



Speciality Magnetic Components
Qualified to ISO 9001:2008

Open Loop Hall Effect Current Transformer Type HOY



The HOY series are Open Loop Hall Effect Current Transformers covering the range of 5A to 50A. The product provides a voltage output which is galvanically isolated from the primary circuit. All contacts, including the primary are designed to be PCB mounted.

Features

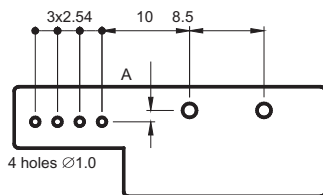
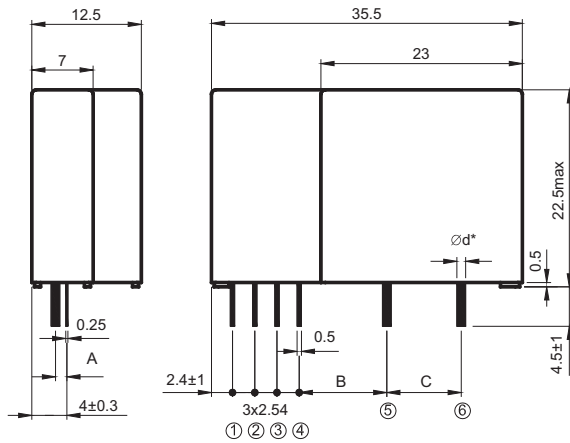
- ◆ Compact and light weight
- ◆ Fast response time
- ◆ Excellent linearity of the output voltage over a wide input range
- ◆ Excellent frequency response (> 50 kHz)
- ◆ Low power consumption (9 mA nominal)
- ◆ Capable of measuring both DC and AC, both pulsed and mixed
- ◆ High isolation voltage between the measuring circuit and the current-carrying conductor (AC2.5KV)
- ◆ Flame-Retardant plastic case and silicone encapsulate, using UL classified materials, ensures protection against environmental contaminants and vibration over a wide temperature and humidity range

Applications

- ◆ UPS systems
- ◆ Industrial robots
- ◆ NC tooling machines
- ◆ Elevator controllers
- ◆ Process control devices
- ◆ AC and DC servo systems
- ◆ Motor speed controller
- ◆ Electrical vehicle controllers
- ◆ Inverter-controlled welding machines
- ◆ General and special purpose inverters
- ◆ Power supply for laser processing machines
- ◆ Controller for traction equipment e.g. electric trains
- ◆ Other automatic control systems

Specifications

Parameter	Symbol	Unit	HOY 5	HOY 7.5	HOY 10	HOY 12.5	HOY 15	HOY 18.5	HOY 20	HOY 25	HOY 37.5	HOY 50
Nominal Input Current	I_{fn}	A DC	5	7.5	10	12.5	15	18.5	20	25	37.5	50
Linear Range	I_{fs}	A DC	± 15	± 23	± 30	± 38	± 45	± 56	± 60	± 75	± 112	± 150
Nominal Output Voltage	V_{hn}	V	4 V $\pm 1\%$ at $I_f = I_{fn}$ ($R_L = 10k\Omega$)									
Offset Voltage	V_{os}	mV	Within ± 40 mV @ $I_f = 0$, $T_a = 25^\circ\text{C}$									
Output Resistance	R_{OUT}	Ω	$< 100\Omega$ (50 Ω nominal)									
Hysteresis Error	V_{oh}	mV	Within ± 15 mV @ $I_f = I_{fn} \rightarrow 0$									
Supply Voltage	V_{CC}/V_{EE}	V	$\pm 15V \pm 5\%$									
Linearity (Within $\pm I_{fn}$)	ρ	%	Within $\pm 1\%$ of I_{fn}									
Consumption Current	I_{CC}	mA	± 9 mA nominal									
Response Time (90% V_{hn})	T_r	μsec	13 μsec max. @ $d I_f / dt = I_{fn} / \mu\text{sec}$									
Thermal Drift of Output	-	%	Within ± 0.1 %/ $^\circ\text{C}$ @ I_{fn}									
Thermal Drift of Zero Current Offset	-	mV/ $^\circ\text{C}$	Within ± 3 mV/ $^\circ\text{C}$ @ I_{fn}									
Dielectric Strength	-	V	AC2.5KV X 60 sec									
Isolation Resistance @ 1000 VDC	R_{IS}	M Ω	> 1000 M Ω									
Operating Temperature	T_a	$^\circ\text{C}$	-15°C to 80°C									
Storage Temperature	T_s	$^\circ\text{C}$	-20°C to 85°C									
Mass	W	g	14g									



①	+15V
②	-15V
③	V_{OUT}
④	0V
⑤	I+
⑥	I-

Part Number	A	B	C	PRIMARY TERMINALS
HOY5	1.3	10	8.5	$\varnothing 1.0$
HOY7.5	1.3	10	8.5	$\varnothing 1.0$
HOY10	1.4	10	8.5	$\varnothing 1.2$
HOY12.5	1.5	10	8.5	$\varnothing 1.4$
HOY15	1.5	10	8.5	$\varnothing 1.4$
HOY18.5	1.5	10	8.5	$\varnothing 1.4$
HOY20	1.5	10	8.5	$\varnothing 1.4$
HOY25	1.6	10	8.5	$\varnothing 1.6$
HOY37.5	1.7	11.2	6.1	1.6 X 2.5
HOY50	1.7	11.2	6.1	1.6 X 2.5
TOLERANCE	± 0.1	± 0.3	± 0.3	± 0.1