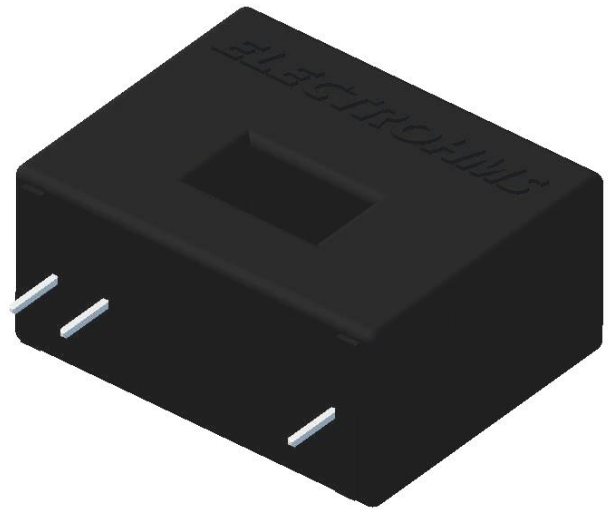


Hall Effect Current Sensor HE055PV1

$I_{PN} = 50A$



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

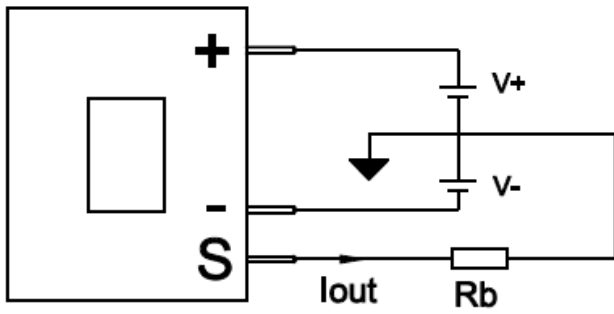
Parameter	Symbol	Value	Unit
Maximum supply voltage (working) -40 to 85°C	$\pm U_c$	$\pm 15V$	V
Primary conductor temperature	T_s	85	°C
maximum steady state primary current -40 to 85°C	I_{PN}	50	A
Rms Voltage For Ac Insulation Test, 50hz, 1 Min	U_d	3.0	KV
Insulation Resistance	R_s	NA	MΩ

Electrical data

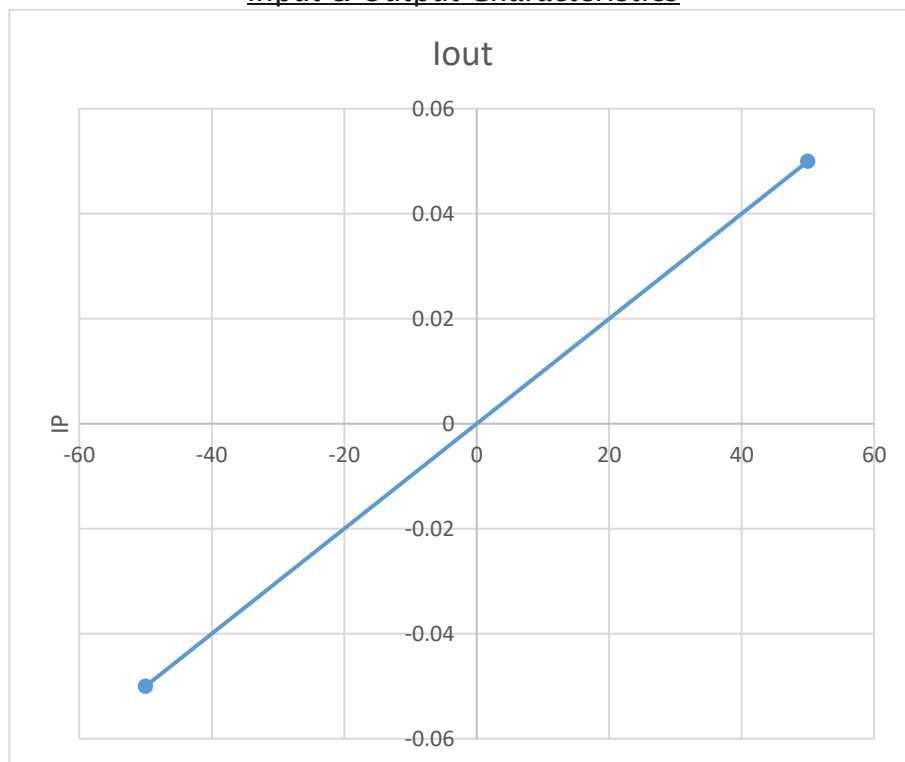
HE055PV1

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Primart Nominal Rms Current	I_{PN}			50		A
Primary Current, Measuring Range	I_P		-70		+70	A
Burden Resistance	R_b	with +/-12V @ +/-50A (max)	60		80	Ω
		with +/-12V @ +/-70A (max)	42		60	Ω
		with +/-15V @ +/-50A(max)	140		140	Ω
		with +/-15V @ +/-70A(max)	85		135	Ω
Secondary Nominal Rms Current	I_{SN}			25		mA
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 $\Delta temp = 15^\circ C$		65		Ω
Conversion Ratio	K			1000:1		K
Current Consumption at I_{PN}	I_{out}			$11 + I_{OUT}$		mA
Theoretical Sensitivity	G_{th}			0.05		A
Supply Voltage	$\pm U_C$		± 12		± 15	V
Offset Current, Referred To Primery	I_o			± 0.20		mA
Temperature Variation Of I_o , Referred To Primary	I_{OT}		-0.6		+0.6	mA
Linearity Error	Σ_L	25 to 70 to 85 °C -40 to 85 °C		≤ 0.15		% of I_{PN}
Overall Accuracy At I_{PN}	X_C	1Hz to 20KHz fig 4	-0.65		+0.65	% 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		200	KHz
di/dt accurately followed	di/dt			>200		A/ μs
Ambient Operating Temperature	T_A		-40		+85	°C
Ambient Storage Temperature	T_S		-50		90	°C
Mass	m			22		g

Connection Diagram



Input & Output Characteristics



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