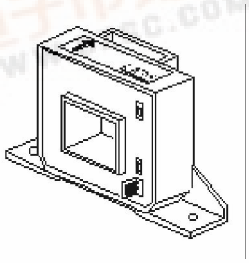
Current Transducer HAT 500..1500 - S

I_{PN} = 500 .. 1500 A

V_{OUT} = ± 4 V

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).

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 (± 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	MΩ
V_{OUT}	Output voltage @ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C	± 4V± 40	mV
R_{OUT}	Output internal resistance	100	Ω
R_L	Load resistance	> 1	kΩ

Accuracy-Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C (without offset)	< ± 1	% of I_{PN}
ε_L	Linearity[2)] (0 .. ± I_{PN})	< ± 1	% of I_{PN}
V_{OE}	Electrical offset voltage, T_A = 25°C	< ± 20	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0; after an excursion of 1 x I_{PN}	< ± 10	mV
V_{OT}	Thermal drift of V_{OE}	< ± 1	mV/K
$TC\varepsilon_G$	Thermal drift of the gain (% of reading)	< ± 0.1	%/K
t_r	Response time @ 90% of I_P	< 5	µs
f	Frequency bandwidth (- 3 dB) [3)]	DC .. 50	kHz

General data

T_A	Ambient operating temperature	- 10 .. + 80	°C
T_S	Ambient storage temperature	- 15 .. + 85	°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.

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 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.

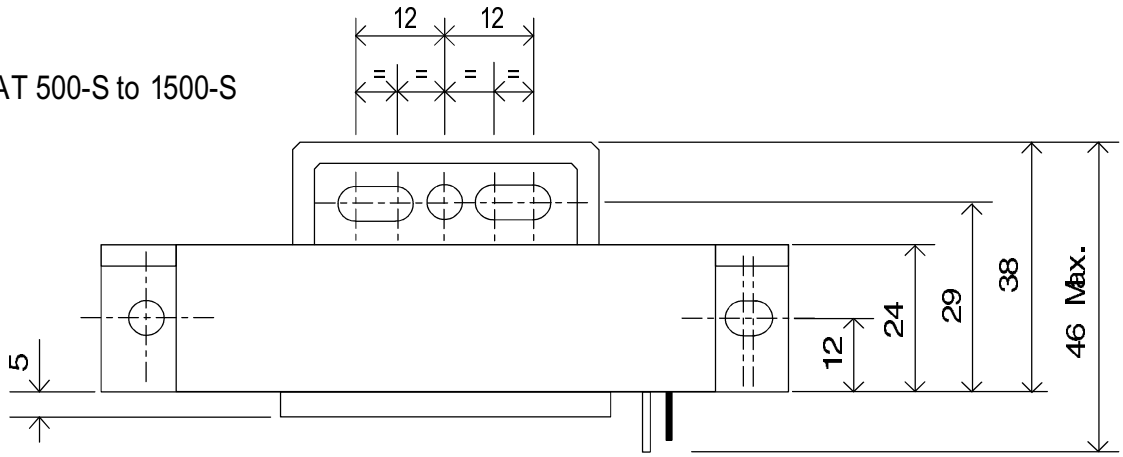
Applications

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

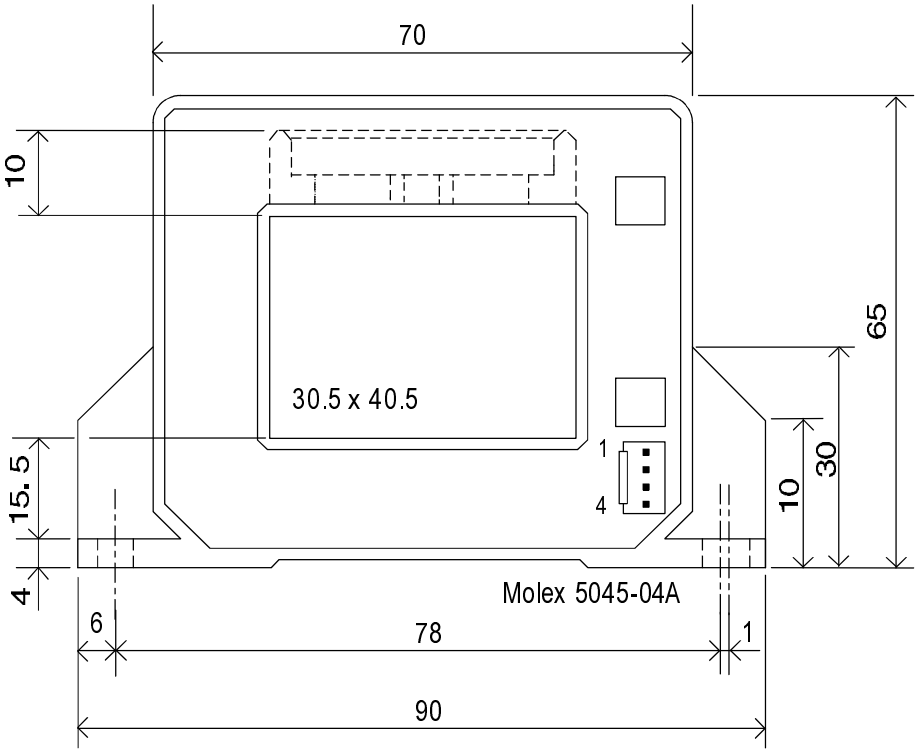
HAT-S SERIES

(unit = mm)

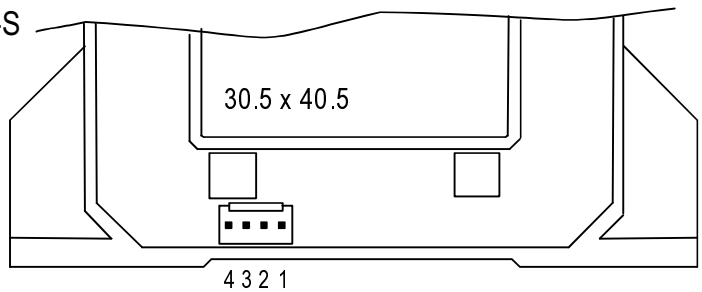
HAT 500-S to 1500-S



Positive current flow



HAT 200-S



Molex 5045-04A

All holes Ø 4.5mm

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

Pins arrangement:

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

99/05