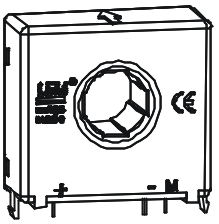
Current Transducer LF 205-P/SP1

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).



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°C		T_A = 85°C		
			$R_{M\ min}$	$R_{M\ max}$	$R_{M\ min}$	$R_{M\ max}$	
	with ± 12 V	@ ± 200 A_{max}	0	71	0	69	Ω
		@ ± 420 A_{max}	0	14	0	12	Ω
	with ± 15 V	@ ± 200 A_{max}	0	100	23	98	Ω
		@ ± 420 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 (± 5 %)			± 12 .. 15			V
I_C	Current consumption @ ± 15V			17 + I_S			mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn			3.5			kV

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , T_A = 25°C		± 0.5		%
ε_L	Linearity		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.2	mA
I_{OM}	Residual current [1] @ I_P = 0, after an overload of 3 x I_{PN}			± 0.1	mA
I_{OT}	Thermal drift of I_O	- 40°C .. + 85°C	± 0.12	± 0.4	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	°C
T_S	Ambient storage temperature	- 40 .. + 90	°C
R_S	Secondary coil resistance @ T_A = 70°C	33	Ω
	@ T_A = 85°C	35	Ω
m	Mass	58	g
	Standards [3]	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.

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.

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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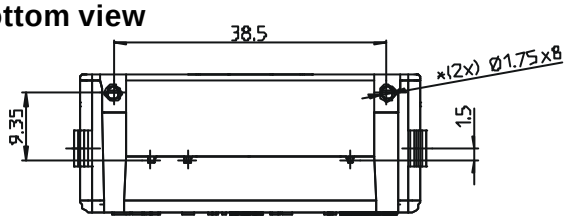
Dimensions LF 205-P/SP1 (in mm. 1 mm = 0.0394 inch)

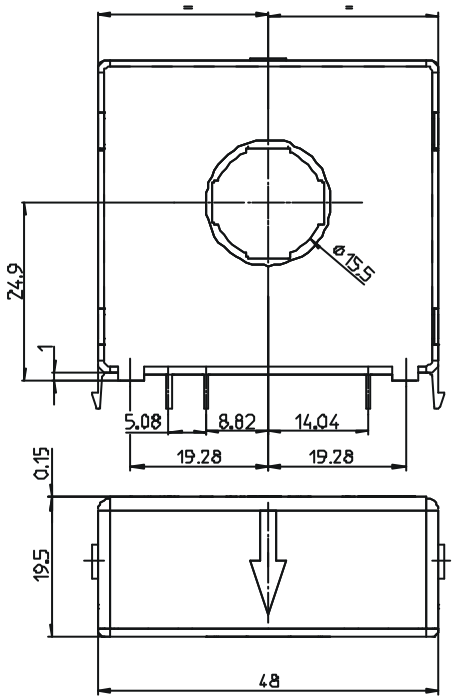
Bottom view



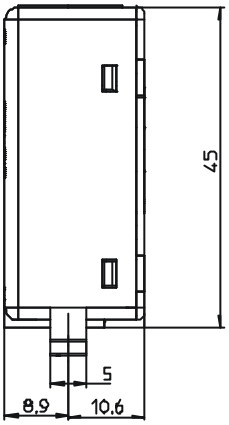
Secondary terminals

Terminal + : supply voltage + 12 .. 15 V
Terminal M : measure
Terminal - : supply voltage - 12 .. 15 V

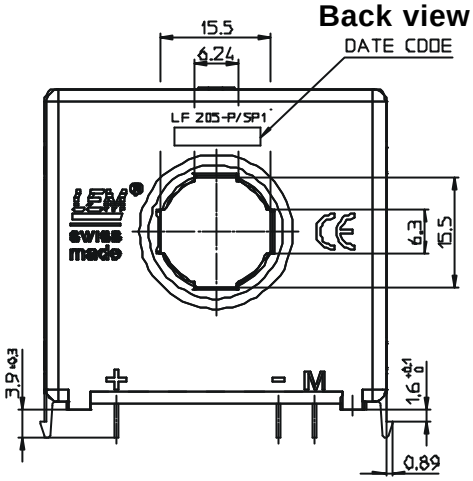
Front view



Left view

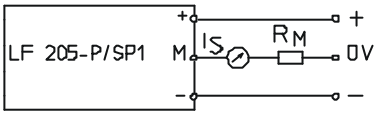


Back view



Top view

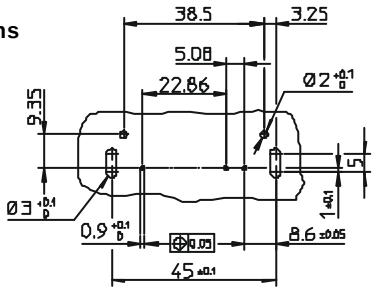
Connection



Mechanical characteristics

• General tolerance	± 0.2 mm
• Fastening & secondary connection	3 pins 0.63x0.56 mm
Recommanded 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

Recommended dimensions for mounting holes when using the mounting clips.



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.