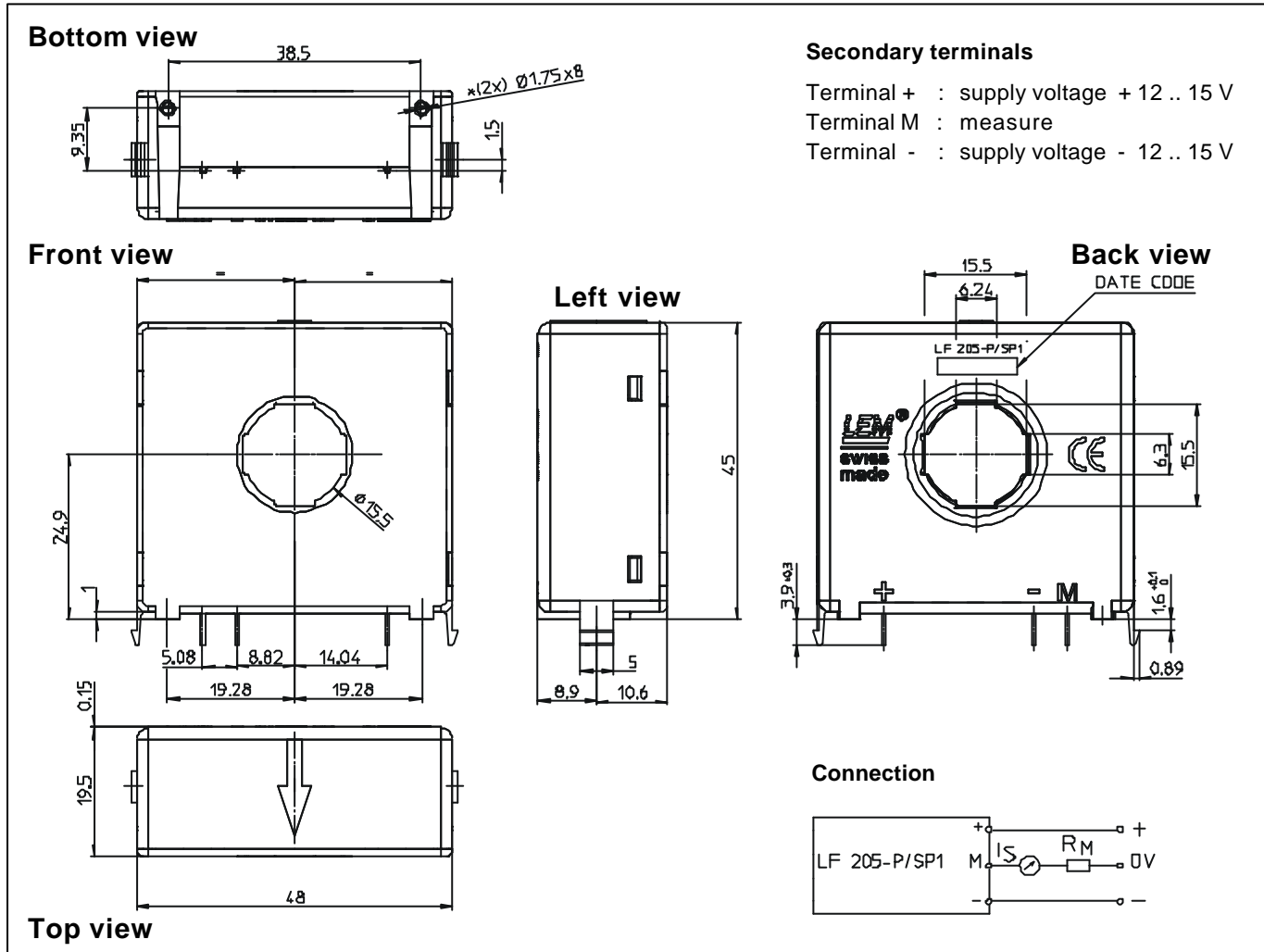
T_A	Ambient operating temperature	- 40 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 40 .. + 90	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	33	Ω
		@ $T_A = 85^\circ\text{C}$	35
m	Mass Standards ³⁾	58	g
		EN 50178	

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.

Dimensions LF 205-P/SP1 (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 | $\varnothing 0.9$ mm |
| • Primary through-hole | $\varnothing 15.5$ mm |
| • Supplementary fastening | 2 holes $\varnothing 1.75$ 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.
- Mounting clips molded into the transducer housing, attach to printed circuit board 1.6mm thick.

Recommended dimensions for mounting holes when using the mounting clips.

