

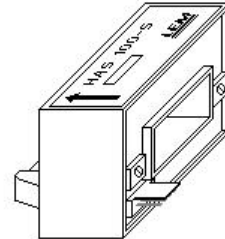
## Current Transducers HAS 50 to 600-S

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).



$$I_{PN} = 50 \dots 600 \text{ A}$$

$$V_{OUT} = \pm 4 \text{ V}$$



### Electrical data

| Primary nominal r.m.s. current<br>$I_{PN}$ (A) | Primary current measuring range<br>$I_P$ (A) | Type      |
|--|--|-----------|
| 50   | $\pm 150$                                    | HAS 50-S  |
| 100  | $\pm 300$                                    | HAS 100-S |
| 200  | $\pm 600$                                    | HAS 200-S |
| 300  | $\pm 900$                                    | HAS 300-S |
| 400  | $\pm 900$                                    | HAS 400-S |
| 500  | $\pm 900$                                    | HAS 500-S |
| 600  | $\pm 900$                                    | HAS 600-S |

|           |   |                       |            |
|-----------|---|-----------------------|------------|
| $V_C$     | Supply voltage ( $\pm 5\%$ )  | $\pm 15$              | V          |
| $I_C$     | Current consumption   | $\pm 15$              | mA         |
| $I_{OC}$  | Overload capacity   | 30,000                | At         |
| $V_d$     | R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn                                  | 3                     | kV         |
| $V_b$     | R.m.s. rated voltage, safe separation   | 500 <sup>1)</sup>     | V          |
| $R_{IS}$  | Isolation resistance @ 500 VDC  | > 1000                | M $\Omega$ |
| $V_{OUT}$ | Output voltage @ $\pm I_{PN}$ , $R_L = 10 \text{ k}\Omega$ , $T_A = 25^\circ\text{C}$ | $\pm 4 \text{ V} \pm$ |            |
| 40        | mV  |                       |            |
| $R_{OUT}$ | Output internal resistance  | approx. 100           | $\Omega$   |
| $R_L$     | Load resistance   | > 1                   | k $\Omega$ |

### Accuracy - Dynamic performance data

|          |  |                                  |                             |
|----------|--|----------------------------------|-----------------------------|
| $X$      | Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ (without offset)                    | $< \pm 1$                        | %                           |
| $e_L$    | Linearity <sup>2)</sup> ( $0 \dots \pm I_{PN}$ )                                   | $< \pm 1$                        | % of $I_{PN}$               |
| $V_{OE}$ | Electrical offset voltage, $T_A = 25^\circ\text{C}$                                | $< \pm 20$                       | mV                          |
| $V_{OH}$ | Hysteresis offset voltage @ $I_P = 0$ ;<br>after an excursion of $1 \times I_{PN}$ | $< \pm 20$                       | mV                          |
| $V_{OT}$ | Thermal drift of $V_{OE}$  | HAS 50-S<br>HAS 100 to HAS 600-S | $< \pm 2$<br>$< \pm 1$ mV/K |
| $TCE_G$  | Thermal drift of the gain (% of reading)   | $< \pm 0.1$                      | %/K                         |
| $t_f$    | Response time @ 90% of $I_P$   | < 3                              | $\mu\text{s}$               |
| $di/dt$  | di/dt accurately followed  | > 50                             | A/ $\mu\text{s}$            |
| $f$      | Frequency bandwidth (-3 dB) <sup>3)</sup>  | DC .. 50                         | kHz                         |

### General data

|       |                               |            |                  |
|-------|-------------------------------|------------|------------------|
| $T_A$ | Ambient operating temperature | -10 .. +80 | $^\circ\text{C}$ |
| $T_S$ | Ambient storage temperature   | -25 .. +80 | $^\circ\text{C}$ |
| $m$   | Mass                          | approx. 60 | g                |
|       | Standards <sup>4)</sup>       | EN 50178   |                  |

### Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 3000 V~
- Low power consumption
- Extended measuring range ( $3 \times I_{PN}$ )
- 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.

**Notes :** <sup>1)</sup> Pollution class 2, overvoltage category III.

<sup>2)</sup> Linearity data exclude the electrical offset.

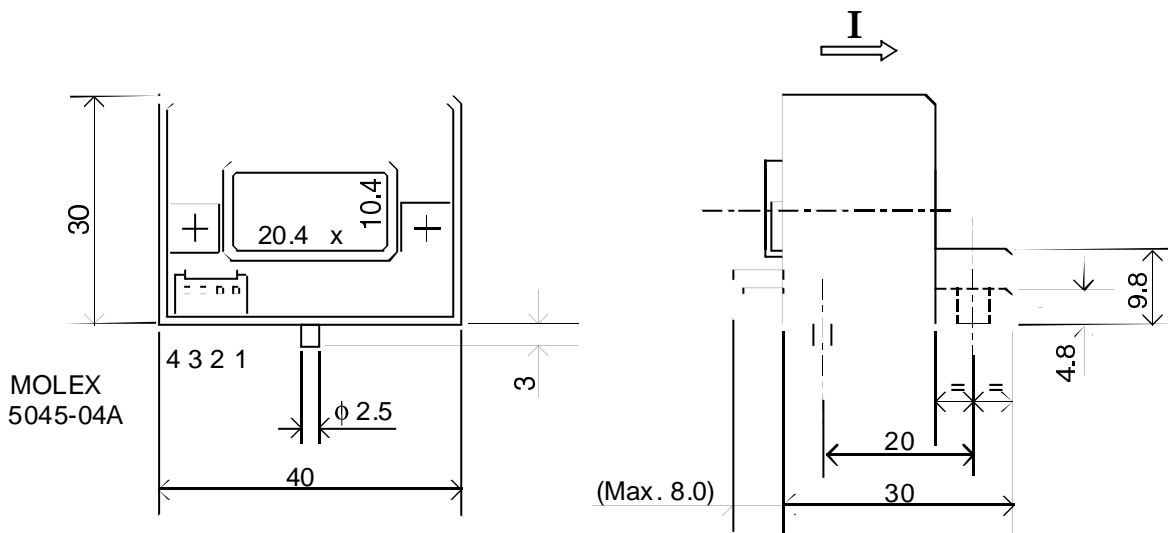
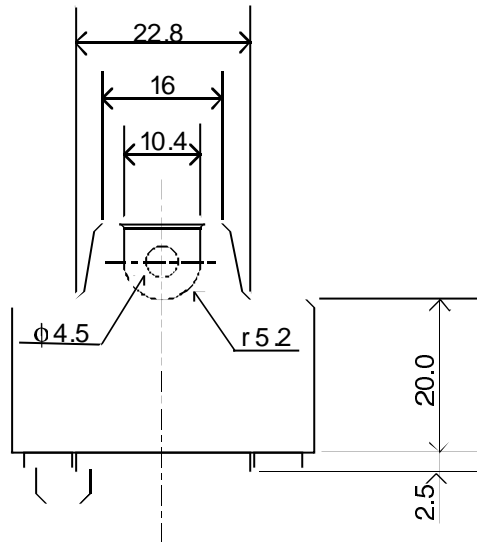
<sup>3)</sup> Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.

<sup>4)</sup> Please consult characterisation report for more technical details and application advice.

981007/4

# HAS 50 to 600-S

## Dimensions (in mm)



### PINS ARRANGEMENT

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