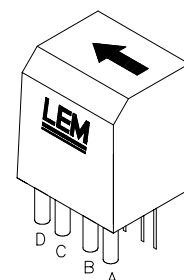


Current Transducer HA 10 to 25-NP

$$I_{PN} = 5 \dots 25 \text{ A}$$

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

| Primary terminal connections | Primary Nominal Rms current I_{PN} (A) | | Primary Current measuring range I_p (A) | |
|------------------------------|---|----------|--|------------------|
| | Series | Parallel | Series | Parallel |
| HA 10-NP | ± 5 | ± 10 | $0 \dots \pm 10$ | $0 \dots \pm 20$ |
| HA 25-NP | ± 12.5 | ± 25 | $0 \dots \pm 25$ | $0 \dots \pm 50$ |

| | | | |
|-------------|--|--------------------|------------|
| \hat{I}_p | Overload capacity (1 ms) | $50 \times I_{PN}$ | A |
| V_{OUT} | Analogue output voltage @ $\pm I_{PN}$ | ± 4 | V |
| R_L | Load resistance | > 4 | k Ω |
| V_C | Supply voltage ($\pm 5\%$) | ± 15 | V |
| I_C | Current consumption (max) | < 20 | mA |
| V_b | Rms rated voltage ¹⁾ | 500 | V |
| V_d | Rms voltage for AC isolation test, 50 Hz, 1 mn | | |
| | Primary to secondary | 2.5 | kV |
| | Primary 1 to primary 2 ²⁾ | 1 | kV |
| R_{IS} | Isolation resistance @ 500 V _{DC} | > 500 | M Ω |

Accuracy - Dynamic performance data

| | | | |
|--------------------------------|---|-----------------|----------------------|
| X | Accuracy ³⁾ @ I_{PN} , $T_A = 25^\circ\text{C}$, @ $\pm 15 \text{ V}$ | ± 1 | % |
| ϵ_L | Linearity ³⁾ | ± 1 | % |
| V_{OE} | Electrical offset voltage @ $I_p = 0$, $T_A = 25^\circ\text{C}$ | Max ± 30 | mV |
| V_{OM} | Residual offset voltage @ $I_p = 0$ after an overload of $3 \times I_{PN}$ | ± 20 | mV |
| V_{OT} | Thermal drift of offset voltage $T_A = -10 \dots +80^\circ\text{C}$ | ± 3 | mV/ $^\circ\text{K}$ |
| TCE_G | Thermal drift of gain $T_A = -10 \dots +80^\circ\text{C}$ | ± 0.07 | %/ $^\circ\text{K}$ |
| t_r | Response time @ 90 % of I_p | < 3 | μs |
| di/dt | di/dt accurately followed | > 50 | A/ μs |
| f | Frequency bandwidth (-3 dB) ⁴⁾ | DC .. 50 | kHz |

General data

| | | | |
|----------|-------------------------------|-----------------|------------------|
| T_A | Ambient operating temperature | $-10 \dots +80$ | $^\circ\text{C}$ |
| T_S | Ambient storage temperature | $-25 \dots +85$ | $^\circ\text{C}$ |
| m | Mass | 10 | g |
| | Standards ⁵⁾ | EN50178 (1994) | |

Notes : 1) Overvoltage Category III, Pollution Degree 2

2) Primary 1 is between A and B, primary 2 is between C and D

3) Excludes the electrical offset

4) Refer to derating curves in the technical file to avoid excessive core heating at high frequency

5) Please consult characterisation report for more technical details and application advice.

Features

- Open loop transducer using Hall Effect
- Printed circuit board mounting
- Insulated plastic case to UL 94-V0
- Externally programmable for desired rating
- Galvanic isolation between primary windings.

Advantages

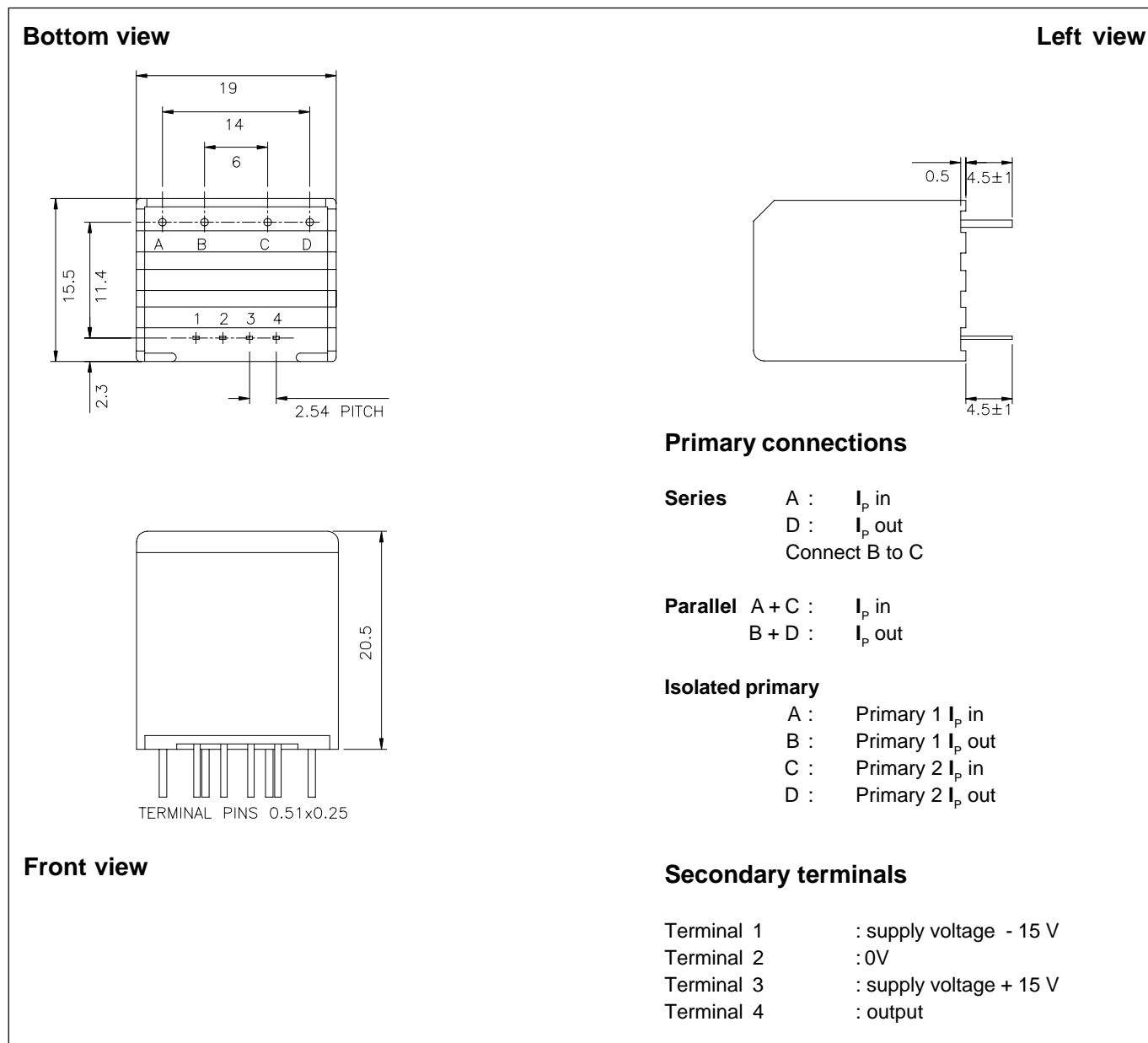
- Very good linearity
- Very good accuracy
- Low temperature drift
- Wide frequency bandwidth
- Very low insertion losses
- High immunity to external interference
- Current overload capability
- Low power consumption
- Wide dynamic range, 5 to 50 A in one package
- Easy to mount with automated handling systems.

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.

HANP980903/1

Dimensions HA 10 to 25-NP (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
- Fastening & connection of primary
 - HA 10-NP 4 pins $\varnothing 0.71$ mm
 - HA 25-NP 4 pins $\varnothing 1.4$ mm
- Recommended pcb hole
 - HA 10-NP 4 pins $\varnothing 1$ mm
 - HA 25-NP 4 pins $\varnothing 1.8$ mm
- Fastening & connection of secondary
 - 4 pins $\varnothing 0.51 \times 0.25$ mm
- Recommended pcb hole $\varnothing 1$ mm

Remarks

- V_{OUT} is positive when I_p flows in the direction of the arrow.
- This is a standard model. For different versions (supply voltages, secondary connections, unidirectional measurements, operating temperatures, etc.) please contact us.