

# Current Transducer HAT 500..1500 - S

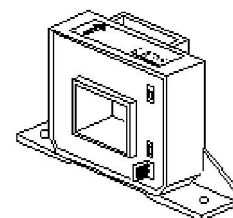
$$I_{PN} = 500 \dots 1500 \text{ A}$$

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).

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



Preliminary



## Electrical data

Primary nominal r.m.s. current $I_{PN}$ (A)	Primary current measuring range $I_P$ (A)	Type
500	$\pm 1500$	HAT 500-S
800	$\pm 2400$	HAT 800-S
1000	$\pm 3000$	HAT 1000-S
1200	$\pm 3000$	HAT 1200-S
1500	$\pm 3000$	HAT 1500-S

$V_C$	Supply voltage ( $\pm 5\%$ )	$\pm 15$	V
$I_C$	Current consumption	$\pm 15$	mA
$V_d$	R.m.s. voltage for AC isolation test, 50/60Hz, 1mn	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 @ $\pm I_{PN}$ , $R_L = 10 \text{ k}\Omega$ , $T_A = 25^\circ\text{C}$	$\pm 4V \pm 40$	mV
$R_{OUT}$	Output internal resistance	100	$\Omega$
$R_L$	Load resistance	> 1	k $\Omega$

## 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 recognized according to UL 94-V0

## Accuracy-Dynamic performance data

$X$	Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ (without offset)	$< \pm 1$	% of $I_{PN}$
$e_L$	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 @ $I_p = 0$ ; after an excursion of $1 \times I_{PN}$	$< \pm 10$	mV
$V_{OT}$	Thermal drift of $V_{OE}$	$< \pm 1$	mV/K
$Tce_G$	Thermal drift of the gain (% of reading)	$< \pm 0.1$	%/K
$t_r$	Response time @ 90% of $I_p$	< 5	$\mu\text{s}$
$f$	Frequency bandwidth (-3 dB) <sup>3)</sup>	DC .. 50	kHz

## Advantages

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

## Applications

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

## General data

$T_A$	Ambient operating temperature	- 10 .. + 80	$^\circ\text{C}$
$T_S$	Ambient storage temperature	- 15 .. + 85	$^\circ\text{C}$
$m$	Mass	app. 300	g
	Standards <sup>4)</sup>	EN 50178	

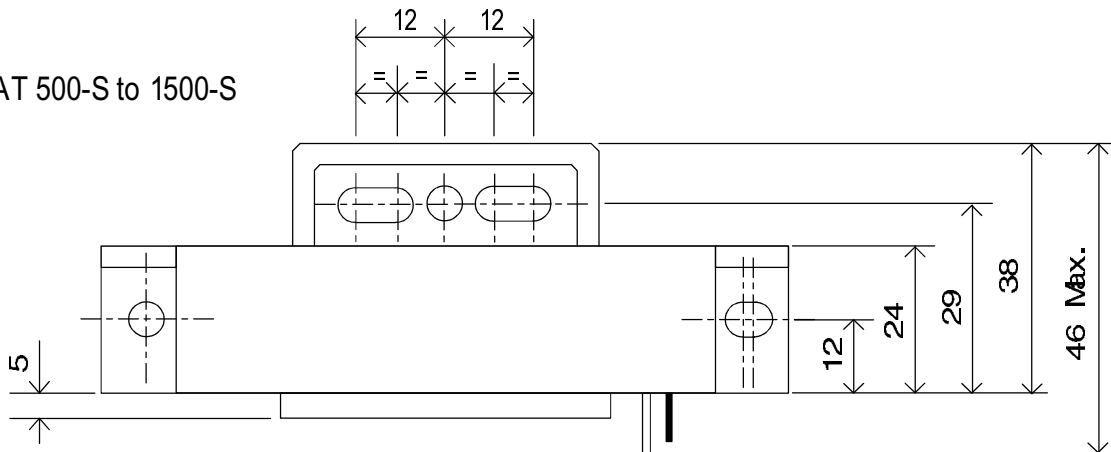
- Notes :
- <sup>1)</sup> Pollution class 2, overvoltage category III.
  - <sup>2)</sup> Linearity data exclude the electrical offset.
  - <sup>3)</sup> Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.
  - <sup>4)</sup> Please consult characterisation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

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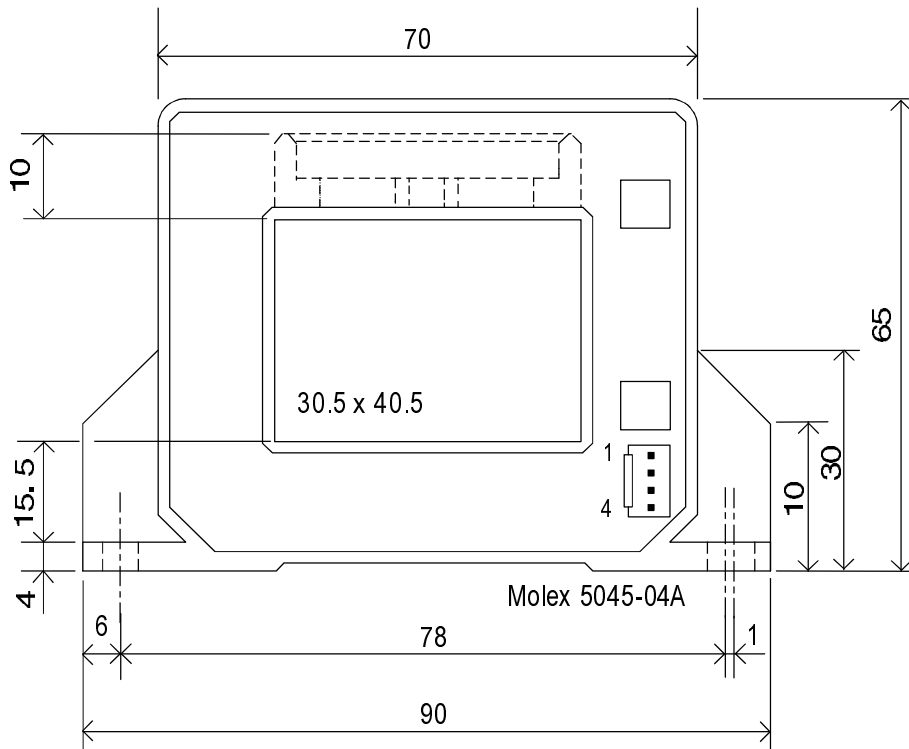
# HAT-S SERIES

(unit = mm)

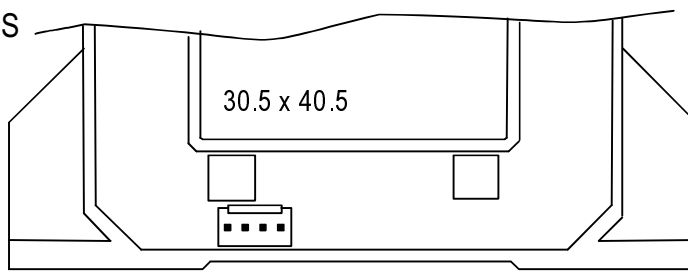
HAT 500-S to 1500-S



Positive current flow



HAT 200-S



All holes  $\varnothing$  4.5mm

Fixation by base-plate or on bus bar with M4 screws

Pins arrangement:

1	2	3	4
(+)	(-)	Output	0V

Molex 5045-04A

99/05