

Current Transducer HAT 500..1500 - S

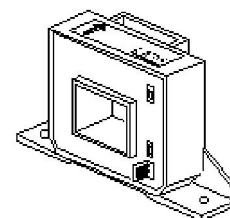
$$I_{PN} = 500 \dots 1500 \text{ A}$$

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	± 1500	HAT 500-S
800	± 2400	HAT 800-S
1000	± 3000	HAT 1000-S
1200	± 3000	HAT 1200-S
1500	± 3000	HAT 1500-S

V_C	Supply voltage ($\pm 5\%$)	± 15	V
I_C	Current consumption	± 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 ¹⁾	V
R_{IS}	Isolation resistance @ 500 VDC	> 1000	M Ω
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	Ω
R_L	Load resistance	> 1	k Ω

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 ²⁾ ($0 \dots \pm I_{PN}$)	$< \pm 1$	% 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
T_{ceG}	Thermal drift of the gain (% of reading)	$< \pm 0.1$	%/K
t_r	Response time @ 90% of I_p	< 5	μs
f	Frequency bandwidth (-3 dB) ³⁾	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 ⁴⁾	EN 50178	

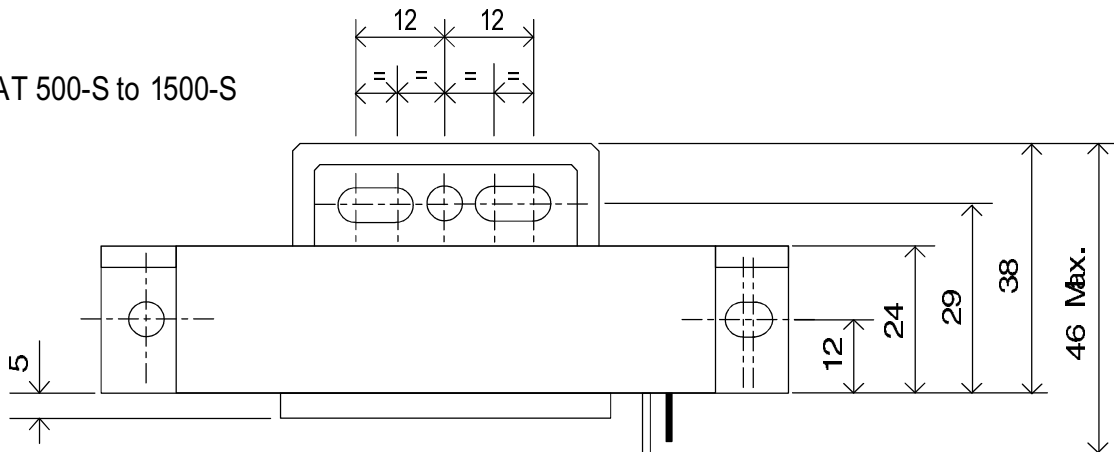
- Notes :
- ¹⁾ Pollution class 2, overvoltage category III.
 - ²⁾ Linearity data exclude the electrical offset.
 - ³⁾ Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.
 - ⁴⁾ Please consult characterisation report for more technical details and application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

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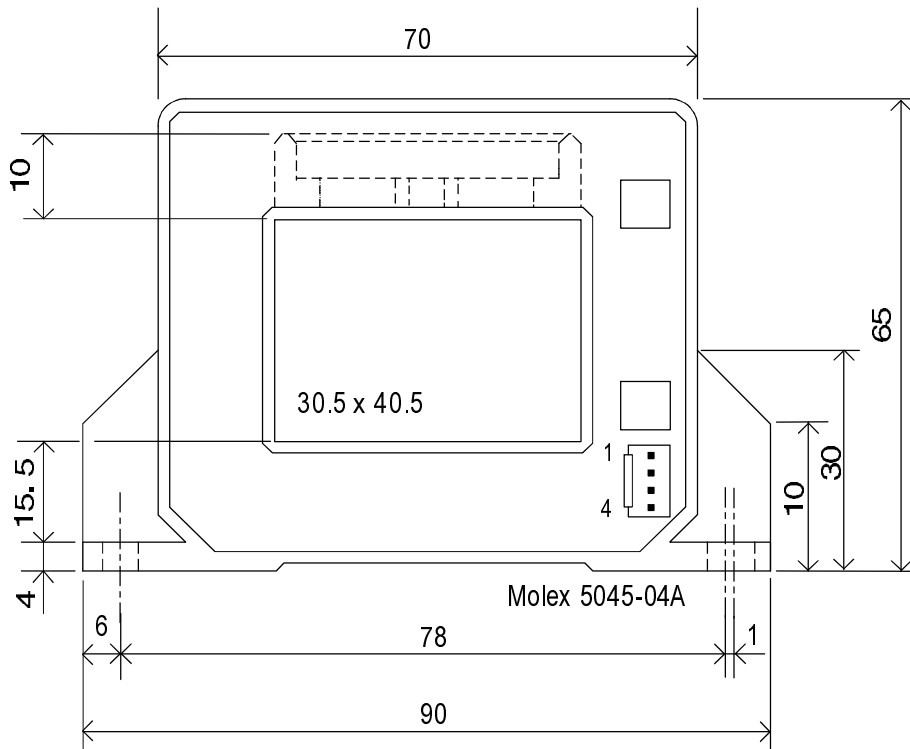
HAT-S SERIES

(unit = mm)

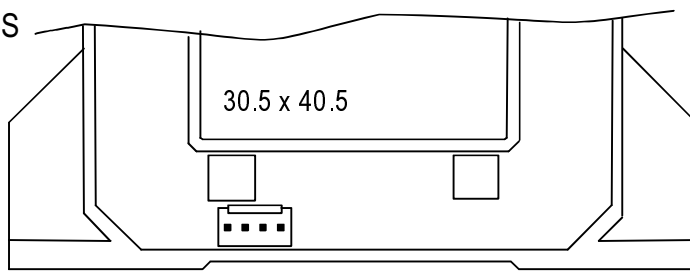
HAT 500-S to 1500-S



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