

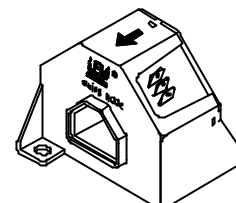
Current Transducer LA 205-S/SP1

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

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).



16140



Electrical data

| | | | | | | | | |
|---------------------|---|------------------------------------|------------------------------------|--------------------------|---------------------|----|----------|----------|
| I_{PN} | Primary nominal r.m.s. current | 200 | A | | | | | |
| I_P | Primary current, measuring range | 0 .. ± 300 | A | | | | | |
| $I_{P \text{ max}}$ | Measuring overload ¹⁾ | 600 | A | | | | | |
| R_M | Measuring resistance @ | $T_A = 70^\circ\text{C}$ | | $T_A = 85^\circ\text{C}$ | | | | |
| | | $R_{M \text{ min}}$ | $R_{M \text{ max}}$ | $R_{M \text{ min}}$ | $R_{M \text{ max}}$ | | | |
| | | with $\pm 12 \text{ V}$ | @ $\pm 200 \text{ A}_{\text{max}}$ | 0 | 68 | 0 | 66 | Ω |
| | | | @ $\pm 300 \text{ A}_{\text{max}}$ | 0 | 33 | 0 | 30 | Ω |
| | with $\pm 15 \text{ V}$ | @ $\pm 200 \text{ A}_{\text{max}}$ | 5 | 95 | 5 | 93 | Ω | |
| | | @ $\pm 300 \text{ A}_{\text{max}}$ | 5 | 50 | 5 | 49 | Ω | |
| 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 | $20 (@ \pm 15 \text{ V}) + I_S$ | mA | | | | | |
| V_b | R.m.s rated voltage ²⁾ , safe separation | 1625 | V | | | | | |
| | | basic isolation | 3250 | V | | | | |

Accuracy - Dynamic performance data

| | | | |
|----------|---|------------|------------------|
| X_G | Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ | ± 0.8 | % |
| e_L | Linearity error | < 0.1 | % |
| I_O | Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$ | Typ | Max |
| | | | ± 0.15 mA |
| I_{OM} | Residual current ³⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$ | | ± 0.50 mA |
| I_{OT} | Thermal drift of I_O - $10^\circ\text{C} \dots + 85^\circ\text{C}$ | ± 0.15 | ± 0.30 mA |
| t_{ra} | Reaction time @ 10 % of I_{PN} | < 500 | ns |
| t_r | Response time ⁴⁾ @ 90 % of I_{PN} | < 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 | - 10 .. + 85 | $^\circ\text{C}$ |
| T_S | Ambient storage temperature | - 40 .. + 90 | $^\circ\text{C}$ |
| R_S | Secondary coil resistance @ | $T_A = 70^\circ\text{C}$ | 35 Ω |
| | | $T_A = 85^\circ\text{C}$ | 37 Ω |
| m | Mass | 110 | g |
| | Standards | EN 50178 : 1997 | |

Notes : ¹⁾ 3 mn/hour @ $V_C = \pm 15 \text{ V}$, $R_M = 5 \Omega$

²⁾ Pollution class nr 2. With a non insulated primary bar which fills the through-hole

³⁾ The result of the coercive field of the magnetic circuit

⁴⁾ 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
- Patent pending.

Special feature

- Connection to secondary circuit on Faston 6.3 x 0.8 mm.

Advantages

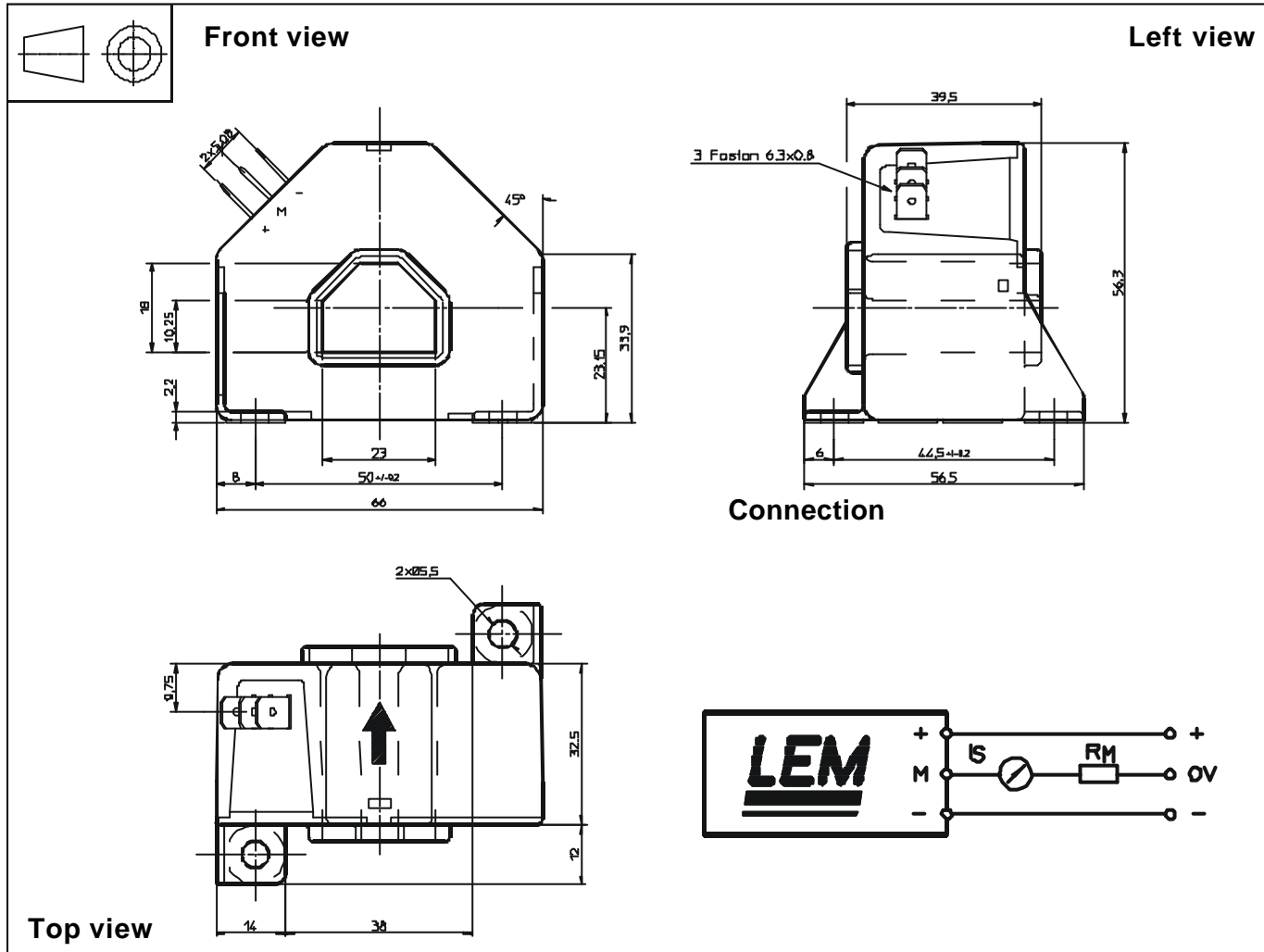
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

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 LA 205-S/SP1 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- | | |
|---------------------------|---------------------------------------|
| • General tolerance | ± 0.5 mm |
| • Transducer fastening | 2 holes Ø 5.5 mm 2 M5 steel screws |
| Fastening torque max. | 4 Nm or 2.95 Lb. - Ft. |
| • Primary through-hole | 23 x 18 mm |
| • Connection of secondary | Faston 6.3 x 0.8 mm |

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.