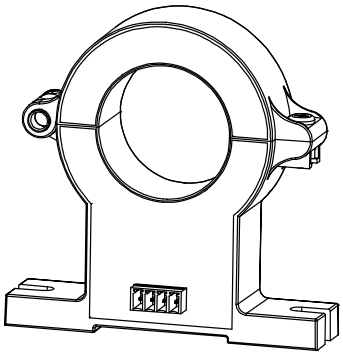
HK1A H00 SERIES

Current Sensor

Model Number:

HK1A 200 H00
HK1A 400 H00



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

Features

- Open loop sensor using the Hall Effect
- Galvanic Insulation between primary and secondary
- Insulating plastic case recognized according to UL 94-V0
- No insertion loss
- Small size
- Standards:
  - IEC 60664-1:2020
  - IEC 61800-5-1:2022
  - IEC 62109-1:2010

Applications

- AC variable speed drives
- Uninterruptible power supplies (UPS)
- Static converters for DC motor drives
- Switch mode power supplies (SMPS)
- Power supplies for welding applications
- Battery management

Safety

This sensor must be used according to IEC 61800-5-1.
This sensor must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacture'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	12.6

※ Stresses above these ratings may cause permanent damage.

※ Exposure to absolute maximum ratings for extended periods may degrade reliability.

Environmental and mechanical characteristics

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Ambient operating temperature	T_A	℃	-25		85	
Ambient storge temperature	T_S	℃	-40		90	
Mass	m	g			280	

Insulation coordination

Parameter	Symbol	Unit	Value	Comment
Rms voltage for AC insulation test @ 50Hz,1min	V_d	kV	3	
Plastic case	-	-	UL94-V0	
Clearance (pri.- sec.)	d_{Cl}	mm	7.2	
Creepage distance (pri.- sec.	d_{Cp}	mm	7.2	

Electrical data

※ With T_A = 25℃, V_C = ±12V,unless otherwise noted.

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary nominal rms current	I_{PN}	A		200 400		HK1A 200 H00 HK1A 400 H00
Primary current, measuring range	I_{PM}	A	-240 -480		240 480	HK1A 200 H00 HK1A 400 H00
Rated output current	I_{OUT}	mA	4	12	20	
Supply voltage	V_C	V		12		@ ±5%
Current consumption	I_C	mA			28	
Load resistance	R_L	Ω			300	
Insulation resistance	R_{IS}	MΩ		500		@500VDC
Accuracy@ I_{PN}	X	% of I_{PN}	-1		1	
Linearity error 0…I_{PN}	ε_L	% of I_{PN}	-0.5		0.5	
Offset current	I_{OE}	mA	11.92	12	12.08	@I_P=0
Magnetic offset current	I_{OM}	mA	11.92	12	12.08	@I_P=0
Temperature drift of offset current	TC_{IOE}	mA	-0.3		0.3	@I_P=0, -25℃~25℃ @I_P=0, -25℃~85℃
Amplitude current temperature drift	TC_{IOT}	mA	-1		1	@I_P=0, -25℃~25℃ @I_P=0, -25℃~85℃
Response time	t_r	ms			250	@50A/us，10%~90%

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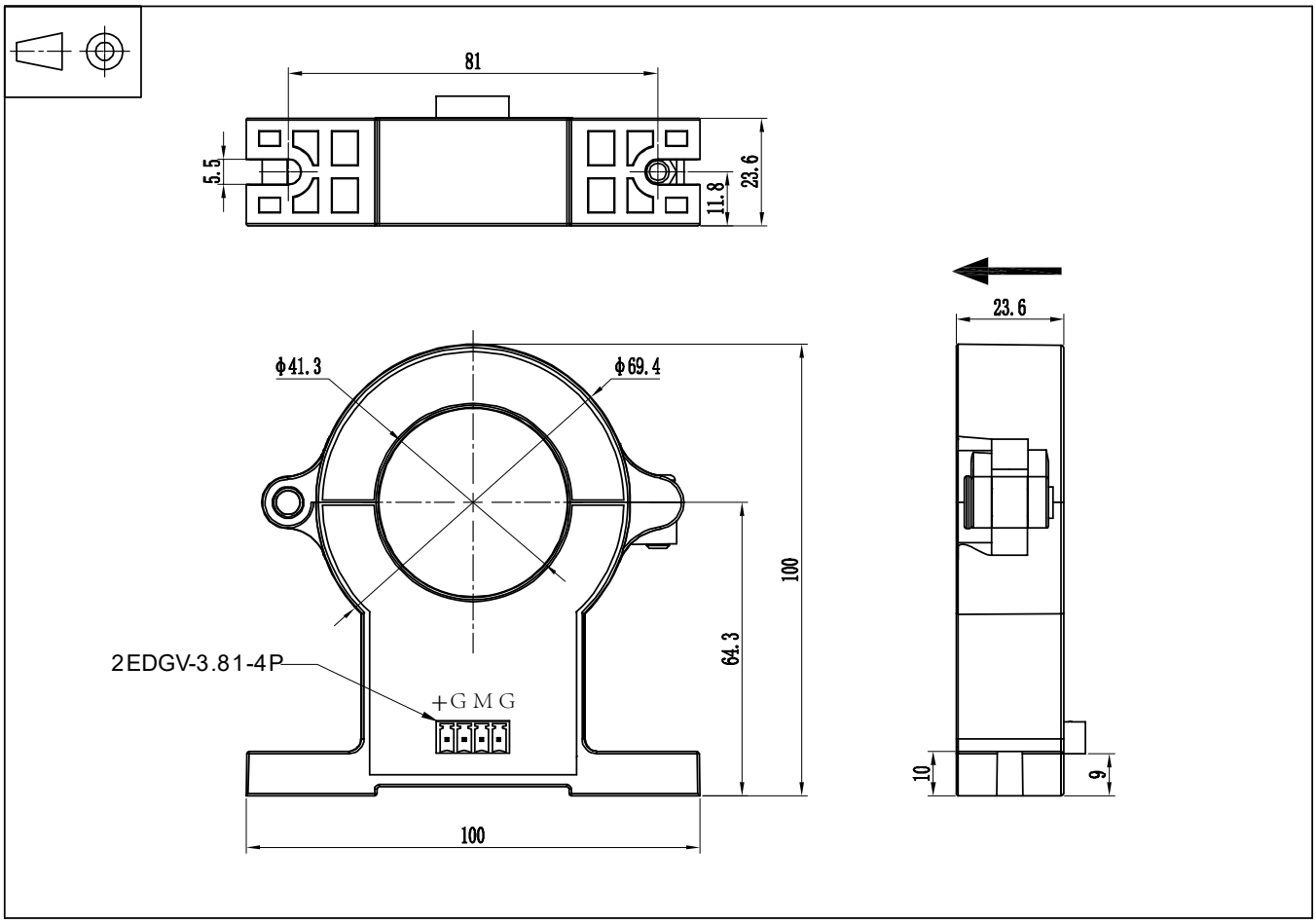
Dimensions（in mm. 1 mm = 0.0394 inch）



Mechanical characteristics

✧ General tolerance	±1mm
✧ Connection of secondary	2EDGV-3.81-4P

Remarks

- ✧ V_{OUT} and I_P are in the same direction, when I_P flows in the direction of arrow.
- ✧ Dynamic performances (di/dt and response time)are best with a single bar completely filling the primary hole.

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