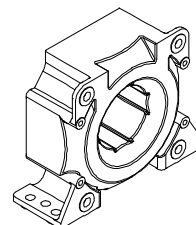


Current Transducer LF 505-S/SP13

$I_{PN} = 500 \text{ A}$

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	500	A
I_P	Primary current, measuring range	0 .. ± 1286	A
R_M	Measuring resistance	R_{Mmin} R_{Mmax}	
	with $\pm 24 \text{ V}$	@ $\pm 500 \text{ A}_{max}$	5 152 Ω
		@ $\pm 1286 \text{ A}_{max}$	5 16 Ω
I_{SN}	Secondary nominal r.m.s. current	100	mA
K_N	Conversion ratio	1 : 5000	
V_C	Supply voltage ($\pm 5 \%$)	± 24	V
I_C	Current consumption	$24 + I_S$	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	3	kV

Features

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

Special features

- $I_P = 0 .. \pm 1286 \text{ A}$
- $V_C = \pm 24 (\pm 5 \%) \text{ V}$
- Connection to secondary circuit on JST B 3P-VH connector.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.6	%
\mathcal{E}_L	Linearity error	< 0.1	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ	Max
			± 0.4 mA
I_{OT}	Thermal drift of I_O - $10^\circ\text{C} .. + 70^\circ\text{C}$	± 0.2	± 0.4 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

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.

General data

T_A	Ambient operating temperature	- 10 .. + 70	$^\circ\text{C}$
T_S	Ambient storage temperature	- 25 .. + 85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	67	Ω
m	Mass	230	g
	Standards ²⁾	EN 50178 (01.10.97)	

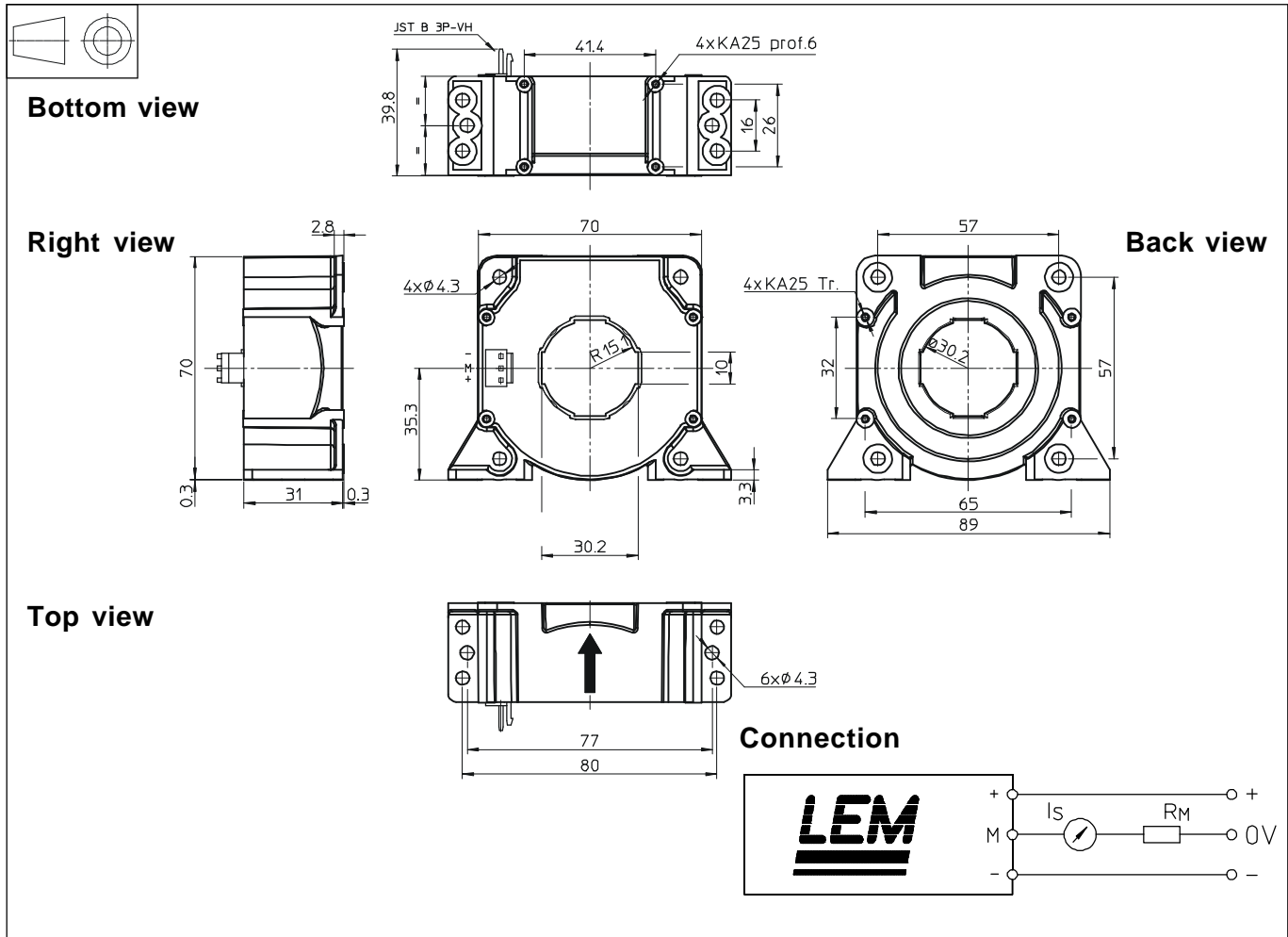
Applications

- 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.

Notes : ¹⁾ With a di/dt of 100 A/ μs

²⁾ A list of corresponding tests is available.

Dimensions LF 505-S/SP13 (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 $\varnothing 4.3$ mm
 - 4 or 6 steel screws M4
 - Recommended fastening torque or vertical position 3.2 Nm or 2.36 Lb.-Ft.
 - 4 holes $\varnothing 1.9$ mm, depth : 6 mm
 - 4 screws PTKA 25, length: 6 mm
 - Recommended fastening torque or flat lying position 0.7 Nm or 0.52 Lb.-Ft.
 - 4 holes $\varnothing 1.9$ mm, crossing
 - 4 screws PTKA 25, length: 10 mm
 - Recommended fastening torque 0.75 Nm or 0.55 Lb.-Ft.
- Primary through-hole for bar 30 x 10 mm
- Connection of secondary JST B 3P-VH

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.