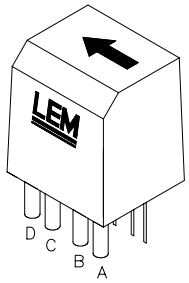
Current Transducer HA 10 to 25-NP

I_{PN} = 5 .. 25 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 Nominal Rms current I_{PN} (A)		Primary Current measuring range I_P (A)	
Primary terminal connections	Series	Parallel	Series	Parallel
HA 10-NP	± 5	± 10	0 .. ± 10	0 .. ± 20
HA 25-NP	± 12.5	± 25	0 .. ± 25	0 .. ± 50

$\hat{I}_P$	Overload capacity (1 ms)	50 x I_{PN}	A
V_{OUT}	Analogue output voltage @ ± I_{PN}	± 4	V
R_L	Load resistance	> 4	kΩ
V_C	Supply voltage (± 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	MΩ

Accuracy - Dynamic performance data

X	Accuracy [3] @ I_{PN}, T_A = 25°C, @ ± 15 V	± 1	%
ε_L	Linearity [3]	± 1	%
		Max	
V_{OE}	Electrical offset voltage @ I_P = 0, T_A = 25°C	± 30	mV
V_{OM}	Residual offset voltage @ I_P = 0 after an overload of 3 x I_{PN}	± 20	mV
V_{OT}	Thermal drift of offset voltage T_A = - 10 .. + 80°C	± 3	mV/°K
$TC\varepsilon_G$	Thermal drift of gain T_A = - 10 .. + 80°C	± 0.07	%/°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 .. + 80	°C
T_S	Ambient storage temperature	- 25 .. + 85	°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.

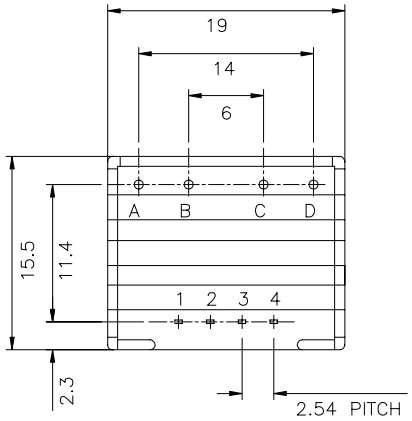
Applications

- 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.

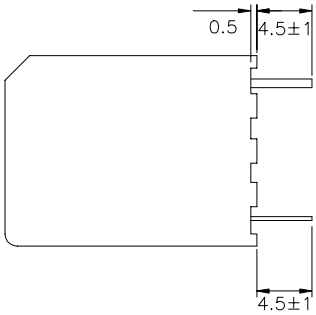
HANP980903/1

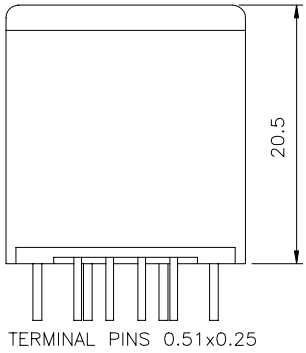
Dimensions HA 10 to 25-NP (in mm. 1 mm = 0.0394 inch)

Bottom view



Left view





Front view

Primary connections

Series A : I_P in
D : I_P out
Connect B to C

Parallel A + C : I_P in
B + D : I_P out

Isolated primary
A : Primary 1 I_P in
B : Primary 1 I_P out
C : Primary 2 I_P in
D : Primary 2 I_P out

Secondary terminals

Terminal 1 : supply voltage - 15 V
Terminal 2 : 0V
Terminal 3 : supply voltage + 15 V
Terminal 4 : output

Mechanical characteristics

- General tolerance ± 0.5 mm
- Fastening & connection of primary
  HA 10-NP 4 pins Ø 0.71 mm
  HA 25-NP 4 pins Ø 1.4 mm
  Recommended pcb hole
  HA 10-NP 4 pins Ø 1 mm
  HA 25-NP 4 pins Ø 1.8 mm
- Fastening & connection of secondary
  4 pins Ø 0.51 x 0.25 mm
  Recommended pcb hole Ø 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.