

Hall Effect Current Sensor HB050...400T01

$I_{PN} = 50 \dots 400A$



Features

- . Open loop current sensor
- . Flange mounting type
- . Single conditioned 4-20mA output.

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

- . Used for measurement of electric current
- . DC in electrical & electronic equipment.

Application domain

- . Commercial
- . Industrial

Maximum ratings

Parameter	Symbol	Value	Unit
Maximum supply voltage (working) -40 to 85°C	$\pm V_{cc}$	$\pm 24V$	V
Primary conductor temperature	T_s	85	°C
maximum steady state primary current -20 to 50°C	I_{PN}	400	A
Rms Voltage for Ac Insulation Test,50hz,1 Min	U_d	3.7	KVrms
Insulation Resistance	R_s	>100	MΩ

Product Range

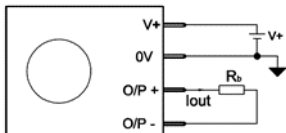
HB050...400T01

Product Code	I _{PN}	I _P
HB050T01	50A	55A
HB300T01	300A	330A
HB400T01	400A	440A

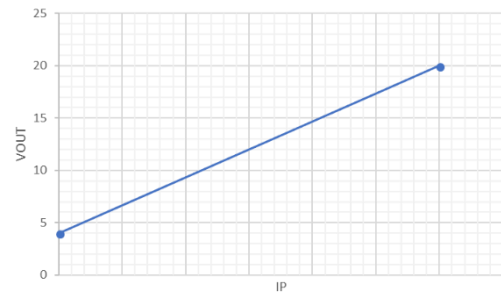
Electrical data

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Burden Resistance	R _b		0		500	Ω
Output Current at I _{PN} = 0A (Analog)	I _{out}	@25°C		4 ±0.08		mA
Output Current at I _{PN}	I _{OUT}			20		mA
Supply Voltage (± 5%)	±U _C			+24		V
Current Consumption at I _{PN}	I _{out}			<25		mA
Overall Accuracy At I _{PN}	X _G	@25°C		≤ ±0.5		%
Linearity Error	Σ _L	-40 to 60 °C		<0.5		%
Output offset Current	I _{off}			≤ ± 0.08		mA
Temperature coefficient of I _{out}	TV _{OE}	-40 to +60°C		≤ ± 0.025		% / K
Temperature coefficient of V _{offset}	TV _{OFF}			≤ ± 1.0		mV / K
Reaction Time @ 90% Of I _{PN}	t _{ra}			<500		μs
Frequency Bandwidth	BW	-3dB, small signal bw	0		5	KHz
di/dt accurately followed	di/dt			>50		A/ μs
Ambient Operating Temperature	T _A		-25		+85	°C
Ambient Storage Temperature	T _S		-40		+100	°C
Mass	m			500		g
Standards EN 50178: 1997						

Connection Diagram

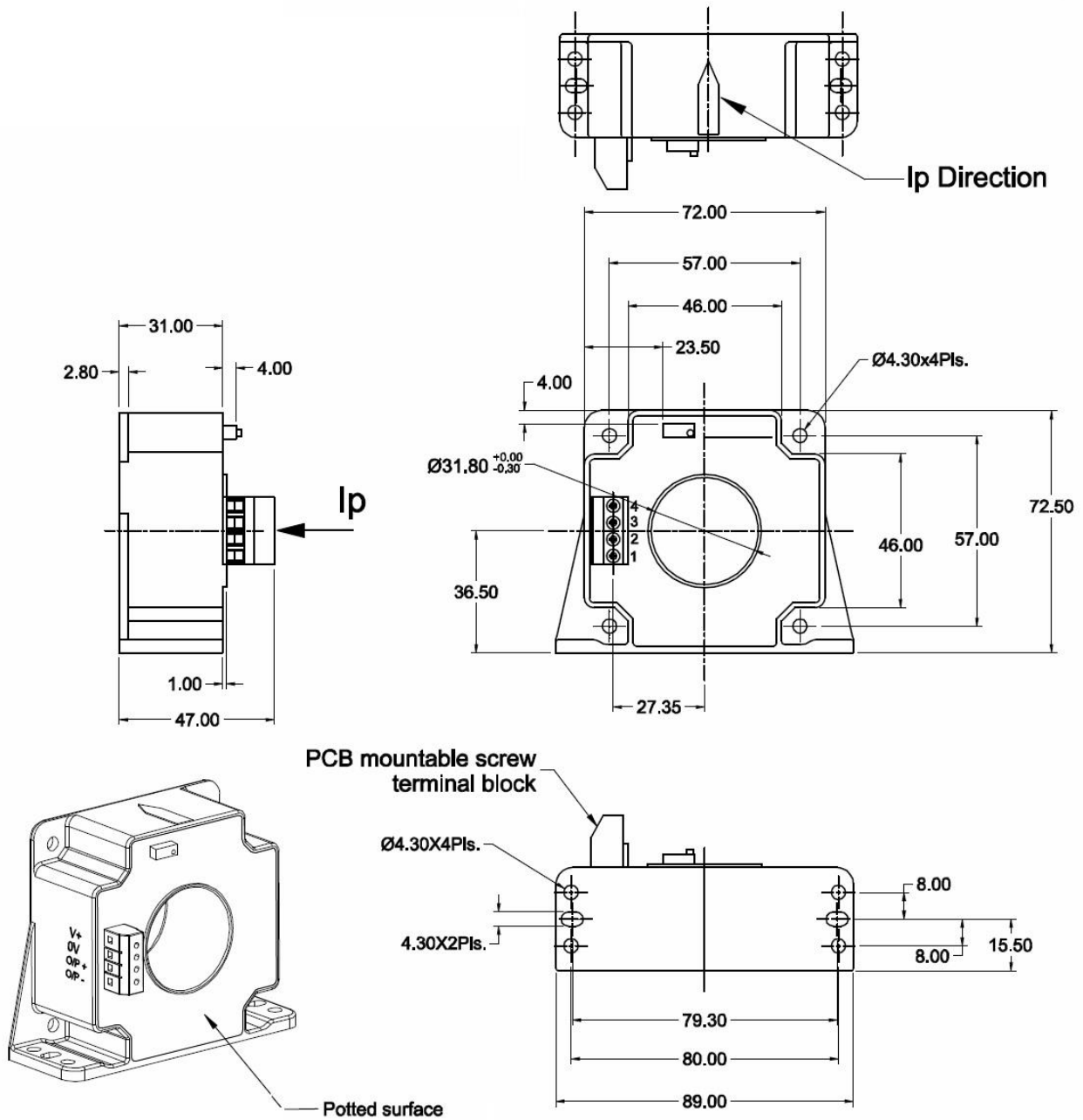


Input Output Characteristics



Mechanical dimensions are in mm

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



Pin out details

Pin 1	Output(o/p-)
Pin 2	Output(o/p+)
Pin 3	Ground (ov)
Pin 4	Supply voltage (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 (e.g. 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 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