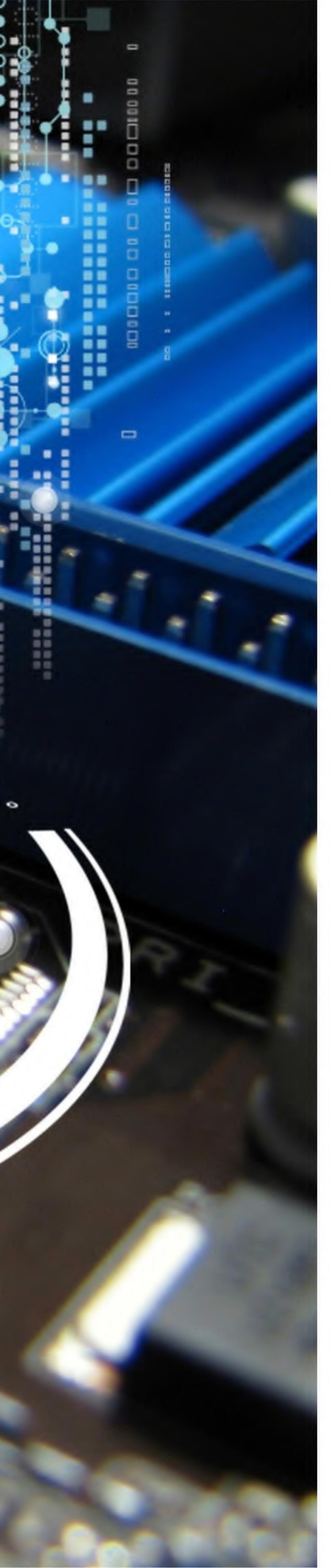


# 产品选型 Product Selection

米特优传感科技(南京)有限公司 Meetu Sensor Technology (Nanjing) Co., Ltd.



# ABOUT MEETU 关于米特优

## 聚焦新能源(电力、汽车)的传感器解决方案提供商

米特优传感科技(南京)有限公司成立于2022年,坐落在南京市东南 大学国家科技园,主要从事电流传感器、电压传感器、电流芯片等磁 传感产品的研发、生产和销售。

公司研发团队核心成员毕业于南京大学、同济大学、重庆大学等知名高校,来自于国内外知名公司,拥有数十年的传感器、通讯和电子行业研发经验,研发的产品有颇多产业化成功案例。

公司依托东南大学进行深度的技术合作创新,同时整合公司在新能源行业的产业链资源,聚焦在新能源行业的传感器应用场景,致力于成为该领域的一张闪亮的中国名片。

#### Sensor Solution Provider Focusing on Renewable Energy (Electric Power, Automotive)

Meetu Sensor Technology (Nanjing) Co., Ltd. was founded in 2022, and located in Nanjing Southeast University National Science Park. Meetu is mainly engaged in the research, development, production and sales of current sensors, voltage sensor, current chip and other magnetic sensor products.

The core members in the R&D team graduated from Nanjing University, Tongji University, Chongqing University and other well-known universities. They bring with decades experience in the sensors, communications, and electronics industries from globally recognized companies. They boast numerous successful cases of industrializing R&D products.

Meetu collaborates closely with Southeast University for technical innovation and leverages the renewable energy resources from the company to explore the sensor application scenarios, and it is committed to becoming a leading player in China.

# PRODUCT SELECTION GUIDE

# 产品选型指南

# 芯片级电流传感器 Current Sensor IC

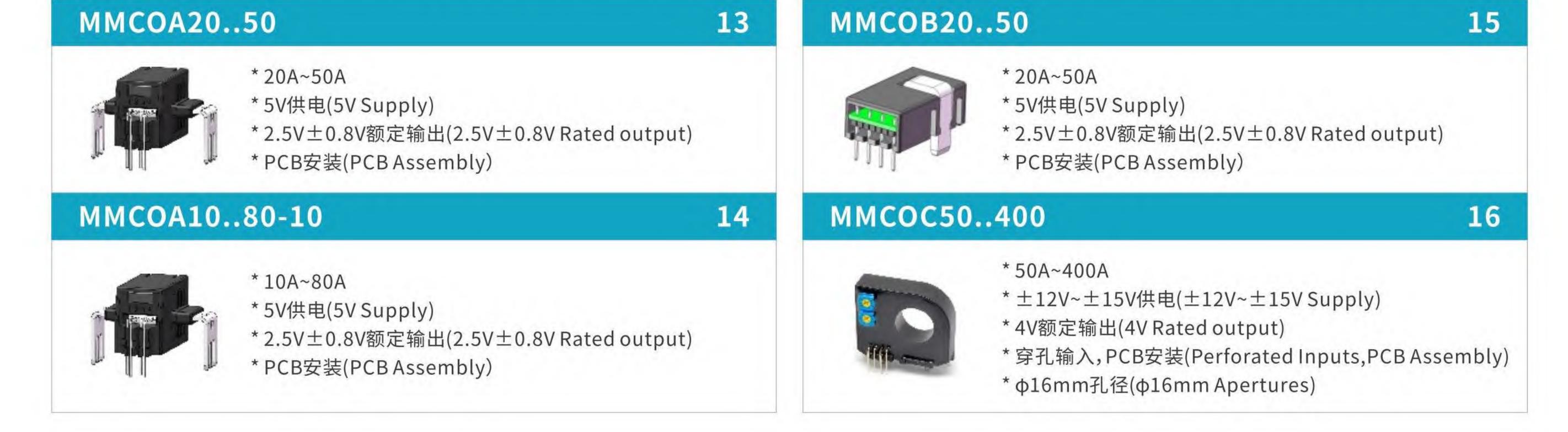




# 磁通门原理电流传感器 Fluxgate Current Sensor



# 霍尔开环原理电流传感器 Open-Loop Hall-Effect Current Sensor



#### MMCOJ500..1500 17 MMCOD50..100 27 \* 500A~1500A \* 50A~100A \* ±15V供电(±15V Supply) \* 15V供电(15V Supply) \* 4V额定输出(4V Rated output) \* 7.5±1.66V额定输出(7.5±1.66V Rated output) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \* PCB安装(PCB Assembly) \* 40.5mm\*30.5mm方孔(40.5mm\*30.5mm Square hole) 18 MMCOE50..600 MMCOJ500..1500-10 28 \* 50A~600A \* 500A~1500A \* ±15V供电(±15V Supply) \* ±15V供电(±15V Supply) \* 4V额定输出(4V Rated output) \* 4V额定输出(4V Rated output) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \*穿孔输入,螺栓固定(Perforated Inputs, Bolt fixing) \* 40.5mm\*30.5mm方孔(40.5mm\*30.5mm Square hole) \* 10.5mm\*20.5mm方孔(10.5mm\*20.5mm Square hole) MMCOK1000..2500 19 MMCOE50..600-10 29 \* 1000A~2500A \* 50A~600A \* ±15V供电(±15V Supply) \* ±15V供电(±15V Supply) 4V额定输出(4V Rated output) \* 4V额定输出(4V Rated output) 穿孔输入,螺栓固定(Perforated Inputs, Bolt fixing) \*穿孔输入,螺栓固定(Perforated Inputs, Bolt fixing) \* 10.5mm\*20.5mm方孔(10.5mm\*20.5mm Square hole) \*21mm\*64mm方孔(21mm\*64mm Square hole) MMCOE50..600-12 MMCOK1000..2500-10 20 30 \* 50A~600A \* 1000A~2500A \* ±15V供电(±15V Supply) \*5V供电(5V Supply) \* 2.5V±0.625V额定输出(2.5V±0.625V Rated output) \* 4V额定输出(4V Rated output) \*穿孔输入,螺栓固定(Perforated Inputs, Bolt fixing) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \*21mm\*64mm方孔(21mm\*64mm Square hole) \* 10.5\*20.5mm方孔(10.5mm\*20.5mm Square hole) MMCOE50..600-13 MMCOL1000..3000 21 31 \* 50A~600A \* 1000A~3000A \* ±15V供电(±15V Supply) \* ±15V供电(±15V Supply) \* 4V额定输出(4V Rated output) \* 4V额定输出(4V Rated output) 穿孔输入,螺栓固定(Perforated Inputs, Bolt fixing) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \* 10.5mm\*20.5mm方孔(10.5mm\*20.5mm Square hole) \* 36mm\*104mm方孔(36mm\*104mm Square hole) MMCOF50..600 MMCOM1000..5000 22 32 \* 50A~600A \* 1000A~5000A \* ±15V供电(±15V Supply) \* ±15V~±18V供电(±15V~±18V Supply) \* 4V额定输出(4V Rated output) \* 4V额定输出(4V Rated output) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \*穿孔输入,螺栓固定(Perforated Inputs, Bolt fixing) \* 10.5mm\*20.5mm方孔(10.5mm\*20.5mm Square hole) \* 38mm\*102mm方孔(38mm\*102mm Square hole) MMCOF50..600-10 MMCON20..25 23 33 \* 20A, 25A \* 50A~600A \*5V供电(5V Supply) \*5V供电(5V Supply) \*2.5V±2V额定输出(2.5V±2V Rated output) \* 2.5V ± 2V 额定输出(2.5V ± 2V Rated output) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \*穿孔输入,PCB安装(Perforated Inputs,PCB Assembly) \* φ21mm孔径(φ21mm Apertures) \* 8.2mm\*8.5mm方孔(8.2mm\*8.5mm Square hole) MMCON20..25-11 24 MMCOG500..1000 34 \* 20A, 25A \* 500A~1000A \*5V供电(5V Supply) \*5V供电(5V Supply) \* 2.5V ± 2V 额定输出(2.5V ± 2V Rated output) \* 2.5V ± 2V 额定输出(2.5V ± 2V Rated output) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) 穿孔输入,PCB安装(Perforated Inputs,PCB Assembly) \*6mm\*20.5mm方孔(6mm\*20.5mm Square hole) \* 8.2mm\*8.5mm方孔(8.2mm\*8.5mm Square hole) MMCON30-10 MMCOH200..1000 25 35 \* 200A~1000A \*5V供电(5V Supply) \*5V供电(5V Supply) \* 2.5V ± 2V 额定输出(2.5V ± 2V Rated output) \* 4.5V额定输出(4.5V Rated output) \* 穿孔输入, PCB安装(Perforated Inputs, PCB Assembly) \*穿孔输入,PCB安装(Perforated Inputs,PCB Assembly) \* 6.5mm\*15.4mm方孔(6.5mm\*15.4mm Square hole) \* 8.2mm\*8.5mm方孔(8.2mm\*8.5mm Square hole) 或φ13mm孔径外形灯泡型(orφ13mmApertures-Bulbshape) 26 MMCOQ10..75 36 MMC01200..800 \* 200A~800A \* 10A~75A \* ±15V供电(±15V Supply) \*5V供电(5V Supply) \* 2.5V ± 2V 额定输出(2.5V ± 2V Rated output) \* 4V额定输出(4V Rated output) \*穿孔输入,PCB安装(Perforated Inputs,PCB Assembly) \* 穿孔输入, PCB安装(Perforated Inputs, PCB Assembly)

\* φ8.2mm孔径(φ8.2mm Apertures)

\* φ15mm孔径(φ15mm Apertures)

# 霍尔闭环原理电流传感器 Closed-Loop Hall-Effect Current Sensor

#### MMCCB100..200 37 \* 100A~200A \* ±15V供电(±15V Supply) \*100mA额定输出(100mA Rated output) \*穿孔输入,螺栓固定(Perforated Inputs, Bolt fixing) \* 10.5mm\*20.5mm方孔(10.5mm\*20.5mm Square hole) MMCCD100..300 38 \* 100A~300A \* ±12V~±15V供电(±12V~±15V Supply) \*50mA~150mA额定输出(50mA~150mA Rated output) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \* φ20mm孔径(φ20mm Apertures) MMCCE130 39 \* 130A \* ±15V供电(±15V Supply) \* 100mA额定输出(100mA Rated output) \*穿孔输入,PCB安装(Perforated Inputs,PCB Assembly) \* 15.8mm\*10.2mm方孔(15.8mm\*10.2mm Square hole)

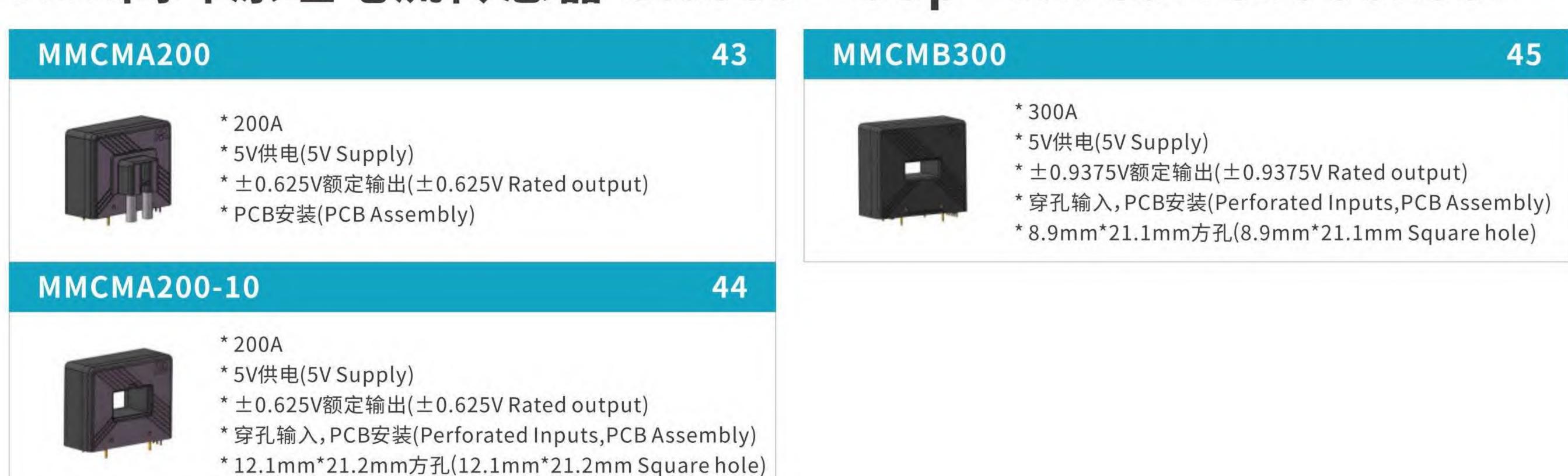
#### MMCCG1000 40 \* 1000A \* ±15V~±24V供电(±15V~±24V Supply) \* 200mA额定输出(200mA Rated output) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \* 16.5mm\*39.5mm方孔(16.5mm\*39.5mm Square hole) MMCCH500 41 \* 500A \* 7V~24V供电(7V~24V Supply) \*穿孔输入,螺栓固定(Perforated Inputs,Bolt fixing) \* φ24.2mm孔径(φ24.2mm Apertures) MMCCI50..100 42 \* 50A, 100A \* ±12V~±15V供电(±12V~±15V Supply)

\*50mA额定输出(50mA Rated output)

\*穿孔输入,PCB安装(Perforated Inputs,PCB Assembly)

\* 15.8mm\*10.2mm方孔(15.8mm\*10.2mmSquare hole)

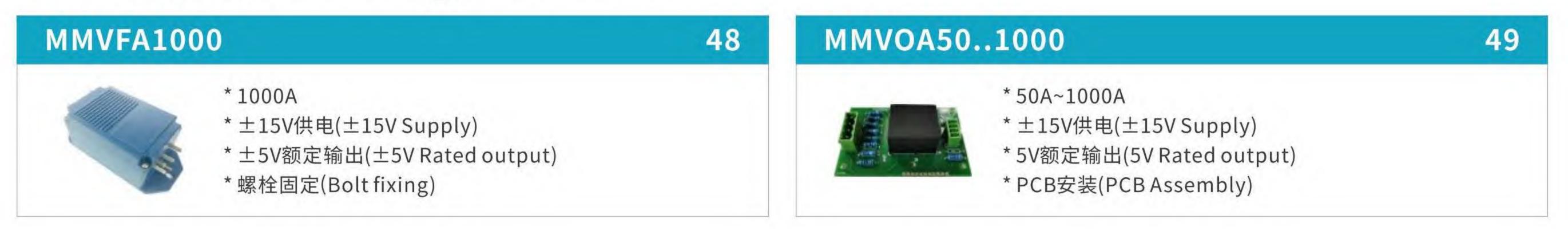
# TMR闭环原理电流传感器 Closed-Loop TMR Current Sensor



# 霍尔开环原理电流变送器 Open-Loop Hall-Effect Current Transmitter



# 电压传感器 Voltage Sensor



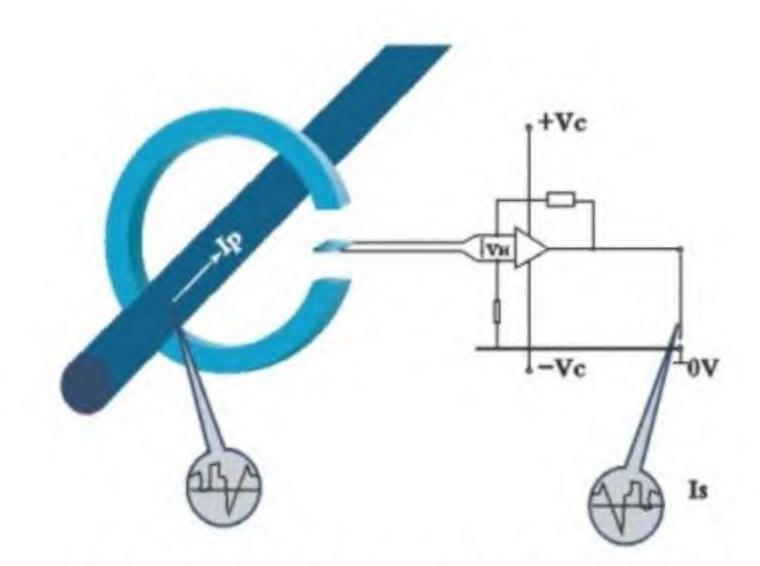
# 电流互感器 Current Transformer



# \*5A \*2.5mA额定输出(2.5mA Rated output) \*穿孔输入, PCB安装(Perforated Inputs, PCB Assembly) \* φ18.5mm孔径(φ18.5mm Apertures)

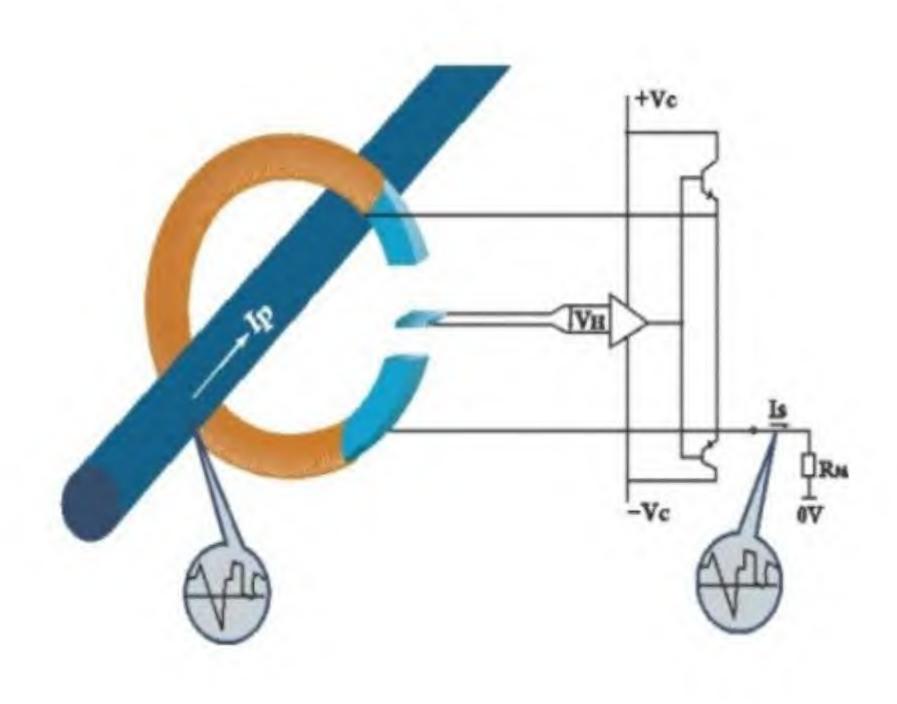
# 工作原理

#### Working Principle



霍尔开环电流传感器特点:体积小、重量轻、测量范围宽、低能量损耗、无插入损耗

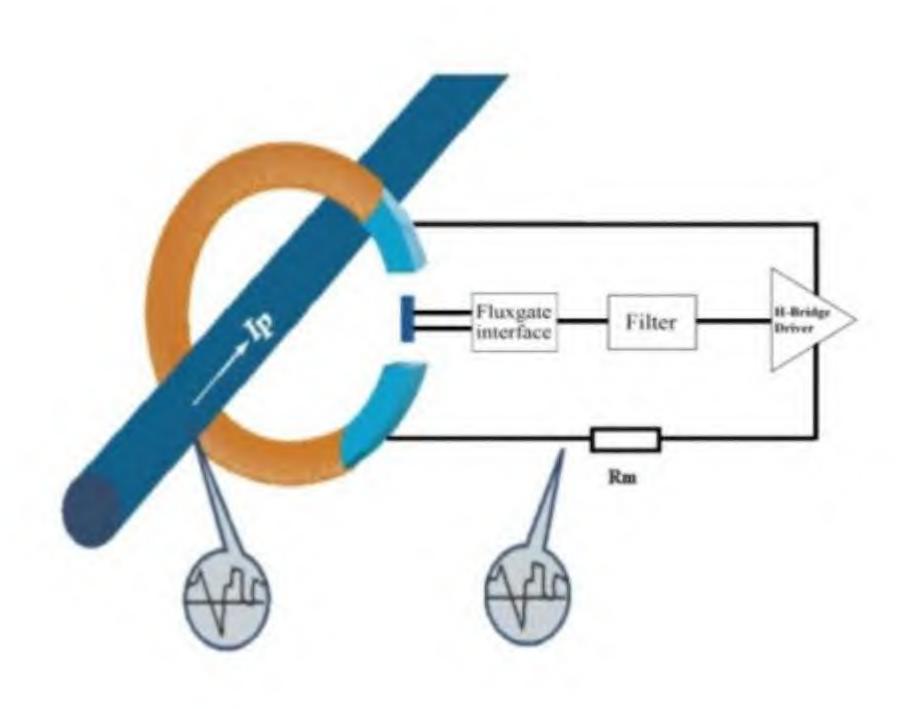
Features of the Open-Loop Hall Current Sensor: small size, lightweight, wide measurement range, low energy loss and no insertion loss.



零磁通状态时,满足: Ip·N1=Is·N2

Ip:原边测量电流;N1:原边绕组匝数,一般设计中取 N1=1;Is为补偿电流;N2为次级绕组匝数。

Where Ip is the measuring current of the primary side, N1 is the number of turns of the primary winding (generally N1 = 1 in design), is for the compensation current, and N2 is the number of turns of the secondary winding turns.



#### 零磁通状态时,满足:

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#### 霍尔开环工作原理

Open-Loop Hall-Effect Principle

原边电流产生的磁通聚集在磁路中,并经霍尔元件在气隙处进行检测,感应出mV级的电压信号VH,经过运放放大,传感器输出端输出V级的电压信号,便于后端电路采样与处理,该电压信号与原边电流呈线性关系,可以精确地反映原边电流变化。

The magnetic flux, generated by the primary current, is concentrated in the magnetic circuit and detected at the air gap by the Hall element, inducing a millivolt-level voltage signal (VH) which is amplified by the operational amplifier, allowing the sensor output to produce a volt-level voltage signal. This is convenient for sampling and processing by the back-end circuit. The voltage signal maintains a linear relationship with the primary current, accurately reflecting its changes.

#### 霍尔闭环工作原理

Closed-Loop Hall-Effect Principle

原边测量电流Ip产生的磁场通过霍尔元件B,感应出的霍尔电压VH经运放放大,通过功率放大,得到补偿电流Is,并使Is通过补偿线圈,同时使补偿电流磁场与原边回路磁场方向相反、大小相等,使霍尔元件始终处于检测零磁通的工作状态。该补偿电流Is与原边测量电流Ip呈线性关系,可以精确地反映原边电流变化。

The magnetic field, generated by the primary measuring current (Ip), passes through the Hall element (B). The induced Hall voltage (VH) is amplified by an operational amplifier, yielding a compensation current (Is) through power amplification. The compensation current (Is) passes through the compensation coil, generating a magnetic field that is equal in magnitude and opposite in direction to the magnetic field of the primary circuit. This ensures that the Hall element is always in a working state of detecting zero magnetic flux. The compensation current (Is) has a linear relationship with the measured primary current (Ip), which can accurately reflect the change of the primary current.

#### 霍尔闭环电流传感器特点:

精确度高、线性度好、温度漂移小、频率范围宽、响应时间快、无插入损耗

Features of the Closed-Loop Hall Current Sensor: high accuracy, good linearity, small temperature drift, wide frequency range, fast response time, and no insertion loss.

## 磁通门工作原理

#### Fluxgate Operating Principle

利用高导磁、低饱和磁通的钴基非晶作为磁探头元件,该探头在交变磁场的饱和激励下,其磁感应强度与磁场强度的非线性来测量磁场。

A high-permeability and low-saturation flux cobalt-based amorphous alloy is used as a magnetic probe element. Under the saturation excitation of an alternating magnetic field, the magnetic field is measured by the nonlinearity between the magnetic induction intensity and the magnetic field intensity of the probe.

原边电流Ip在磁芯处聚磁,探头感应输出PWM信号,然后经过积分电路转化为电压信号,再通过电路将该电压信号转为电流经过补偿线圈,补偿线圈产生的磁场和原边电流产生的磁场方向相反,大小相等,从而使得磁探头工作再零磁通状态。

The primary current (Ip) concentrates magnetism at the magnetic core. The probe induces and outputs a PWM signal, which is converted into a voltage signal through an integral circuit. This voltage signal is converted into a current through a circuit to pass through a compensation coil. A magnetic field, generated by the compensation coil, is opposite in direction and equal in size to a magnetic field generated by the primary side current. This ensures that the magnetic probe operates in a zero magnetic flux working state.

#### 磁通门电流传感器特点:

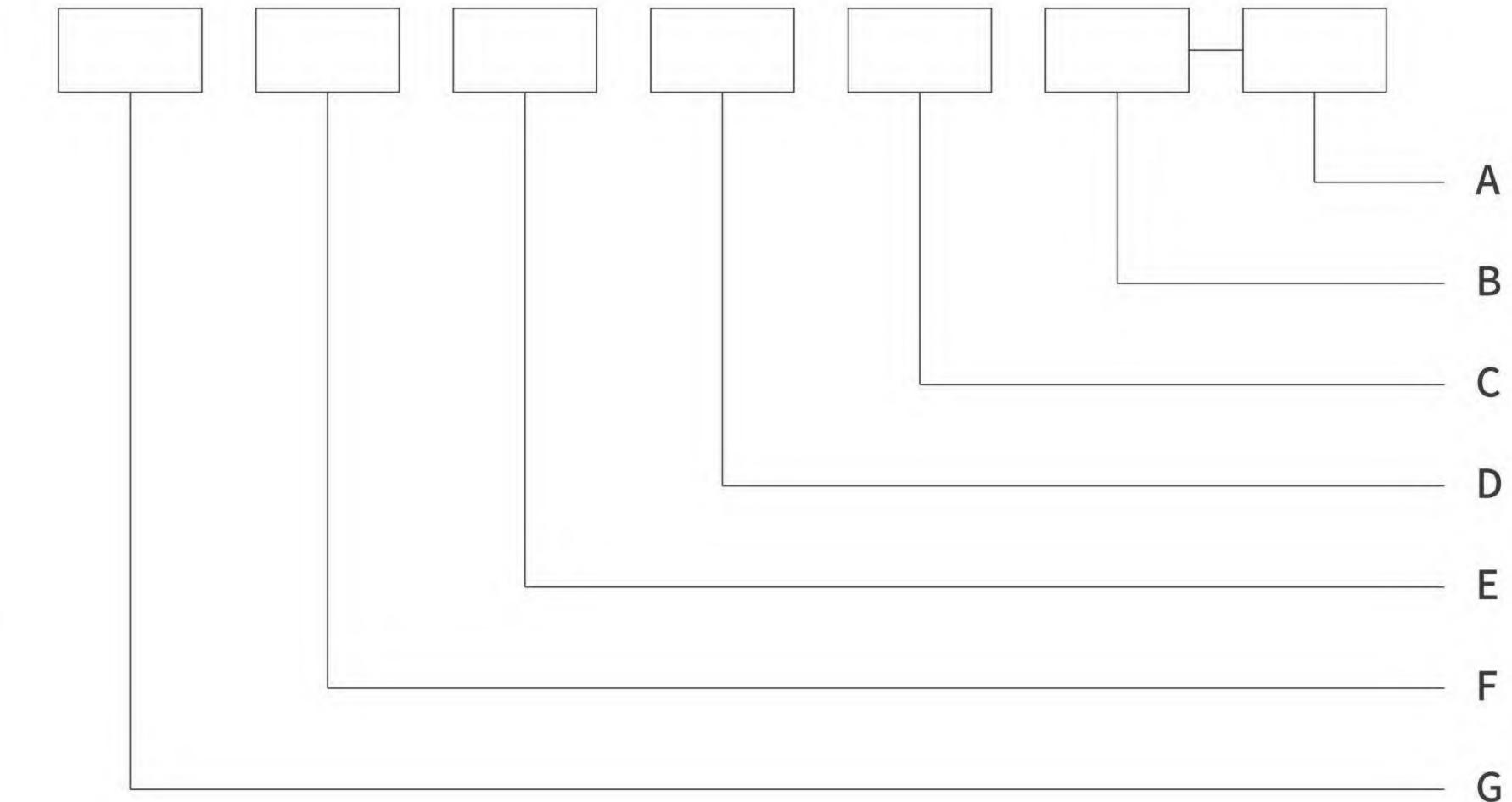
精确度高、线性度好、温度特性高、温度漂移小(零点及增益)、频率范围宽、响应时间快

Features of the Fluxgate Current Sensor:high accuracy, good linearity, excellent temperature characteristics, small temperature drift (both zero and gain), wide frequency range, and fast response.

# 产品型号说明

#### Product Model Description

米特优电流传感器、电压传感器型号图号命名规则 The naming rules for models and drawing numbers of current sensors and voltage



A 同一系列派生代号,用两位数字表示 Derivation Code: This is represented designators of the same series, expressed in two digits.

额定测量电流:用数字表示

- Rated Measuring Current: This is expressed in figures.

  设计系列代号:用字母A-Z单个或者组合表示
- 检测原理:霍尔开环用O表示,霍尔闭环用C表示,磁通门用F表示,磁阻效应用M表示,互感器原理用T表示
  Detection Principle: The open-loop Hall sensor is represented by 'O', the closed-loop Hall sensor is by 'C', the fluxgate sensor is by 'F', the magnetoresistive effect is by 'M', and the transformer principle is by 'T'.
- ★测类型:检测电流用C表示,检测电压用V表示
- Detection Type: Current detection is represented by 'C' and voltage detection is by 'V'.

  产品类型:IC类用I表示,模组类用M表示

Design Series Code: This is represented by single or combined letters from A-Z.

Product Type: IC is represented by 'I', and module is by 'M'.

(方) 传感器和互感器用M表示,变送器用T表示,客户定制用U表示
Transducers and transformers is represented by 'M', transmitters is by 'T', and customizations is by 'U'.

例如:MMCOE200表示的传感器属于模组类型,使用霍尔开环原理,额定测量电流为200A,MMCOE200-10表示的传感器与MMC0E200属于同一系列,产品结构、外形尺寸均兼容,区别差异可能在于电气输出接口或输出电压等差异。

For example, the sensor represented by 'MMCOE200' belongs to the module type, uses the open-loop Hall sensor, and has a rated measurement current of 200 A. The sensor represented by 'MMCOE200-10' belongs to the same series as 'MMC0E200', and is compatible with 'MMC0E200' in terms of product structure and overall dimensions. The difference may lie in the electrical output interface or output voltage.

No.	产品组成代号 Product Composition Code	代码解释 Code Interpretation	<b>备注</b> Remark
1	传感器/互感器/变送器 Sensor/Transformer/Transmitter	M英文全称Metering Sensor,表示互感器或传感器(计量传感器) 'M' stands for Metering Sensor, which means transformer or sensor (metering sensor).  T英文全称Transducer,表示变送器 'T' stands for Transducer,which means transmitter.  U 英文全称User,表示用户定制传感器 'U' stands for User, which means user-customized sensor.	互感器只能测量交流型号; The transformer can only measure the AC signals. 传感器可以测量交流、直流与脉动信号,输出可以准确反映测量信号波形。 The sensor can measure AC, DC, and pulse signals, and the output can accurately reflect the waveform of the measured signal. 变送器可以测量交流、直流与脉动信号,输出信号为0-5V或0-20mA直流信号 The transmitter can measure AC, DC, and pulsating signals, and the output signal is a 0-5V or 0-20mA DC signal.
2	产品类型 Product Type	I英文全称Integrated circuit,表示产品类型为芯片类 'I' stands for Integrated Circuit, which is chip type.  M英文全称Modular,表示模组,是进行二次开发的产品 'M' stands for Modular, which is secondary development product.	
3	检测类型 Detection Type	C英文全称Current,表示电流 "C" stands for Current  V英文全称Voltage,表示电压  "V" stands for Voltage.	
4	检测原理 Detection Principle	O:Open-loop hall-effect principle C:Closed-loop hall-effect principle F:Fluxgate principle M:Magneto resistance principle T:Transformer principle	
5	额定测量值 Rated Measurement Value	1000A用数字1000表示 1000 A is represented by the number 1000. 0.3A用0I3表示,I代表小数点 0.3A is represented by 0I3, where 'I' is for decimal point.	

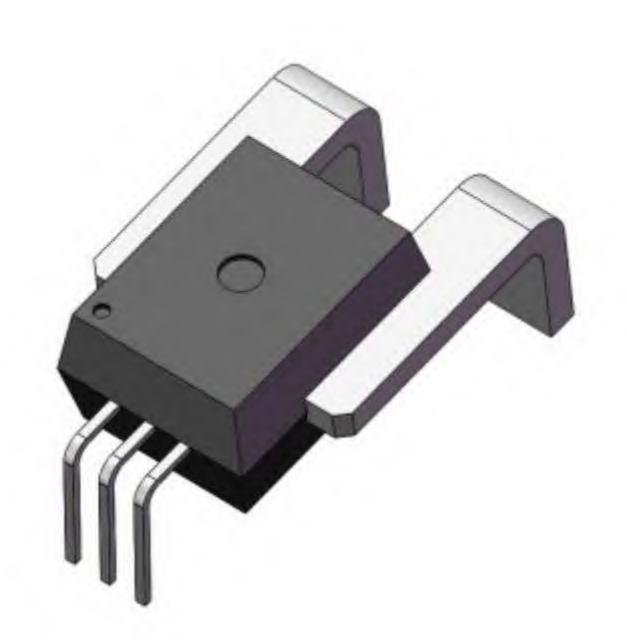
**Current Sensor Ic** 

该系列直放式霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

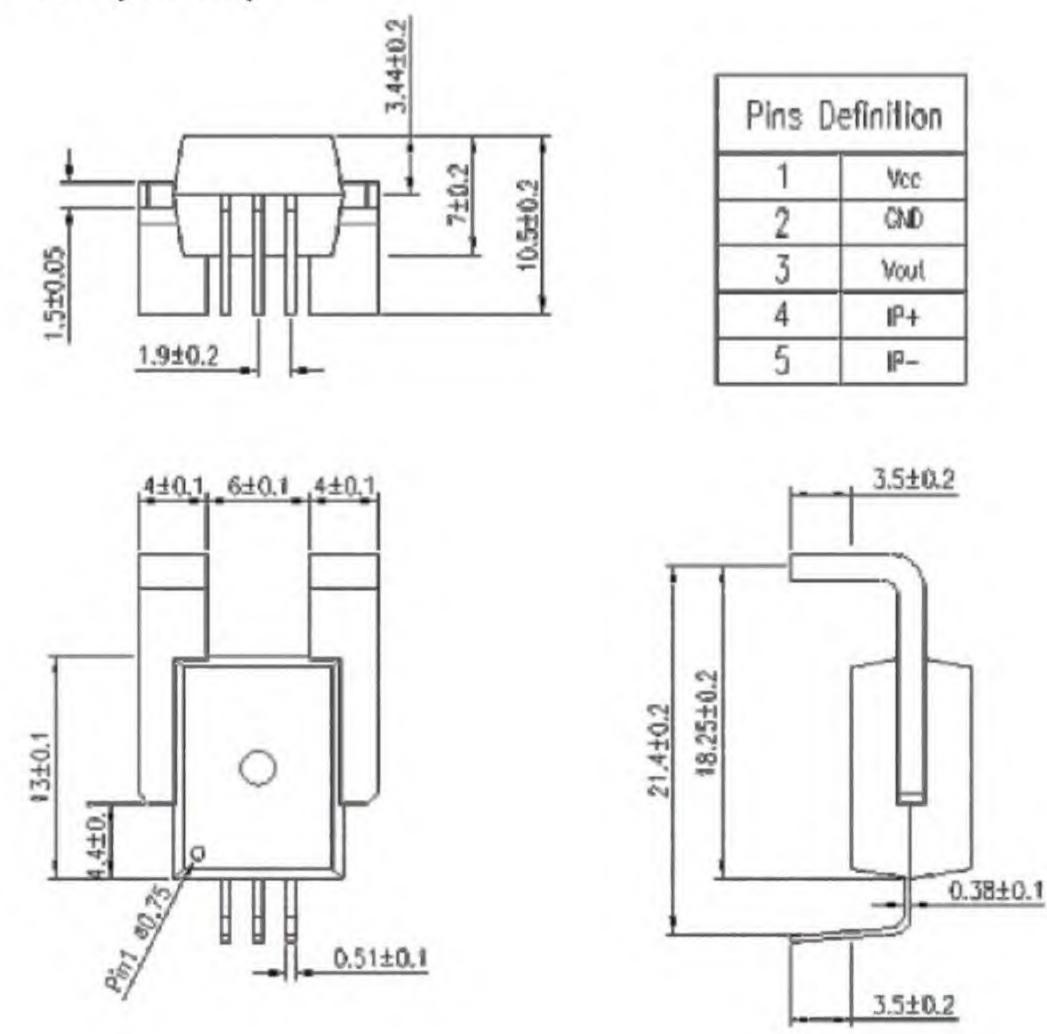
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

# 电气特性 / Electrical characteristics

除非有其他说明,以下数据测试环境基于条件 $T_A$ =25°C, $V_C$ =5 $V_C$ =5 $V_C$ =5 $V_C$ =00 Unless otherwise noted, the following data test environments are based on conditions  $T_A$ =25°C, $V_C$ =5 $V_C$ =6 $V_C$ 0 $V_C$ 0



参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
额定测量电流Rated measuring current	Α	50、100、150、200	
供电电压Supply voltage	V	4.5~5.5	
电流消耗Current consumption	mA	≤15	
耐压Withstanding voltage	kV	4.8	
绝缘电阻Insulation resistance	ΜΩ	>1000	
负载电阻Load resistance	kΩ	≥5	
负载电容Load capacitance	nF	≤1.5	
零点输出电压Zero-point voltage output	٧	2.5±0.005	@V <sub>C</sub> =5V且I <sub>P</sub> =0A
额定输出Rated output	V	2.5±2	@I <sub>PN</sub> , T <sub>A</sub> =25°C
基本误差Fundamental error	%	-1~1	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mV	±20	@T <sub>A</sub> =-40°C~150°C
增益温度漂移Gain temperature drift	%	-2~2	@T <sub>A</sub> =-40°C~150°C
工作温度Operating temperature	°C	-40~150	
存储温度Storage temperature	°C	-55~165	
响应时间Response time	μs	≤5	@C <sub>2</sub> =OPEN
输出带宽Bandwidth output	kHz	DC~120	@C <sub>2</sub> =OPEN
输出噪声Noise output	mV	12	@C <sub>2</sub> =1nF



#### MICOB50..200系列

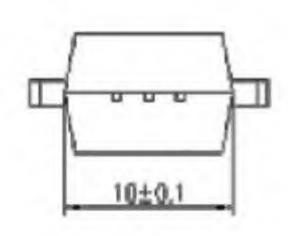
该系列直放式霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

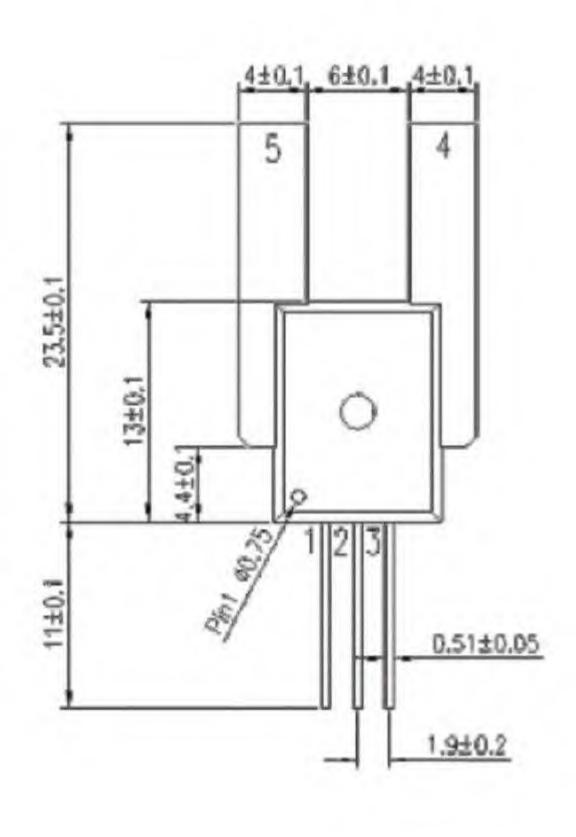
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

# 电气特性 / Electrical characteristics

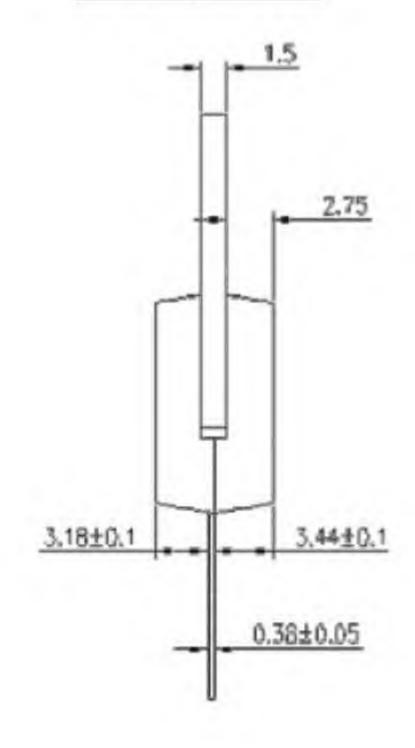
除非有其他说明,以下数据测试环境基于条件 $T_A=25^{\circ}\text{C},V_C=5\text{V},R_L=5\text{k}\Omega$  Unless otherwise noted, the following data test environments are based on conditions  $T_A=25^{\circ}\text{C},V_C=5\text{V},R_L=5\text{k}\Omega$ 

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
额定测量电流Rated measuring current	Α	50、100、150、200	
供电电压Supply voltage	٧	4.5~5.5	
电流消耗Current consumption	mA	≤15	
耐压Withstanding voltage	kV	4.8	
绝缘电阻Insulation resistance	ΜΩ	>1000	
负载电阻Load resistance	kΩ	≥5	
负载电容Load capacitance	nF	≤1.5	
零点输出电压Zero-point voltage output	٧	2.5±0.005	@V <sub>C</sub> =5V且I <sub>P</sub> =0A
额定输出Rated output	V	2.5±2	@I <sub>PN</sub> , T <sub>A</sub> =25°C
基本误差Fundamental error	%	-1~1	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mV	±20	@T <sub>A</sub> =-40°C~150°C
增益温度漂移Gain temperature drift	%	-2~2	@T <sub>A</sub> =-40°C~150°C
工作温度Operating temperature	°C	-40~150	
存储温度Storage temperature	°C	-55~165	
响应时间Response time	μs	≤5	@T <sub>A</sub> =-40°C~150°C
输出带宽Bandwidth output	kHz	DC~120	@C <sub>2</sub> = OPEN
输出噪声Noise output	mV	12	@C <sub>2</sub> =1nF





Pins Definition			
1	Voc		
2	GND		
3	Vout		
4	IP+		
5	IP-		



**Current Sensor Ic** 

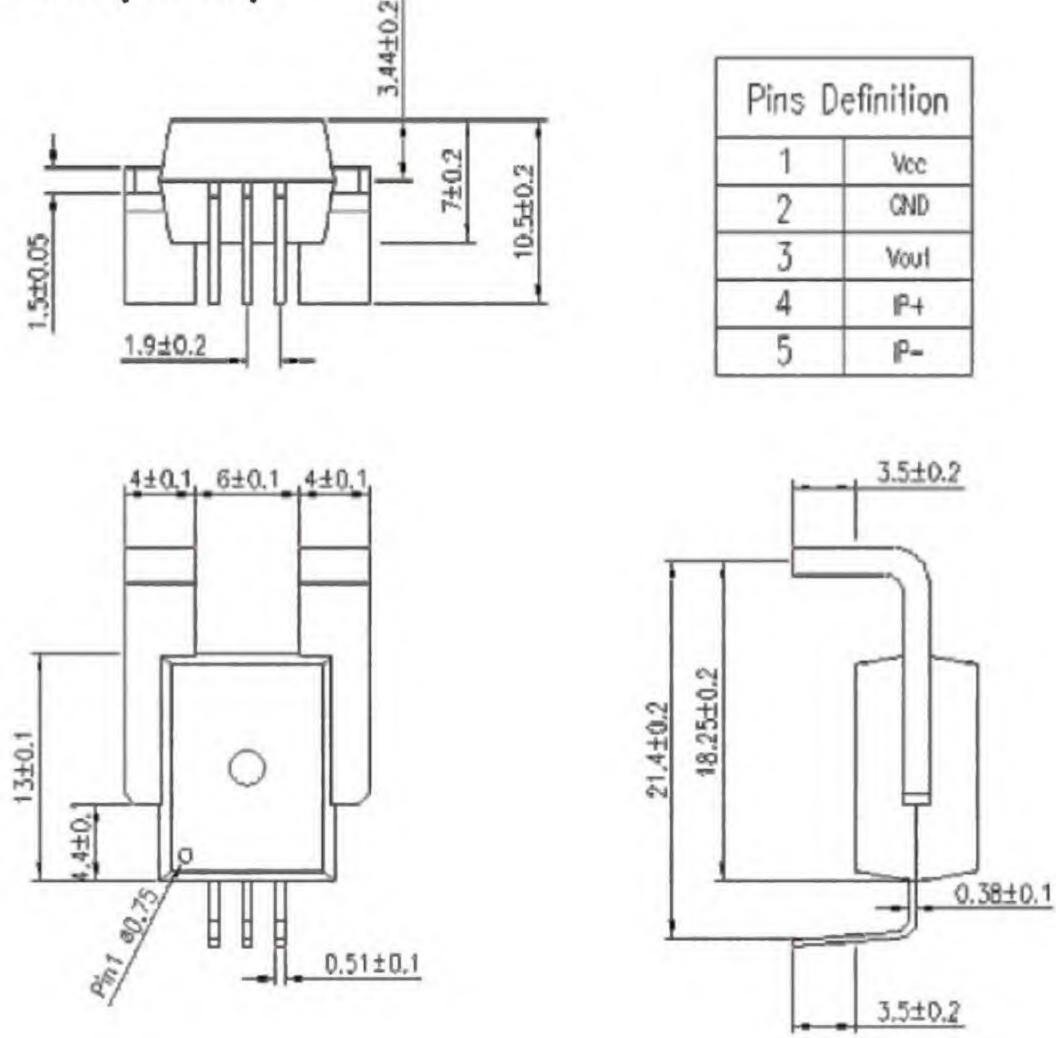
该系列直放式霍尔电流传感器适用于对单向直流电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of unidirectional DC. It is completely insulated with the primary and secondary sides while measuring.

# 电气特性 / Electrical characteristics

除非有其他说明,以下数据测试环境基于条件 $T_A$ =25°C, $V_C$ =5 $V_R$ =4.7 $k\Omega$  Unless otherwise noted, the following data test environments are based on conditions  $T_A$ =25°C, $V_C$ =5 $V_R$ =4.7 $k\Omega$ 

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
额定测量电流Rated measuring current	Α	100、150、200	
供电电压Supply voltage	V	4.5~5.5	
电流消耗Current consumption	mA	≤15	
耐压Withstanding voltage	kV	5.8	
绝缘电阻Insulation resistance	ΜΩ	>1000	
负载电阻Load resistance	kΩ	≥4.7	
负载电容Load capacitance	nF	≤10	
零点输出电压Zero-point voltage output	V	0.5±0.010	@V <sub>C</sub> =5V且I <sub>P</sub> =0A
额定输出Rated output	V	4.5	@I <sub>PN</sub> , T <sub>A</sub> =25°C
基本误差Fundamental error	%	-1~1	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mV	±20	@T <sub>A</sub> =-40°C~125°C
增益温度漂移Gain temperature drift	%	-2~2	@T <sub>A</sub> =-40°C~125°C
工作温度Operating temperature	°C	-40~125	
存储温度Storage temperature	°C	-40~150	
响应时间Response time	μs	≤5	@C <sub>2</sub> = OPEN
输出带宽Bandwidth output	kHz	DC~120	@C <sub>2</sub> = OPEN
输出噪声Noise output	mV	12	@C <sub>2</sub> =1nF



**Current Sensor Ic** 

#### MICOD10..50系列

该传感器内部采用差分霍尔结构,可有效抑制外部杂散磁场,抗干扰能力强,在复杂磁噪声环境下可保障精确测量。

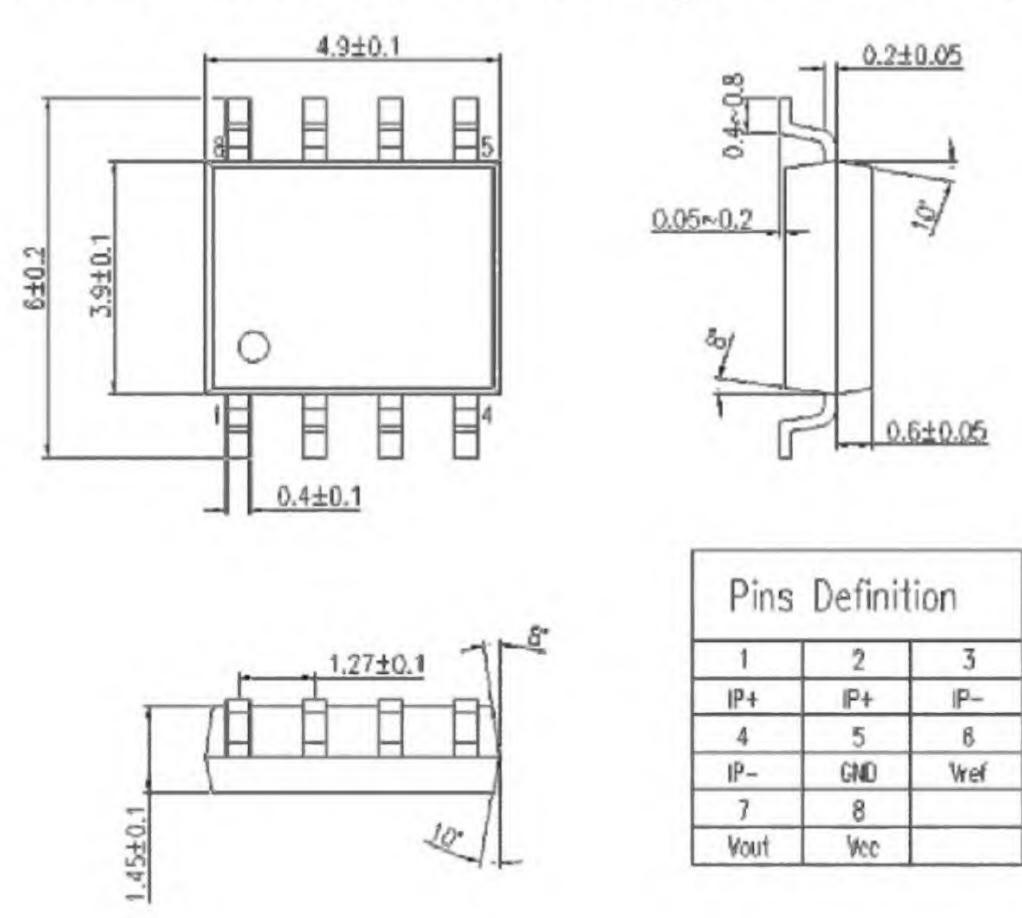
The sensor internal differential Hall structure can effectively suppress the external stray magnetic field, has strong anti-interference ability and can guarantee accurate measurement in the complex magnetic noise environment.

# 电气特性 / Electrical characteristics

除非有其他说明,以下数据测试环境基于条件 $T_A$ =25°C, $R_L$ =4.7k $\Omega$  Unless otherwise noted, the following data test environments are based on conditions  $T_A$ =25°C, $R_L$ =4.7k $\Omega$ 

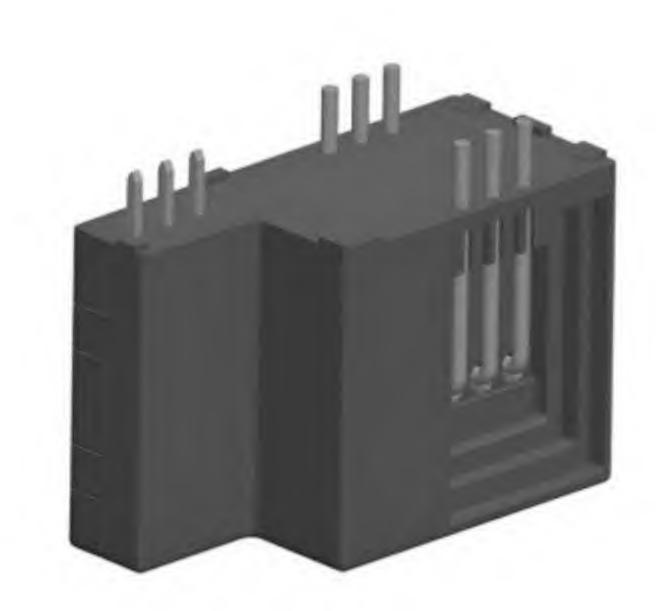
参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
额定测量电流Rated measuring current	Α	10、20、30、40、50	
供由中压Supplyvoltage	1/	3.3	V <sub>cc</sub> =3.3V
供电电压Supply voltage	V	5	V <sub>cc</sub> =5V
电流消耗Current consumption	mA	≤15	
耐压Withstanding voltage	kV	3	
绝缘电阻Insulation resistance	ΜΩ	>1000	
参考电压Voltage reference	V	2.5±0.010	供电5V时,参考电压2.5V Reference voltage 2.5V at 5V supply
- 5-4- Mollage reference	V	1.65±0.010	供电3.3V时,参考电压1.65V Reference voltage 1.65V at 3.3V supply
输出负载电阻Load resistance output	kΩ	≥4.7	
输出负载电容Load capacitance output	nF	≤10	
参考负载电阻Load resistance reference	kΩ	≥10	
零点输出电压Zero-point voltage output	1/	2.5±0.010	供电5V时,零点输出电压2.5V Zero output voltage 2.5V at 5V supply
Фжишини телитерин voitage output	V	1.65±0.010	供电3.3V时,零点输出电压1.65V Zero output voltage 1.65V at 3.3V supply
额定输出Rated output	V	2.5±2、1.65±1.27	@I <sub>PN</sub> , T <sub>A</sub> =25°C
原边导通电阻Primary on-resistance	mΩ	1.2	
基本误差Fundamental error	%	-1~1	@T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mV	±20	@I <sub>P</sub> =0, T <sub>A</sub> =-40~150°C
增益温度漂移Gain temperature drift	%	-2~2	@I <sub>PN</sub> , T <sub>A</sub> =-40~150°C
工作温度Operating temperature	°C	-40~125	
存储温度Storage temperature	°C	-40~150	
响应时间Response time	μs	1.2	
输出带宽Bandwidth output	kHz	DC~250	
输出噪声Noise output	mV	12	

# 外形尺寸与典型电路 Outline dimensions and typical circuits



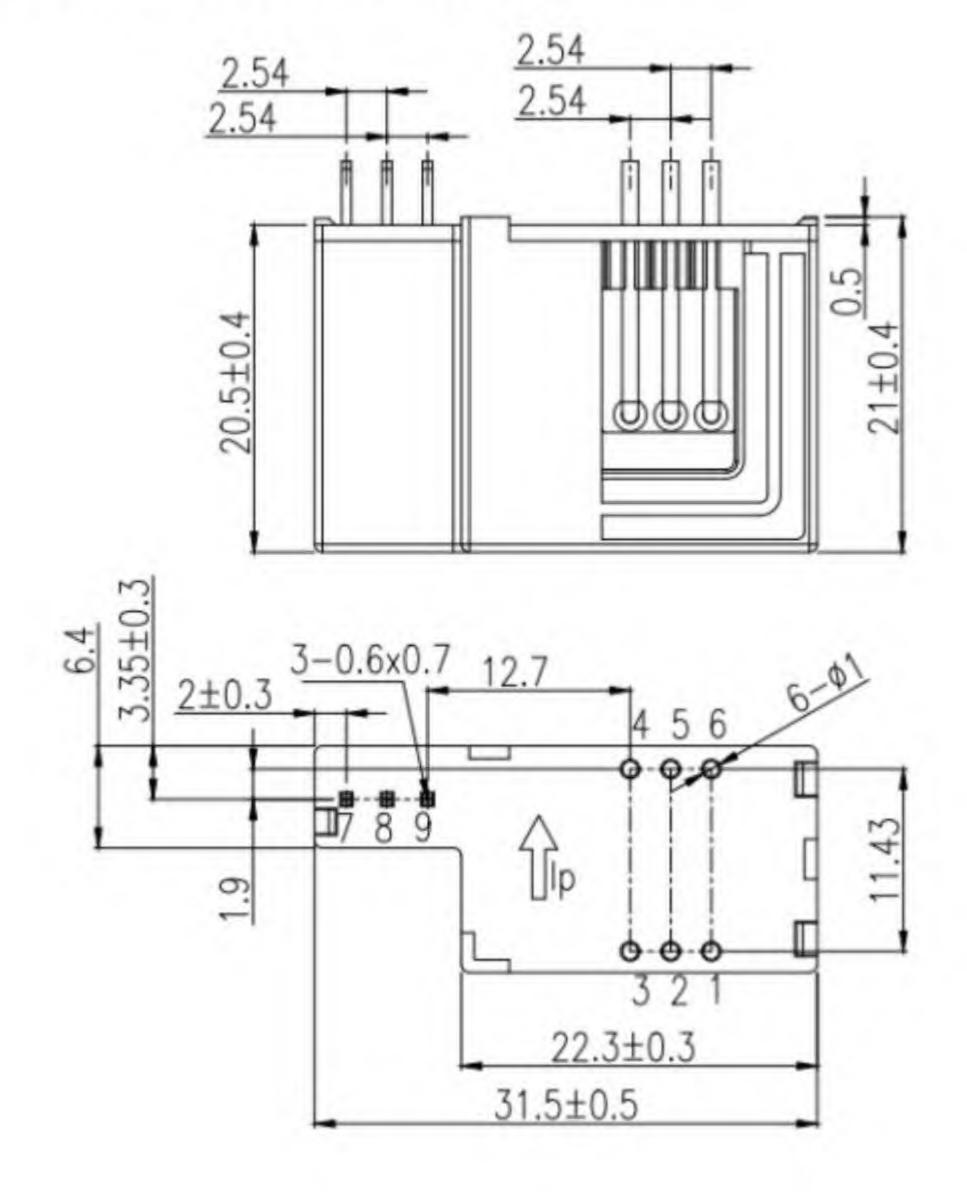
该磁通门电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

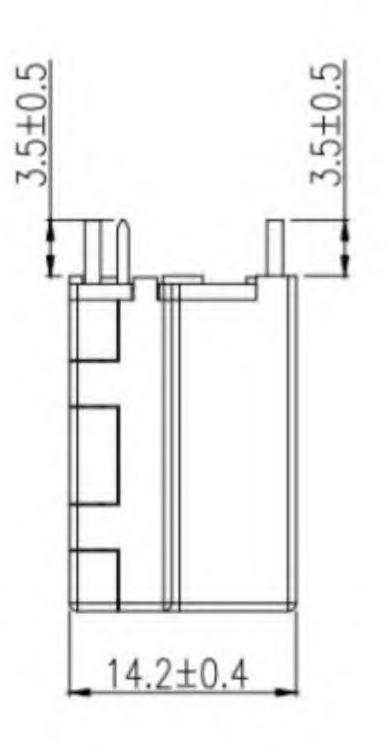
The fluxgate current sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±12~±15	
电流消耗Current consumption	mA	20+ls	
额定输出Rated output	mA	50	@I <sub>PN</sub> , T <sub>A</sub> =25°C
4. 出中四Lood rocietance		10~200	@±12V
负载电阻Load resistance	Ω	16~400	@±15V
耐压Withstanding voltage	KV	3.0	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mA	<±0.1	@ $I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±0.5	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±0.1	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mA	<±0.05	@ $I_P = 0, T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<1	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~100	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	14	





PINS Definition		
1-6	lp	
7	lout	
8	+15V	
9	-15V	

#### MMCFB100

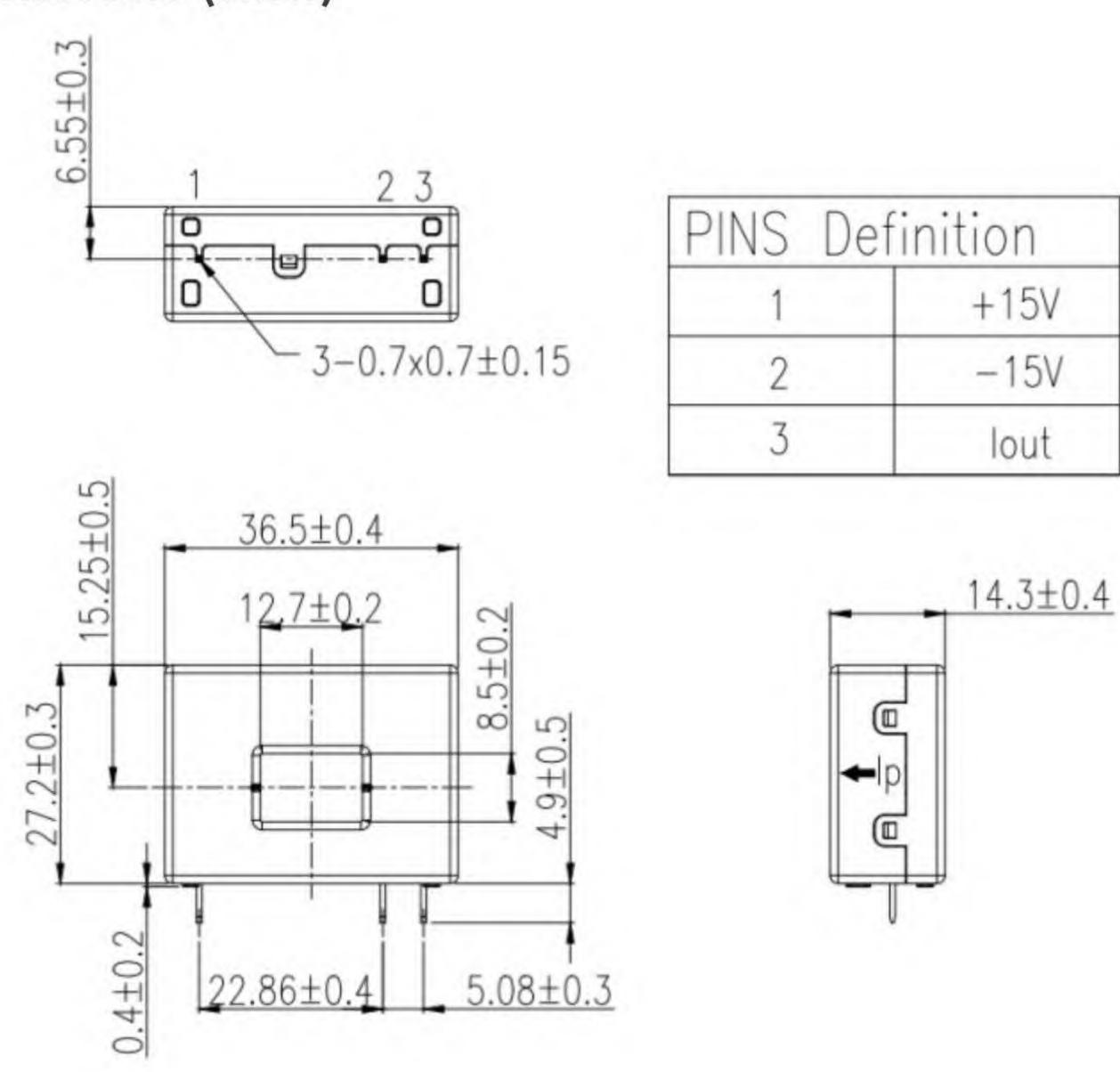
该磁通门电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

The fluxgate current sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



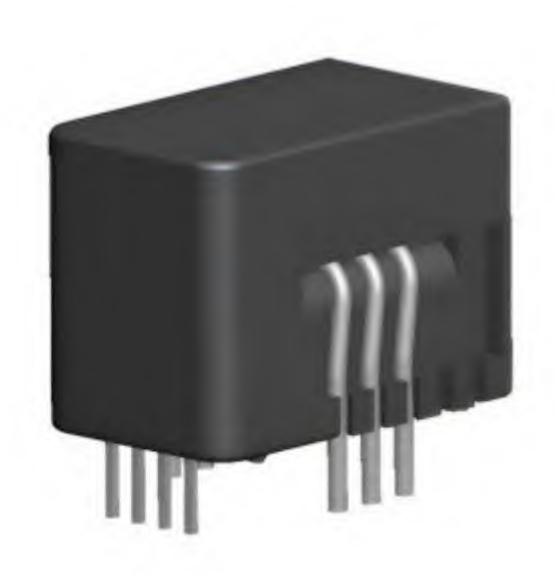
# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±12~±15	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	mA	50	@I <sub>PN</sub> , T <sub>A</sub> =25°C
测量中限Docistance measuring		0~200	@±12V
测量电阻Resistance measuring	Ω	5~400	@±15V
耐压Withstanding voltage	KV	3.0	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mA	<±0.02	@ $I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±0.5	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±0.1	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mA	<±0.025	@ $I_P = 0, T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<1	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/μS	>50	
工作带宽Operating bandwidth	kHz	DC~100	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	14	



该磁通门电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

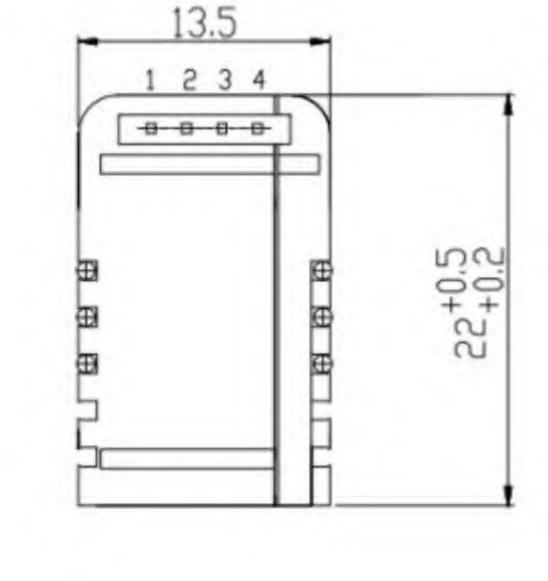
The fluxgate current sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

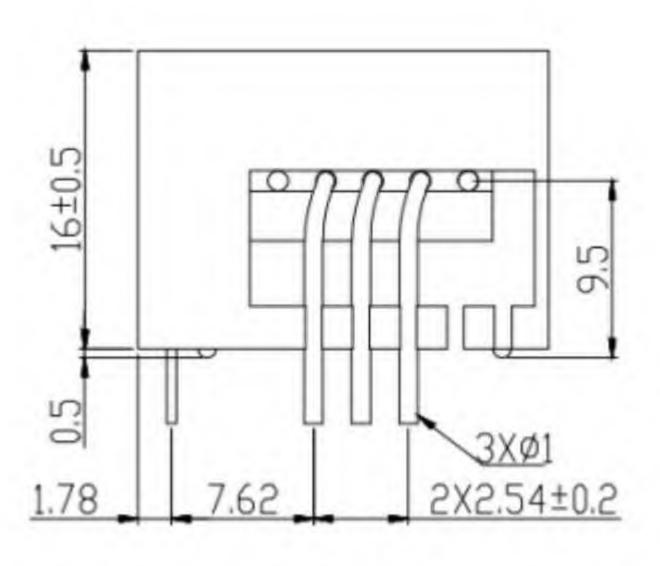


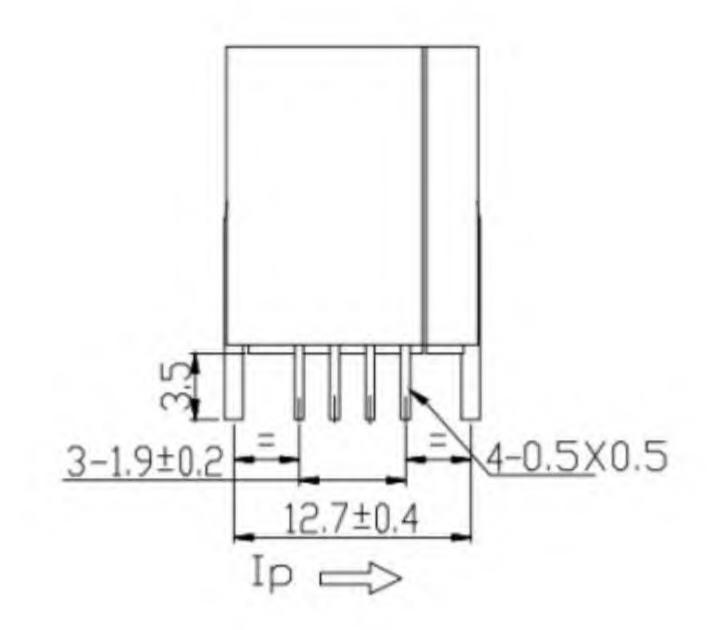
# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	2.5±0.625	@I <sub>PN</sub> , T <sub>A</sub> =25°C
耐压Withstanding voltage	KV	3.0	
绝缘电阻Insulation resistance	ΜΩ	>1000	@50Hz, 1 min
内部参考电压Internal voltage reference	V	2.5±0.005	
		$V_{REF} \pm 0.0053$	@MMCFC6,T <sub>A</sub> =25°C
電上給山空子Zoro point orror output		$V_{REF} \pm 0.0022$	@MMCFC15,T <sub>A</sub> =25°C
零点输出误差Zero-point error output	V	$V_{REF} \pm 0.0020$	@MMCFC25,T <sub>A</sub> =25°C
		$V_{REF} \pm 0.0013$	@MMCFC50,T <sub>A</sub> =25°C
基本误差Fundamental error	%	<±0.7	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±0.1	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	ppm/°C	<±10	$@T_A = -40^{\circ}C \sim 85^{\circ}C$
增益温度漂移Gain temperature drift	ppm/°C	<±40	$@T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<0.3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/μS	>50	
工作带宽Operating bandwidth	kHz	DC~100	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	8	

PINS	Definition
1	+5V
2	OV
3	Vout
4	Vref







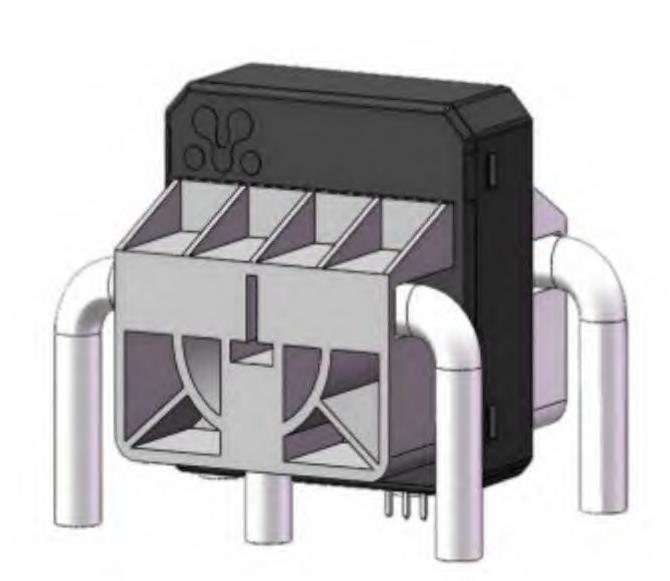
# 磁通门原理电流传感器

Fluxgate Current Sensor

# MMCFD013..5系列

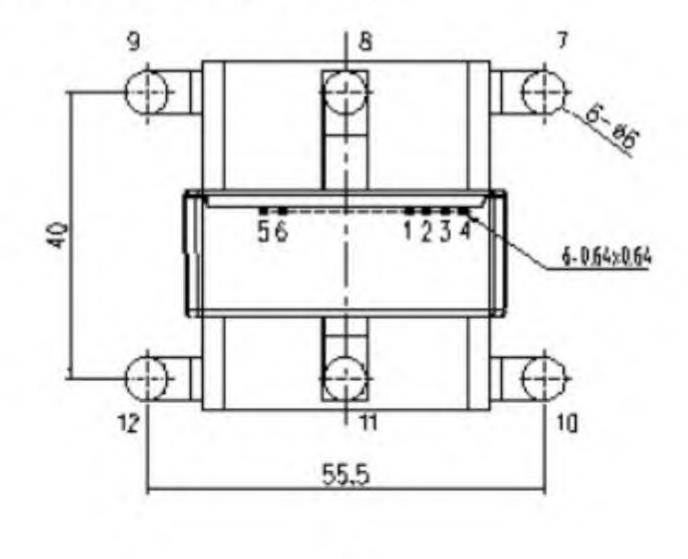
该磁通门电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

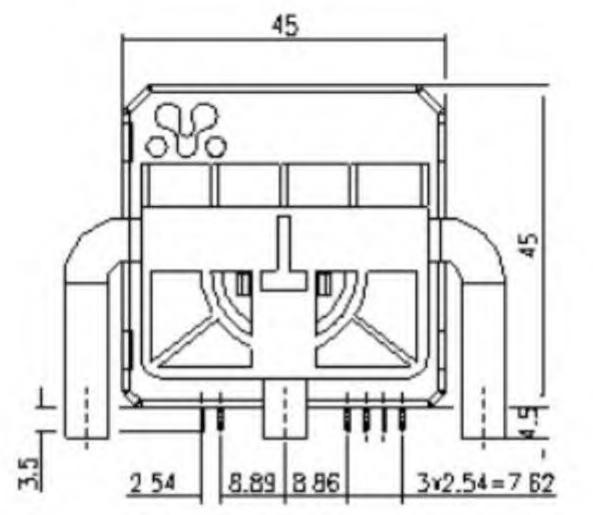
The fluxgate current sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

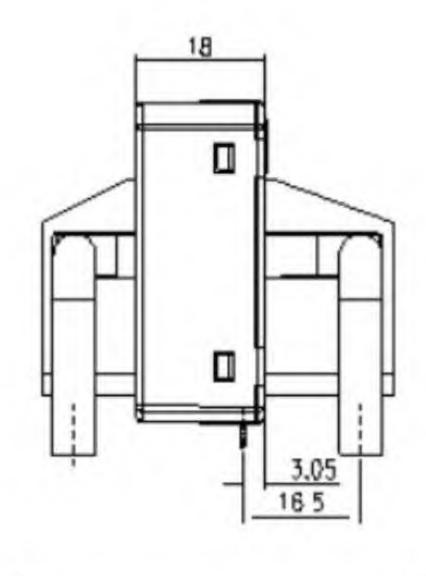


# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	21.6	
		2.5±1.0	@MMCFD5
额定输出Rated output	V	2.5±1.2	@MMCFD0I3、@MMCFD0I5、 @MMCFD0I6、@MMCFD1、 @MMCFD1I5、@MMCFD2、@MMCFD3
		2.5±1.332	@MMCFD2.0
		2.5±1.485	@MMCFD0.6
耐压Withstanding voltage	KV	4.0	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
外部参考电压External voltage reference	V	2.3~4	
内部参考电压Internal voltage reference	V	$2.5 \pm 0.005$	
零点输出误差Zero-point error output	V	$2.5 \pm 0.005$	@ T <sub>A</sub> = 25°C
基本误差Fundamental error	%	<±1.5	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	ppm/°C	±570	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 105^{\circ} C$
增益温度漂移Gain temperature drift	ppm/°C	±400	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 105^{\circ} C$
响应时间Response time	μS	<35	@ 90% of I <sub>PN</sub> step
工作带宽Operating bandwidth	kHz	DC~15	@-3dB
工作温度Operating temperature	°C	-40~105	
存储温度Storage temperature	°C	-40~105	
重量Weight	g	75	







Pins	Definiti	ion
1	2	3
Vcc	CND	Vref
4	5	6
Vout	Test Out	Test In
7	8	9
lp+	lp+	lp+
10	11	12
lp-	lp-	lp-

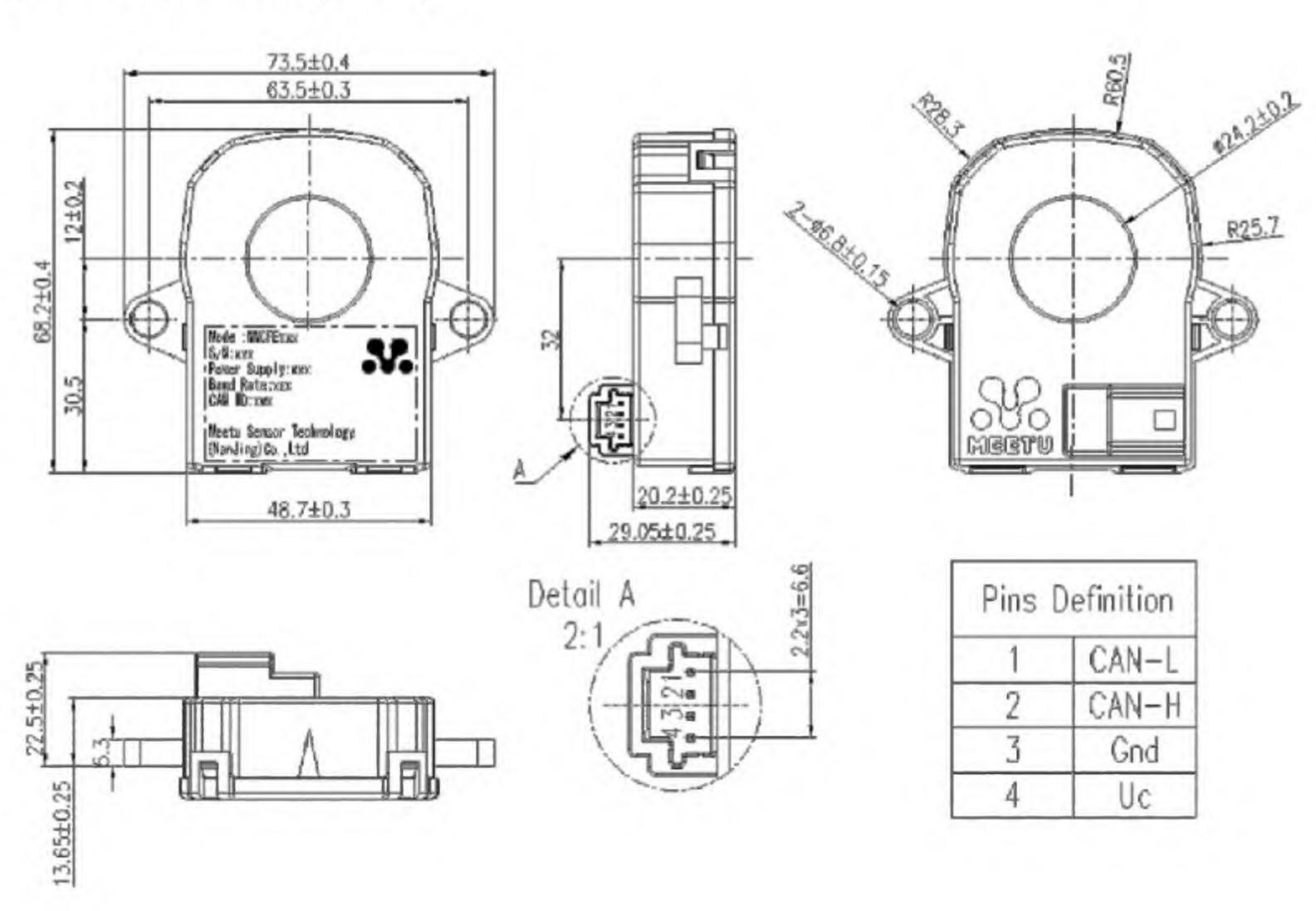
该电流传感器基于低频磁通门技术,采用单电源供电,CAN总线输出,汽车级产品设计,可用于纯电动车、插电混动车及储能设备中最大700A的精确电流测量。

The current sensor is based on low-frequency fluxgate technology, using single power supply, CAN bus output, automotive-grade product design, can be used for pure electric vehicles, plug-in hybrid vehicles and energy storage equipment in the maximum 700A accurate current measurement.



# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage	V	7~24	
电流消耗Current consumption	mA	28	@U <sub>c</sub> =12V, T <sub>A</sub> =25°C
额定测量电流Rated measuring current	А	700	
电流测量范围Current measure mentrange	A	-700~700	
绝缘交流测试电压Insulation actest voltage	KV	5	@50Hz1min
绝缘直流测试电压Insulation dctest voltage	KV	5	
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出Zero-point output	mA	<±10	@I <sub>P</sub> =0, T <sub>A</sub> =25°C
基本误差Fundamental error	%	<±0.1	@I <sub>PN</sub> , T <sub>A</sub> =25°C
线性度误差Linearity error	%	<±0.3	$@T_A = -40 \sim 85$ °C, $\pm 3$ Sigm
增益温度漂移Gain temperature drift	ppm/°C	20	@I <sub>P</sub> , T <sub>A</sub> =-40°C~85°C
环境工作温度Ambient operating temperature	°C	-40~85	
波特率Baud rate	kHz	500可配置(Configurable)	
CANID		3C2可配置(Configurable)	



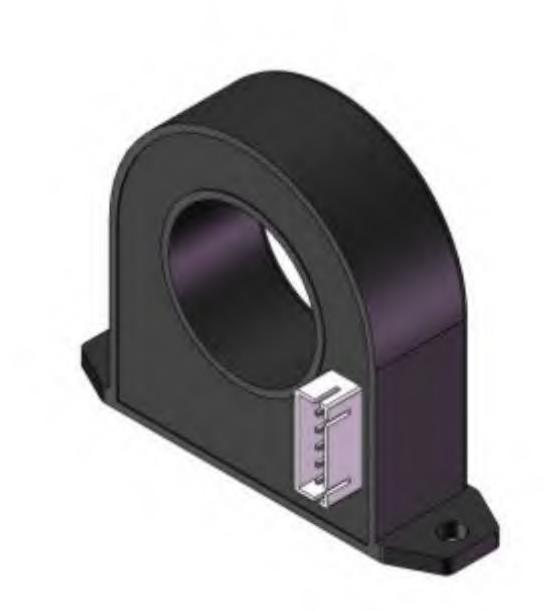
# 磁通门原理电流传感器

Fluxgate Current Sensor

#### MMCFF01006

这是一款采用磁通门原理的剩余电流检测模块。其满足 IEC62752(模式 2) 与 IEC62955(模式 3) 的剩余电流检测标准,并且能检测出 6mA 直流剩余电流,及 时响应漏电事件,可广泛用于电动汽车充电器(充电桩)行业。

This is a residual current detection module using the fluxgate principle. It meets the residual current detection standards of IEC62752 (Mode 2) and IEC62955 (Mode 3), and can detect 6mA DC residual current to respond to leakage events in a timely manner, which is widely used in the electric vehicle charger (charging pile) industry.



#### 电气特性 / Electrical characteristics

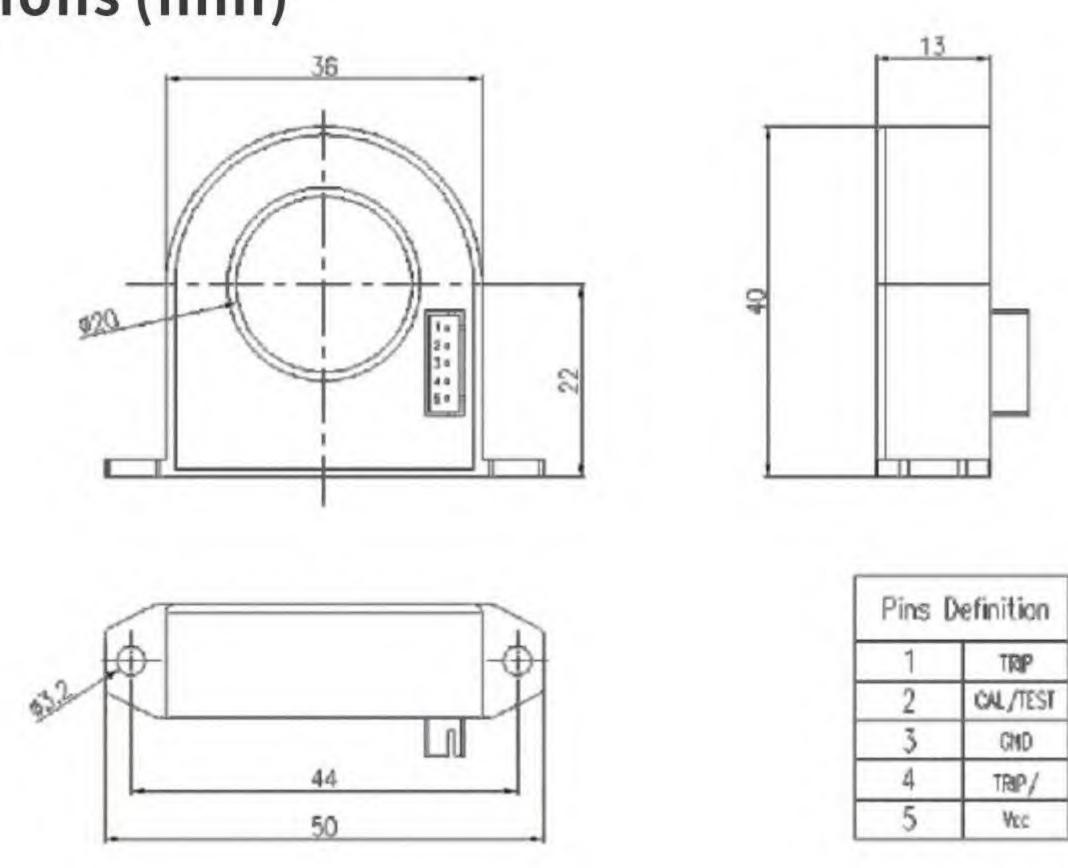
参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage	V	5~12	典型typical 5V
电流消耗Current consumption	mA	<10	@5V
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
耐压Withstanding voltage	KV	5	@50Hz,1min
绝缘电阻Insulation resistance	ΜΩ	>1000	

# 动作电流 / Current action

波形	频率		求数值 d Required Values	Ac	传感器实际参数 tual sensor paramete	ers	单位
Waveform		最小值 Minimum value	典型值 Typical value	最大值 Maximum value	Unit		
DC-SM	\	3	6	4.5	5	6	mA
2PDC	\	3.5	7	4.5	5	6	mA
3PDC	\	3.1	6.2	4.5	5	6	mA
AC	50HZ	15	30	20	25	30	mA
AC0°	50HZ	4.5	42	9	20	30	mA
Ac90°	50HZ	6.3	42	12	20	30	mA

## 动作时间 / Action time

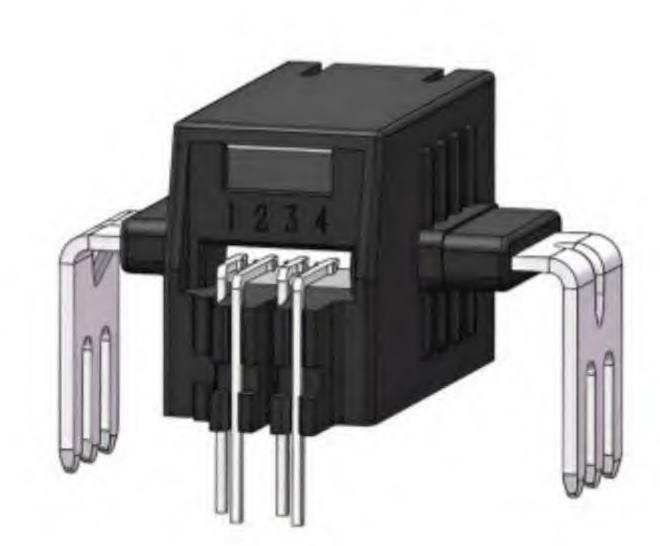
波形 Waveform	频率 Frequency	电流 Current	典型值 Typical value	单位 Unit
		30mA	40	ms
AC 50HZ	C 50HZ	60mA	30	ms
		150mA	20	ms
		6mA	40	ms
DC \	\	60mA	24	ms
		120mA	12	ms



#### MMCOA10..80-10系列

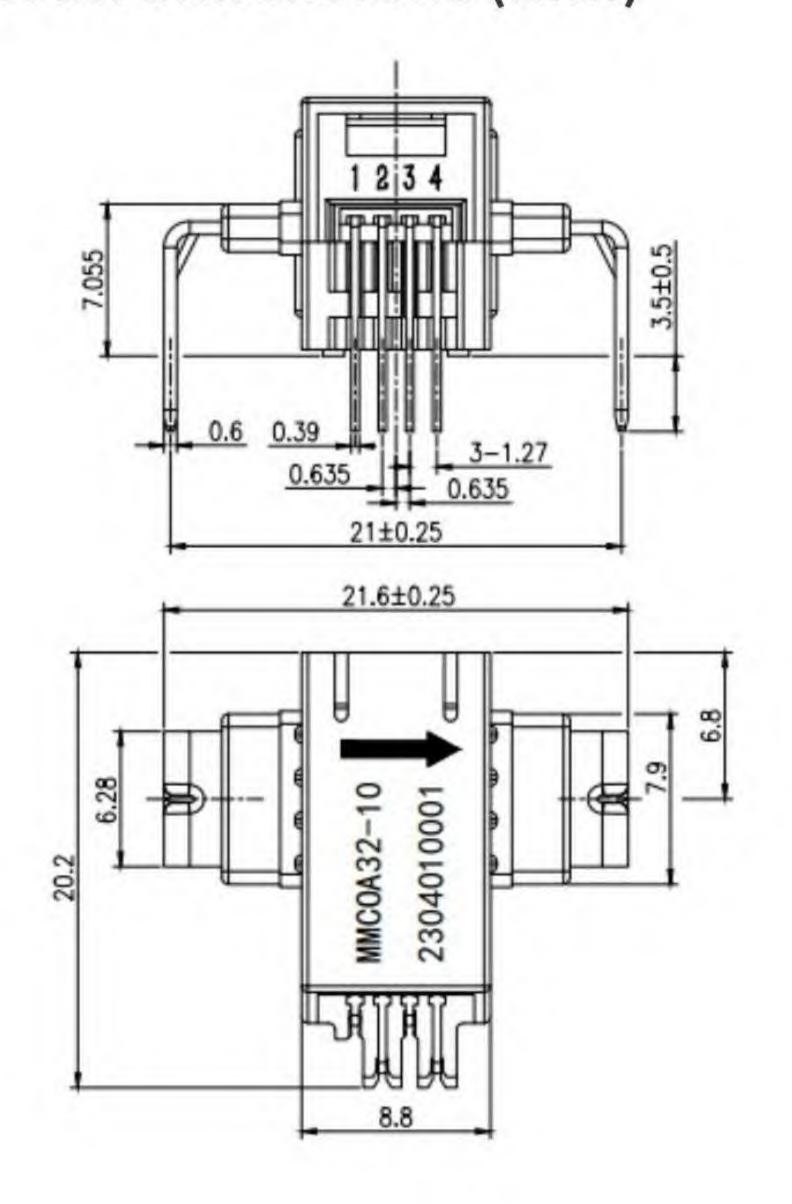
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

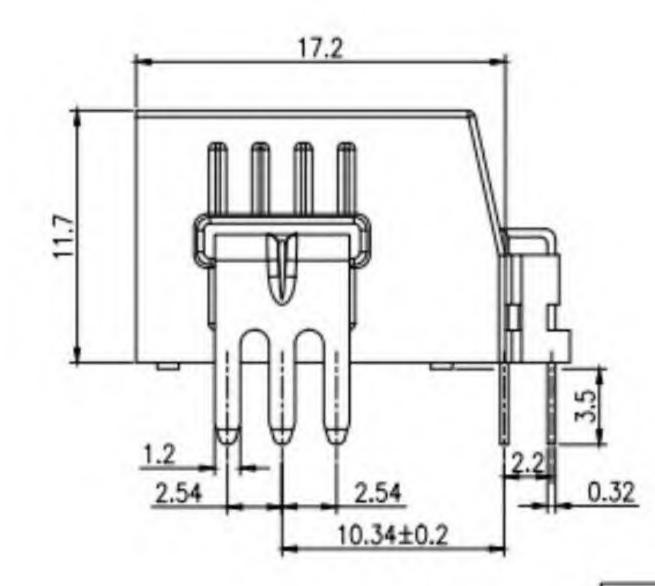
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

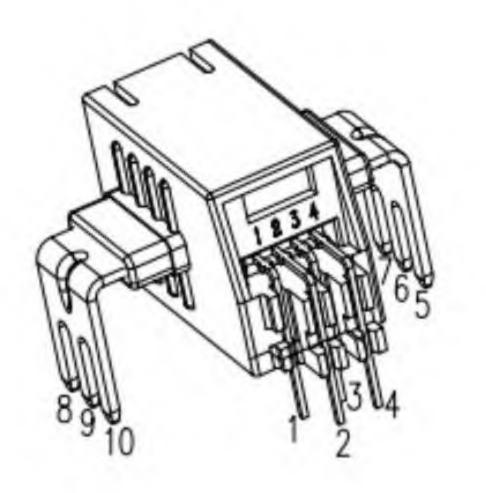


# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
参考电压Voltage reference	V	2.5±0.02	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	2.5±0.8	@ $\pm I_{PN}$ , $T_A = 25^{\circ}C$
负载电阻Load resistance	Ω	4.7K	
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	2.5±0.02	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 105^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 105^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV	<±20	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 105^{\circ} C$
增益温度漂移Gain temperature drift	%	±1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 105^{\circ}C$
响应时间Response time	μS	<1.5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/μS	>50	
工作带宽Operating bandwidth	kHz	DC~250	@-3dB
工作温度Operating temperature	°C	-40~105	
存储温度Storage temperature	°C	-40~105	
重量Weight(±0.5)	g	5.2	



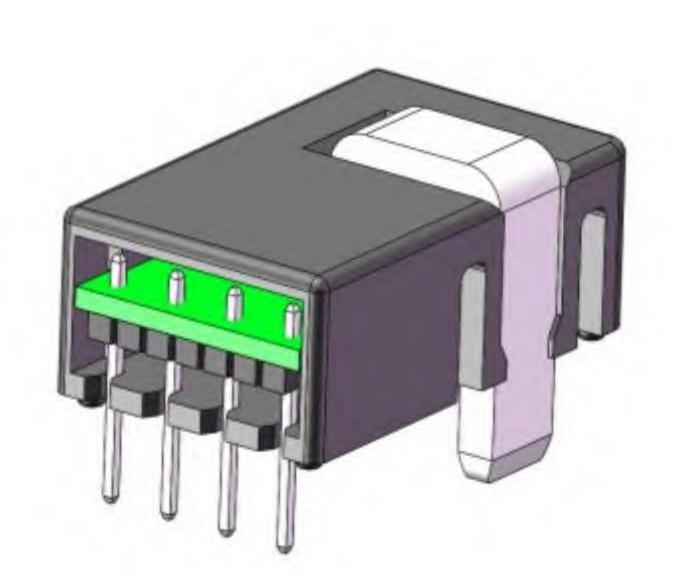




Pins De	efinition
1	Vref
2	Vout
3	GND
4	+5V
5,6,7	1-
8,9,10	1+

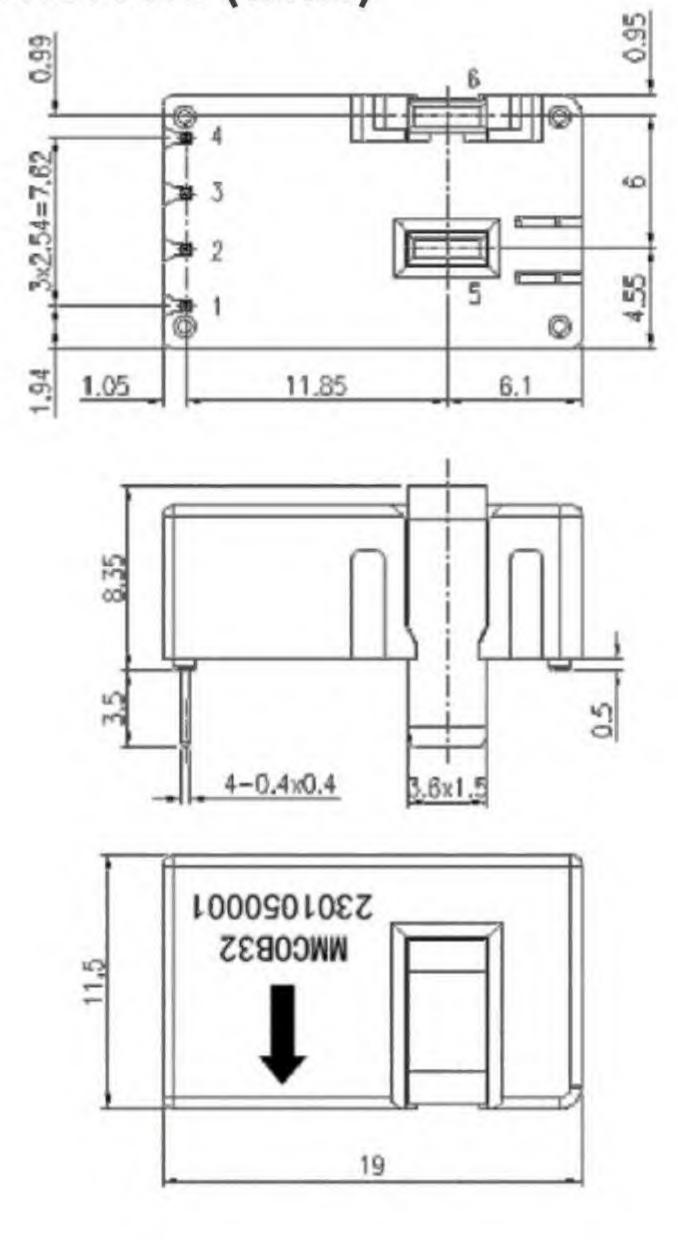
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
参考电压Voltage reference	V	2.5±0.03	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	2.5±0.8	
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	4	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	2.5±0.03	@ $I_P = 0$ , $T_A = -40^{\circ} \text{C} \sim 105^{\circ} \text{C}$
基本误差Fundamental error	%	< <u>±1</u>	@ I <sub>PN</sub> , T <sub>A</sub> = 25°C
线性度误差Linearity error	%	<±1	@ I <sub>PN</sub> , T <sub>A</sub> = 25°C
增益温度漂移Gain temperature drift	%	±2.5	@ I <sub>PN</sub> , T <sub>A</sub> =-40°C~105°C
响应时间Response time	μS	<1	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~250	@-3dB
工作温度Operating temperature	°C	-40~105	
存储温度Storage temperature	°C	-40~105	
重量Weight(±0.5)	g	4.0	



Pins D	efinition
1	Vout
2	Vref
3	GND
4	Vcc
5	IP+
6	IP-

## MMCOC50..400系列

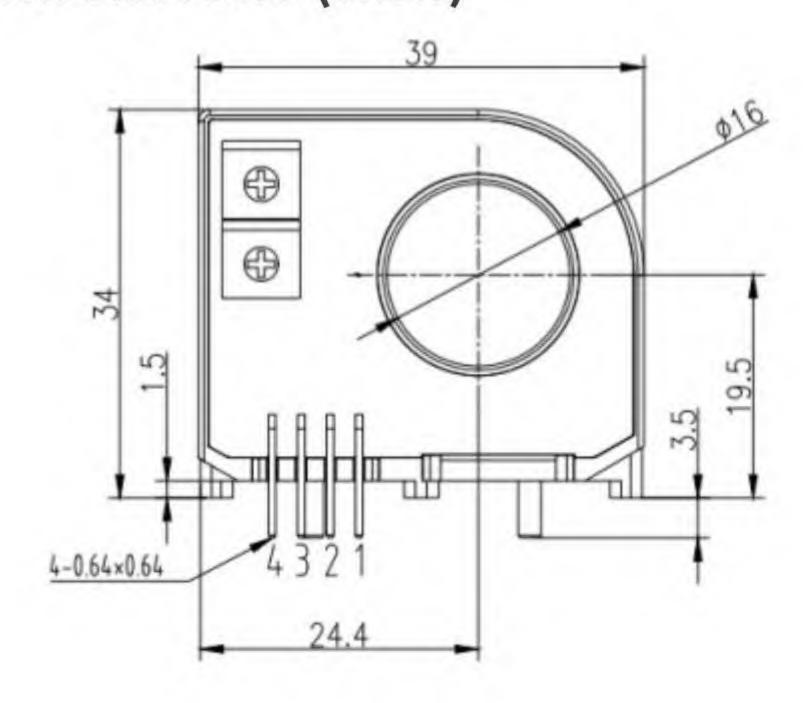
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

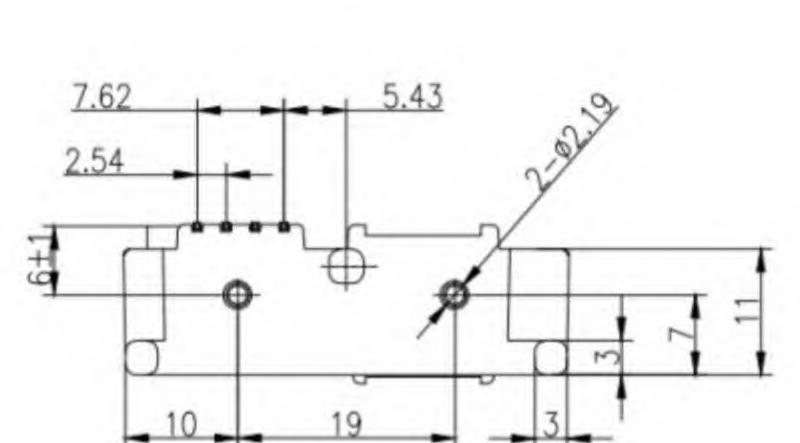
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

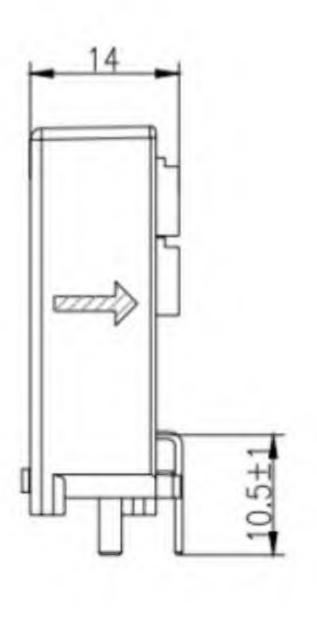


# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±12~±15	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	V	4	@ I <sub>PN</sub> , T <sub>A</sub> = 25°C
负载电阻Load resistance	kΩ	6	
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±40	@ $I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±1.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	31	







PINS Defini	tion
1	+15V
2	-15V
3	Vout
4	GND

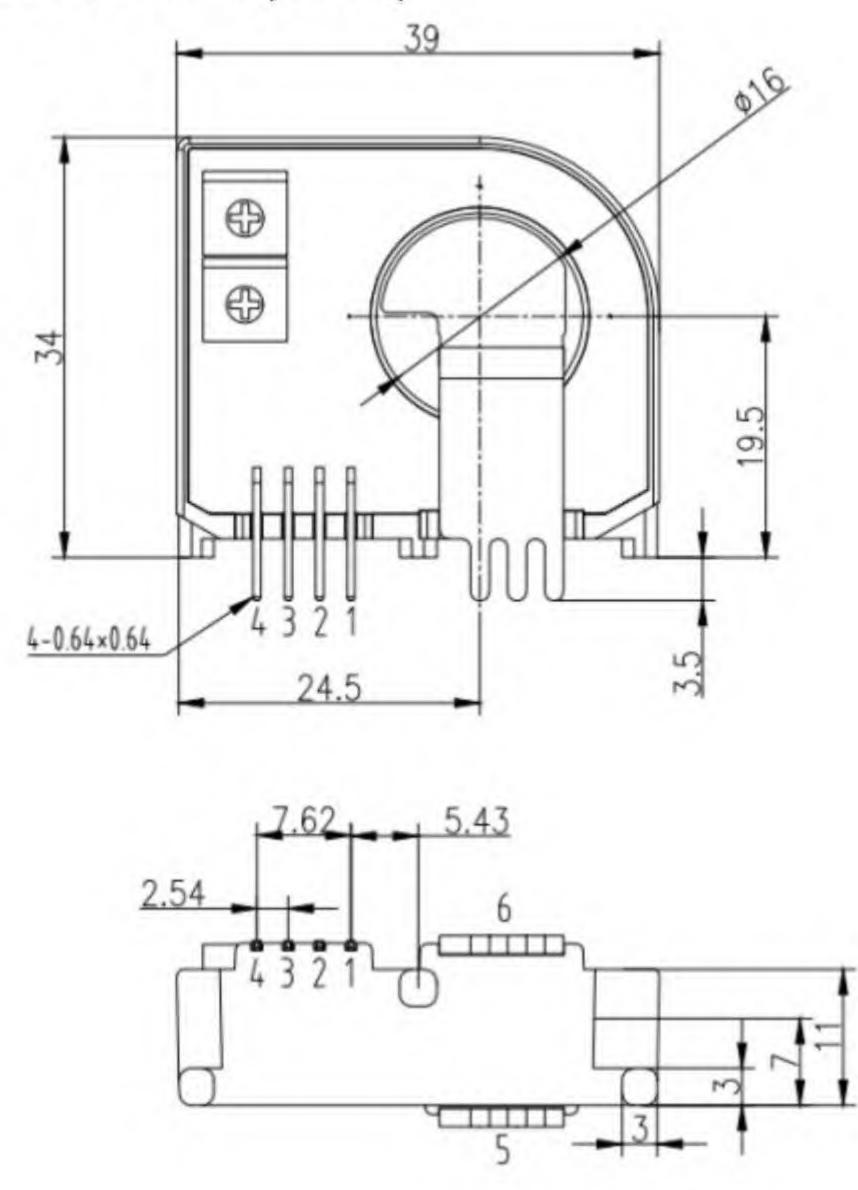
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

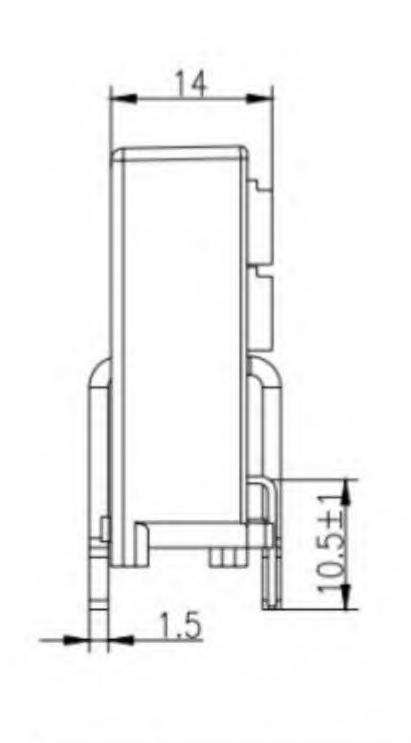
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



## 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	15	
电流消耗Current consumption	mA	<15	
宛字給 U Datad autput	\/	$7.5 \pm 0.05$	$@I_P=0, T_A=25^{\circ}C$
额定输出Rated output	V	7.5±1.66	$@\pm I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	5	
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.75	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.04	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	36	



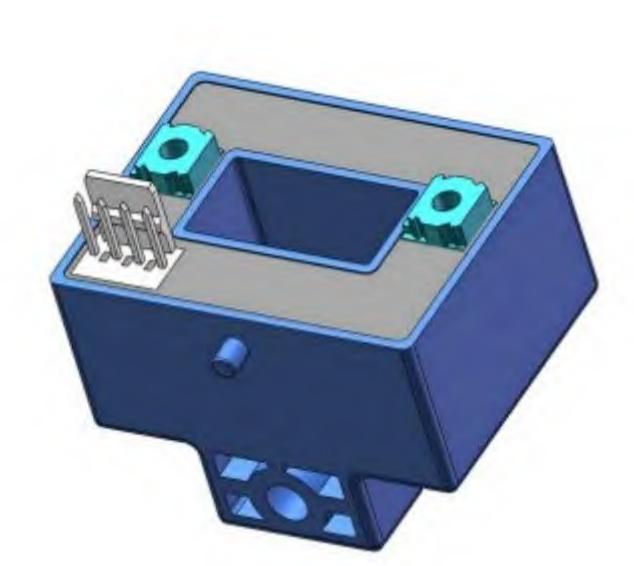


PINS Defin	ition
1	+15V
2	0V
3	Vout
4	Vref-in

## MMCOE50..600系列

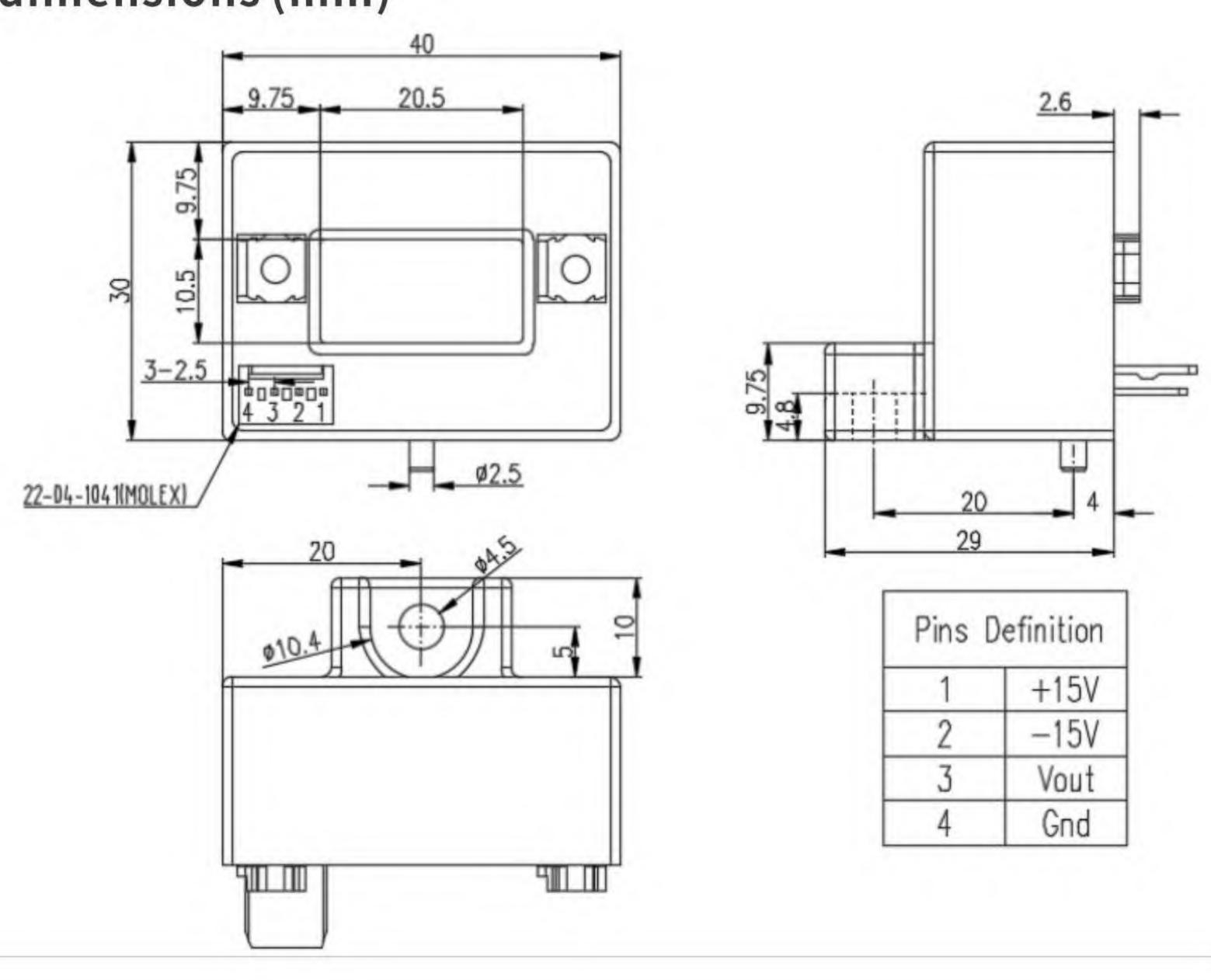
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

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# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	4	
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	4	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±20	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	< <u>±1</u>	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~50	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±5)	g	58	



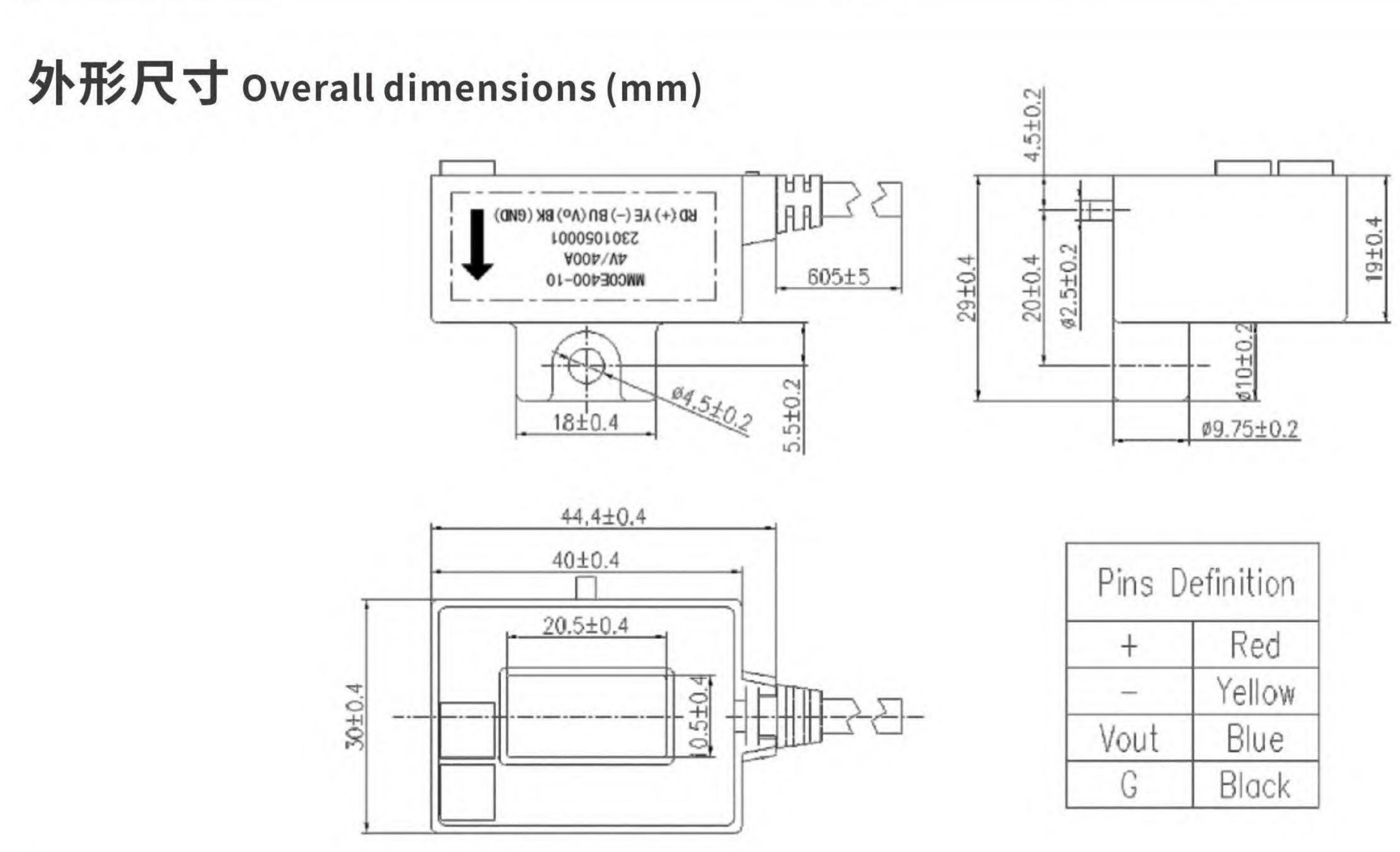
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

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# 电气特性 / Electrical characteristics

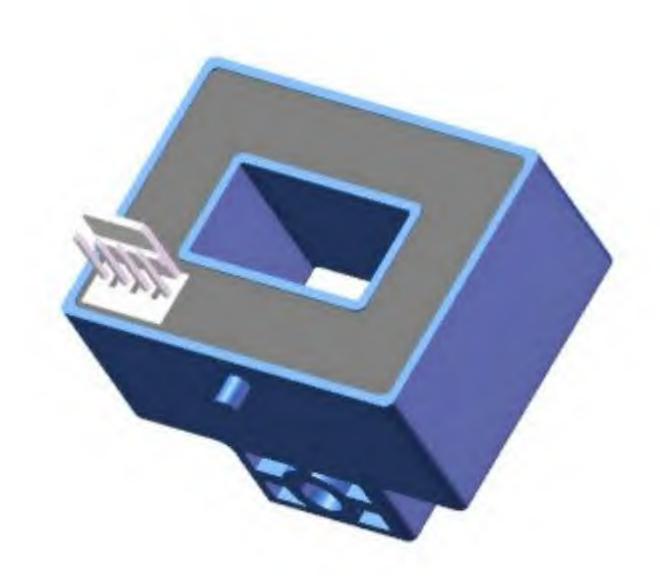
参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	V	4	
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	4	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±20	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±1.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/μS	>100	
工作带宽Operating bandwidth	kHz	DC~50	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±5)	g	75	



#### MMCOE50..600-12系列

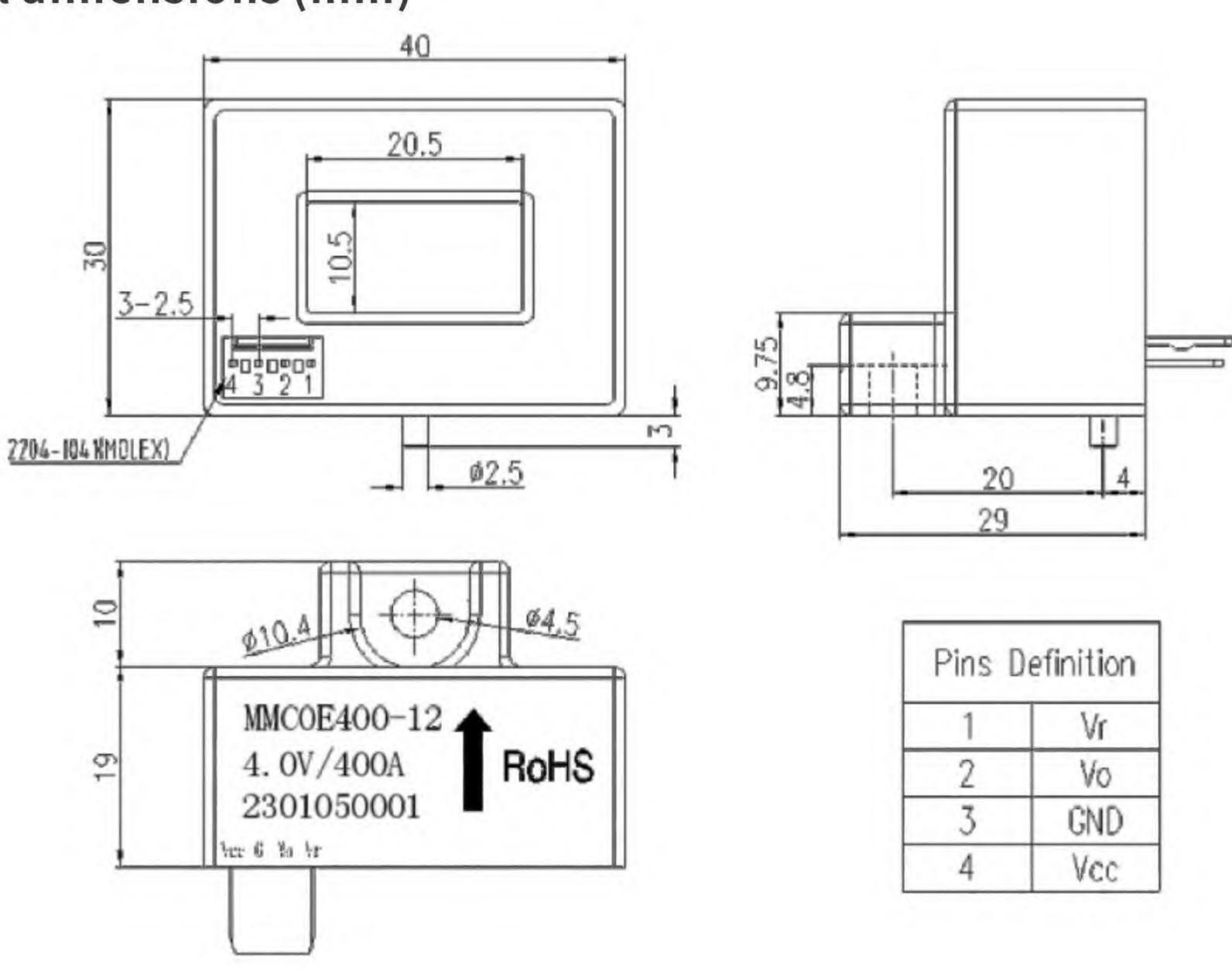
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

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# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	12+ls	
额定输出Rated output	V	2.5±0.625	$@\pm I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	3.6	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	2.5±0.015	@ $I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
内部参考电压Internal voltage reference	V	2.5±0.015	@ $I_P = 0, T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV	< <u>±</u> 10	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 105^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.5	@ $I_{PN}$ , $T_A = -40 \sim 105$ °C
响应时间Response time	μS	<3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/μS	>100	
工作带宽Operating bandwidth	kHz	DC~50	@-3dB
工作温度Operating temperature	°C	-40~105	
存储温度Storage temperature	°C	-55~125	
重量Weight(±5)	g	58	



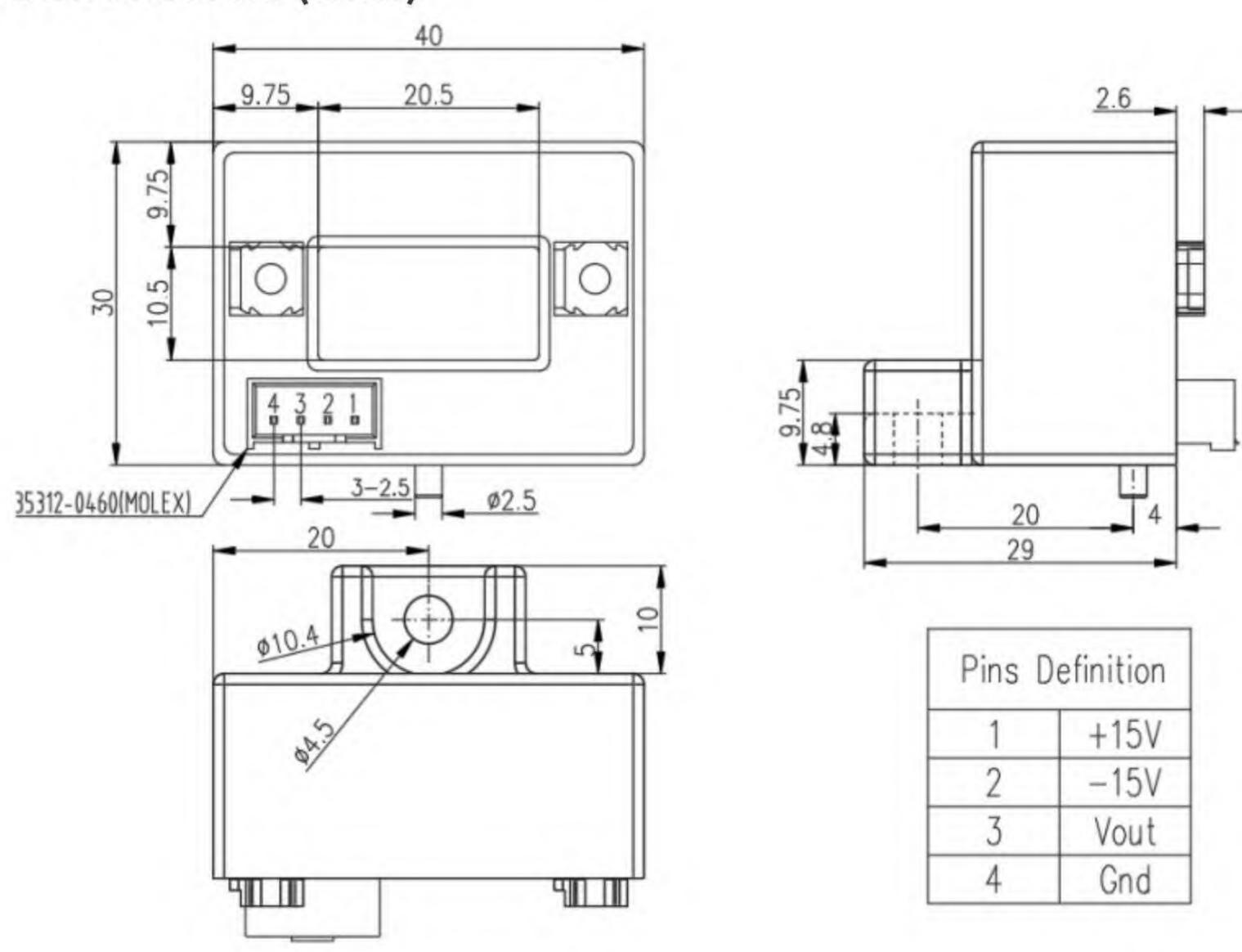
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

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# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	4	
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	4	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±20	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±1	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~50	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±5)	g	58	



# MMCOF50..600系列

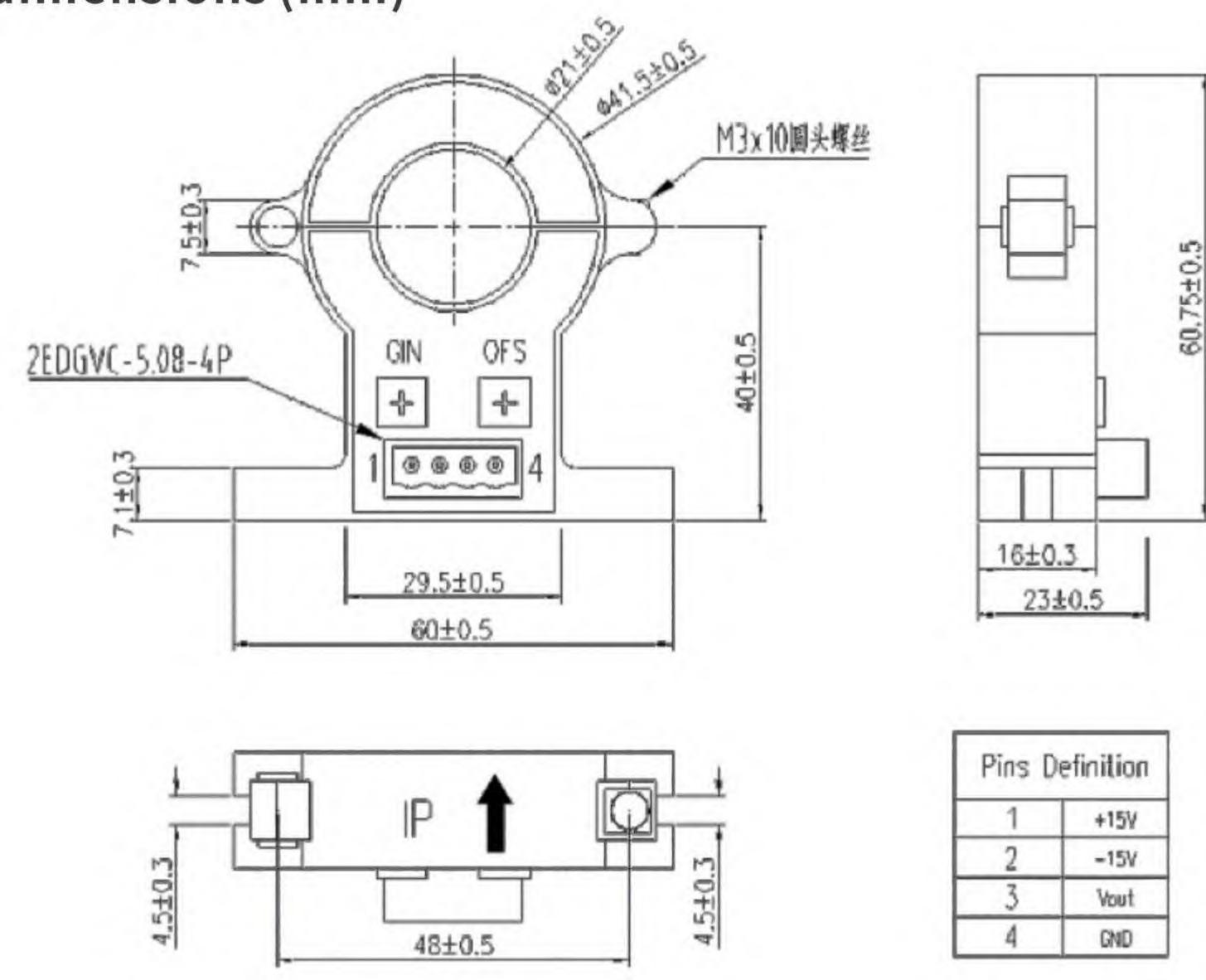
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

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# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15~±18	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	V	4	@ I <sub>PN</sub> , T <sub>A</sub> = 25°C
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	4.0	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±20	@ $I_P = 0, T_A = 25$ °C
基本误差Fundamental error	%	<±1	@ I <sub>PN</sub> , T <sub>A</sub> = 25°C
线性度误差Linearity error	%	<±1	@ I <sub>PN</sub> , T <sub>A</sub> = 25°C
零点输出温漂Zero-point temperature drift output	mV/°C	<±1.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	102	



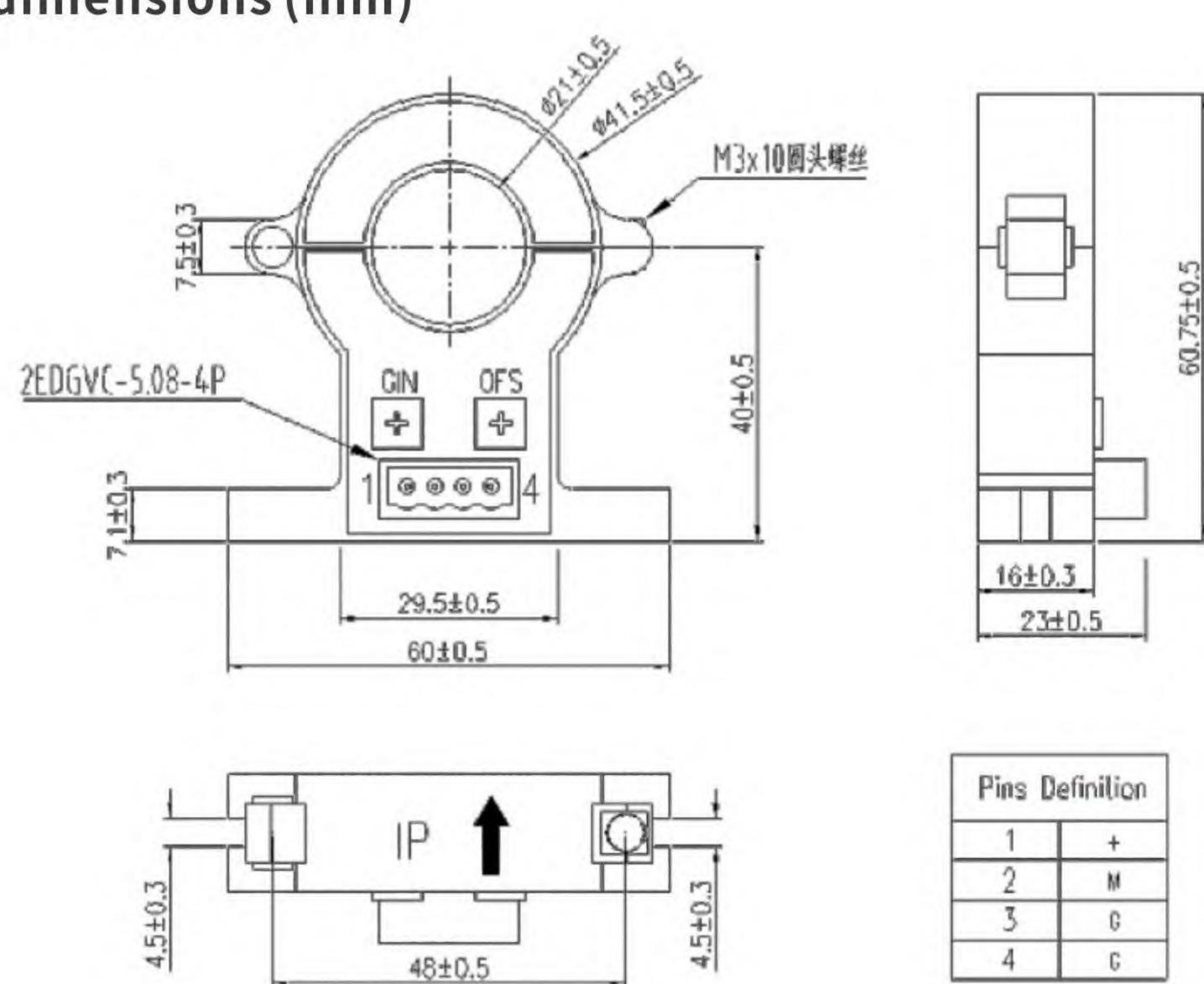
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



# 电气特性 / Electrical characteristics

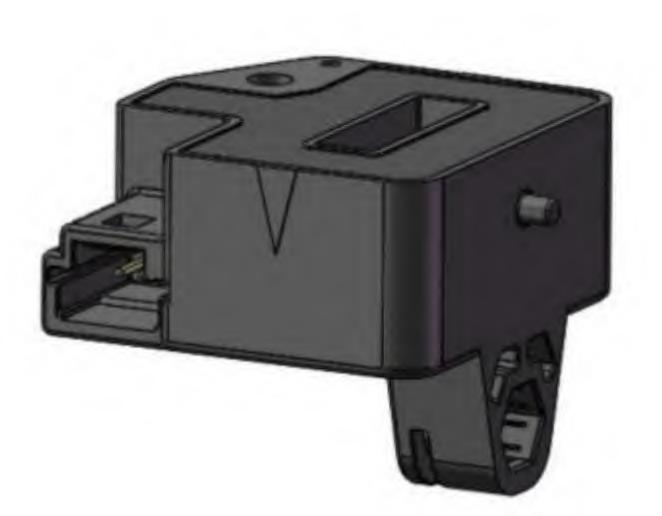
参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	<15	
额定输出Rated output	V	2.5±2	$@\pm I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	4.7	
耐压Withstanding voltage	KV	4	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	$2.5 \pm 0.02$	@ $I_P = 0$ , $T_A = 25$ °C
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±1	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.05	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	102	



#### MMCOG500..1000系列

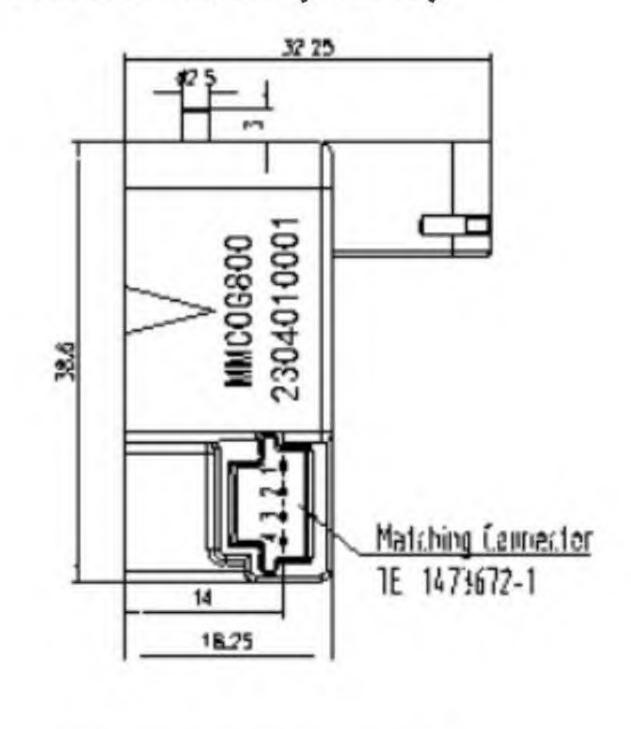
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

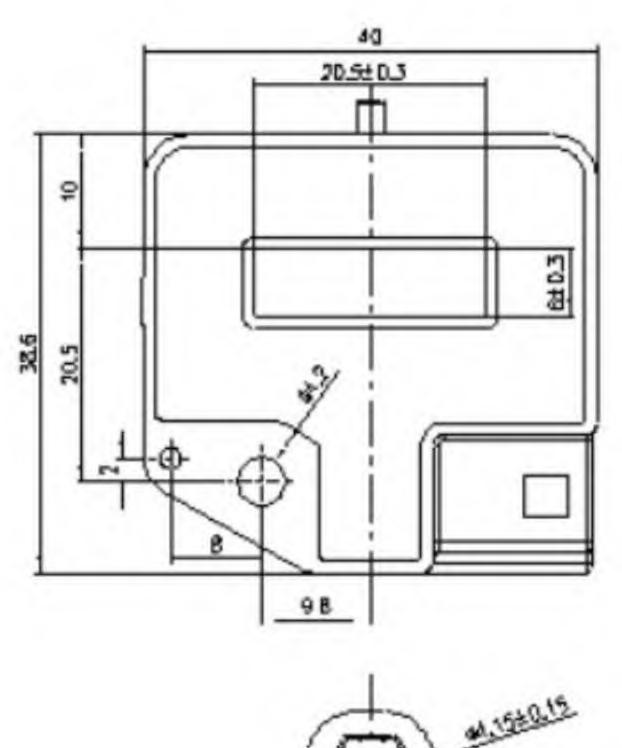


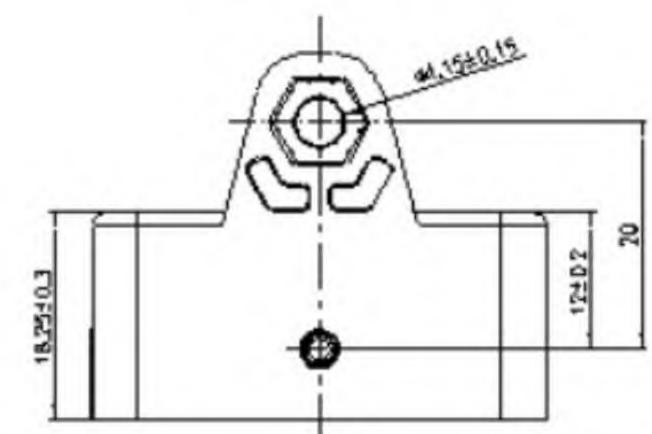
# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	2.5±2	$@\pm I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	4.7	
耐压Withstanding voltage	KV	4	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	$2.5 \pm 0.01$	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 125^{\circ} C$
增益温度漂移Gain temperature drift	mV/°C	<±0.5	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 125^{\circ} C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~125	
存储温度Storage temperature	°C	-55~150	
重量Weight	g	80	



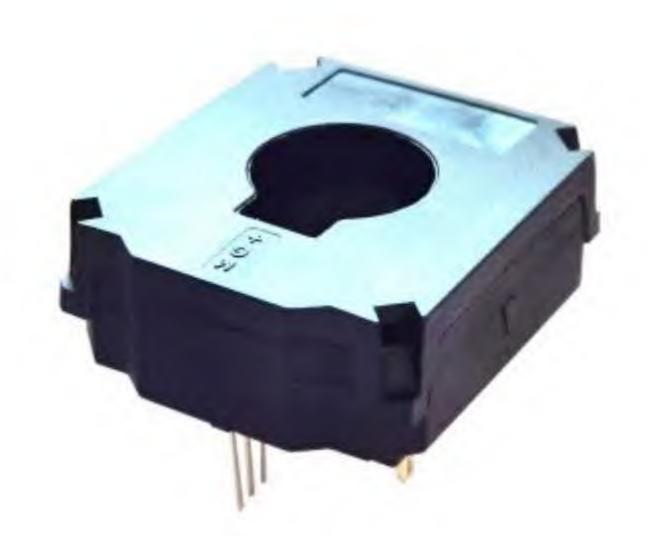
Pins D	Pins Definition		
1	Vout		
2	GND		
3	+57		
4	GND		





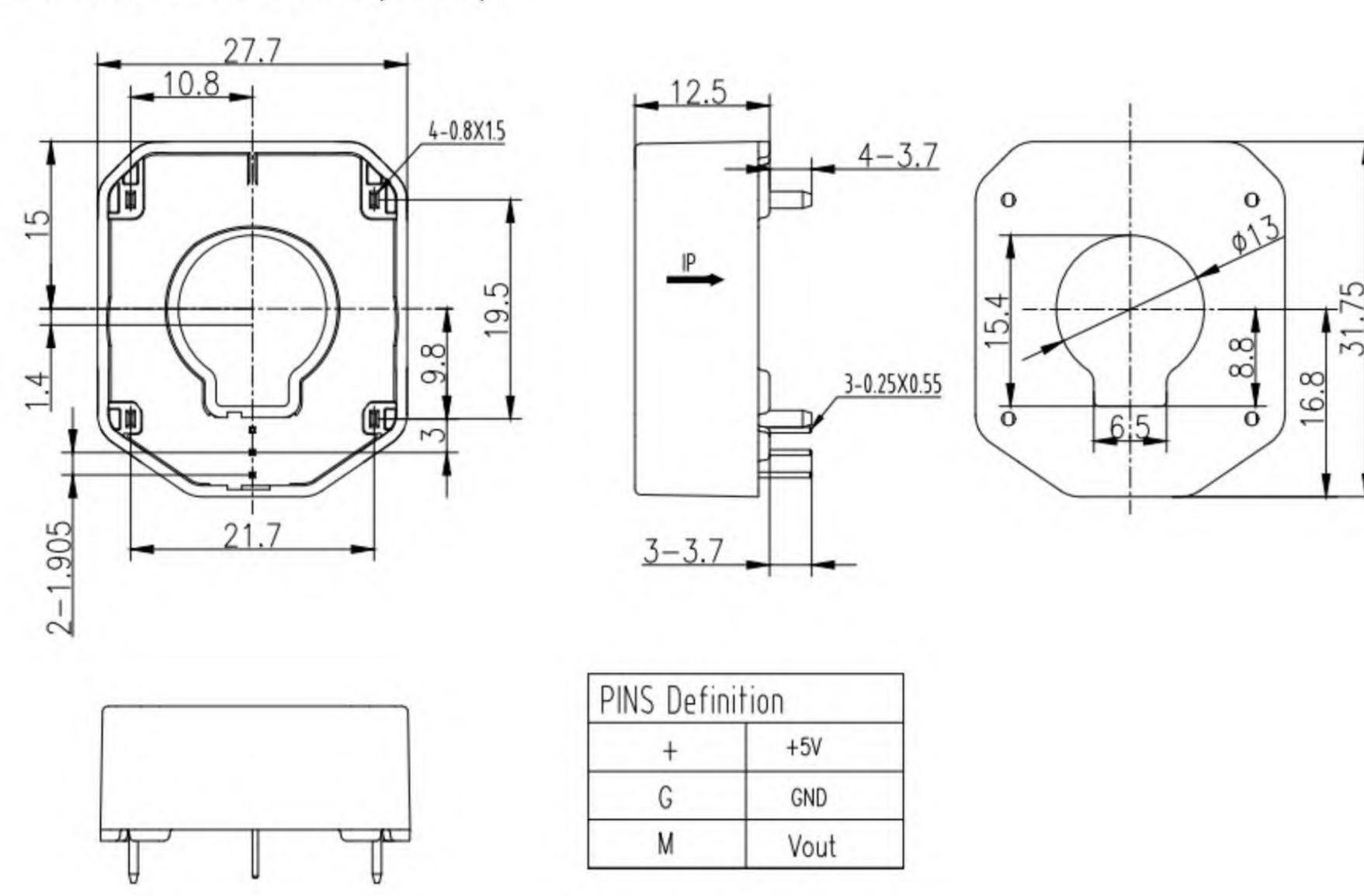
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



## 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	2.5±2	$@\pm I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	4.7	
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	$2.5 \pm 0.01$	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 125^{\circ} C$
增益温度漂移Gain temperature drift	mV/°C	<±0.5	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 125^{\circ}C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~125	
存储温度Storage temperature	°C	-55~125	
重量Weight	g	25	



#### MMCOI200..800系列

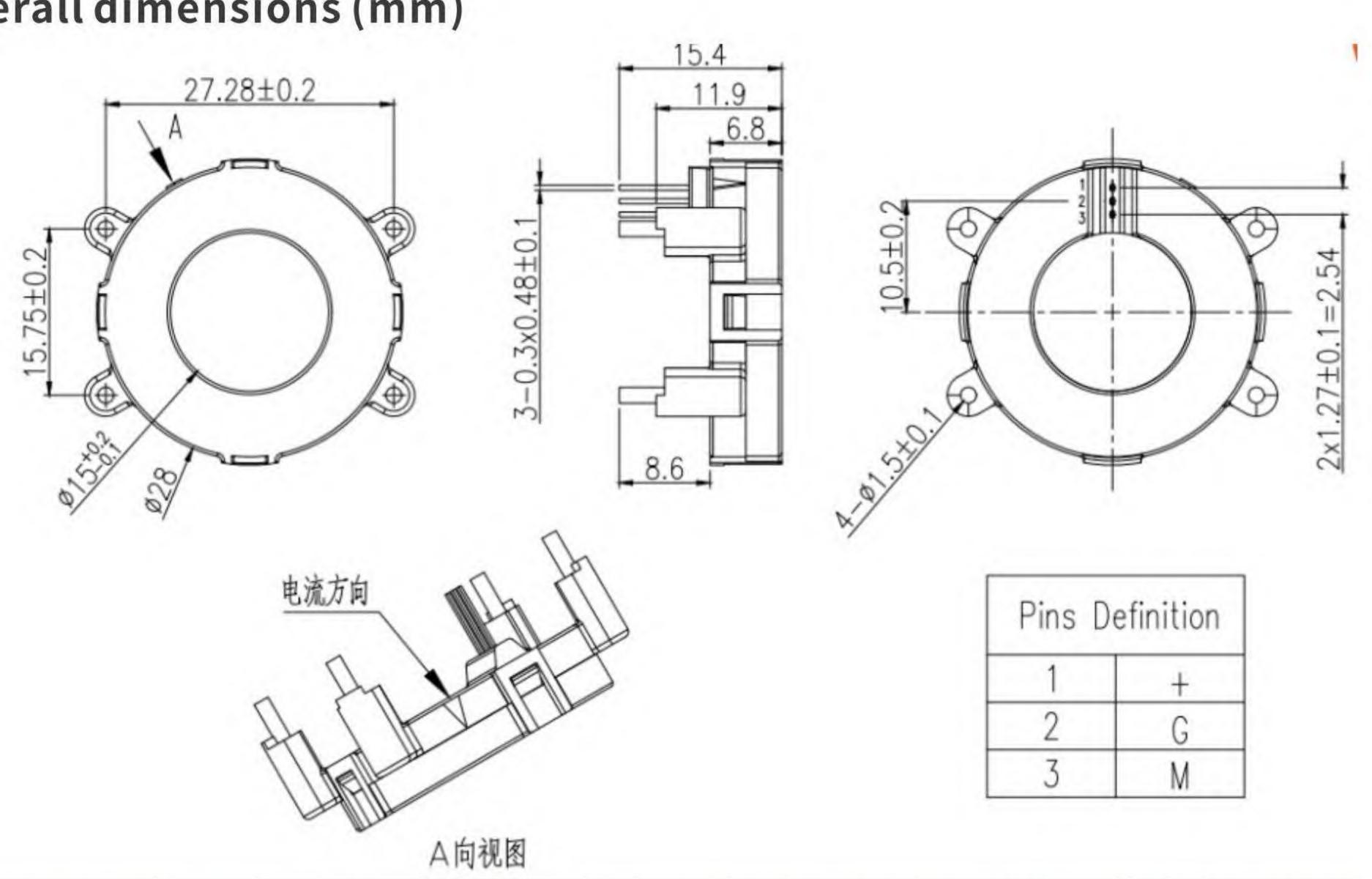
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	2.5±2	$@\pm I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	4.7	
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	$2.5 \pm 0.01$	@ $I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 105^{\circ} C$
增益温度漂移Gain temperature drift	mV/°C	<±0.5	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 105^{\circ} C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40 ~ 105	
存储温度Storage temperature	°C	-45 ~ 125	
重量Weight	g	19	



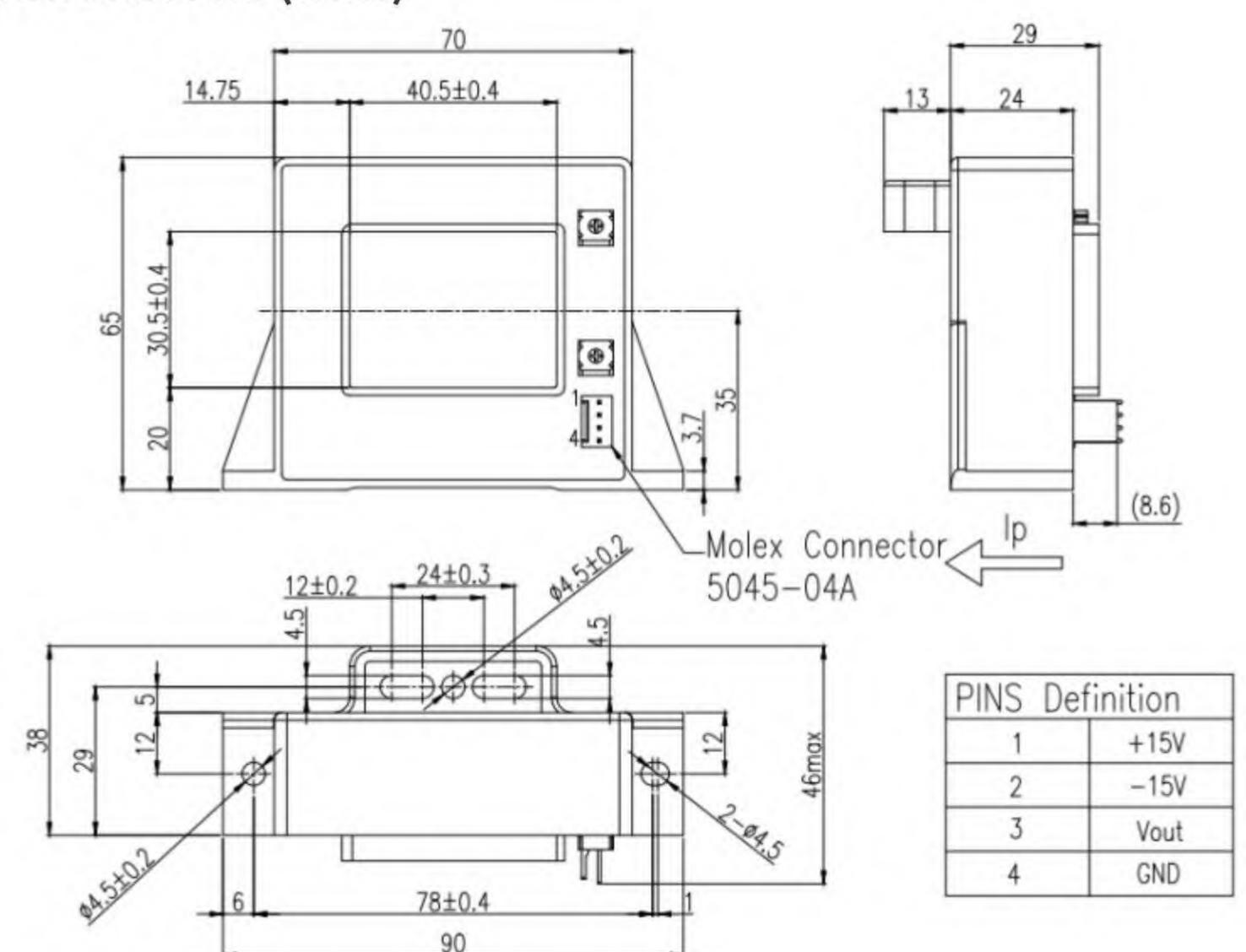
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

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# 电气特性 / Electrical characteristics

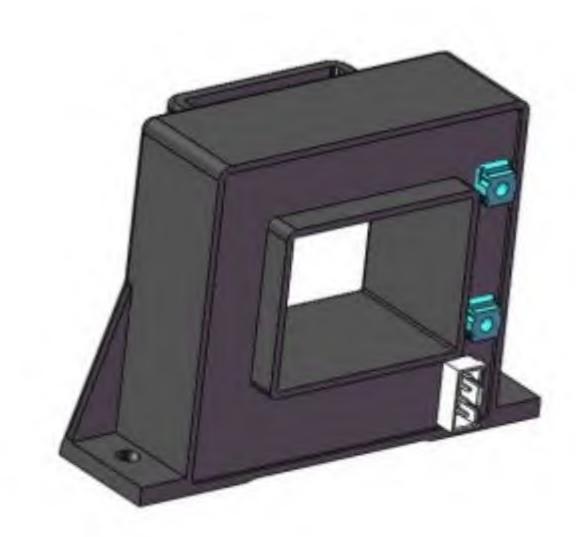
参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+ls	
额定输出Rated output	V	4	$@I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±40	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±10)	g	270	



#### MMCOJ500..1500-10系列

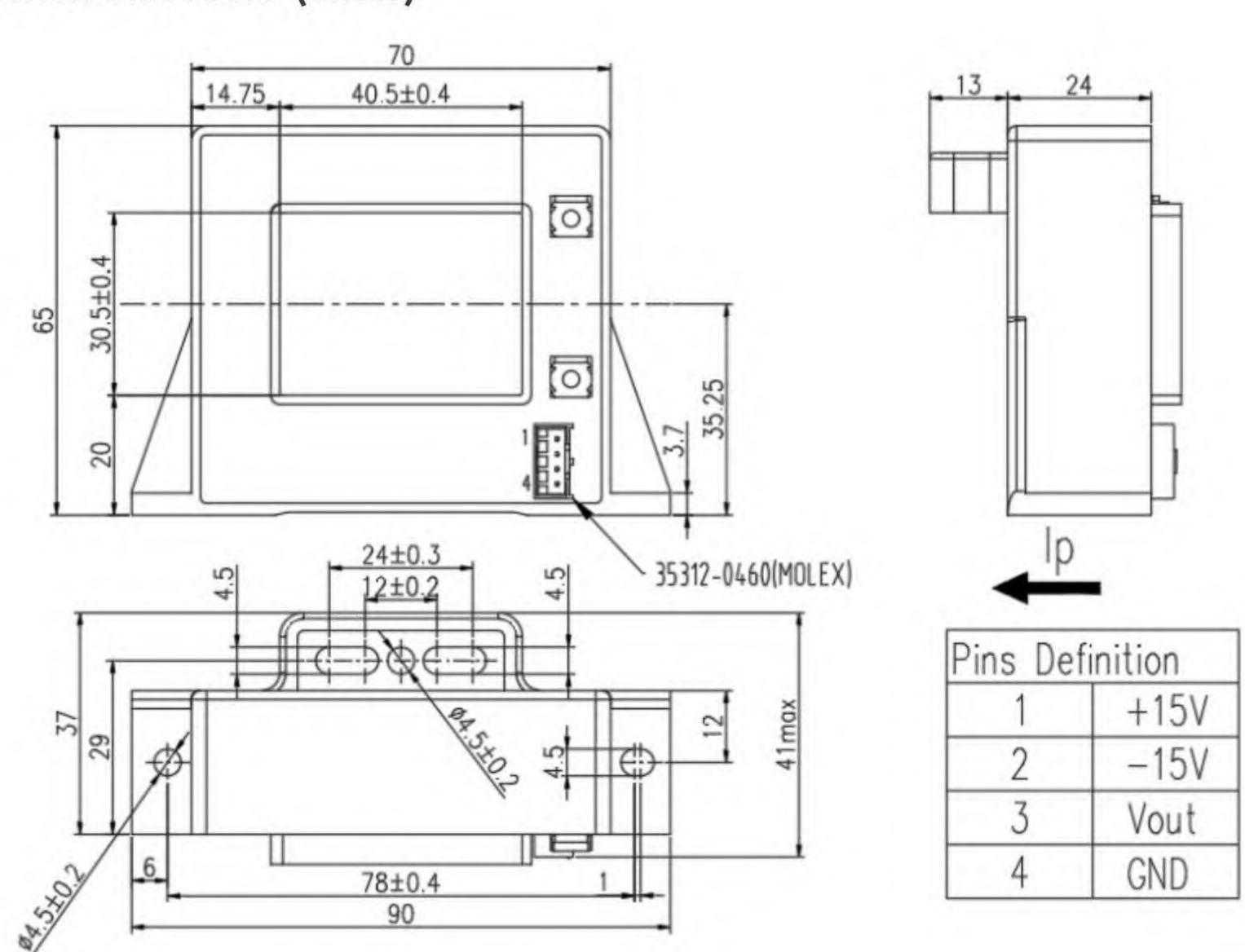
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



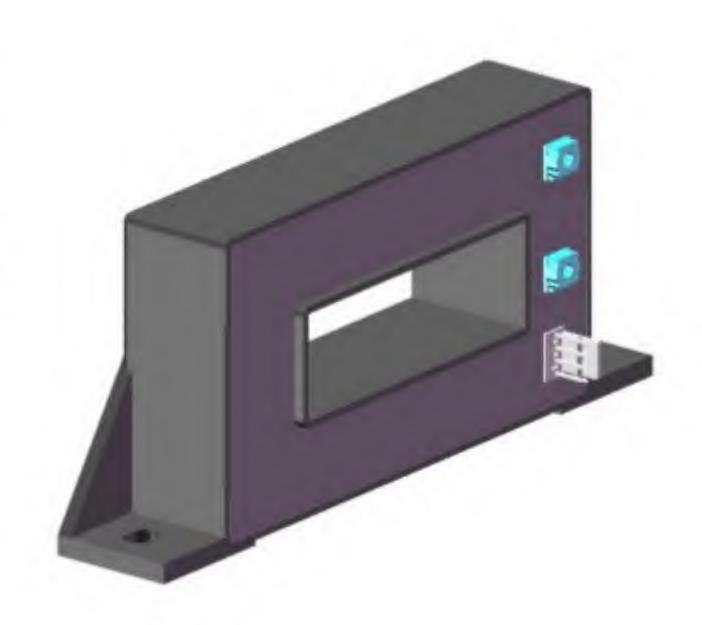
# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	V	4	$@I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±40	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±10)	g	270	



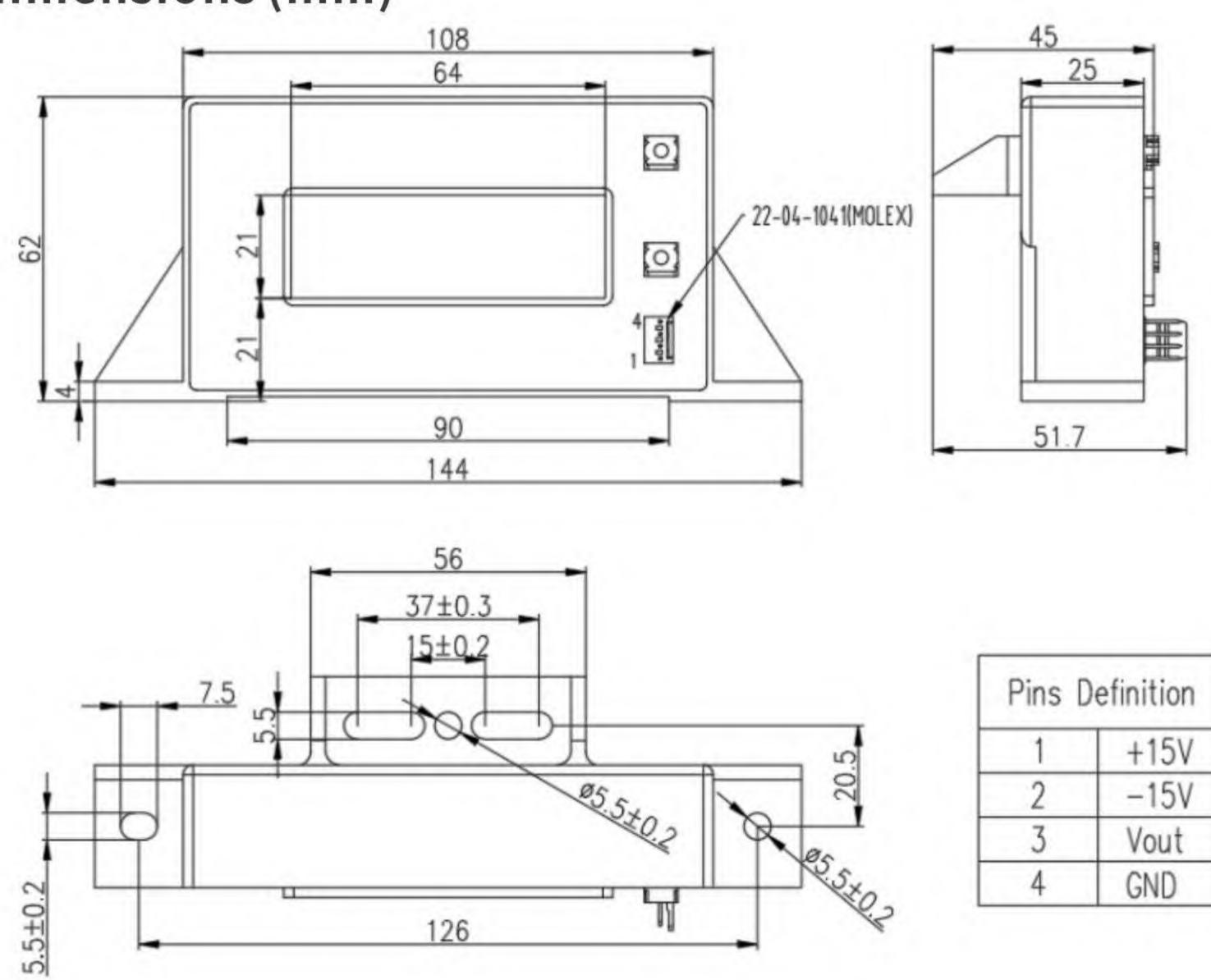
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



## 电气特性 / Electrical characteristics

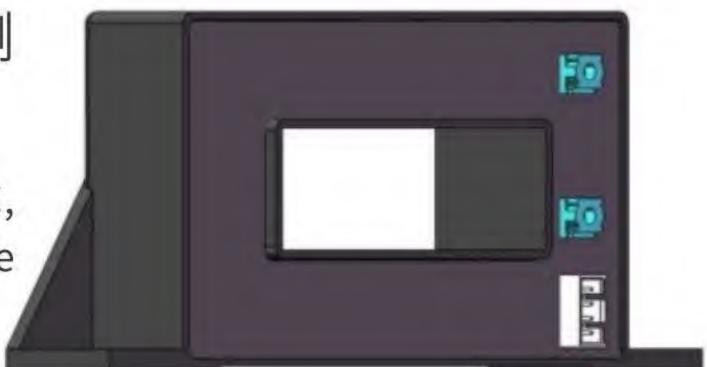
参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	V	4	$@I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±40	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±10)	g	435	



## MMCOK1000...2500-10系列

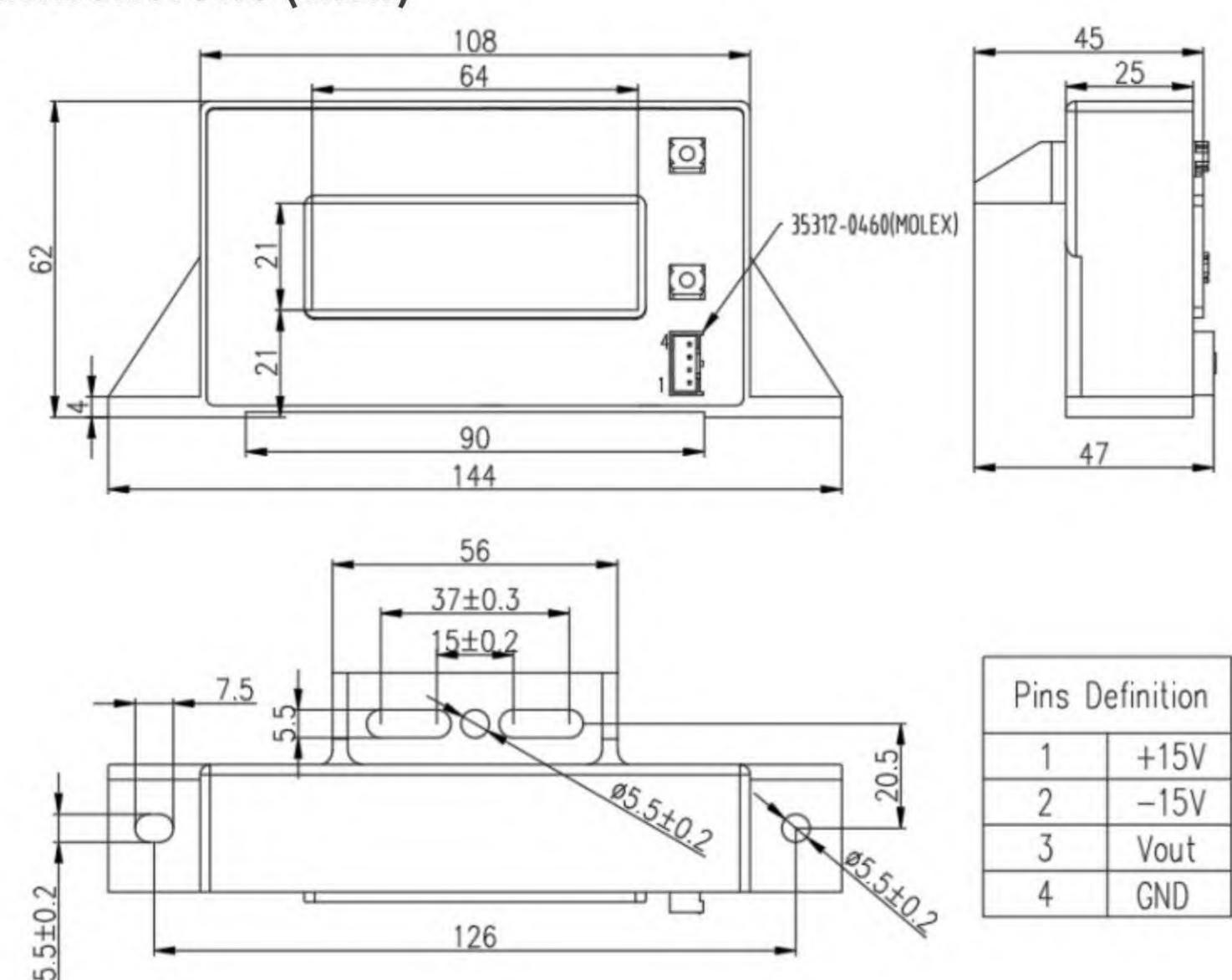
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+ls	
额定输出Rated output	V	4	$@I_{PN}, T_A = 25^{\circ}C$
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±40	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±10)	g	435	



Open-Loop Hall-Effect Current Sensor

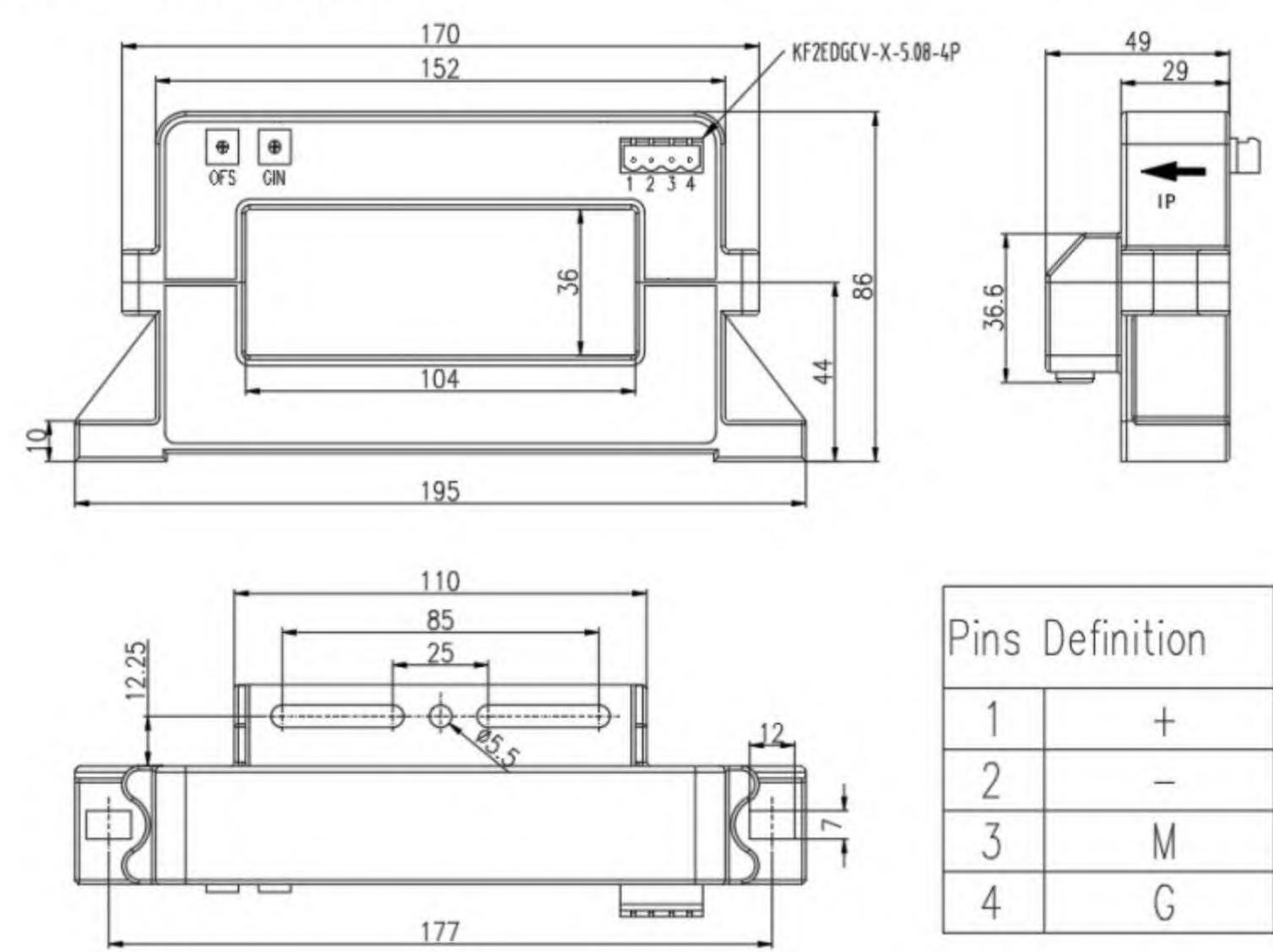
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	V	4	
负载电阻Load resistance	kΩ	10	@50Hz, 1 min
耐压Withstanding voltage	KV	6	
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±40	@ $I_P = 0, T_A = 25$ °C
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	370	



# 霍尔开环原理电流传感器

Open-Loop Hall-Effect Current Sensor

#### MMCOM1000..5000系列

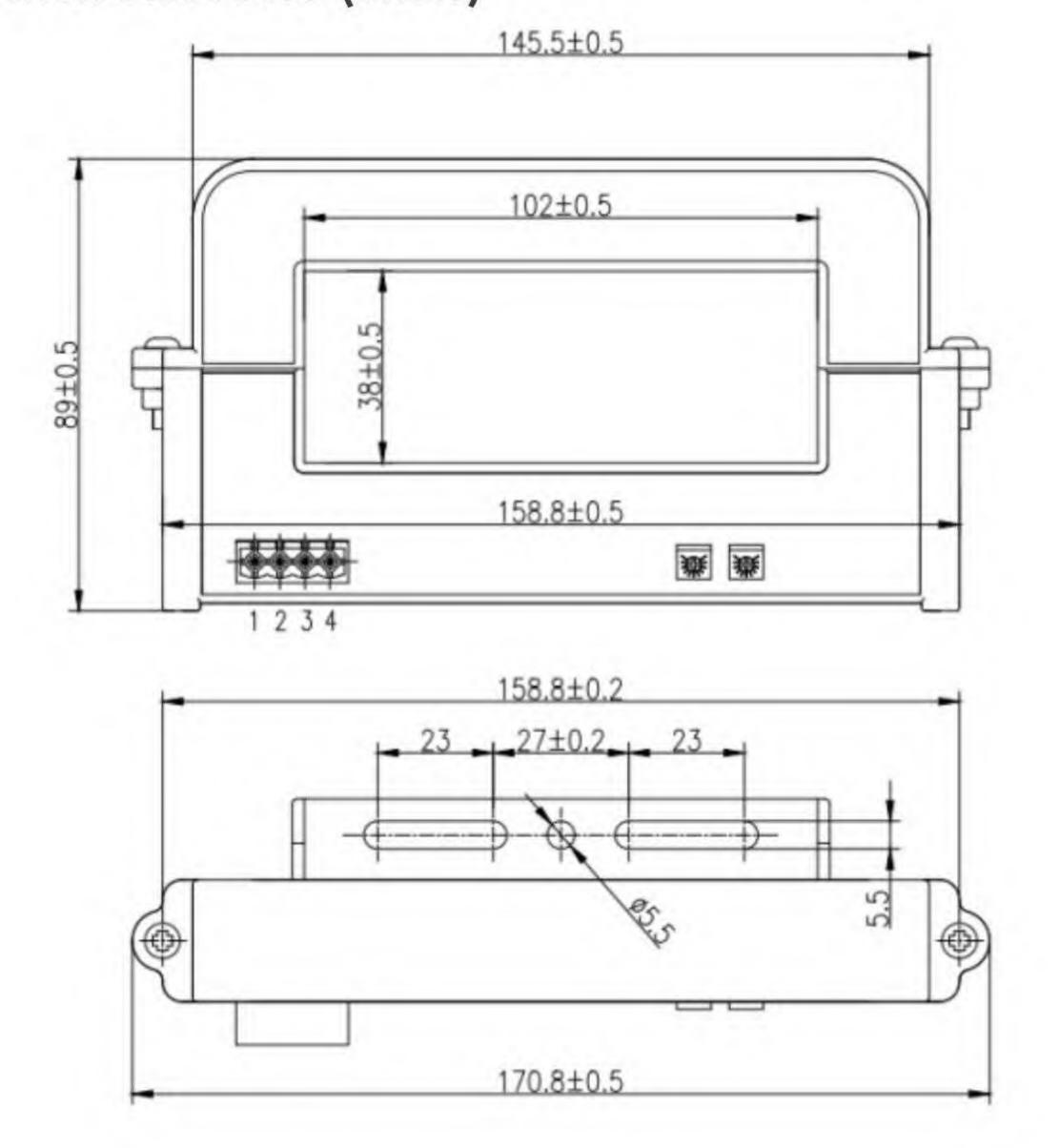
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

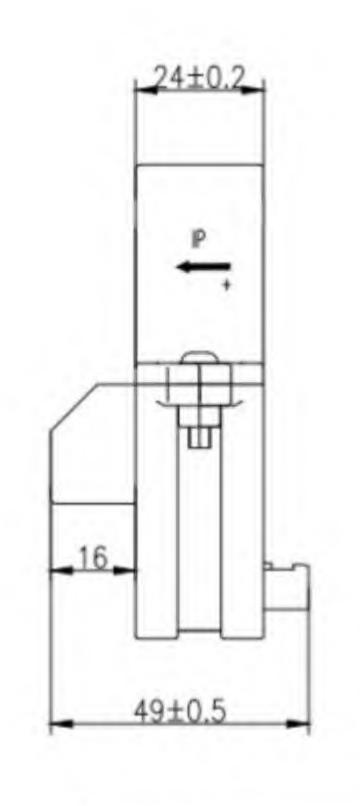
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+ls	
额定输出Rated output	V	4	@I <sub>PN</sub> , T <sub>A</sub> = 25°C
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	<±40	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	660	



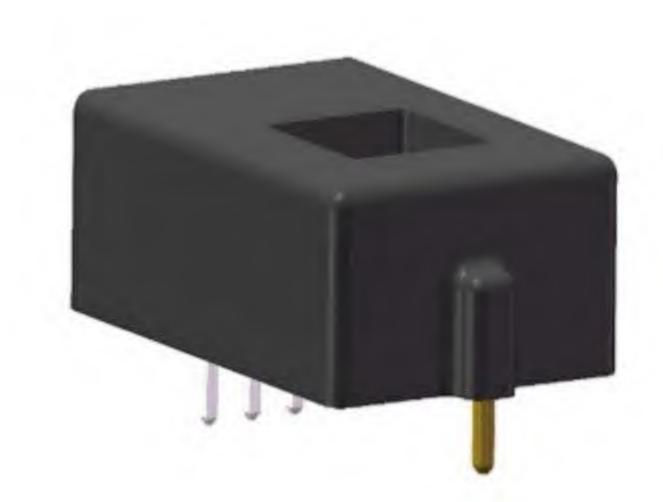


PINS Defin	ition
1	+15V
2	-15V
3	Vout
4	GND

Open-Loop Hall-Effect Current Sensor

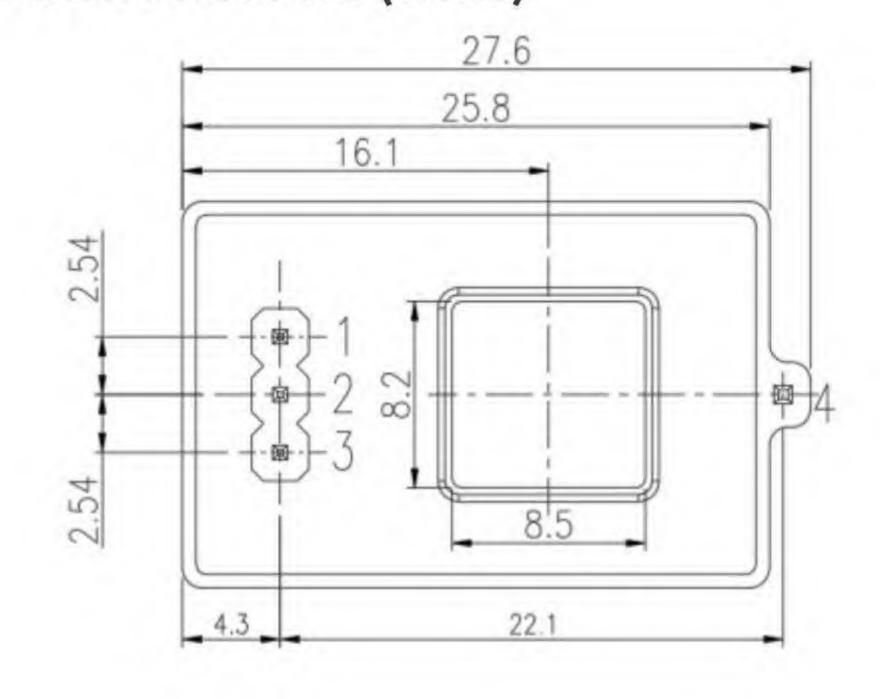
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

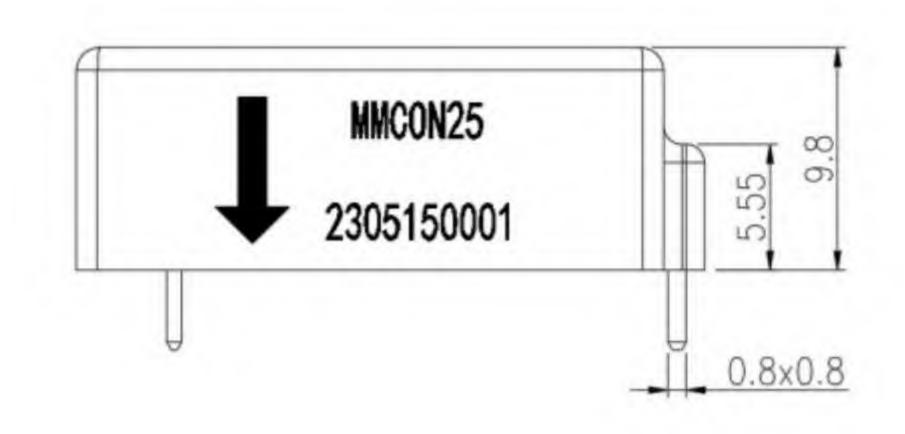
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

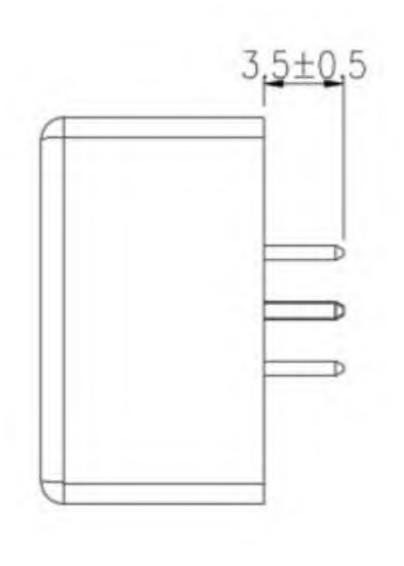


#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	15+ls	
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	$2.5 \pm 0.02$	@ $I_P = 0, T_A = 25$ °C
额定输出Rated output	V	2.5±2	$@\pm I_{PN}, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%	<±3	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~250	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±1)	g	8	





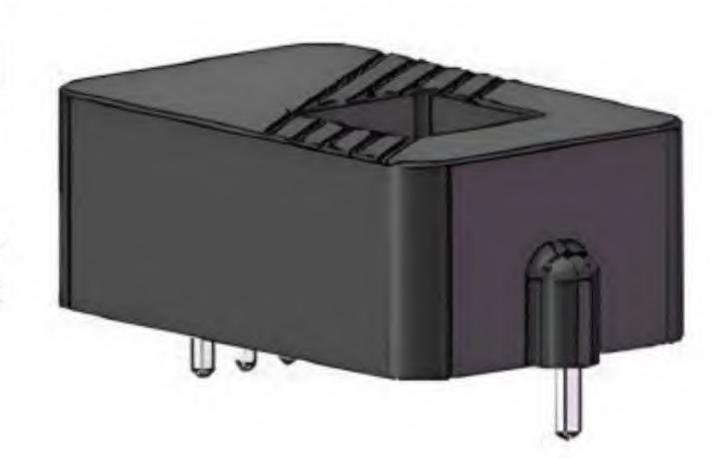


Pins D	Pins Definition	
1	Vcc	
2	GND	
3	Vout	
4	NULL	

#### MMCON20..25-11系列

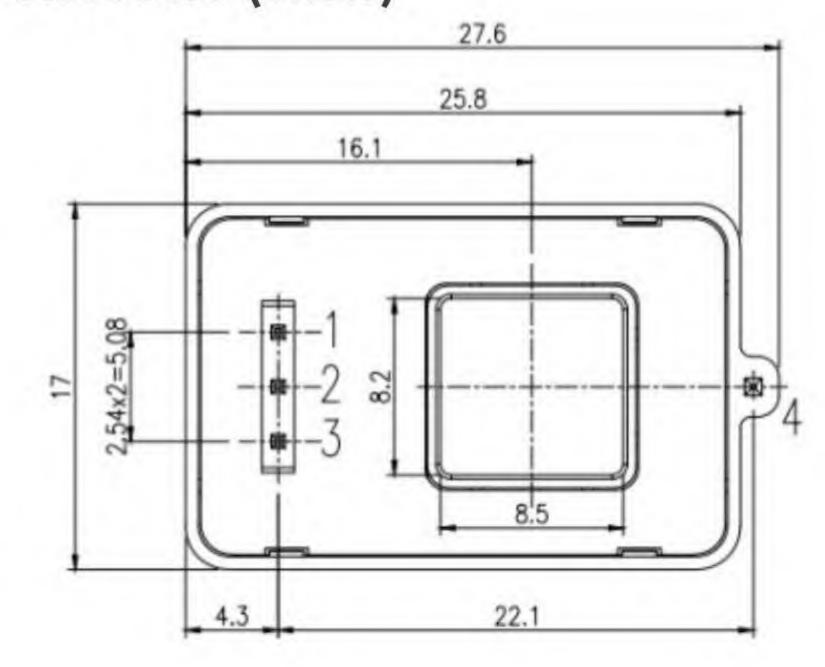
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

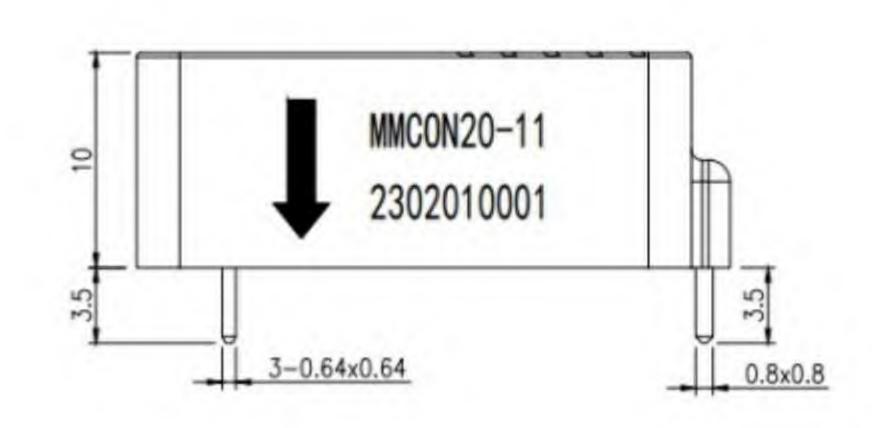
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	15+Is	
负载电阻Load resistance	ΚΩ	10	
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	2.5±0.02	@ I <sub>P</sub> = 0, T <sub>A</sub> = -40°C~105°C
额定输出Rated output	V	2.5±2	$@\pm I_{PN}, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ I <sub>PN</sub> , T <sub>A</sub> = 25°C
增益温度漂移Gain temperature drift	%	<±1	@ $I_{PN}$ , $T_A = -40^{\circ}C \sim 105^{\circ}C$
响应时间Response time	μS	<1	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~250	@-3dB
工作温度Operating temperature	°C	-40~105	
存储温度Storage temperature	°C	-40~105	
重量Weight(±1)	g	8	





Pins Definition		
1	Vcc	
2	GND	
3	Vout	
4	NULL	

Open-Loop Hall-Effect Current Sensor

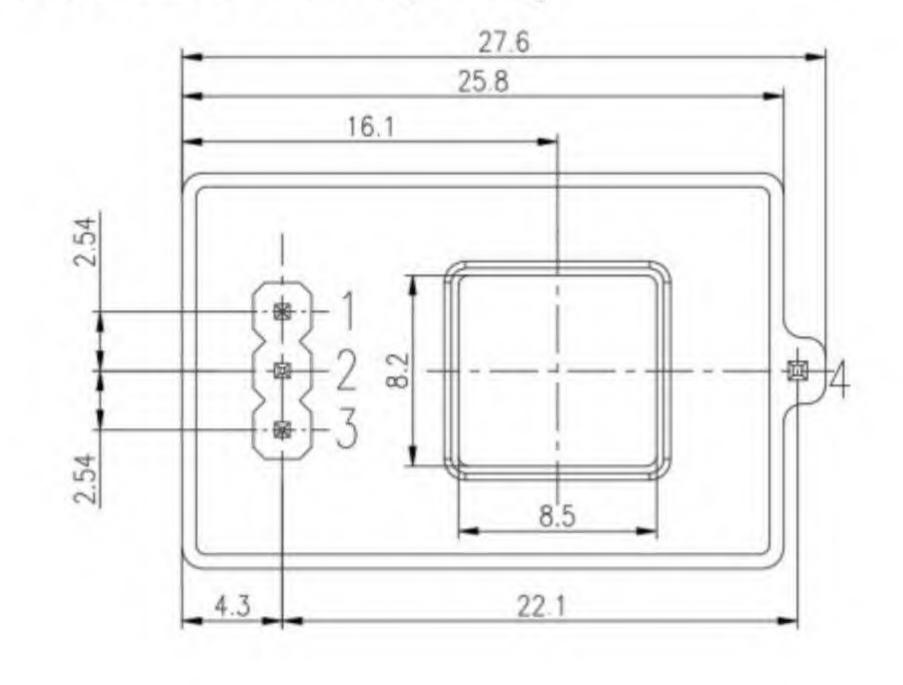
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

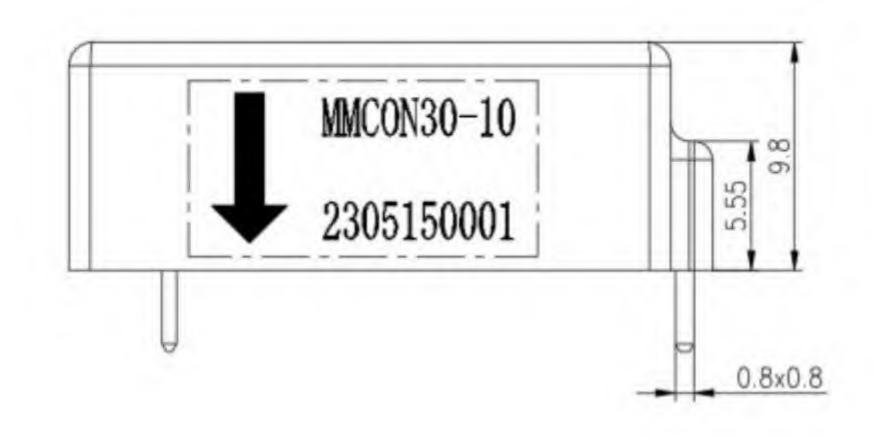
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.

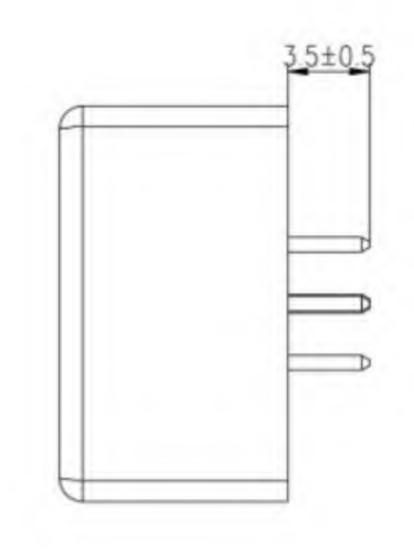


#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
电流消耗Current consumption	mA	15+ls	
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	$0.5 \pm 0.02$	@ $I_P = 0, T_A = 25$ °C
额定输出Rated output	V	4.5	@ $I_{PN}$ , $T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%	<±3	@ $I_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<3	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~250	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight(±1)	g	8	







Pins Definition		
1	Vcc	
2	GND	
3	Vout	
4	NULL	

### MMCOQ10..75系列

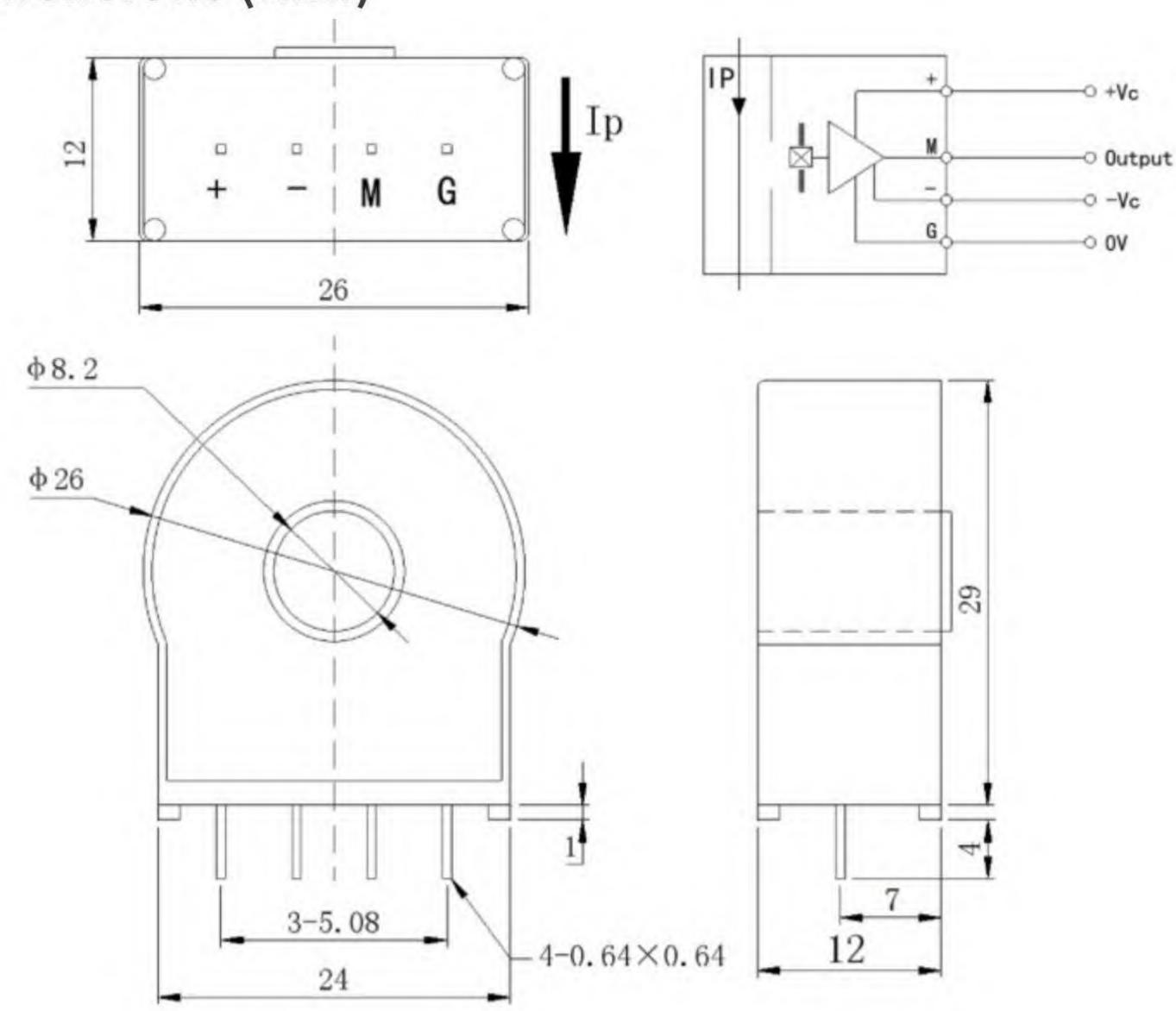
该系列开环霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



## 电气特性 / Electrical characteristics

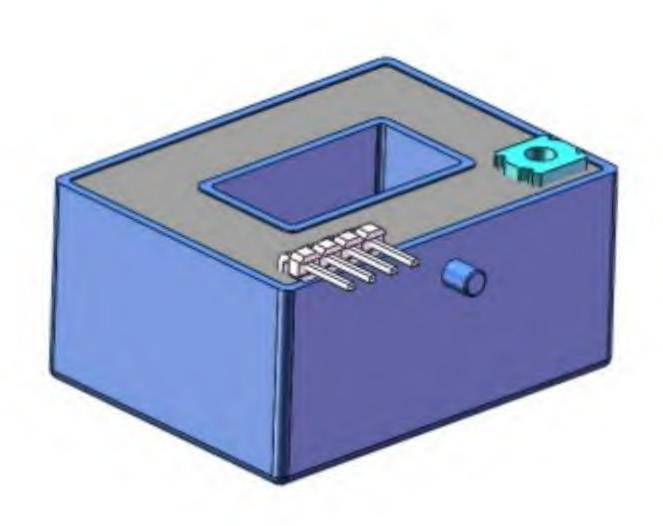
参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	15+ls	
额定输出Rated output	V	4	$@I_{PN}, T_A = 25^{\circ}C$
耐压Withstanding voltage	KV	2.5	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
负载电阻Load resistance	ΚΩ	≥10	
零点输出误差Zero-point error output	mV	≤20	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	<±0.2	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.2	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<5	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>50	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	65	



Closed-Loop Hall-Effect Current Sensor

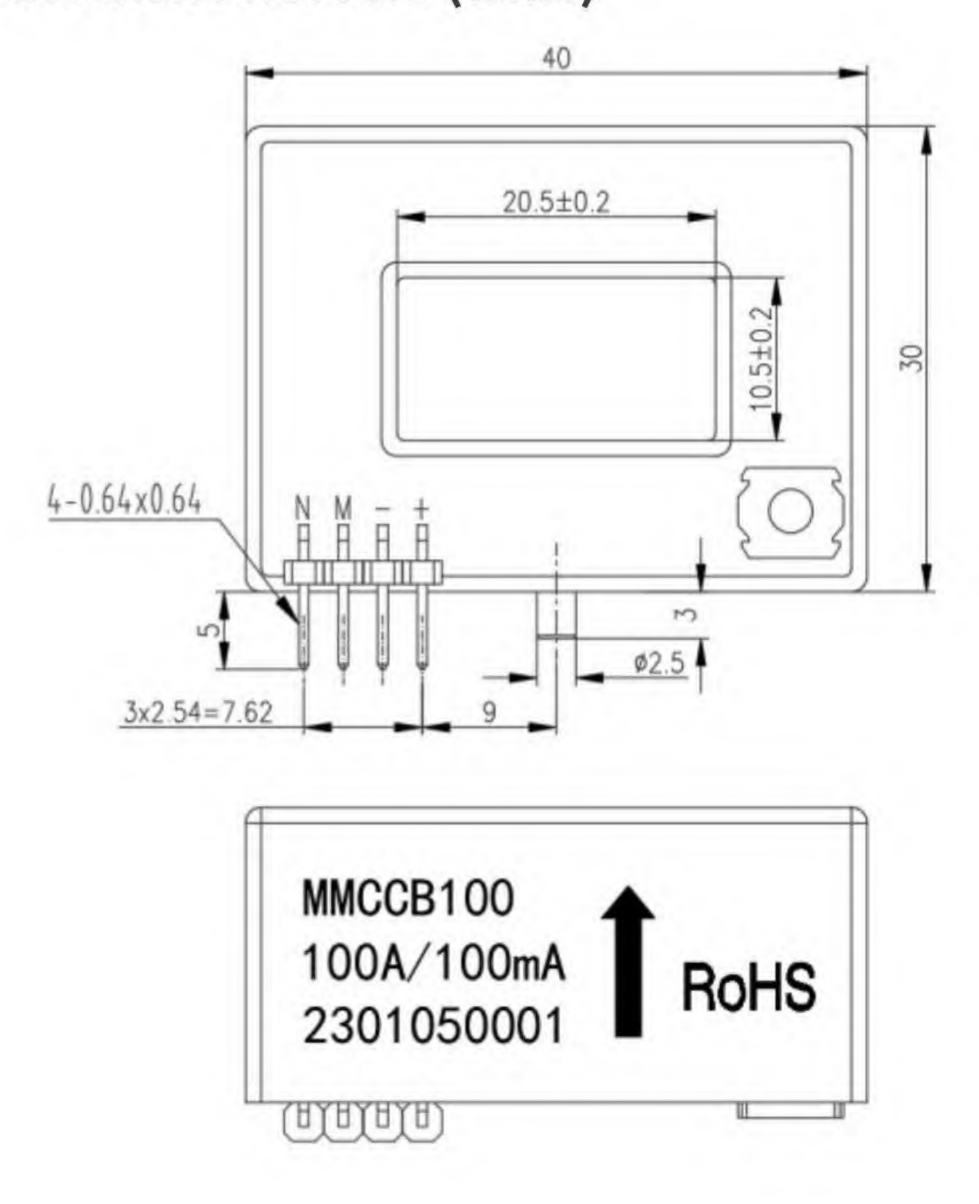
该霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

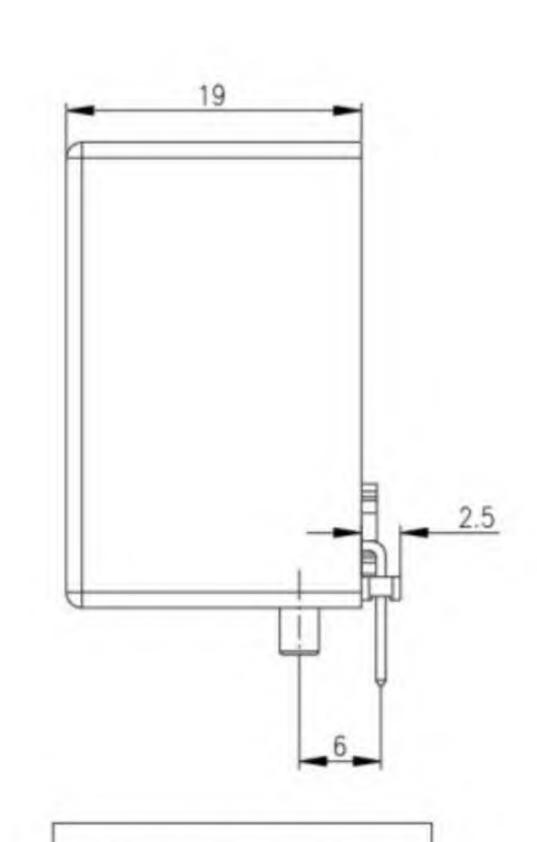
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	mA	100	$@I_{PN}, T_A = 25^{\circ}C$
测量电阻Resistance measuring	Ω	2~50	$@I_{PN}, V_{C} = \pm 15V$
耐压Withstanding voltage	KV	3.0	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mA	<±0.2	@ $I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±0.5	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±0.2	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mA	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<1	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~100	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	40	





Pins D	Pins Definition		
1	+15V		
2	-15V		
3	М		
4	NC		

#### MMCCD100..300系列

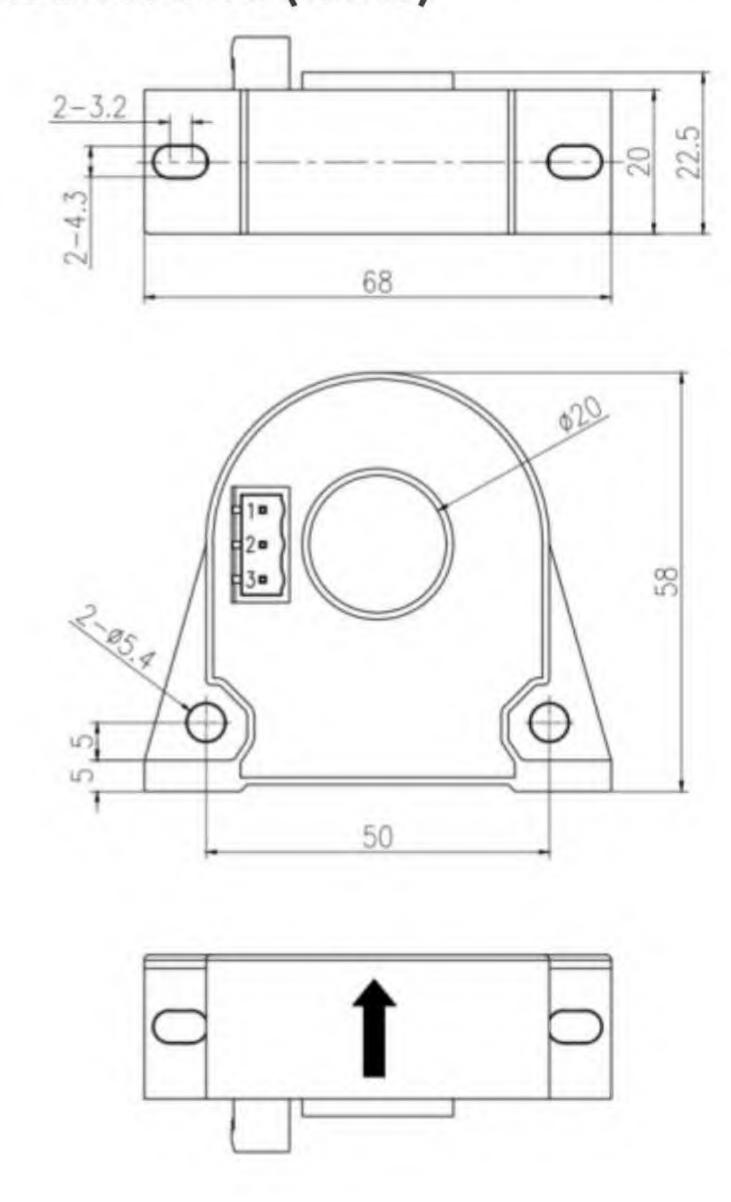
该霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±12~±15	
电流消耗Current consumption	mA	20+Is	
		50	@I <sub>P</sub> =100A
额定输出Rated output	mA	100	@I <sub>P</sub> =200A
		150	@I <sub>P</sub> =300A
		0~100	$@V_{C} = \pm 15V, I_{PN} = 100A$
测量电阻Resistance measuring	Ω	0~70	$@V_{C} = \pm 15V, I_{PN} = 200A$
		0~40	$@V_{C} = \pm 15V, I_{PN} = 300A$
耐压Withstanding voltage	KV	6.0	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mA	<±0.2	@ $I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±0.5	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±0.1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mA	<±0.6	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<1	@ 90% of I <sub>PN</sub> step
跟随精度Ollowing accuracy	A/μS	>100	
工作带宽Operating bandwidth	kHz	DC~100	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	80	



Pins D	efinition
1	+15
2	-15
3	М

Closed-Loop Hall-Effect Current Sensor

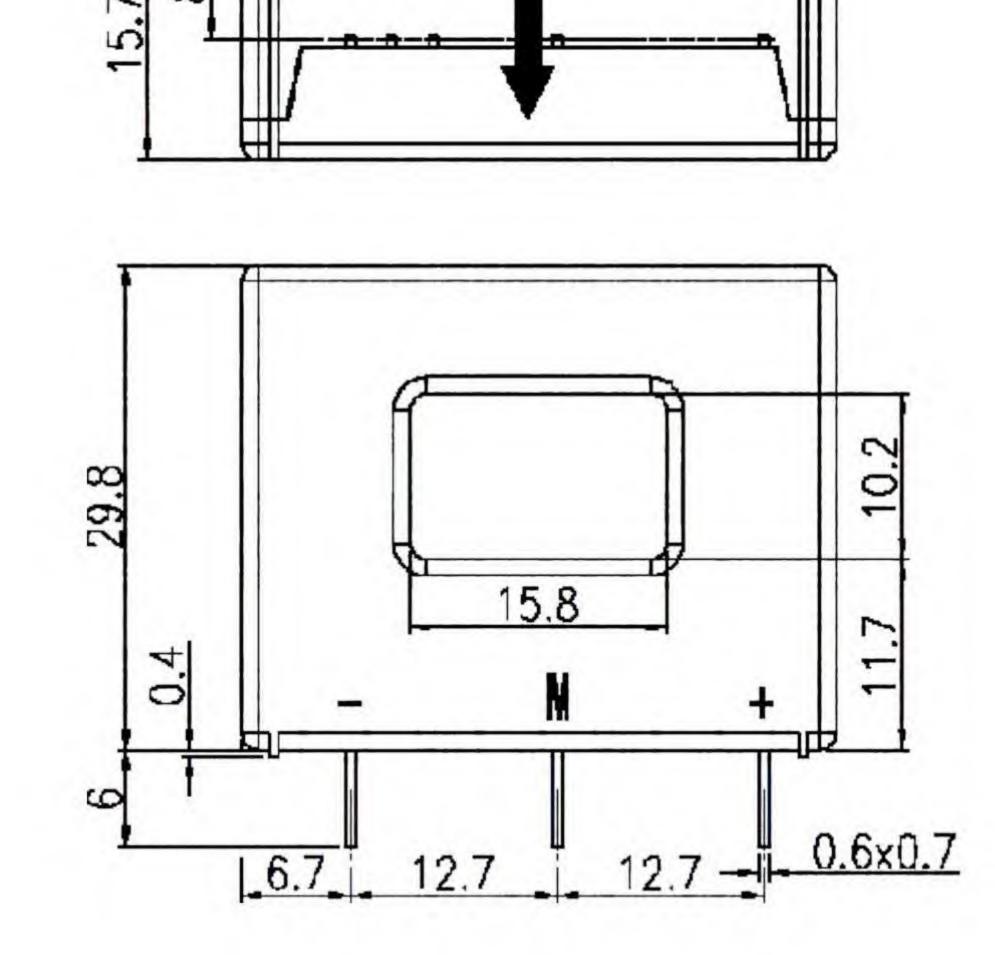
该霍尔闭环电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply Voltage(±5%)	V	±15	
电流消耗Current consumption	mA	20+ls	@±15V,I <sub>p</sub> =0
额定测量电流Rated measuring current	А	130	
额定输出Rated output	mA	100	@I <sub>PN</sub>
测量电阻Resistance Measuring	Ω	10~60	@±15V
耐压Withstanding voltage	KV	3	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point Error Output	mA	<±0.2	$@I_P=0, T_A=25^{\circ}C$
基本误差Fundamental error	%	<±0.5	@I <sub>PN</sub> , T <sub>A</sub> = 25°C
线性度误差Linearity error	%	<±0.2	@I <sub>PN</sub> , T <sub>A</sub> = 25°C
零点输出温漂Zero-point Temperature Drift Output	mA	<±0.5	$@I_P=0, T_A=-40^{\circ}C\sim85^{\circ}C$
响应时间Response time	μS	<1	@90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHZ	DC~100	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	25	



Pins D	efinition
+	+15V
М	0V
_	-15V

#### MMCCG1000

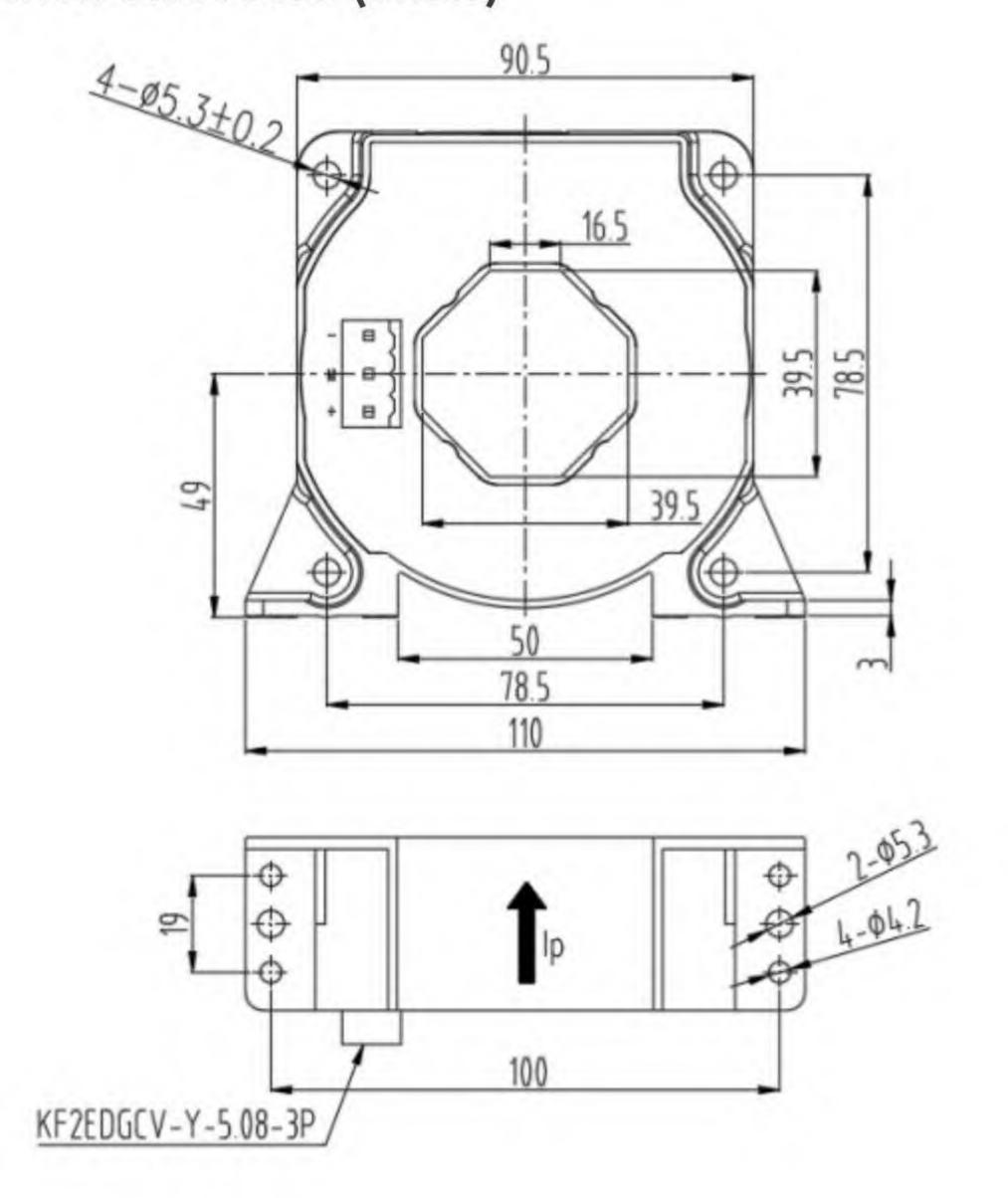
该霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

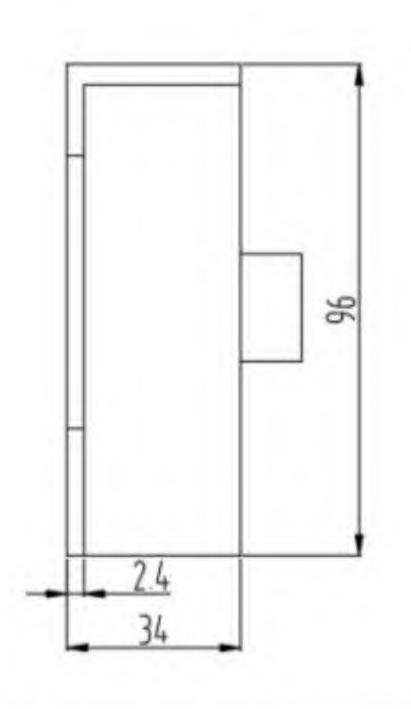
This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15~±24	
电流消耗Current consumption	mA	28+Is	
额定输出Rated output	mA	200	
		0~15	@±15V,I <sub>P</sub> =±1000A,T <sub>A</sub> =85°C
测量由限Docietance measuring		0~4	@±15V,I <sub>P</sub> =±1200A,T <sub>A</sub> =85°C
测量电阻Resistance measuring	Ω	10~57	@ $\pm 24V$ ,I <sub>P</sub> = $\pm 1000A$ ,T <sub>A</sub> = $85^{\circ}C$
		10~21	@±24V,I <sub>P</sub> =±1500A,T <sub>A</sub> =85°C
耐压Withstanding voltage	KV	3.8	@50Hz, 1 min
零点输出误差Zero-point error output	mA	<±0.4	$@I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	$< \pm 0.4$	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±0.1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mA	<±0.5	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<1	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/μS	>100	
工作带宽Operating bandwidth	kHz	DC~100	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
二次线圈内阻Secondary coil internal resistance	Ω	≤70	@85°C
重量Weight	g	551	





PINS Defi	nition
+	+24V or +15V
-	-24V or -15V
М	lout

Closed-Loop Hall-Effect Current Sensor

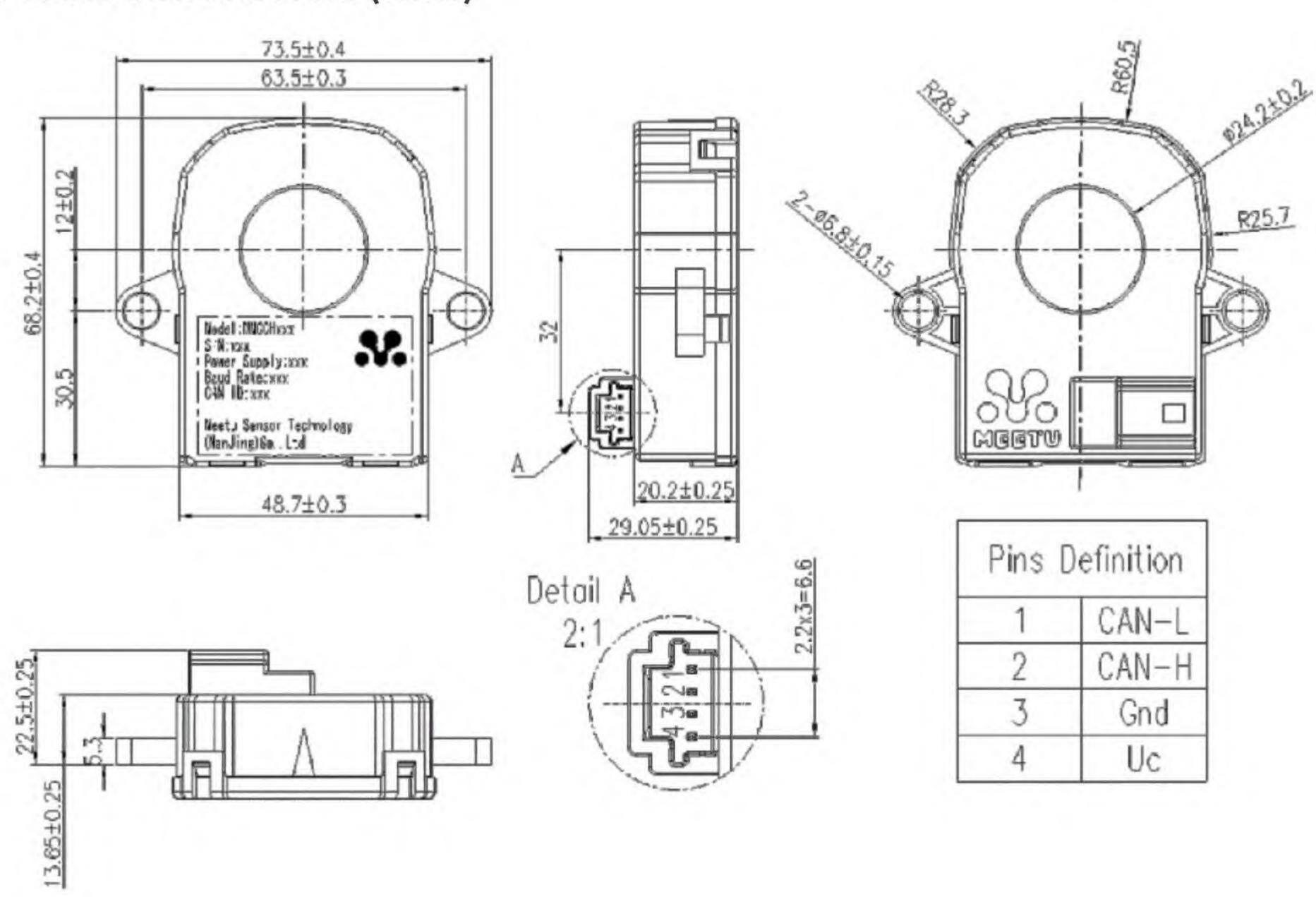
该电流传感器基于带有温度校准技术的闭环原理,采用单电源供电,CAN总线输出,汽车级产品设计,可用于纯电动车、插电混动车及储能设备中测量±500A峰值的直流、交流或脉动电流。

The current sensor is based on the closed-loop principle with temperature calibration technology, using a single power supply, CAN bus output, automotive-grade product design, can be used in pure electric vehicles, plug-in hybrid vehicles and energy storage equipment to measure  $\pm$  500A peak DC, AC or pulsating current.



#### 电气特性 / Electrical characteristics

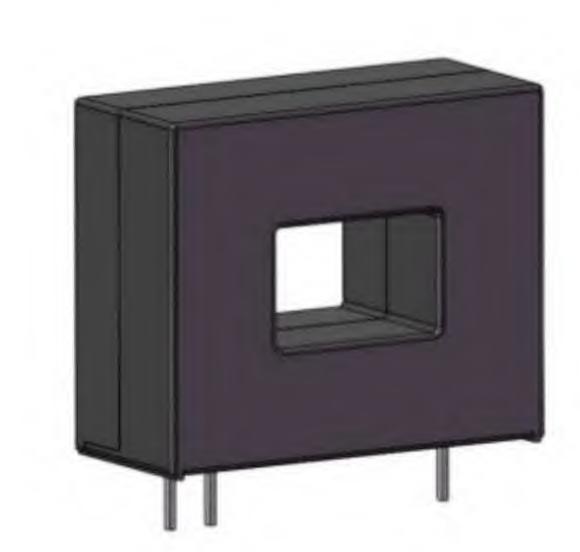
参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage	V	7~24	
电流消耗Current consumption	mA	30	$@V_C = 12V, T_A = 25^{\circ}C, I_P = 0A$
额定测量电流Rated measuring current	А	500	
电流测量范围Current measure mentrange	А	-500~500	
绝缘交流测试电压Insulation actest voltage	KV	5	
绝缘直流测试电压Insulation dctest voltage	KV	5	
绝缘电阻Insulation resistance	ΜΩ	1000	
零点输出Zero-point output	А	<±0.2	@I <sub>P</sub> =0A, T <sub>A</sub> =-40°C~85°C
基本误差Fundamental error	%	<±0.5	@I <sub>PN</sub> , T <sub>A</sub> =25°C
线性度误差Linearity error	%	0.1	@I <sub>PN</sub> , T <sub>A</sub> =25°C
环境工作温度Ambient operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
波特率Baud rate	kHz	500(Configurable)	
CANID		3C2(Configurable)	



#### MMCCI50..100系列

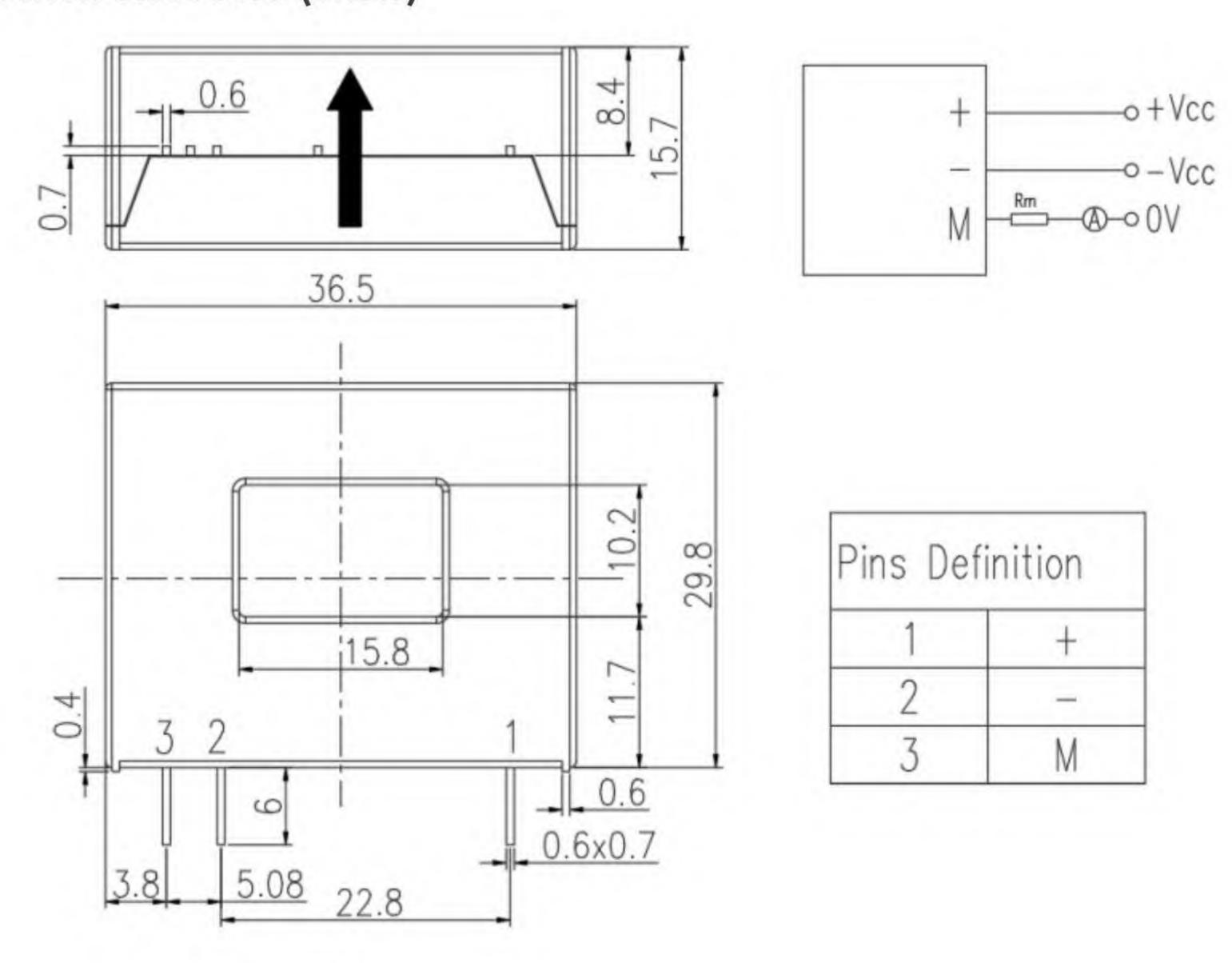
该霍尔电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current sensors is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±12~±15	
电流消耗Current consumption	mA	20+Is	
额定输出Rated output	mA	50	
测是中限Posistance measuring		50~160	@MMCCI50
测量电阻Resistance measuring	Ω	20~120	@MMCCI100
耐压Withstanding voltage	KV	3	@50Hz, 1 min
零点输出误差Zero-point error output	mA	<±0.2	@ $I_P = 0$ , $T_A = 25$ °C
基本误差Fundamental error	%	<±0.5	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	<±0.1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mA	<±0.4	@ $I_P = 0A$ , $T_A = -40^{\circ}C \sim 85^{\circ}C$
响应时间Response time	μS	<1	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/μS	>100	
工作带宽Operating bandwidth	kHz	DC~100	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	19	



Closed-Loop TMR Current Sensor

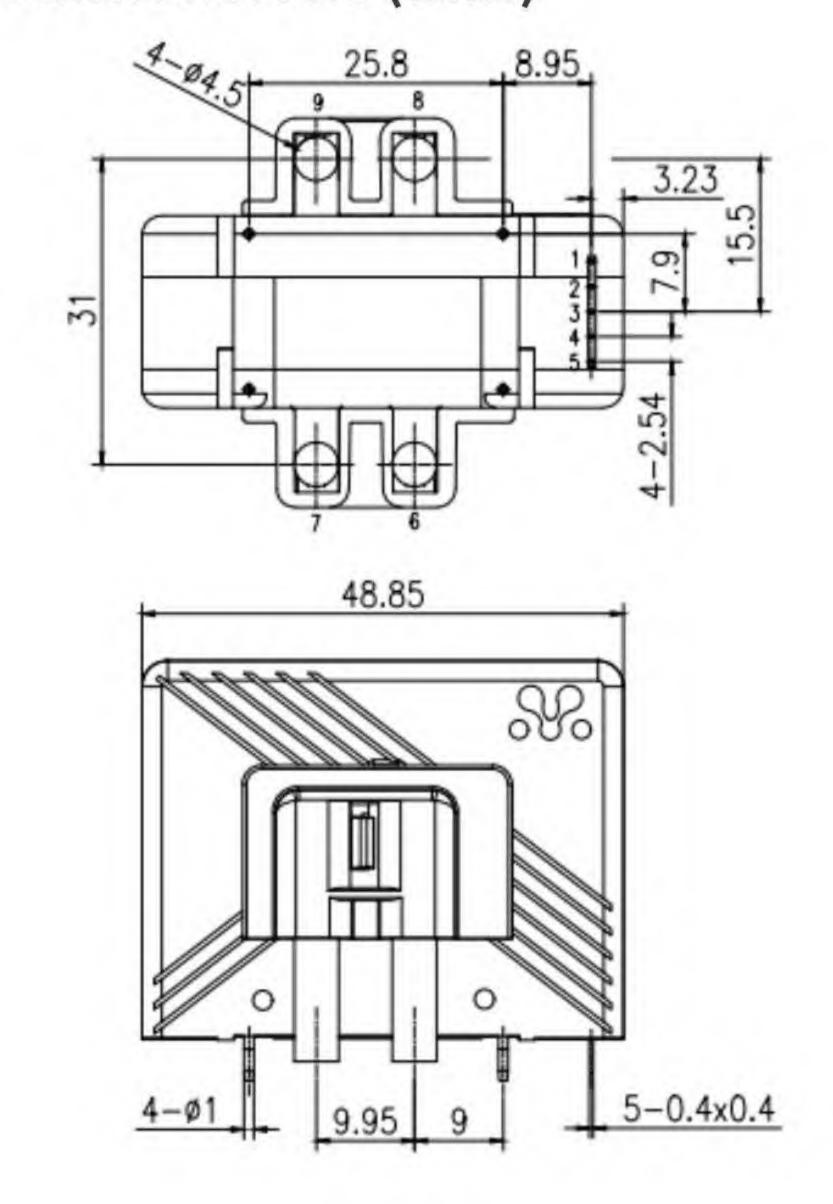
该TMR电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

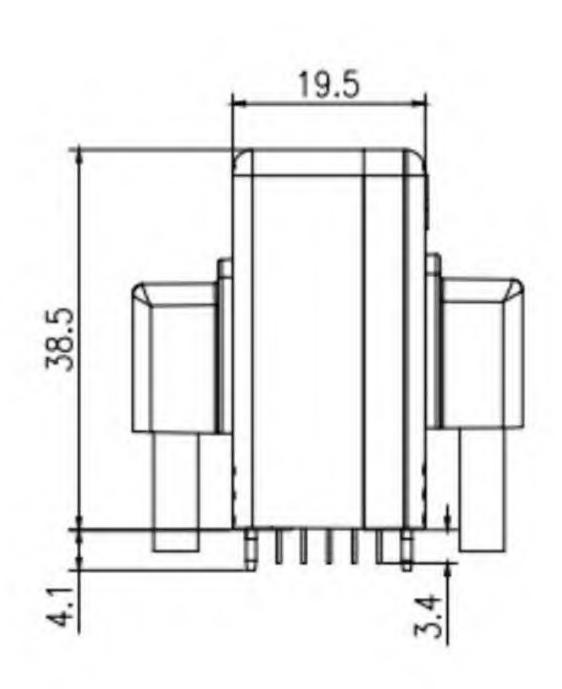
This TMR Current Sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
参考电压Voltage reference	V	2.5±0.02	
电流消耗Current consumption	mA	15+lp*/NS*1000	
额定电流Rated current	А	200	
测量范围Measurement range	А	-450~450	
耐压With standing voltage	KV	4	
绝缘电阻Insulation resistance	ΜΩ	>1000	
额定输出Rated output	V	± 0.625	V <sub>out</sub> -V <sub>ref</sub> @I <sub>PN</sub>
零点输出Zero-point output	V	±0.02	$V_{out}$ - $V_{ref}@I_P$ =0, $T_A$ =25°C
基本误差Fundamental error	%	<±0.8	@I <sub>PN</sub> , T <sub>A</sub> =25°C
线性度误差Linearity error	%	<±0.15	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mV/°C	±0.05	$V_{out}-V_{ref}@I_P=0, T_A=-40^{\circ}C\sim105^{\circ}C$
响应时间Response time	uS	0.3	
工作带宽Operating bandwidth	kHz	DC~300	
工作温度Operating temperature	°C	-40~105	
存储温度Storage temperature	°C	-40~105	
重量Weight	g	53	



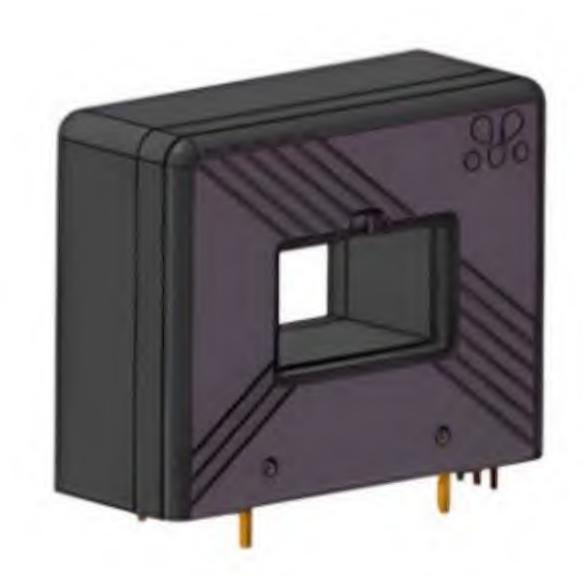


Pins Definition		
1	2	3
Vcc	GND	Vout
4	5	6
Vref	NC	lp+
7	8	9
lp+	lp-	lp-

#### MMCMA200-10

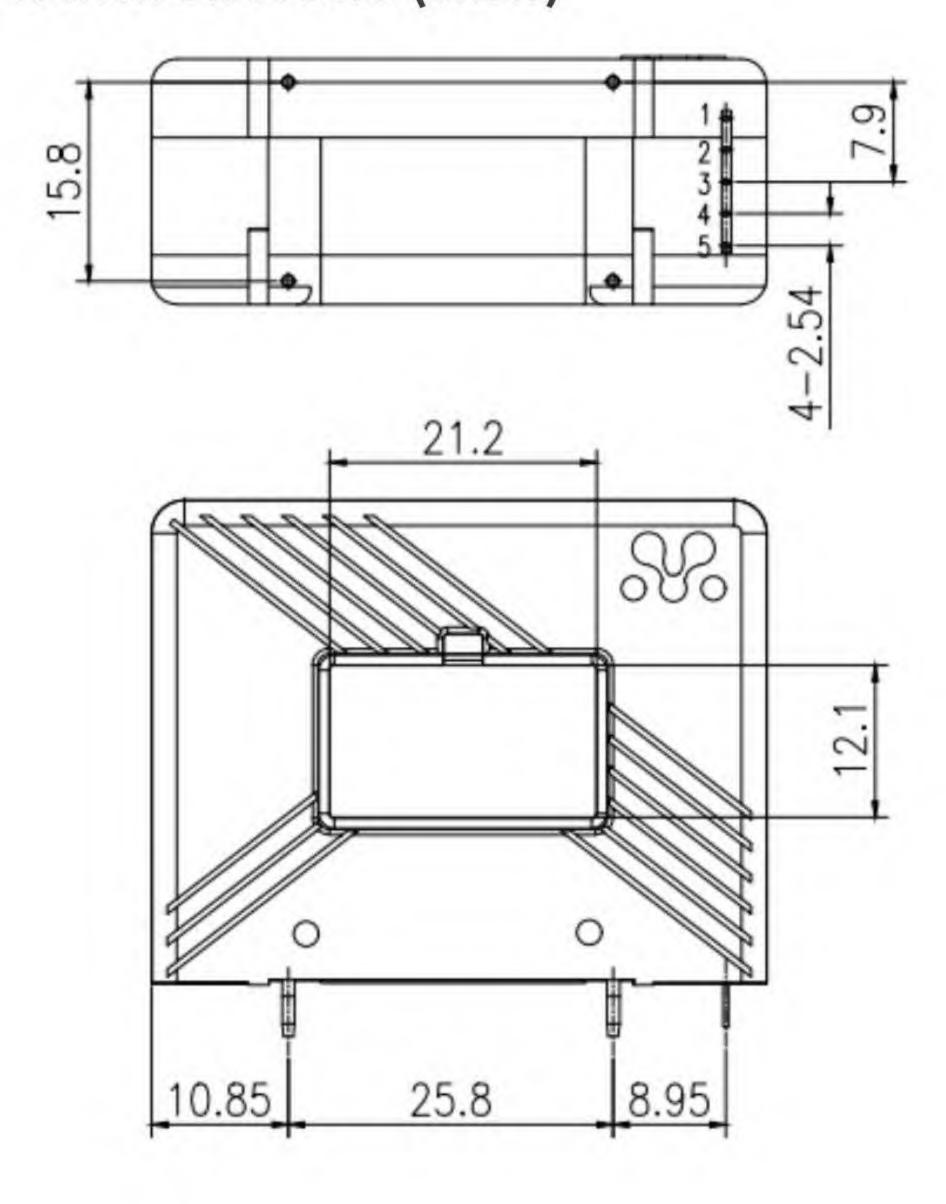
该TMR电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

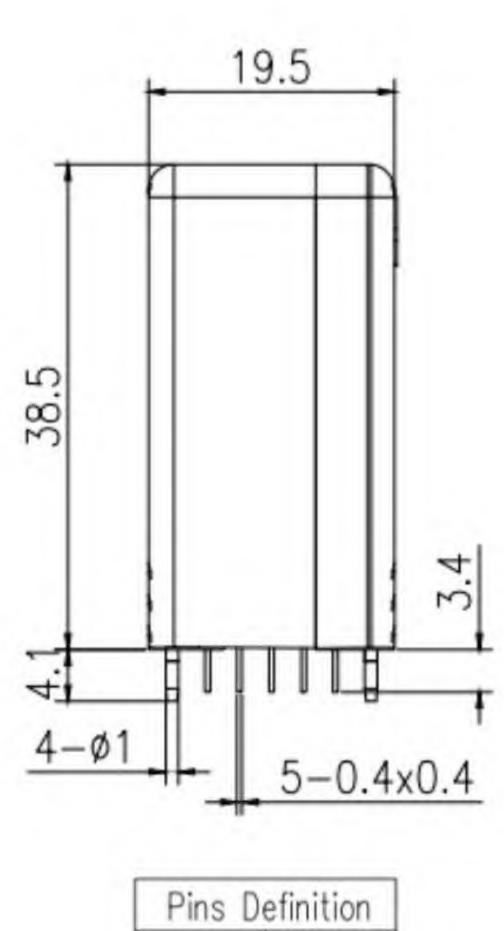
This TMR Current Sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
参考电压Voltage reference	V	2.5±0.02	
电流消耗Current consumption	mA	15+lp*/NS*1000	
额定电流Rated current	А	200	
测量范围Measurement range	А	-450~450	
耐压With standing voltage	KV	4	
绝缘电阻Insulation resistance	ΜΩ	>1000	
额定输出Rated output	V	± 0.625	V <sub>out</sub> -V <sub>ref</sub> @I <sub>PN</sub>
零点输出Zero-point output	V	±0.02	$V_{out}-V_{ref}@I_P=0, T_A=25^{\circ}C$
基本误差Fundamental error	%	<±0.8	@I <sub>PN</sub> , T <sub>A</sub> =25°C
线性度误差Linearity error	%	<±0.15	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mV/°C	±0.05	$V_{out}-V_{ref}@I_P=0, T_A=-40^{\circ}C^{105}$ °C
响应时间Response time	uS	0.3	
工作带宽Operating bandwidth	kHz	DC~300	
工作温度Operating temperature	°C	-40~105	
存储温度Storage temperature	°C	-40~105	
重量Weight	g	40	





PINS D	efinition
1	Vcc
2	GND
3	Vout
4	Vref
5	NC

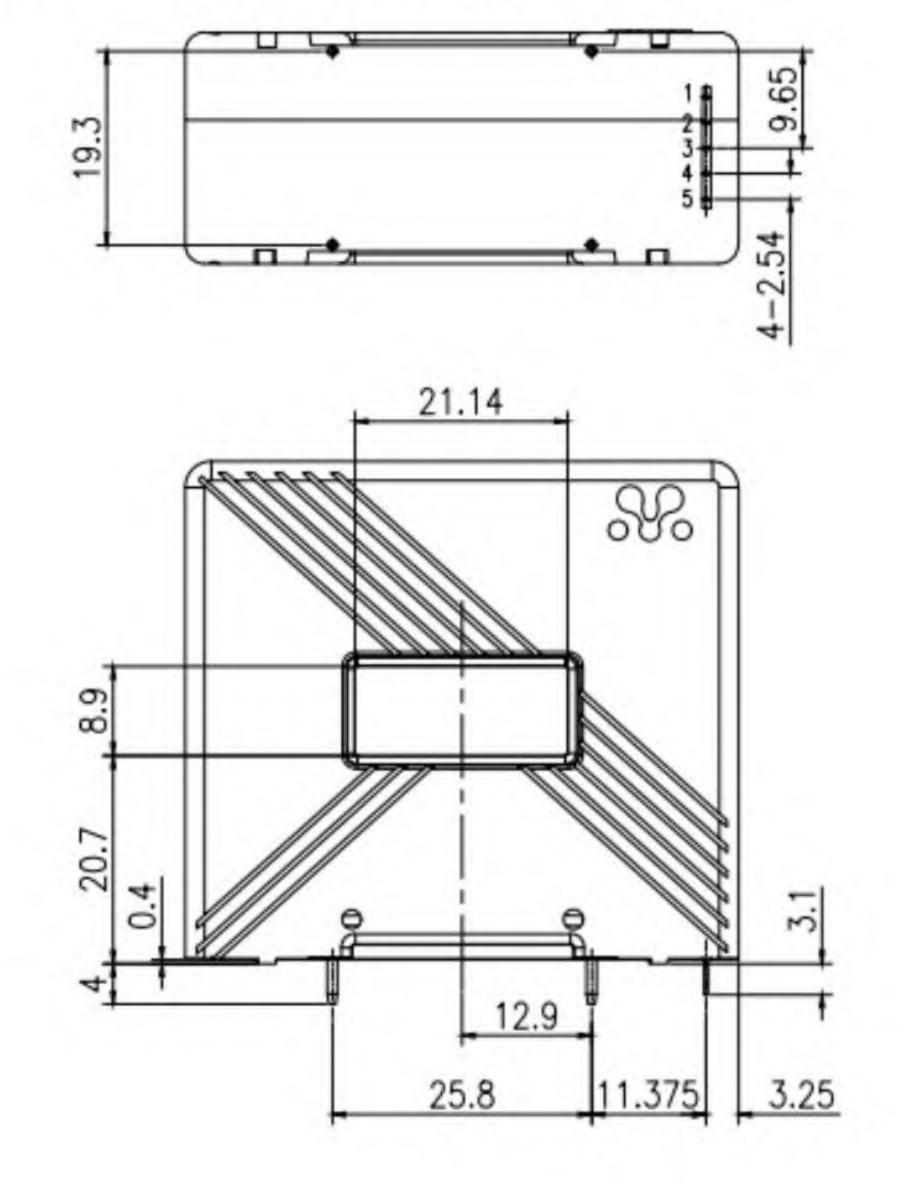
该TMR电流传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

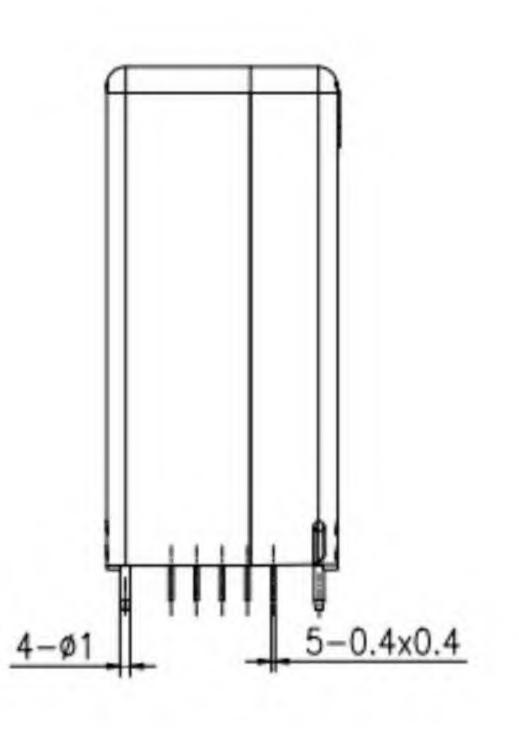
This TMR Current Sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	5	
参考电压Voltage reference	V	2.5±0.02	
电流消耗Current consumption	mA	10+lp*/NS*1000	
额定电流Rated current	А	300	
测量范围Measurement range	А	-800~800	
耐压With standing voltage	KV	4	
绝缘电阻Insulation resistance	ΜΩ	>1000	
额定输出Rated output	V	±0.9375	V <sub>out</sub> -V <sub>ref</sub> @I <sub>PN</sub>
零点输出Zero-point output	V	±0.02	$V_{out}-V_{ref}@I_P=0, T_A=25$ °C
基本误差Fundamental error	%	<±0.8	@I <sub>PN</sub> , T <sub>A</sub> =25°C
线性度误差Linearity error	%	<±0.15	@I <sub>PN</sub> , T <sub>A</sub> =25°C
零点输出温漂Zero-point temperature drift output	mV/°C	±0.05	V <sub>out</sub> -V <sub>ref</sub> @I <sub>P</sub> =0, T <sub>A</sub> =-40°C~105°C
响应时间Response time	uS	0.3	
工作带宽Operating bandwidth	kHz	DC~300	
工作温度Operating temperature	°C	-40~105	
存储温度Storage temperature	°C	-40~105	
重量Weight	g	115	





Pins [	Definition
1	Vcc
2	GND
3	Vout
4	Vref
5	NC

Open-Loop Hall-Effect Current Transmitter

#### TMCOA50..600系列

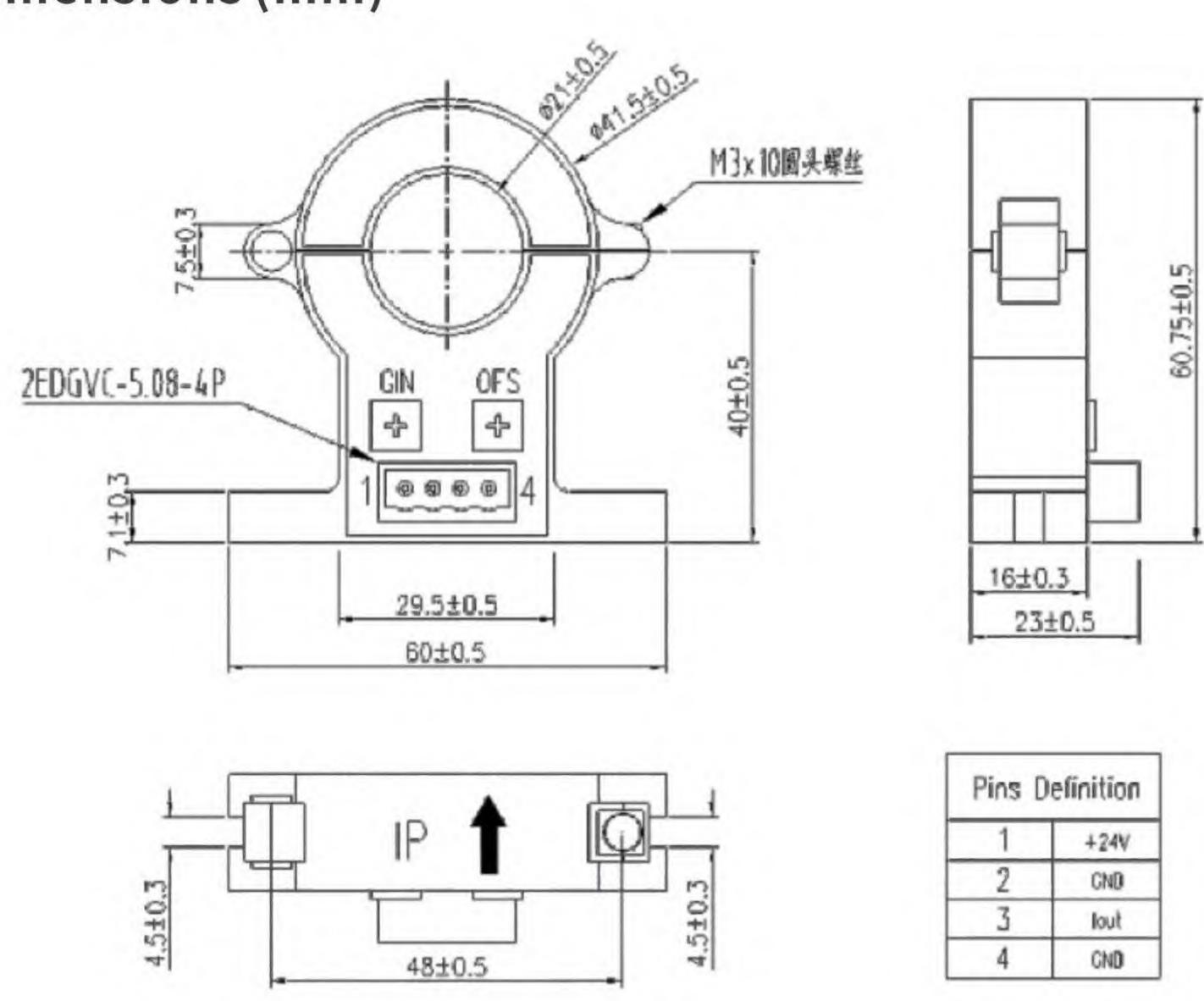
该系列开环霍尔电流变送器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current transducers is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	24	
电流消耗Current consumption	mA	35+Is	
额定输出Rated output	mA	12±8	
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	3	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mA	12±0.1	@ $I_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mA	±0.3	@ $I_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	mS	<150	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/µS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	105	



Open-Loop Hall-Effect Current Transmitter

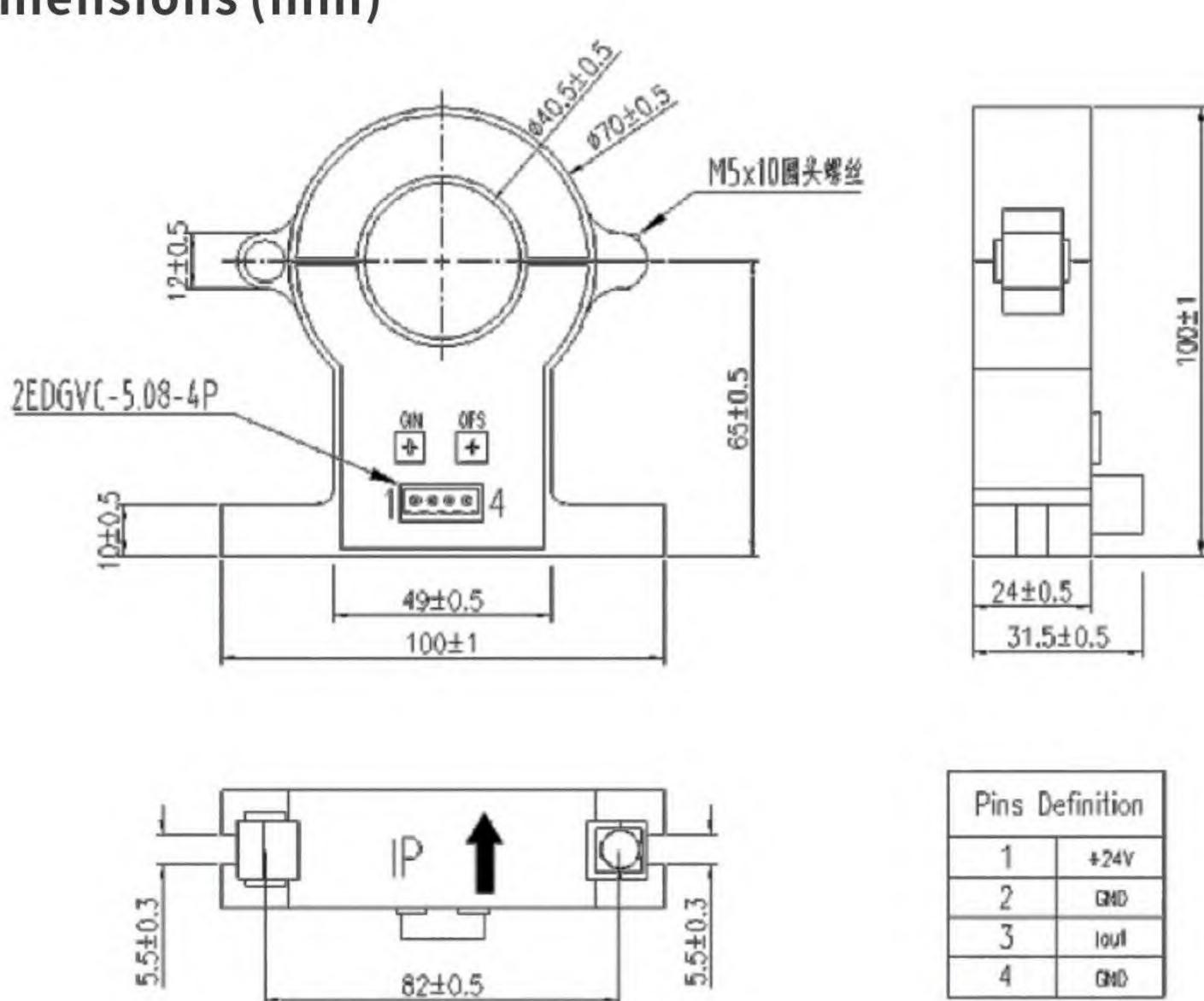
该系列开环霍尔电流变送器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

This series of Hall-effect current transducers is suitable for isolated and accurate measurement of AC, DC, and pulsating current. It is completely insulated with the primary and secondary sides while measuring.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	24	
电流消耗Current consumption	mA	35+ls	
额定输出Rated output	mA	12±8	
负载电阻Load resistance	kΩ	10	
耐压Withstanding voltage	KV	3.0	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mA	12±0.1	@ $I_P = 0, T_A = 25$ °C
基本误差Fundamental error	%	<±1	@ $I_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $I_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mA	±0.3	@ I <sub>P</sub> = 0,-40°C~85°C
响应时间Response time	mS	<150	@ 90% of I <sub>PN</sub> step
跟随精度Following accuracy	A/μS	>100	
工作带宽Operating bandwidth	kHz	DC~25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	
重量Weight	g	305	



#### MMVFA1000

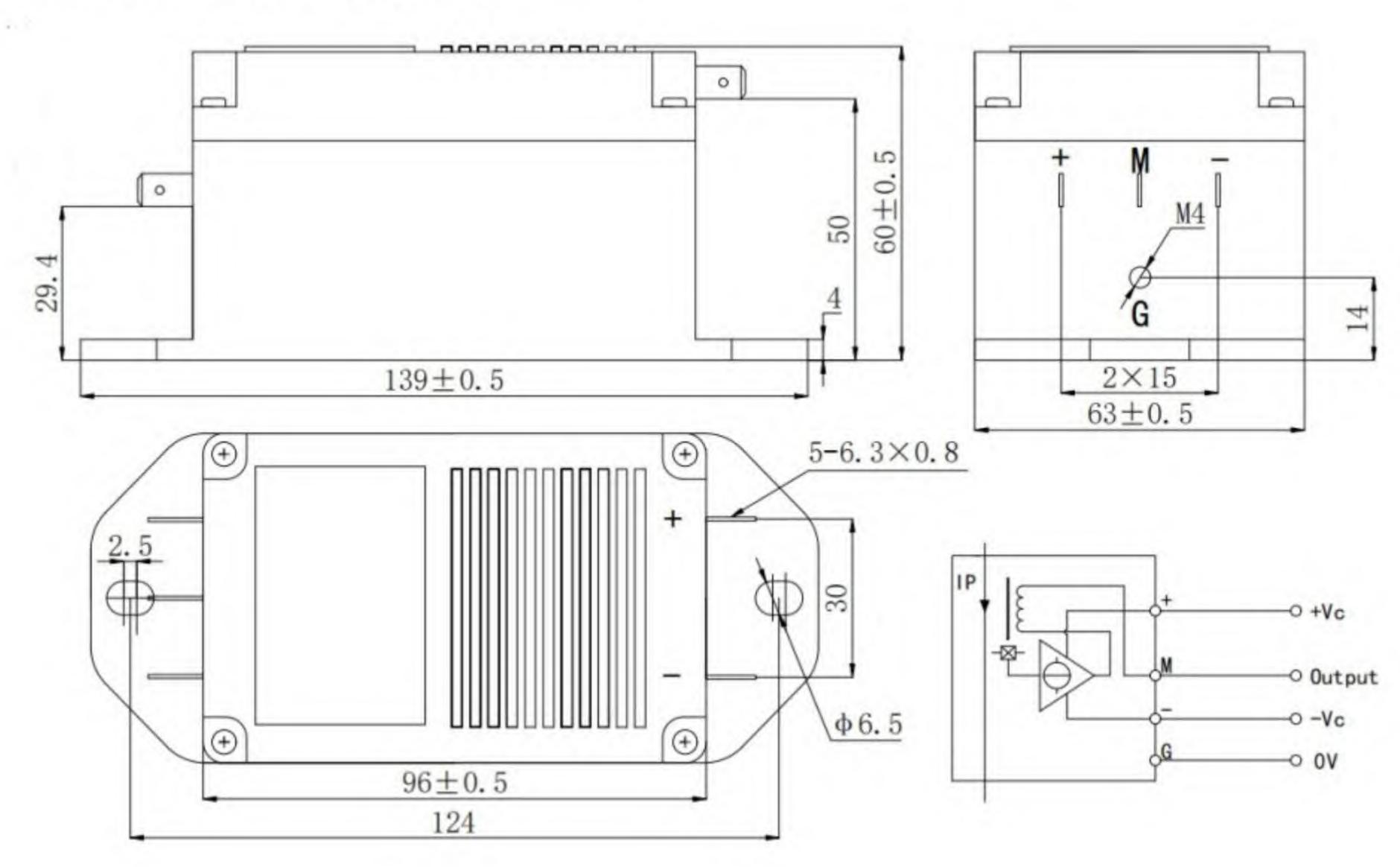
该电压传感器适用于对交流、直流和脉动电压的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。

The voltage sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating voltage. It is completely insulated with the primary and secondary sides while measuring.



# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	≤50	
额定测量电压Rated measuring voltage	V	±1000	
测量范围Measurement range	V	±1200	
额定输出Rated output	V	±5	
负载电阻Load resistance	ΚΩ	≥100	
原边测量电阻Measuring resistance of primary side	ΜΩ	>1.5	
耐压Withstanding voltage	KV	15	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	V	±0.01	@ $V_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	±0.3	@ $V_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	≤0.1	@ $V_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV/°C	±0.5	@ $V_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	≤0.01	@ $V_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<120	@ 90% of V <sub>PN</sub> step
频带宽度Bandwidth	KHz	DC-25	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	



**Voltage Sensor** 

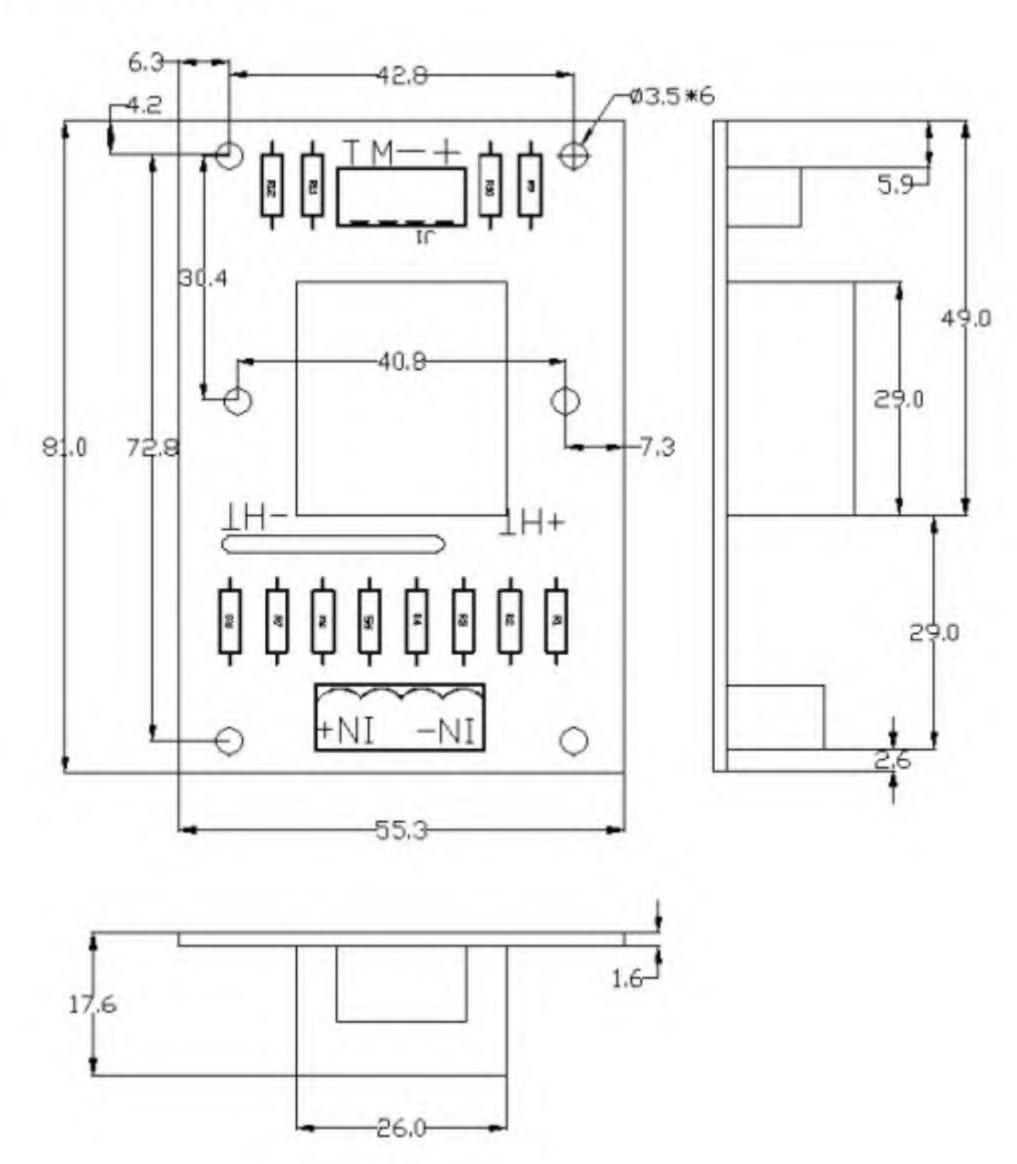
该系列闭环霍尔电压传感器适用于对交流、直流和脉动电流的隔离精确测量,测量时一次侧与二次侧之间完全绝缘。



The voltage sensor is suitable for isolated and accurate measurement of AC, DC, and pulsating voltage. It is completely insulated with the primary and secondary sides while measuring.

# 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
电源电压Supply voltage(±5%)	V	±15	
电流消耗Current consumption	mA	10+ls	
额定输出Rated output	V	5	
负载电阻Load resistance	Ω	100~320	
耐压Withstanding voltage	KV	4.1	@50Hz, 1 min
绝缘电阻Insulation resistance	ΜΩ	>1000	
零点输出误差Zero-point error output	mV	±50	@ $V_P = 0, T_A = 25^{\circ}C$
基本误差Fundamental error	%	<±1	@ $V_{PN}$ , $T_A = 25^{\circ}C$
线性度误差Linearity error	%	< <u>±1</u>	@ $V_{PN}$ , $T_A = 25^{\circ}C$
零点输出温漂Zero-point temperature drift output	mV	±20	@ $V_P = 0$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
增益温度漂移Gain temperature drift	%/°C	<±0.4	@ $V_{PN}$ , $T_A = -40^{\circ} C \sim 85^{\circ} C$
响应时间Response time	μS	<25	@ 90% of V <sub>PN</sub> step
工作带宽Operating bandwidth	kHz	DC~50	@-3dB
工作温度Operating temperature	°C	-40~85	
存储温度Storage temperature	°C	-45~90	



#### MMCTA5

MMCTA是一款母线内置型电流互感器,体积小、重量轻,节省安装空间和运输成 本。为电能计量、工业控制、智能家居等多种场景提供高效、低成本的电流检测解 决方案。

MMCTA is a busbar built-in current transformer with small size and light weight, installation space and transportation cost saved. It provides an efficient and low-cost current detection solution for a wide range of scenarios such as power metering, industrial control, and smart home.



### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
额定电流Rated current	A	5	
额定输出Rated output	mA	2.5	
变比Variable ratio	/	2000:1	
相位差Phase difference	分	≤10	@5Α,100Ω
测量范围Measurement range	A	-20~20	@100Ω, ≤30s
基本误差Fundamental error	%	≤±0.1	@5Α,100Ω
线性度误差Linearity error	%	<±0.1	
负载电阻Load resistance	Ω	≤100	@20A
耐压Withstanding voltage	KV	3	@50Hz,1min
绝缘电阻Insulation resistance	ΜΩ	>1000	
工作温度Operating temperature	°C	-40~85	
安装方式Mounting method	/	印制板安装 Printed board mounting	
内部绝缘Internal insulation	/	环氧树脂Epoxy resin	

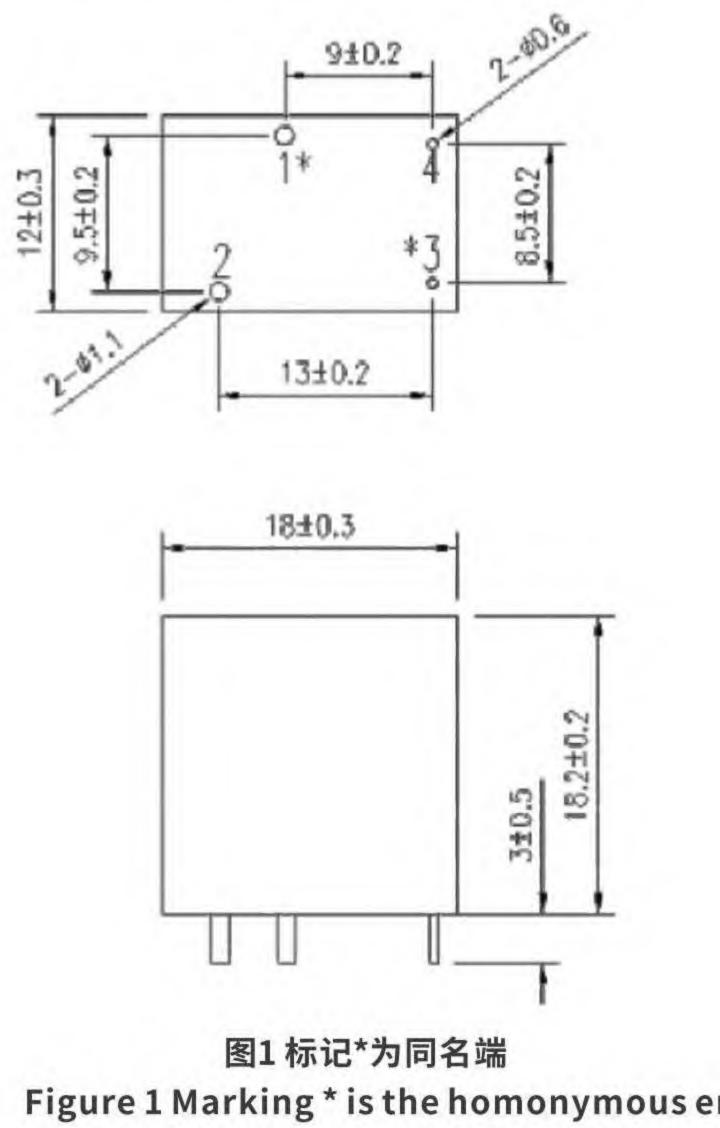


Figure 1 Marking \* is the homonymous end

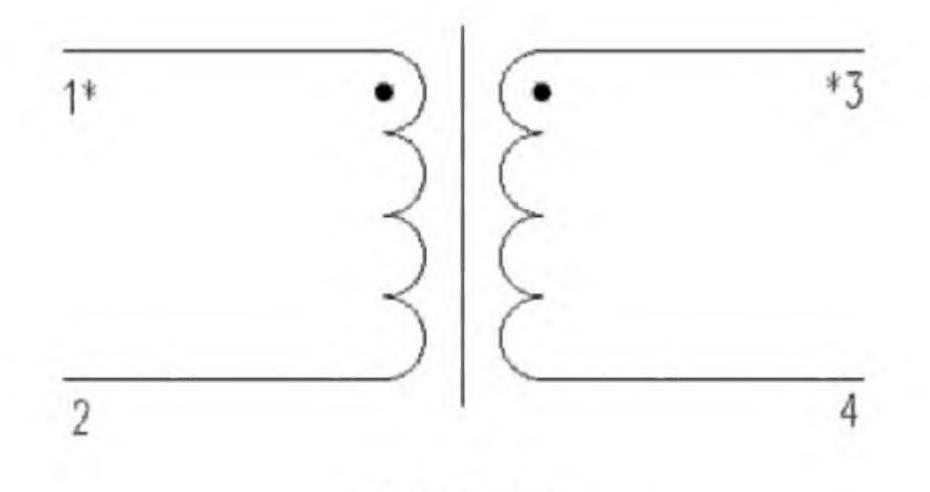


图2 电气原理 Figure 2 Electrical principle

MMCTB是一款电流型电压互感器,体积小、重量轻,节省安装空间和运输成本。为电能计量、工业控制、智能家居、电动车充电桩等多种场景提供高效、低成本的电压检测解决方案。

MMCTB is a current type voltage transformer with small size and light weight, installation space and transportation cost saved. It provides efficient and low-cost voltage detection solutions for a wide of scenarios such as power metering, industrial control, smart home, electric vehicle charging pile, and so on.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
额定电流Rated current	mA	2	
额定输出Rated output	mA	2	
变比Variable ratio	1	1000:1000	
相位差Phase difference	分	≤45	$@I_P=2mA,R_L=50\Omega$
测量范围Measurement range	mA	-10~10	$@R_L=50\Omega$
基本误差Fundamental error	%	<±0.2	$@I_P=2mA,R_L=50\Omega$
线性度误差Linearity error	%	0.2	
负载电阻Load resistance	Ω	≤50	@I <sub>P</sub> =2mA
耐压Withstanding voltage	KV	3	@50Hz,1min
绝缘电阻Insulation resistance	ΜΩ	>1000	
工作温度Operating temperature	°C	-40~85	
安装方式Mounting method	1	印制板安装 Printed board mounting	
内部绝缘Internal insulation	/	环氧树脂Epoxy resin	

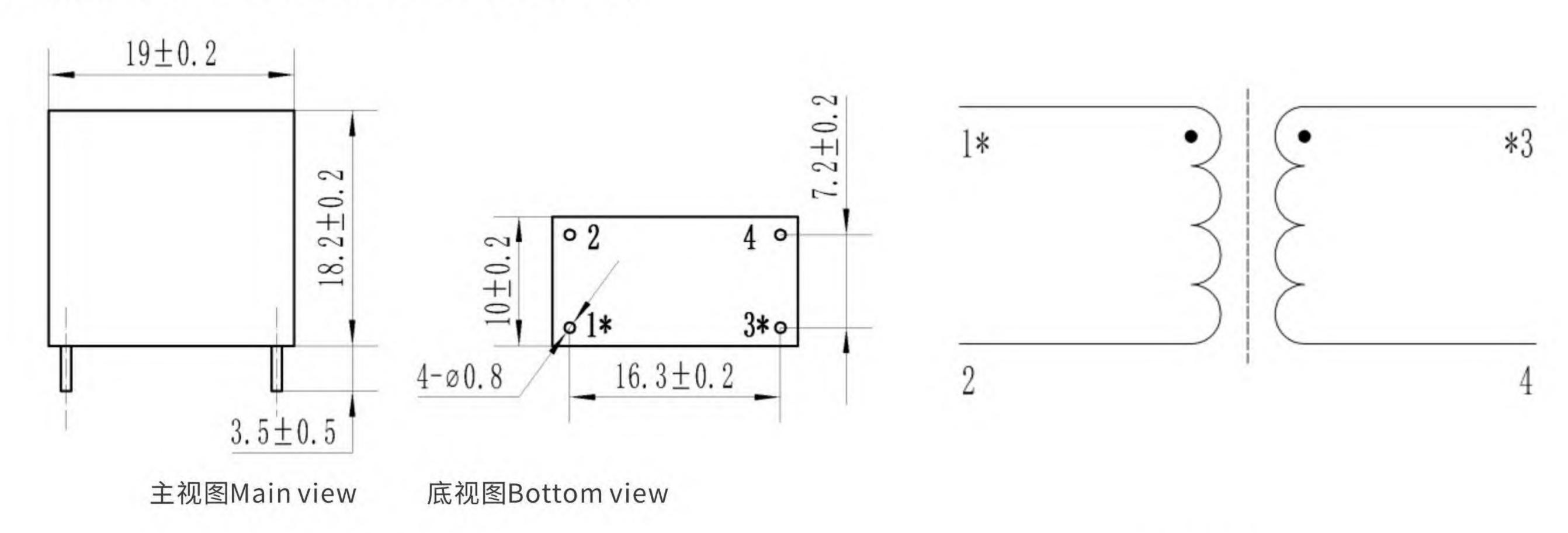


图1标记\*为同名端 Figure 1 Marking \* is the homonymous end

图2 电气原理 Figure 2 Electrical principle

#### MMCTC5

MMCTC是一款穿心式电流互感器,体积小、重量轻,节省安装空间和运输成本。为电能计量、工业控制、智能家居等多种场景提供高效、低成本的电流检测解决方案。

MMCTC is a through-core current transformers with small size and light weight, installation space and transportation cost saved. It provides an efficient and low-cost current detection solution for a wide range of scenarios such as power metering, industrial control, and smart home.



#### 电气特性 / Electrical characteristics

参数描述 Parameter description	单位 Unit	数值 Value	测试条件 Test condition
额定电流Rated current	mA	5	
额定输出Rated output	mA	2.5	
变比Variable ratio	1	2000:1	
相位差Phase difference	分	≤10	@5Α,100Ω
测量范围Measurement range	mA	30	@100Ω
基本误差Fundamental error	%	<±0.2	@5Α,100Ω
线性度误差Linearity error	%	<±0.1	
负载电阻Load resistance	Ω	≤100	@30A
耐压Withstanding voltage	KV	4.5	@50Hz,1min
绝缘电阻Insulation resistance	ΜΩ	>1000	
工作温度Operating temperature	°C	-40~85	
安装方式Mounting method	1	印制板安装 Printed board mounting	
内部绝缘Internal insulation		环氧树脂Epoxy resin	

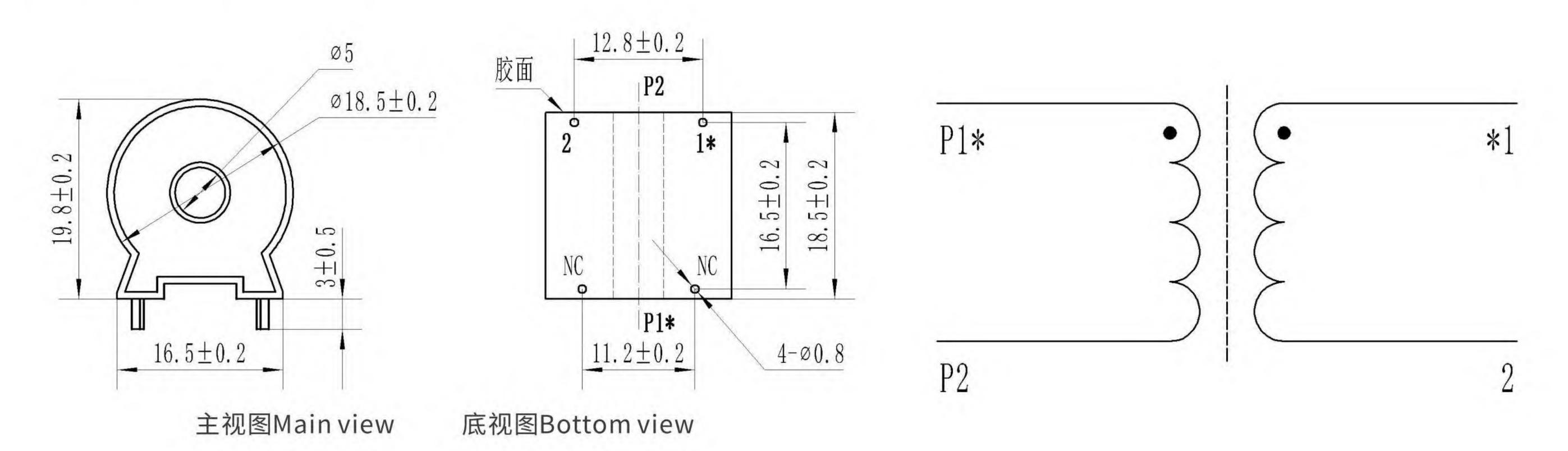


图1标记\*为同名端 Figure 1 Marking \* is the homonymous end

图2 电气原理 Figure 2 Electrical principle



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