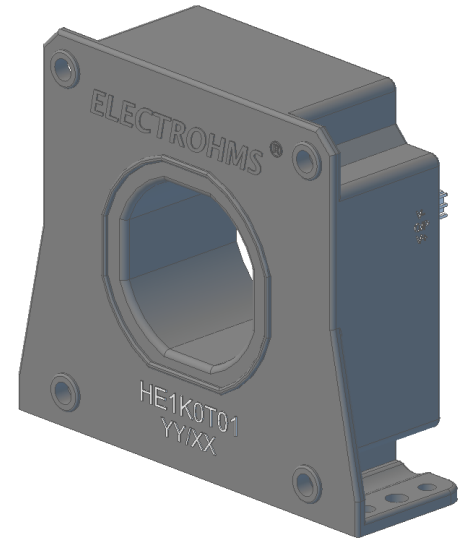


Hall Effect Current Sensor HE1K0T01

$I_{PN} = 1000A$



Features

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

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

Maximum ratings

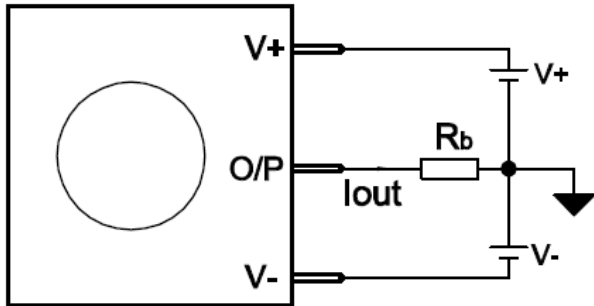
Parameter	Symbol	Value	Unit
Maximum supply voltage (working) -40 to 85°C	$\pm U_c$	+24V	V
Primary conductor temperature	T_s	85	°C
maximum steady state primary current) -40 to 85°C	I_{PN}	1000	A
Rms Voltage For Ac Insulation Test,50hz,1 Min	U_d	3.8	KV
Impulse withstand voltage 1.2/50uS	V_w	16	KV
Comparative Tracking Index (CTI)		250	
Insulation Resistance	R_{is}	NA	MΩ

Electrical data

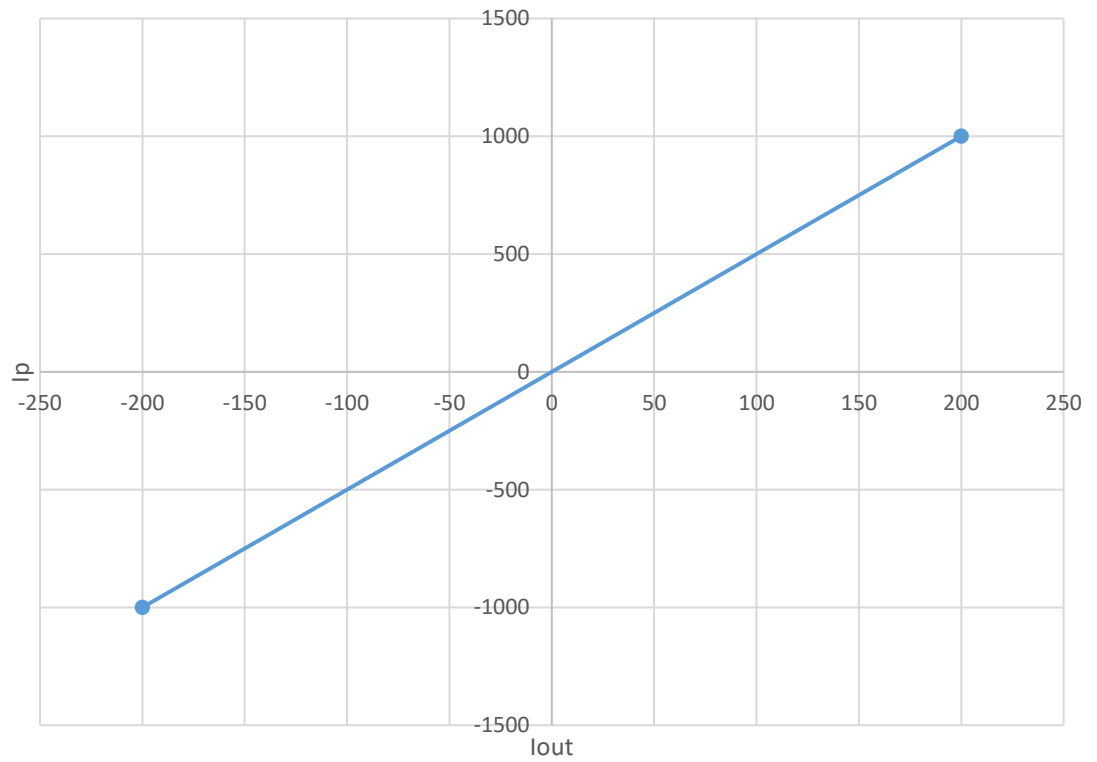
HE1K0T01

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Primart Nominal Rms Current	I_{PN}			1000		A
Primary Current, Measuring Range	I_P		-1500		+1500	A
Burden Resistance	R_b	with +/-15V @ +/- 1000A (max)	0		18	Ω
		with +/-15V @ +/- 1200A (max)	0		7	Ω
		with +/-24V @ +/- 1000A(max)	5		60	Ω
		with +/-24V @ +/- 1500A(max)	5		24	Ω
		with +/-15V @ +/- 1000A (max) @ 85°C	0		15	Ω
		with +/-15V @ +/- 1200A (max) @ 85°C	0		4	Ω
		with +/-24V @ +/- 1000A(max) @ 85°C	10		57	Ω
		with +/-24V @ +/- 1500A(max) @ 85°C	10		21	Ω
Resistance Of Secondary Winding	R_s	$R_s(T_A) = R_s \times (1+0.004 \times (T_A + \Delta\text{temp} - 25))$ Est temp increase @ I_{PN} is $\Delta\text{temp} = 15^\circ\text{C}$		48		Ω
Current Consumption at I_{PN}	I_{out}			200		mA
Number Of Secondary Turns	N_s			5000		
Theoretical Sensitivity	G_{th}			0.2		A
Supply Voltage	$\pm U_C$		+14		+25	V
Current Consumption	I_C	$\pm U_C = \pm 15\text{ V}$ $\pm U_C = \pm 24\text{ V}$		$26 + I_{out}$		mA
Offset Current, Referred To Primery	I_o			$< \pm 0.4$		mA
Temperature Variation Of I_o , Referred To Primary	I_{oT}			± 0.5		mA
Linearity Error	Σ_L	25 to 70 to 85 °C -40 to 85 °C		< 0.1		% of I_{PN}
Overall Accuracy At I_{PN}	X_G	1Hz to 20KHz fig 4		± 0.4		% of I_{PN}
Reaction Time @ 90% Of I_{PN}	t_{ra}	0 to 1KA, 200A/ μs		< 1.0		μs
Frequency Bandwidth	BW	-3dB, small signal bw	0		100	KHz
di/dt accurately followed	di/dt			> 100		A/ μs
Creepage distance				20.6		mm
Clearance distance				19.6		mm
Ambient Operating Temperature	T_A		-40		+85	°C
Ambient Storage Temperature	T_s		-50		90	°C
Mass	m			550		g

Connection Diagram

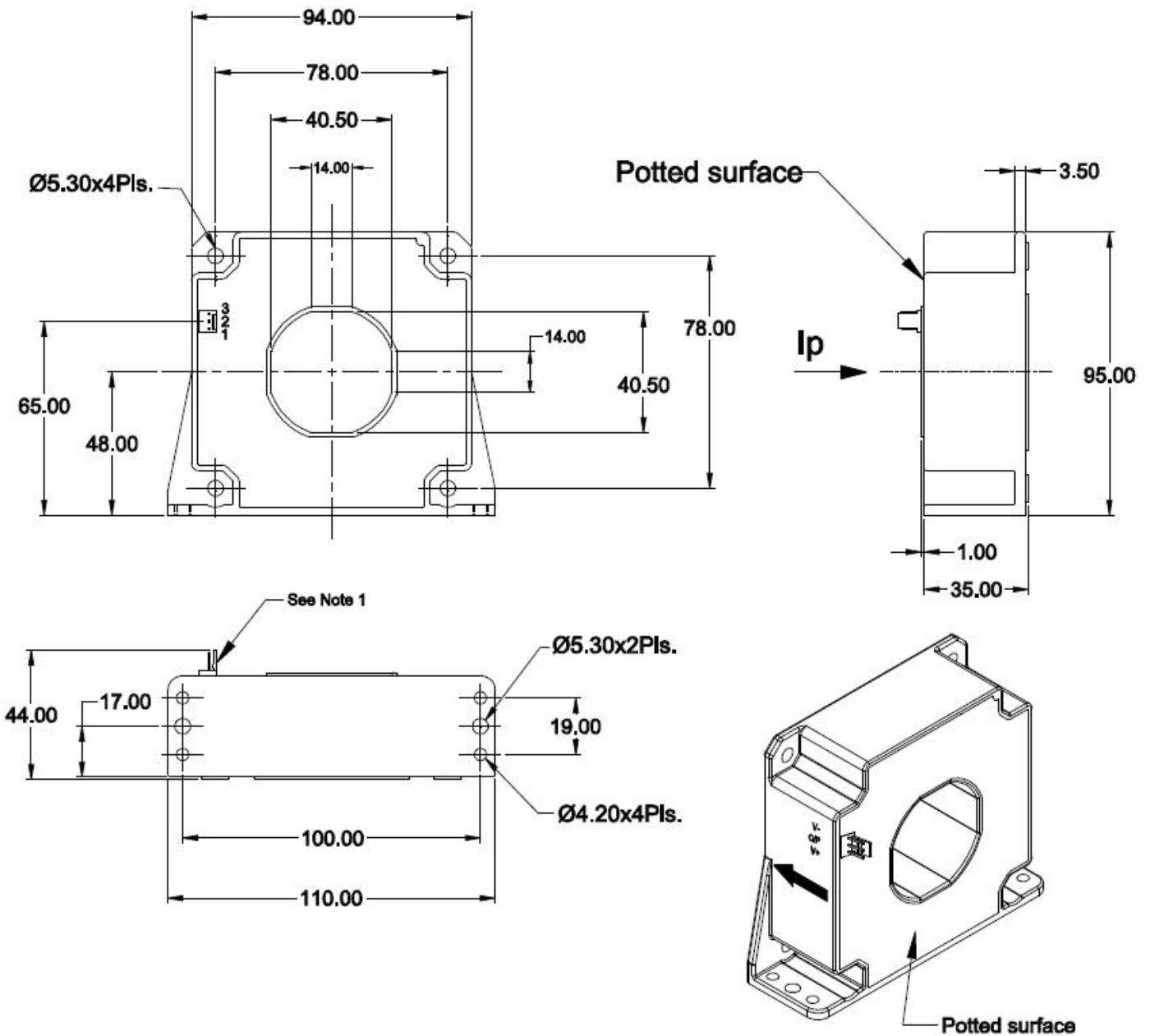


Input & Output Characteristics

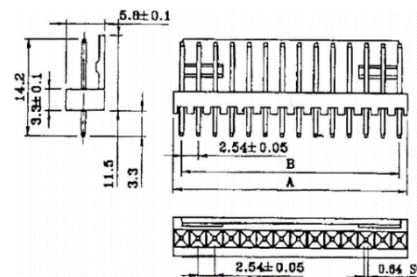


Mechanical dimensions in mm

Tolerance: ± 0.5 mm



Pin Out Details	
Pin 1	+VCC (+V)
Pin 2	Output (V_{out})
Pin 3	-VEE (-V)



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