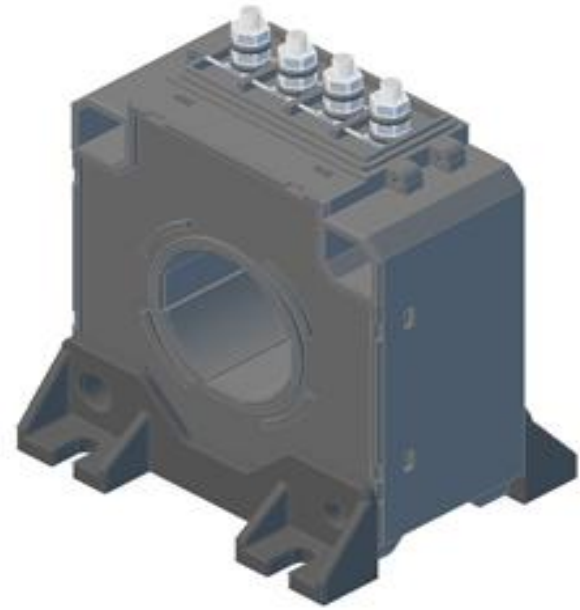


## Hall Effect Current Sensor HED1K3T01

$I_{PN} = 1300A$



### Features

- . Low Amplitude Error & Phase Error.
- . Isolated plastic case recognized according to UL 94-V0.
- . EN 50155: 2001

### Advantage

- . Excellent accuracy
- . Very good linearity
- . Low temperature drift
- . Optimized response time
- . Wide frequency bandwidth
- . No insertion losses
- . High immunity to external interference
- . Current overload capability.

### 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
- . Traction

### Maximum ratings

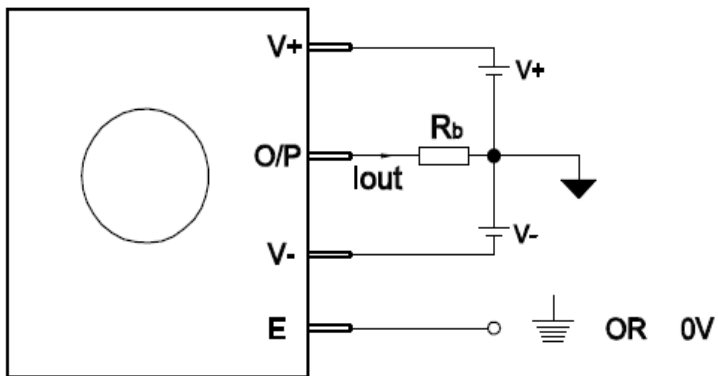
Parameter	Symbol	Value	Unit
Maximum supply voltage (working) -40 to 85°C	$\pm U_c$	+24V	V
Primary conductor temperature	$T_s$	85	°C
maximum steady state primary current ) -40 to 85°C	$I_{PN}$	1300	A
Rms Voltage For Ac Insulation Test, 50hz, 1 Min	$U_d$	13.4	KV
Comparative Tracking Index (CTI)		600	
Insulation Resistance	$R_s$	>100	MΩ

## Electrical data

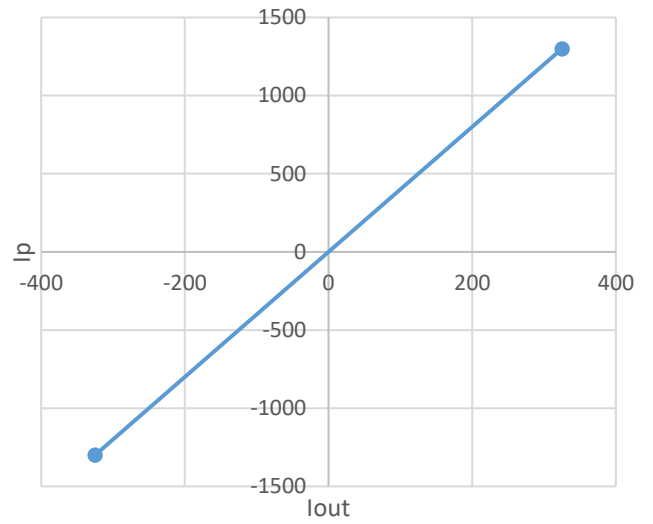
HED1K3T01

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Primart Nominal Rms Current	$I_{PN}$			1300		A
Primary Current, Measuring Range	$I_P$		-3000		+3000	A
Burden Resistance	$R_b$	with +/-15V @ +/-1000A (max)	0		22	$\Omega$
		with +/-15V @ +/-1500A (max)	0		7	$\Omega$
		with +/-24V @ +/-1000A (max)	0		55	$\Omega$
		with +/-24V @ +/-3000A (max)	0		3	$\Omega$
Resistance Of Secondary Winding	$R_s$	$R_s(T_A) = R_s \times (1 + 0.004 \times (T_A + \Delta temp - 25))$ Est temp increase @ $I_{PN}$ is $\Delta temp = 15^\circ C$		26		$\Omega$
Current Consumption at $I_{PN}$	$I_{out}$			325		mA
Number Of Secondary Turns	$N_s$			4000		
Theoretical Sensitivity	$G_{th}$			0.325		A
Supply Voltage	$\pm U_C$		$\pm 15$		$\pm 24$	V
Current Consumption	$I_c$	$\pm U_C = \pm 15 V$ $\pm U_C = \pm 24 V$		$33 + I_{out}$		mA
Offset Current, Referred To Primery	$I_o$			$< \pm 0.5$		mA
Temperature Variation Of $I_o$ , Referred To Primary	$I_{OT}$			$\pm 0.8$		mA
Linearity Error	$\Sigma_L$	25 to 70 to 75 °C -40 to 75 °C		$< 0.1$		% of $I_{PN}$
Overall Accuracy At $I_{PN}$	$X_c$	1Hz to 20KHz @ -40 to +85°C		$\pm 0.8$		% of $I_{PN}$
Reaction Time @ 90% Of $I_{PN}$	$t_{ra}$	0 to 1KA, 200A/ $\mu s$		$< 1.0$		$\mu s$
Frequency Bandwidth	BW	-3dB, small signal bw	0		100	KHz
di/dt accurately followed	di/dt			$> 100$		A/ $\mu s$
Creepage distance			66.7			mm
Clearance distance			45.9			mm
Ambient Operating Temperature	$T_A$		-40		+85	°C
Ambient Storage Temperature	$T_s$		-45		+90	°C
Mass	m			1000		g

## Connection Diagram

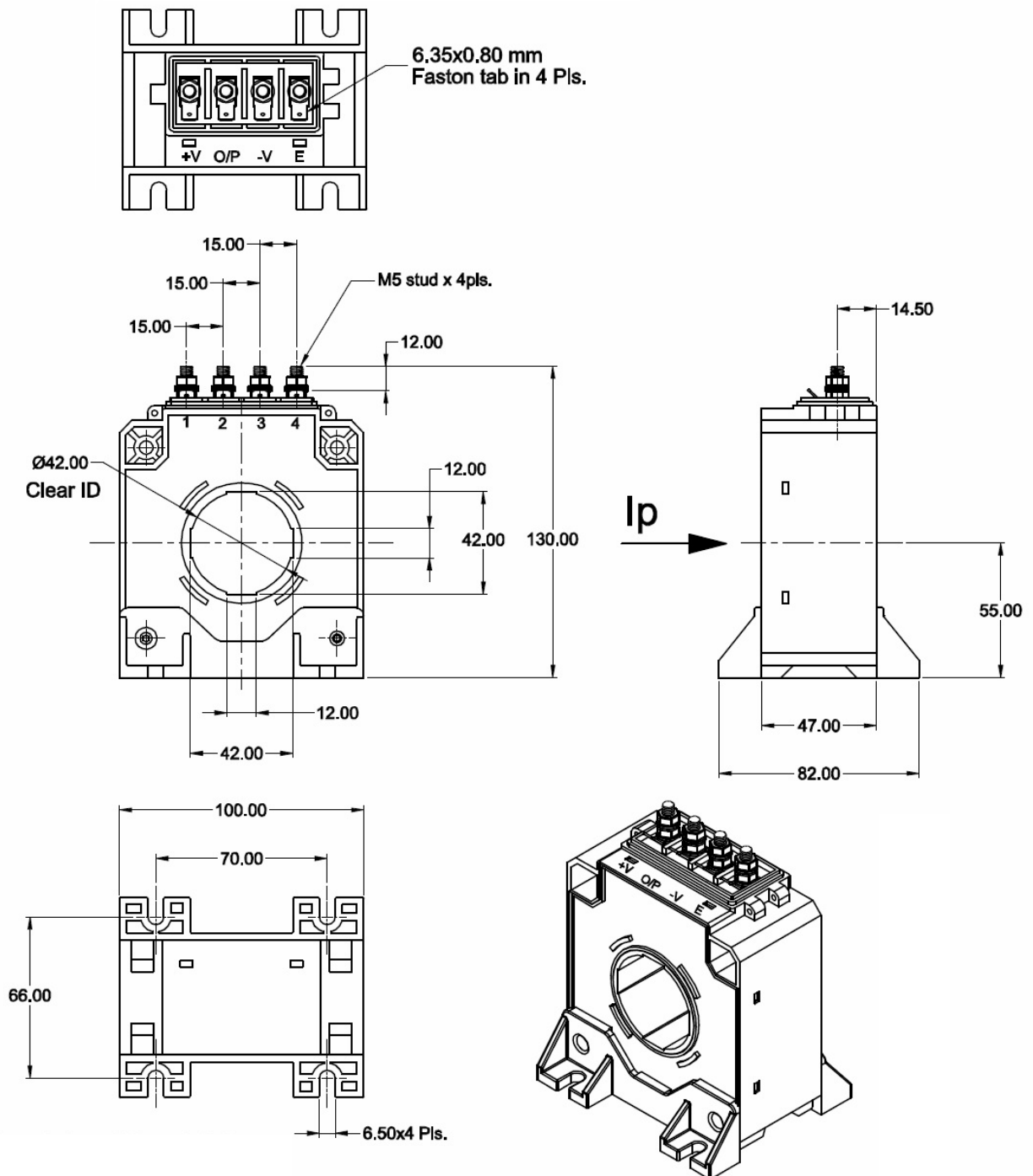


## Input & Output Characteristics

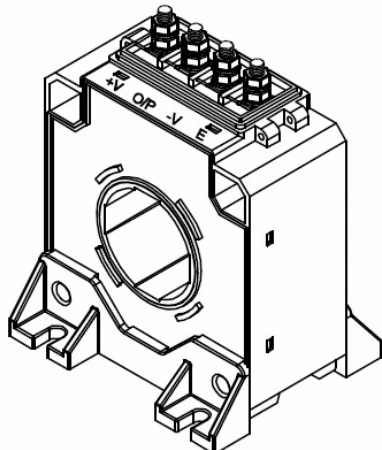


Mechanical dimensions in mm

Tolerance:  $\pm 0.5\text{mm}$



Pin Out	
Stud 1	+VCC (+V)
Stud 2	Output (O/P)
Stud 3	-VEE (-V)
Stud 4	Shield (SH)



## Safety

- This Current Transformer 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 Current Transformer, 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.
- Main supply must be to be disconnected.
- If IP flows in the direction of the Arrow  $I_{sek}$  is positive
- Over currents ( $\gg I_{PN}$ ) or the missing of the supply voltage can cause an additional remaining magnetic offset
- The temperature of the primary conductor may 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 this sensor, you must ensure that the safe separation (between primary circuit and secondary circuit) is maintained over the whole circuits and their connections
- Disconnecting the main power must be possible