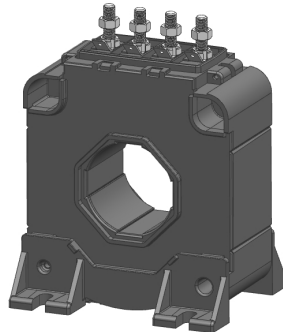


CM8A H01 SERIES

Current sensor

Model Number:

CM8A 1000 H01



For the electronic measurement of current: DC, AC, pulsed..., with galvanic insulation between the primary and the secondary circuit.

Features

- ✧ Closed loop (compensated) current sensor using the Hall effect
- ✧ Galvanic insulation between primary and secondary
- ✧ Insulating plastic case recognized according to UL 94-V0
- ✧ Very good linearity
- ✧ Very low offset drift over temperature
- ✧ No insertion loss
- ✧ Standards:
 - IEC 60664-1:2020
 - IEC 61800-5-1:2022
 - IEC 62109-1:2010

Applications

- ✧ AC variable speed
- ✧ servo motor drives
- ✧ Battery management
- ✧ Alternator/inverter
- ✧ UPS/SVG

Safety

This sensor must be used according to IEC61800-5-1.

This sensor 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 sensor, certain parts of the module can carry hazardous voltage (e.g., Primary busbar, power supply). Ignore this warning can lead to injury and/or cause serious damage.

This sensor is a built-in device, whose conducting parts must be inaccessible after installation. A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

Absolute maximum ratings(not operating)

Parameter	Symbol	Unit	Value
Supply voltage	V_C	V	± 25.2
Primary conductor temperature	T_B	°C	100

- ✗ Stresses above these ratings may cause permanent damage.
- ✗ Exposure to absolute maximum ratings for extended periods may degrade reliability.

Environmental and mechanical characteristic

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Ambient operating temperature	T_A	°C	-40		85	
Ambient storage temperature	T_S	°C	-40		90	
Mass	m	g		900		

Insulation coordination

Parameter	Symbol	Unit	Value	Comment
Rms voltage for AC insulation test@ 50Hz,1min	V_d	kV	13.4	According to IEC 60664-1
Clearance (pri.- sec.)	d_{cl}	mm	45	
Creepage distance (pri.- sec.)	d_{cp}	mm	64	
Plastic case	-	-	UL94-V0	
Comparative tracking index	CTI		> 175	

CM8A H01 SERIES

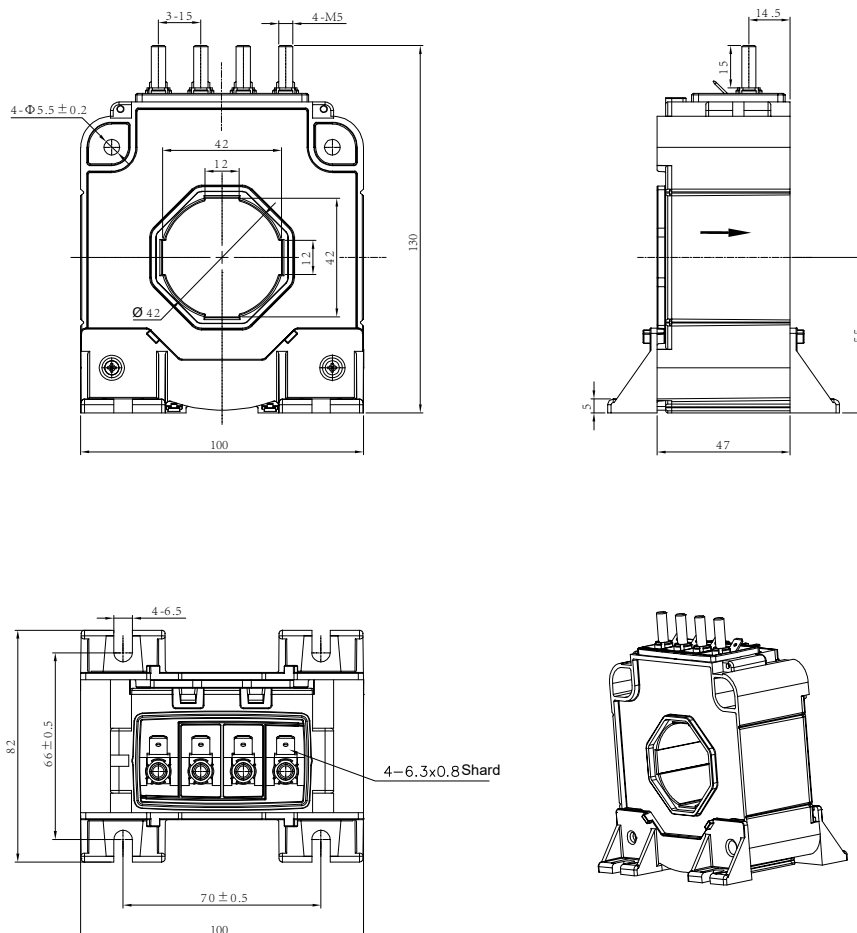
Electrical data

※ With $T_A = 25^\circ\text{C}$, $V_C = \pm 24\text{V}$, unless otherwise noted.

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary nominal rms current	I_{PN}	A		1000		
Primary current, measuring range	I_{PM}	A	-2400		2400	
Measuring resistance	R_M	Ω	0 0 0 0		15 7 50 7	@ $\pm 15\text{V}$, $\pm 1000\text{A}$ @ $\pm 15\text{V}$, $\pm 1200\text{A}$ @ $\pm 24\text{V}$, $\pm 1000\text{A}$ @ $\pm 24\text{V}$, $\pm 2000\text{A}$
Secondary nominal rms current	I_{SN}	mA		200		
Number of secondary turns	N_S	-		5000		
Supply voltage	V_C	V	± 15		± 24	@ $\pm 5\%$
Current consumption	I_C	mA			$30 + I_{SN}$	@ $\pm 24\text{V}$
Offset current	I_0	mA	-0.5		0.5	
Thermal drift of offset current	I_{OT}	mA	-1		1	@ $-40^\circ\text{C} \sim 85^\circ\text{C}$
Linearity error 0... I_{PN}	ε_L	% of I_{PN}			0.1	Exclusive of I_{OE}
Accuracy@ I_{PN}	X	% of I_{PN}	-0.4		0.4	Exclusive of I_{OE}
Response time@ 90% of I_{PN}	t_r	μs			1	
Frequency bandwidth(-1dB)	BW	kHz		DC...100		

CM8A H01 SERIES

Dimensions (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- ✧ General tolerance ± 1 mm
- ✧ Primary hole $\Phi 42$ mm
- ✧ Sensor installation
4pc $\Phi 6.5$ mm through hole
4pc M6 metal screw

Recommended fastening torque 4.5 N•m ($\pm 10\%$)

- ✧ Terminal connection
4pc M5 metal bolt
6.3x0.85 mm

Recommended fastening torque 2.2 N•m ($\pm 10\%$)

Remarks

- ✧ I_S and I_P are in the same direction, when I_P flows in the direction of arrow.
- ✧ Temperature of primary conductor should not exceed 100°C .
- ✧ For safety reasons, do not install a current sensor with primary or secondary power supply.

This is a standard model. For different applications(measurement, secondary connections...), please contact CHIPSENSE.