Hall Effect Current Sensor HA025T01-UR

Ipn = 25 A

Features

. Closed loop current sensor
. All relevant materials are UL approved.
. Voltage output
. PCB mountable with primary built- in.

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 the measurement of electric current, AC, DC
. Pulsed in Electrical & Electronic equipment.

Application domain

. Commercial
. Industrial

Maximum ratings

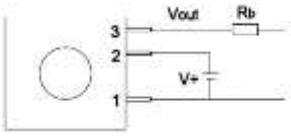
Parameter	Symbol	Value	Unit
Maximum supply voltage (working) -40 to+85°C	±Uc	+5.0	V
Primary conductor temperature	T_S	85	°C
maximum steady state primary current) -40 to +85°C	I_{PN}	25A	A
RMS Voltage For Ac Insulation Test,50hz,1 Min	U_d	2.5	KV
Comparative Tracking Index	CTI	175	V
Insulation Resistance	R_{IS}	>100	MΩ

Electrical data

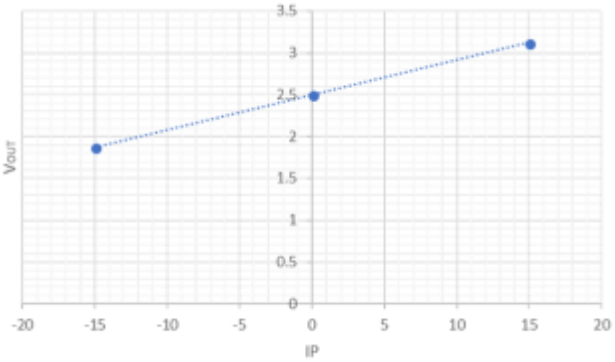
HA025T01-UR

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Burden Resistance	R_b			2000(min.)		Ω
Primary current range I_P	I_P			±56		A
Output Voltage @I_{PN} (V_{out})	V_{out}	@±I_{PN},R_b = 10KΩ, @25°C		2.5 ± 0.625		V
Supply Voltage (± 5%)	$\pm U_C$			+5.0		V
Current Consumption at @ +5v(Ic)	I_{out}			12 Typical		mA
Voltage output per amps of I_P				± 25		mV/A
Secondary coil resistance	R_{sec}			35		Ω
Overall Accuracy At I_{PN}	X_G	@25°C		≤ ±0.65		%
Linearity Error	Σ_L	-40 to 85 °C		<0.2		%
Output offset Voltage @ I_P = 0 (V_{off})	V_{off}			2.5 ± 0.025		mV
Hysteresis offset Voltage	V_{OH}			±1		mV
Temperature coefficient of V_{out}	TV_{OE}	-40 to +85 °C		100		PPM/K
Reaction Time @ 90% Of I_{PN}	t_{ra}			<0.4		μs
Frequency Bandwidth @ -3db (fbw)	BW	-3dB, small signal bw		DC to 200		KHz
di/dt accurately followed	di/dt			>50		A/ μs
Ambient Operating Temperature	T_A			-40 to +85		°C
Ambient Storage Temperature	T_S			-40 to +85		°C
Mass	m			12		g
Standards: EN55011 / CISPR11 EN61000-4-2/IEC61000-4-2 EN61000-4-3/IEC61000-4-3 EN61000-4-8/IEC61000-4-8						

Connection Diagram

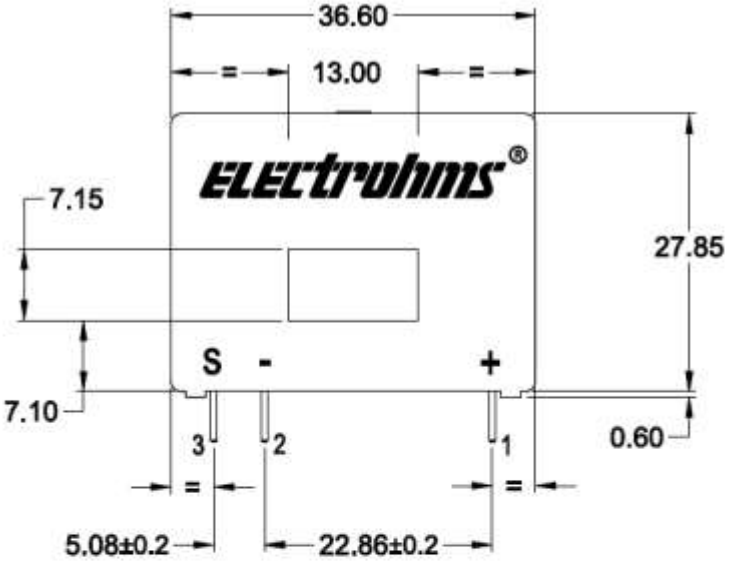


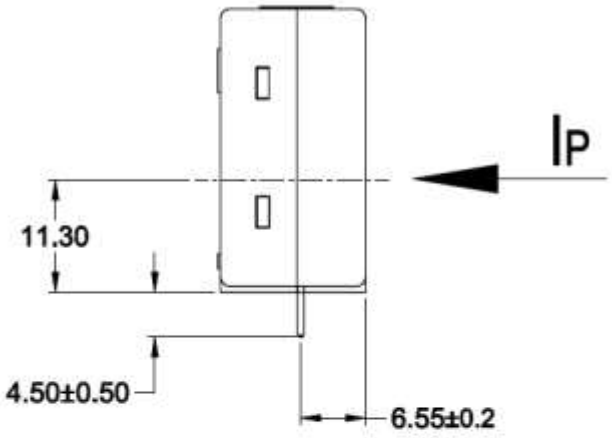
Input Output Characteristics

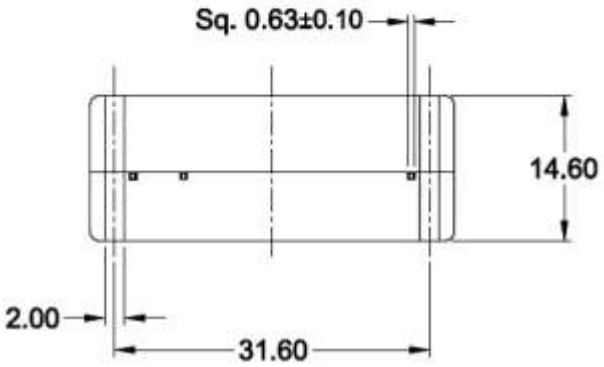


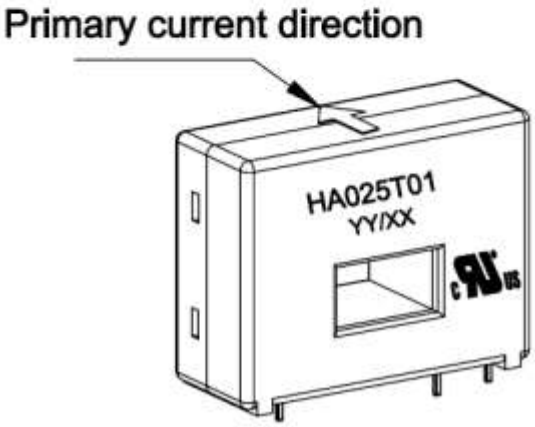
Mechanical dimensions are in mm

Tolerance: ±0.5mm









Pin Out	Name
1	VCC (+V)
2	GND (0)
3	Output

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 ISek is positive
● Over currents (»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