Current Transducers HAS 50 to 600-S

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

### Electrical data

<table>
<thead>
<tr>
<th>Primary nominal r.m.s. current</th>
<th>Primary current measuring range</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>$I_{PN}$ (A)</td>
<td>$I_{P}$ (A)</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>± 150</td>
<td>HAS 50-S</td>
</tr>
<tr>
<td>100</td>
<td>± 300</td>
<td>HAS 100-S</td>
</tr>
<tr>
<td>200</td>
<td>± 600</td>
<td>HAS 200-S</td>
</tr>
<tr>
<td>300</td>
<td>± 900</td>
<td>HAS 300-S</td>
</tr>
<tr>
<td>400</td>
<td>± 900</td>
<td>HAS 400-S</td>
</tr>
<tr>
<td>500</td>
<td>± 900</td>
<td>HAS 500-S</td>
</tr>
<tr>
<td>600</td>
<td>± 900</td>
<td>HAS 600-S</td>
</tr>
</tbody>
</table>

#### Supply voltage (± 5 %)
- $V_C$ = ± 15 V

#### Current consumption
- $I_C$ = ± 15 mA

#### Overload capacity
- $I_{OC}$ = 30,000 A

#### R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn
- $V_b$ = 3 kV

#### Isolation resistance @ 500 VDC
- $R_{IS}$ = > 1000 MΩ

#### Output voltage @ ± $I_{PN}$, $R_L$ = 10 kΩ, $T_A$ = 25°C
- $V_{OUT}$ = ± 4 V ± 40 mV

#### Output internal resistance
- $R_{OUT}$ = approx. 100 Ω

#### Load resistance
- $R_L$ = > 1 kΩ

### Accuracy - Dynamic performance data

<table>
<thead>
<tr>
<th>$X$</th>
<th>Accuracy @ $I_{PN}$, $T_A$ = 25°C (without offset)</th>
<th>&lt; ± 1 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>$E_L$</td>
<td>Linearità $\frac{1}{2} (I_{\text{max}} - I_{\text{min}})$</td>
<td>&lt; ± 1 % of $I_{PN}$</td>
</tr>
<tr>
<td>$V_{OE}$</td>
<td>Electrical offset voltage, $T_A$ = 25°C</td>
<td>&lt; ± 20 mV</td>
</tr>
<tr>
<td>$V_{DH}$</td>
<td>Hysteresis offset voltage @ $I_L = 0$; after an excursion of $1 \times I_{PN}$</td>
<td>&lt; ± 20 mV</td>
</tr>
<tr>
<td>$V_{GT}$</td>
<td>Thermal drift of $V_{OE}$, $T_A$ = 25°C</td>
<td>&lt; ± 2 mV/K</td>
</tr>
<tr>
<td> </td>
<td>HAS 50-S</td>
<td>&lt; ± 1 mV/K</td>
</tr>
<tr>
<td> </td>
<td>HAS 100 to HAS 600-S</td>
<td>&lt; ± 1 mV/K</td>
</tr>
<tr>
<td>$T_{CE}$</td>
<td>Thermal drift of the gain (% of reading)</td>
<td>&lt; ± 0.1 %/K</td>
</tr>
<tr>
<td>$t$</td>
<td>Response time @ 90% of $I_L$</td>
<td>&lt; 3 μs</td>
</tr>
<tr>
<td>$\frac{d}{dt}$</td>
<td>$d/dt$ accurately followed</td>
<td>&gt; 50 A/μs</td>
</tr>
<tr>
<td>f</td>
<td>Frequency bandwidth (~ 3 dB)</td>
<td>DC..50 kHz</td>
</tr>
</tbody>
</table>

### General data

| $T_A$ | Ambient operating temperature | -10..+80 °C |
| $T_S$ | Ambient storage temperature | -25..+80 °C |
| $m$ | Mass | approx. 60 g |

### Notes
1. Pollution class 2, overvoltage category III.
2. Linearity data exclude the electrical offset.
3. Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.
4. Please consult characterisation report for more technical details and application advice.

$IPN = 50 .. 600 A$

$V_{OUT} = ± 4 V$

### Features
- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 3000 V~
- Low power consumption
- Extended measuring range (3 x $I_{PN}$)
- Insulated plastic case made of polycarbonate PBT recognized according to UL 94-V0

### Advantages
- Easy mounting
- Small size and space saving
- Only one design for wide current ratings range
- High immunity to external interference.

### Applications
- AC variable speed drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

981007/4
HAS 50 to 600-S
Dimensions (in mm)

PINS ARRANGEMENT

1 = +15V
2 = -15V
3 = OUTPUT
4 = 0V

LEM reserves the right to change limits and dimensions.
This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.