Current Transducer LF 505-S/SP15

I_{PN} = 500 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).

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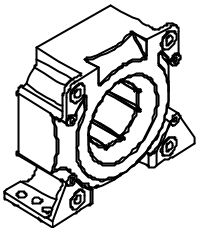

Electrical data

I_{PN}	Primary nominal r.m.s. current		500		A
I_P	Primary current, measuring range		0 .. ± 800		A
R_M	Measuring resistance		$R_{M\,min}$	$R_{M\,max}$	
	with ± 15 V	@ ± 500 A_{max}	0	60	Ω
		@ ± 800 A_{max}	0	11	Ω
	with ± 18 V	@ ± 500 A_{max}	0	92	Ω
		@ ± 800 A_{max}	0	30	Ω
	with ± 24 V	@ ± 500 A_{max}	5	149	Ω
		@ ± 800 A_{max}	5	65	Ω
I_{SN}	Secondary nominal r.m.s. current		100		mA
K_N	Conversion ratio		1 : 5000		
V_C	Supply voltage (± 5 %)		± 15 .. 24		V
I_C	Current consumption		24 (@±18V) + I_S		mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn		3		kV

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}, T_A = 25°C		± 0.6		%
ε_L	Linearity error		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.4	mA
I_{OT}	Thermal drift of I_O	- 10°C .. + 70°C	± 0.3	± 0.5	mA
t_r	Response time [1] @ 90 % of I_{PN}		< 1		µs
di/dt	di/dt accurately followed		> 100		A/µs
f	Frequency bandwidth (- 1 dB)		DC .. 100		kHz

General data

T_A	Ambient operating temperature	- 10 .. + 70	°C
T_S	Ambient storage temperature	- 25 .. + 85	°C
R_S	Secondary coil resistance @ T_A = 70°C	70	Ω
m	Mass	230	g
	Standards	EN 50178: 1997	

Note : [1] 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.

Special features

- Connection to secondary circuit on Molex Minifit Jr., 5566 with gold pins.

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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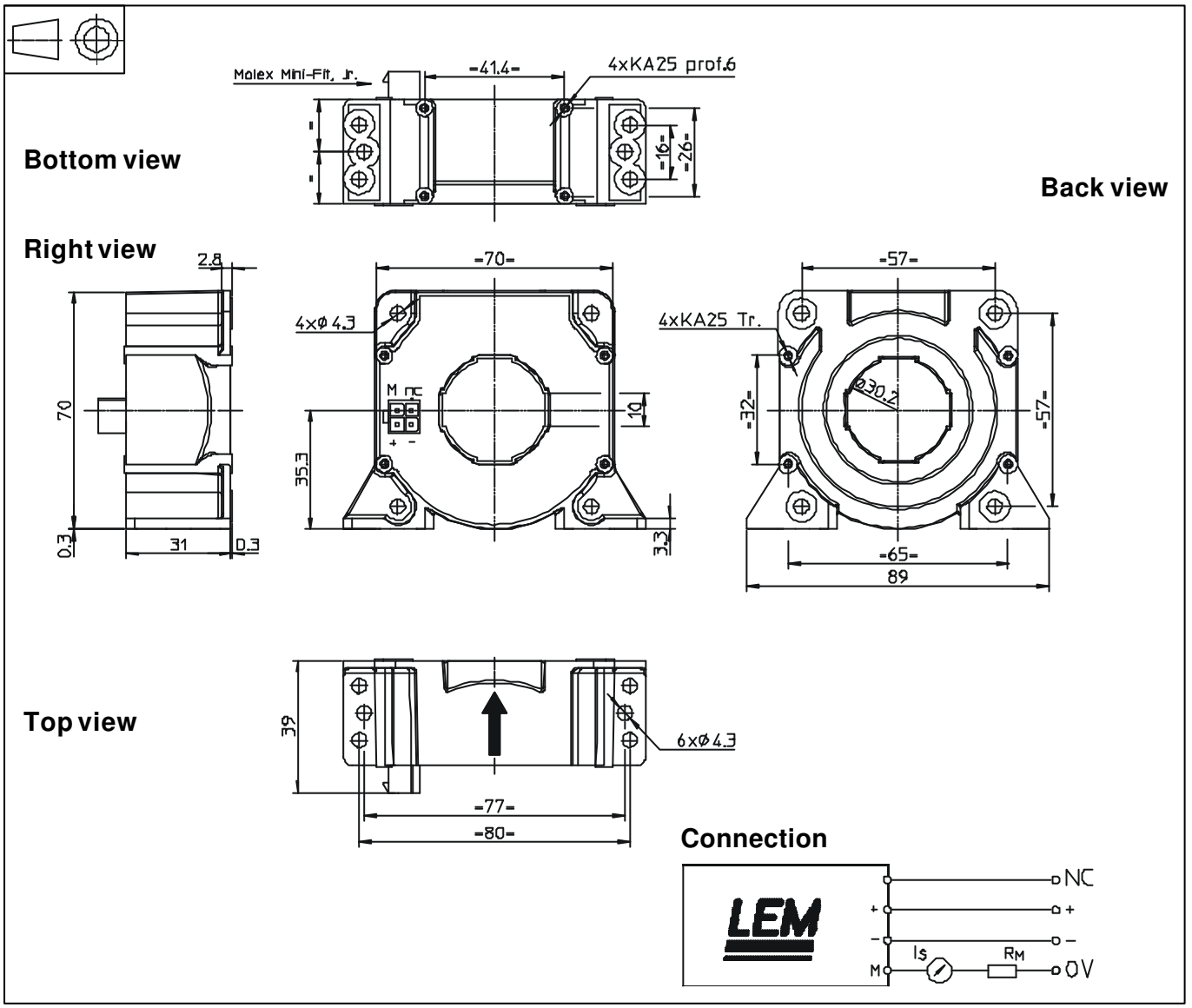
Dimensions LF 505-S/SP15 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening
  Vertical or flat lying position 4 or 6 holes ∅ 4.3 mm
  4 or 6 steel screws M4
  Recommended fastening torque 2.36 Lb.-Ft.
  Or vertical position 4 holes ∅ 1.9 mm, depth : 6 mm
  4 screws PTKA 25, length: 6 mm
  Recommended fastening torque 0.52 Lb.-Ft.
  Or flat lying position 4 holes ∅ 1.9 mm, crossing
  4 screws PTKA 25, length:10 mm
  Recommended fastening torque 0.55 Lb.-Ft.
- Primary through-hole Ø 30.2 mm
- Secondary connection on Molex Mini-Fit Jr.
  5566 gold-plated pins.

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.