

$I_{pn} = 500A$ 

## Features

- Plastic outer case compliant to UL 94-V0

## Advantage

- Very good linearity
- Excellent accuracy
- Low temperature drift
- Wide frequency bandwidth
- Optimized response time
- Current overload capability
- No insertion losses

## Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible power supplies (UPS)
- Switched mode power supplies (SMPS)
- Power suppliers for welding applications

## Application domain

- Commercial
- Industrial

## Standards

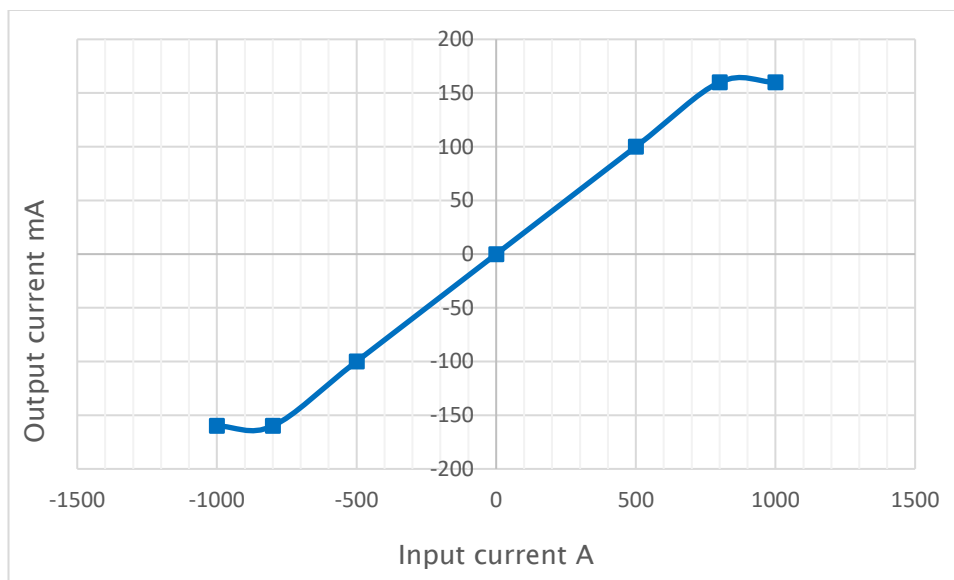
- EN 50178
- UL508

## Insulation characteristics

Parameters	Symbol	Value	Units
Dielectric strength between primary and secondary terminals, 50Hz 60 seconds	$V_d$	3.8	kVrms
Comparative tracking index	CTI	>250	V
Insulation resistance	$R_{is}$	>100	MΩ
Creepage distance		17.00	mm
Clearance distance		13.00	mm

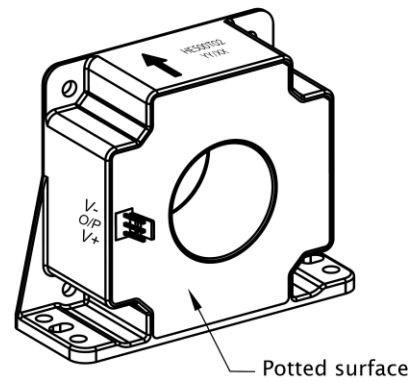
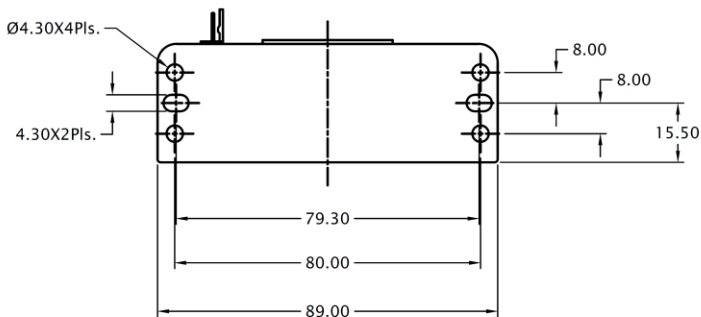
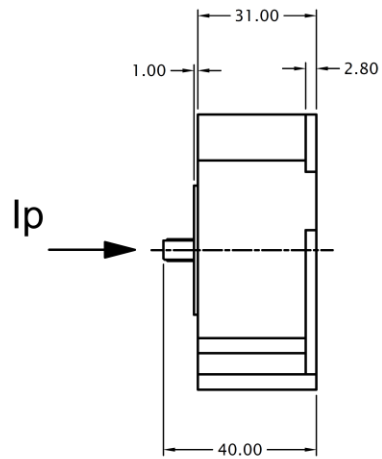
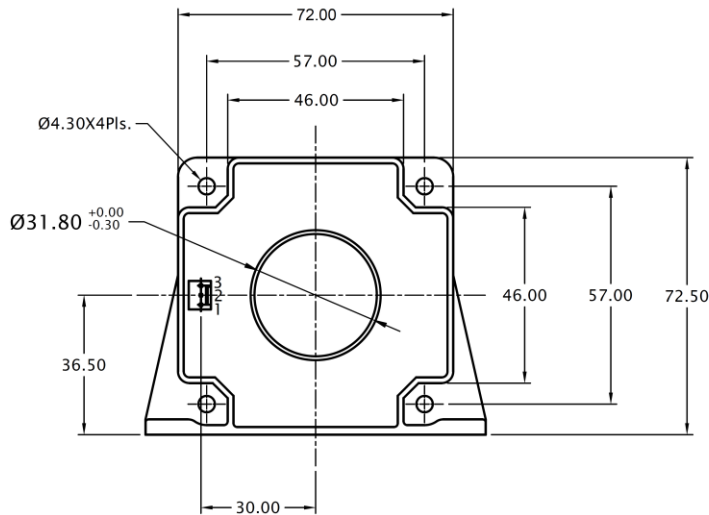
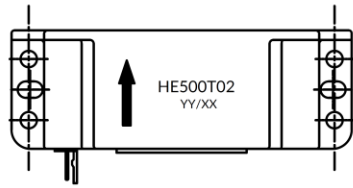
**Specifications (Unless otherwise specified temperature is 25°C)**

Parameters	Symbol	Condition	Min	Typ	Max	Units
Input current nominal	$I_{pn}$			500		A
Input current measuring range	$I_p$		-800		+800	A
Burden resistance	$R_b$	With $\pm 15V$ at $\pm 500A$	0		60	$\Omega$
		with $\pm 15V$ at $\pm 800A$	0		11	$\Omega$
		with $\pm 24V$ at $\pm 500A$	5		149	$\Omega$
		with $\pm 24V$ at $\pm 800A$	5		65	$\Omega$
Resistance of secondary winding	$R_s$			58		$\Omega$
Output current at $I_{pn}$	$I_{out}$			100		mA
Number of secondary turns	$N_s$			5000		
Theoretical sensitivity	$G_{th}$			0.2		mA/A
Supply voltage	$V_s$	$\pm 5\%$	$\pm 15$		$\pm 24$	V
Current consumption	$I_c$	$V_s = \pm 18 V$		$26 + I_{out}$		mA
Offset current	$I_{off}$		-0.35		+0.35	mA
Temperature variation of $I_{off}$	$I_{OT}$	-40 to +70 °C	-0.4		+0.4	mA
Linearity error	$\Sigma_L$			< 0.1		% of $I_{pn}$
Overall accuracy at $I_{pn}$	$X_G$		-0.6		+0.6	% of $I_{pn}$
Response time 90% of $I_{pn}$	$t_r$	100A/ $\mu s$		<1.0		$\mu s$
Frequency bandwidth	BW	-3dB, small signal bw	0		100	kHz
di/dt accurately followed	di/dt			>100		A/ $\mu s$
Ambient operating temperature	$T_A$		-40		+70	°C
Ambient storage temperature	$T_S$		-40		+85	°C
Mass	m			300		g

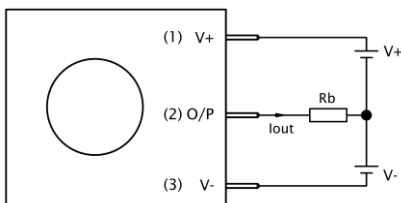
**Input & Output Characteristics**

Mechanical dimensions

GENERAL TOL. ±0.5 mm	
ALL DIMENSIONS ARE IN 'mm'	SCALE -NTS



Connection Diagram



## Hall Effect Current Sensor HE500T02

- Connector on the product: Connector header, part no- 0038006293, Molex
- Suggested mating connector: Connector housing, part no- 0022012031, & corresponding pin part no: 0008650805, Molex
- Sensor mounting: Base mounting, 6 holes X Ø 4.30mm, M4 steel screws, recommended fastening torque 3 N-m  
Vertical mounting, 4 holes X 4.30mm, M4 steel screws, recommended fastening torque 3 N-m
- It is recommended to centrally locate the current carrying conductor or completely fill the central opening for optimum performance
- Output increases when current (Ip) flows in the direction of arrow
- Ensure proper connection of power supply to avoid damage to the sensor

## Safety



- This Sensor must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.



- Caution, risk of electrical shock
- When operating the Sensor, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).
- Ignoring this warning can lead to injury and/or cause serious damage.
- A protective housing or additional shield could be used.
- Over currents ( $\gg I_{PN}$ ) can cause an additional voltage offset due to magnetic remanence.
- The temperature of the primary conductor shall not exceed 100 °C.
- This Sensors must be used in electrical or electronic systems as per the applicable standards.
- Protect non-isolated high-voltage current carrying parts against direct contact (e.g. with a protective housing)
- When installing the sensor, ensure that the safe separation (between primary circuit and secondary circuit) is maintained over the whole circuits and their connections.

## General information:

Electrohms reserves the right to make modifications on products for improvements without prior notice.