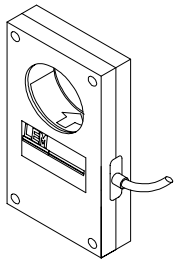
# Current Transducer HA 50-SRI/SP1

# $I_{PN}$ = 50 A

For the electronic measurement of DC, AC and pulsed currents, with a galvanic isolation between the primary (high power) circuit and the secondary (electronic) circuit.



## Electrical data

| | | | |
|---|---|---|---|
| $I_{PN}$ | Primary nominal DC or rms current | 50 | A |
| $I_P$ | Primary current measuring range | ± 70 | A |
| $\hat{I}_P$ | Overload capacity (Ampere Turns) | 30000 | A |
| $I_{OUT}$ | Analogue output current @ $I_P = 0$ | 4 | mA |
| $I_{OUT}$ | Analogue output current @ ± $I_{PN}$ | 20 | mA |
| $R_{M\ max}$ | Maximum measuring resistance | 200 | Ω |
| $V_C$ | Supply voltage | + 24 | V |
| $I_C$ | Current consumption (max)[1] | 55 | mA |
| $V_d$ | Rms voltage for AC isolation test, 50 Hz, 1 mn | 2.2 | kV |

## Accuracy - Dynamic performance data

| | | | |
|---|---|---|---|
| **X** | Accuracy [2] @ $I_{PN}$, $T_A$ = 25°C | ± 2 | % |
| | | Max | |
| $I_{OE}$ | Electrical offset current @ $I_P = 0$, $T_A$ = 25°C | ± 0.1 | mA |
| $I_{OM}$ | Residual offset current @ $I_P = 0$ after an overload of 3 x $I_{PN}$ | < ± 0.025 | mA |
| $I_{OT}$ | Thermal drift of offset current $T_A$ = - 25 .. + 70°C | ± 0.02 | mA/°K |
| $TC\varepsilon_G$ | Thermal drift of gain $T_A$ = - 25 .. + 70°C | ± 0.05 | %/°K |
| $t_{av}$ | Averaging time constant | 100 | m s |
| $K_{CF}$ | Crest factor for stated accuracy | 2 | |
| **f** | Frequency bandwidth (- 3 dB) [3] | DC and 0.045 .. 25 | kHz |

## General data

| | | | |
|---|---|---|---|
| $T_A$ | Ambient operating temperature | - 25 .. + 70 | °C |
| $T_S$ | Ambient storage temperature | - 25 .. + 85 | °C |
| **m** | Mass | 250 | g |
| | Standards [4] | EN50155, ENV50121-3-2 (1996) | |

Notes : [1] Including $I_{OUT}$
[2] Excludes the electrical offset
[3] Refer to derating curves in the technical file to avoid excessive core heating at high frequency
[4] A list of corresponding tests is available

## Features

- Open loop transducer using Hall Effect
- Panel mounting
- Insulated plastic case to UL 94-V0
- Fully potted construction
- True Rms output.

## Advantages

- Very good accuracy
- Low temperature drift
- Wide frequency bandwidth
- Very low insertion losses
- High immunity to external interference
- Current overload capability
- Low power consumption

## Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptable Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications
- Railway equipment.

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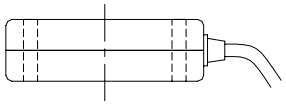
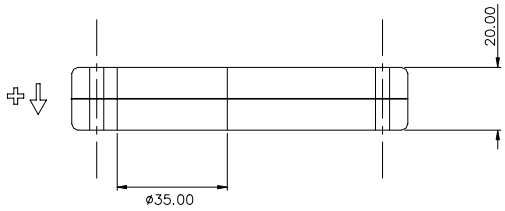
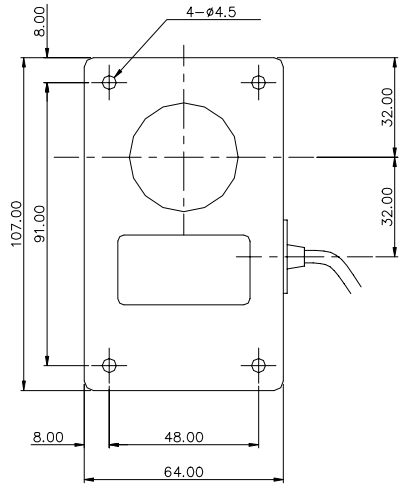
## Dimensions HA 50-SRI/SP1 (in mm. 1 mm = 0.0394 inch)

**Bottom view**



**Left view**

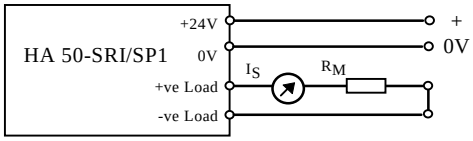



### Secondary terminals

| | |
|---|---|
| RED | : supply voltage + 24 V |
| GREEN | : 0 V |
| WHITE | : + ve Load |
| BLACK | : - ve Load |
| SCREEN | : NC |

### Connection




**Front view**

### Mechanical characteristics

- General tolerance ± 0.5 mm
- Primary through-hole Ø 35 mm
- Connection of secondary via 4 core Halogen free screened cable 1 m in length

### Remarks

- $\mathbf{I}_{OUT}$ is positive when $\mathbf{I}_P$ flows in the direction of the arrow.
- When generating a voltage by insertion of $\mathbf{R}_M$, the developed voltage will be floating with respect to zero volts. The output terminals must therefore not be grounded.
- Temperature of the primary conductor should not exceed 90°C.
- This is a standard model. For different versions (supply voltages, secondary connections, unidirectional measurements, operating temperatures, etc.) please contact us.

LEM have a policy of continual product improvement and the company reserves the right to revise the above specification without prior notice.