

## Features

- Isolated plastic case recognized according to UL 94-V0

## Advantages

- Easy installation
- Low power consumption
- Small size and space saving
- Only one design for wide current ratings range

## Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drivers
- 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	$V_d$	4.9	kV
Comparative tracking index	CTI	250	V
Impulse withstand voltage 1.2/50 $\mu$ s	$V_v$	8.3	kV
Insulation resistance at 500 VDC	$R_{IS}$	>100	M $\Omega$
Creepage distance		11.50	mm
Clearance distance		11.00	mm

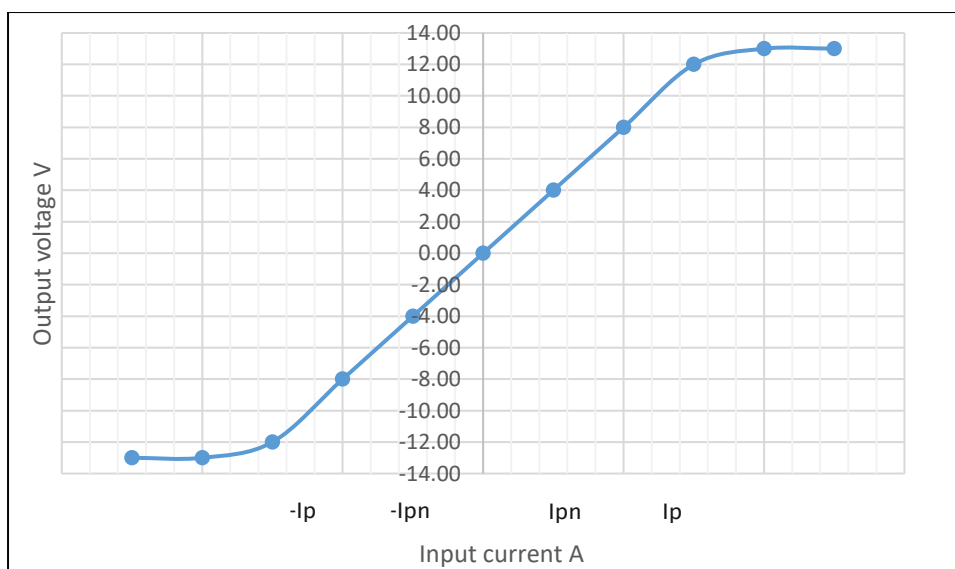
## Product Range

Product Code	Primary Nominal Current ( $I_{pn}$ )	Primary Measuring Range ( $I_p$ )
HSM500T01	500A	±1500A
HSM600T01	600A	±1800A
HSM750T01	750A	±2250A
HSM850T01	850A	±2550A
HSM1K0T01	1000A	±3000A
HSM1K5T01	1500A	±4500A
HSM2K0T01	2000A	±5500A
HSM2K5T01	2500A	±5500A

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

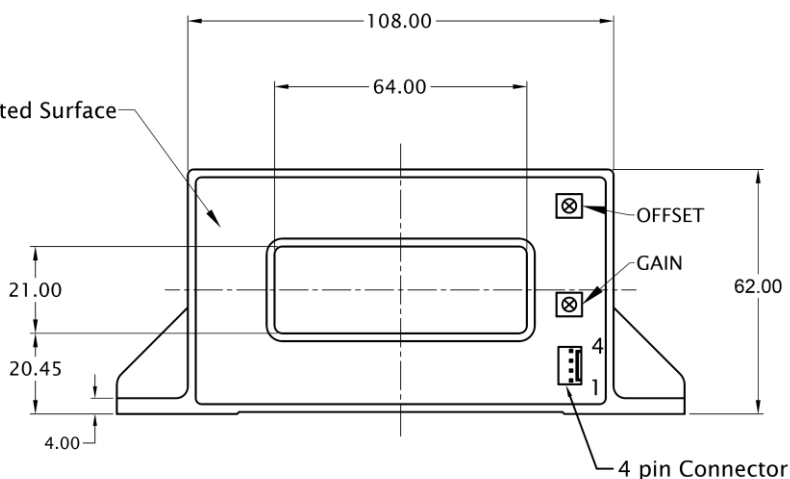
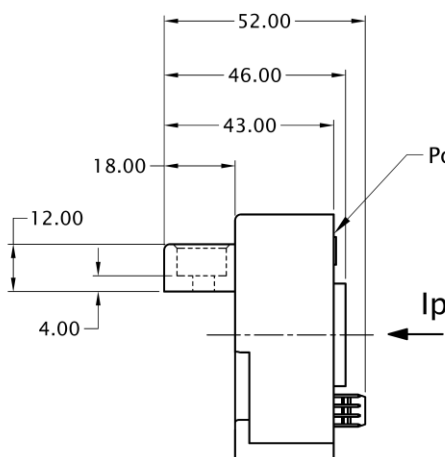
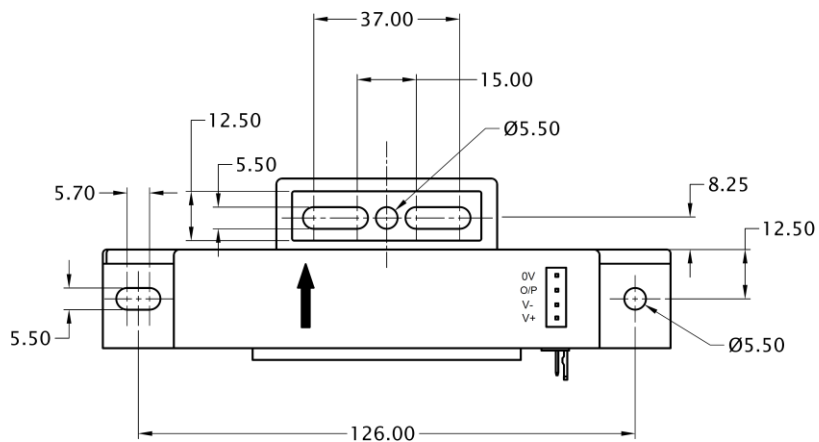
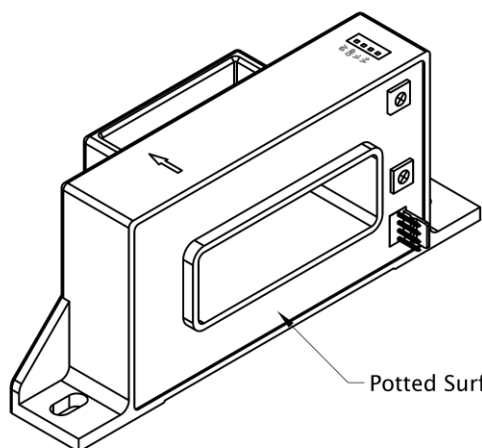
Parameters	Symbol	Condition	Min	Typ	Max	Units
Burden resistance	$R_b$		10			k $\Omega$
Output voltage	$V_{out}$	at $\pm I_{pn}$ , $R_b = 10k\Omega$ ,		±4		V
Supply voltage (±5%)	$V_s$	operating at 12V reduces the measuring range		±15		V
Current consumption at $I_{pn}$	$I_{out}$			20		mA
Overall accuracy) At $I_{pn}$ (Excluding offset)	$X_G$			±1		%
Linearity error (Excluding offset)	$\Sigma_L$			<1		%
Output offset voltage	$V_{off}$			± 20		mV
Hysteresis offset voltage	$V_{OH}$	at $I_p = 0$ after a primary current of $I_{pn}$		±30		mV
Temperature coefficient of $V_{off}$	$TV_{Off}$	-25 to +85 °C		± 1.0		mV/K
Temperature coefficient of $V_{out}$	$TV_{OE}$	-25 to +85 °C		± 0.1		%/K
Response time at 90% Of $I_{pn}$	$t_{ra}$			5		$\mu$ s
Frequency bandwidth	BW	-3dB, small signal bw	DC		25	kHz
di/dt accurately followed	di/dt			>50		A/ $\mu$ s
Ambient operating temperature	$T_A$		-25		+85	°C
Ambient storage temperature	$T_S$		-25		+85	°C
Mass	m			430		g

## Input & Output Characteristics

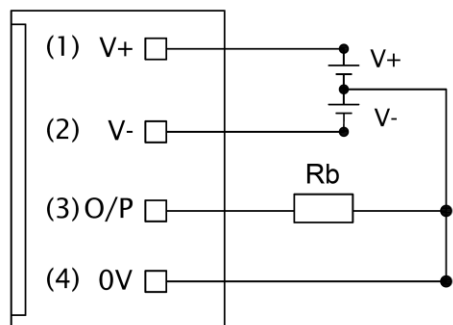


Mechanical dimensions

GENERAL TOL. ± 1.0 mm	
ALL DIMENSIONS ARE IN 'mm'	SCALE -NTS



Connection diagram



- Connector on the product: Connector header, Part no-22-04-1041, Molex
- Suggested mating connector: Connector housing, Part no-22-01-1042, & corresponding pin part no: 08-50-0114, Molex
- Sensor mounting: 2 holes X Ø 5.5mm, M5 steel screws, recommended fastening torque 4 N-m.
- It is recommended to centrally locate the current carrying conductor or completely fill the central opening for optimum performance.
- Output is positive when current ( $I_p$ ) 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.
- Disconnecting the main power must be possible
- 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 may only be used in electrical or electronic systems which fulfil the relevant regulations (Standards, EMC Requirements)
- Pay attention to 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.