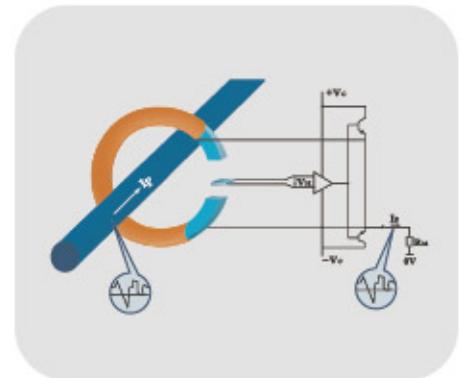


电流传感器工作原理图

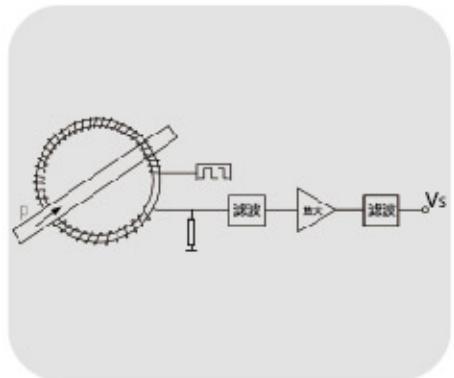
Working principle diagram of Current Transducer



磁平衡式霍尔电流传感器
Closed Loop Hall Effect
Current Transducer

原边电流 I_p 产生的磁通量与霍尔电压经放大产生的副边电流 I_s 通过副边线圈所产生的磁通量相平衡。副边电流 I_s 精确的反映原边电流的变化。

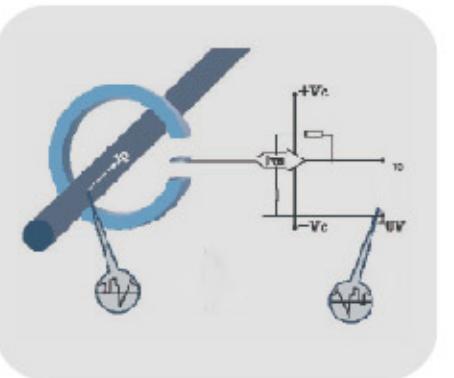
The magnetic flux created by the primary current (I_p) is balanced by a complementary flux produced by driving a current (I_s) through the secondary windings. A hall device and associated electronic circuit are used to generate the secondary (compensating) current (I_s) that is an exact representation of the primary current.



磁通门电流传感器
Fluxgate current transducers

磁通门电流传感器利用高导磁铁芯在内部方波电压激励作用下产生磁通门信号，次边线圈感应原边电流磁场，通过信号采样，经滤波、放大、再滤波后，输出与原边电流成比例的电压信号。

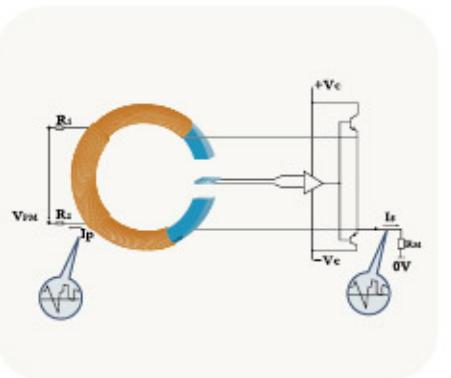
Fluxgate current transducers generate fluxgate signals, making use of high conductive magnetic core under the excitation of inner square wave voltage, secondary coils sense primary current magnetic field, output voltage signals in proportion of the primary current through the signal sampling, filtering, amplification, refiltering.



直接放大式霍尔电流传感器
Open Loop Hall Effect
Current Transducer

原边电流 I_p 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。霍尔元件的输出电压信号经过处理，在传感器输出端输出标准电压信号，该电压信号精确地反映原边电流变化。

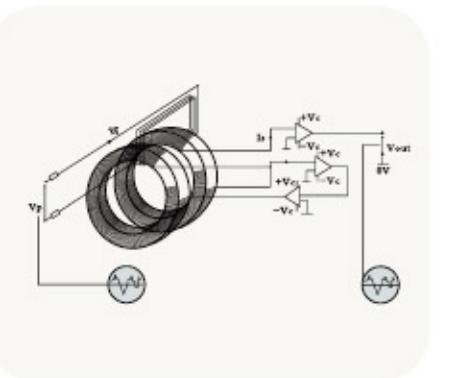
The magnetic flux created by the primary current (I_p) is concentrated in a magnetic circuit and measured in the air gap using a Hall device. The output from the Hall device is then signal conditioned to provide an exact representation of the primary current at the output.



磁平衡式霍尔电压传感器
Closed Loop Hall Effect
Voltage Transducer

原边电压 V_p 通过原边电阻转化为原边电流 I_p ， I_p 产生的磁通量与霍尔电压经放大产生的电流 I_s 通过副边线圈产生的磁通量相平衡。副边电流 I_s 精确的反映原边电压的变化。

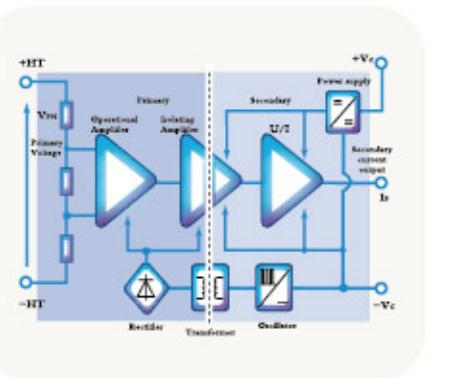
The primary current (I_p) limited by a series resistor is taken from the voltage (V_p) to be measured and is driven through the primary coil. The magnetic flux created by the primary current (I_p) is balanced by a complementary flux produced by driving a current (I_s) through the secondary windings. A hall device and associated electronic circuit are used to generate the secondary (compensating) current (I_s) that is an exact representation of the primary voltage.



磁调制电压传感器
Magnetic Field Modulation Voltage

磁调制电压传感器利用高导磁铁芯在内部方波电压激励作用下的交替饱和特性能够快速将原边测量电压产生的电流信号通过等安匝原理快速调制到次边线圈使次边线圈输出电流能够精确跟随原边电压信号的变化。

The high permeability core of Magnetic field modulation voltage transducer excited by square-wave voltage represents alternate saturation phenomenon. This magnetic effect can modulate the magnetic field created by the primary voltage. And then the modulated signal is transmitted to the secondary windings by a ratio of Ampere-turns . The secondary current is an exact representation of the primary voltage.



隔离放大式电压传感器
Magnetic Field Modulation Voltage

测量电压经过原边电阻分压后形成差分输入电压信号，经隔离运算放大器内部电容调制隔离后1:1 输出电压信号，后续经U/I 精密转换为标准电流信号。输出电流信号准确反映原边电压信号的变化。

Measuring voltage is directly applied on the primary connections through an internal resistor network and some components allowing the differential input signal to feed an isolation amplifier. An isolated signal is recovered and conditioned to supply a current by V/I , which is an exact representation of the primary voltage.

0.1~400A 系列电流传感器 型号规格及技术参数

0.1~400A 系列电流传感器 型号规格及技术参数

| 额定电流(A) | 产品型号 | 测量范围 | 工作原理 | 电源电压(V) | 额定测量输出 | 基本误差 | | | 线性度误差 | 零点输出误差(+25°C) | 响应时间 | | 耐压 | 工作温度 | 外形图 | 备注 |
|-------------------------|-------------------|-----------------|-----------------------------|-------------------------|--------------------------|----------|--|--|-----------|----------------|---------------|--|-------------------|-----------------------|---|-----------------|
| Primary Nominal Current | product Modle No. | Measuring Range | Working Principle | Supply Voltage | Secondary Nominal output | Accuracy | | | Linearity | Offset of zero | Response Time | | Isolation Voltage | Operating Temperature | Drawing | |
| 0.1A | NACG.0.1-S1/V | 0 ~ ± 0.12A | 磁通门 Fluxgate | ± 15 × (1 ± 5%)V | 5V | ≤ ± 1% | | | ≤ 0.5% | ≤ ± 50mV | — | | 5kV/50Hz/1min | -25°C~+70°C |  | page13 Flg.(1) |
| 0.4A | NACL.0.4M-P6/SP1 | 0 ~ ± 0.85A | 磁平衡式 Magnetic Balance | ± 15 × (1 ± 5%)V | 30mA | ≤ ± 0.6% | | | ≤ 0.2% | ≤ ± 0.15mA | ≤ 1us | | 4.2kV/50Hz/1min | -40°C~+85°C |  | page13 Flg.(2) |
| 1.5A | NACL.1.5M-P6/SP1 | 0 ~ ± 2.2A | 磁平衡式 Magnetic Balance | ± 15 × (1 ± 5%)V | 24mA | ≤ ± 0.6% | | | ≤ 0.2% | ≤ ± 0.15mA | ≤ 1us | | 4.2kV/50Hz/1min | -40°C~+85°C |  | page13 Flg.(2) |
| 2A | NACL.2M-P6/SP1 | 0 ~ ± 2.5A | 磁平衡式 Magnetic Balance | ± 15 × (1 ± 5%)V | 40mA | ≤ ± 0.6% | | | ≤ 0.2% | ≤ ± 0.15mA | ≤ 1us | | 4.2kV/50Hz/1min | -40°C~+85°C |  | page13 Flg.(2) |
| 2A | NACG.2-S1/V | 0 ~ ± 2.4A | 磁通门 Fluxgate | ± 15 × (1 ± 5%)V | 5V | ≤ ± 1% | | | ≤ 0.5% | ≤ ± 50mV | — | | 5kV/50Hz/1min | -25°C~+70°C |  | page13 Flg.(1) |
| 10A | NACG.10-S1/V | 0 ~ ± 10.5A | 磁通门 Fluxgate | ± 15 × (1 ± 5%)V | 10V | ≤ ± 1% | | | ≤ 0.5% | ≤ ± 50mV | — | | 5kV/50Hz/1min | -25°C~+70°C |  | page13 Flg.(1) |
| 25A | NCA1A-25A | 0 ~ ± 30A | 直接放大 Straight Amplification | ± 15 × (1 ± 5%)V | 10V | ≤ ± 0.5% | | | ≤ 1% | ≤ ± 100mV | ≤ 100us | | 2.5kV/50Hz/1min | -40°C~+85°C |  | page13 Flg.(3) |
| 50A | NT58-S | 0 ~ ± 70A | 磁平衡式 Magnetic Balance | ± (12 ~ 15) × (1 ± 5%)V | 50mA | ≤ ± 0.8% | | | ≤ 0.1% | ≤ ± 0.2mA | ≤ 1us | | 6kV/50Hz/1min | -45°C~+85°C |  | page14 Flg.(4) |
| 100A | NT108-S | 0 ~ ± 150A | 磁平衡式 Magnetic Balance | ± (12 ~ 15) × (1 ± 5%)V | 50mA | ≤ ± 0.6% | | | ≤ 0.1% | ≤ ± 0.2mA | ≤ 1us | | 6kV/50Hz/1min | -45°C~+85°C |  | page14 Flg.(4) |
| 200A | NT208-S | 0 ~ ± 300A | 磁平衡式 Magnetic Balance | ± (12 ~ 15) × (1 ± 5%)V | 100mA | ≤ ± 0.5% | | | ≤ 0.1% | ≤ ± 0.2mA | ≤ 1us | | 6kV/50Hz/1min | -45°C~+85°C |  | page14 Flg.(4) |
| 300A | NT308-S | 0 ~ ± 500A | 磁平衡式 Magnetic Balance | ± (12 ~ 15) × (1 ± 5%)V | 150mA | ≤ ± 0.5% | | | ≤ 0.1% | ≤ ± 0.2mA | ≤ 1us | | 6kV/50Hz/1min | -45°C~+85°C |  | page14 Flg.(4) |
| 300A | NACF.300-S1/SP1V | 0 ~ ± 900A | 直接放大 Straight Amplification | ± 15 × (1 ± 5%)V | 4V | ≤ ± 1% | | | ≤ 1% | ≤ ± 30mV | ≤ 100us | | 2.5kV/50Hz/1min | -40°C~+85°C |  | page13 Flg.(3) |
| 300A | NACL.300C-S5 | 0 ~ ± 700A | 磁平衡式 Magnetic Balance | ± 15 × (1 ± 5%)V | 150mA | ≤ ± 0.9% | | | ≤ 0.1% | ≤ ± 0.3mA | ≤ 1us | | 5.5kV/50Hz/1min | -40°C~+85°C |  | page14 Flg.(5) |
| 400A | NACL.400C-S5 | 0 ~ ± 650A | 磁平衡式 Magnetic Balance | ± 15 × (1 ± 5%)V | 100mA | ≤ ± 0.9% | | | ≤ 0.1% | ≤ ± 0.3mA | ≤ 1us | | 5.5kV/50Hz/1min | -40°C~+85°C |  | page14 Flg.(5) |
| 400A | NACL.400C-S4 | 0 ~ ± 1000A | 磁平衡式 Magnetic Balance | ± 15 × (1 ± 5%)V | 133mA | ≤ ± 0.5% | | | ≤ 0.1% | ≤ ± 0.5mA | ≤ 1us | | 6kV/50Hz/1min | -40°C~+85°C |  | page17 Flg.(14) |

400~1000A 系列电流传感器 型号规格及技术参数

400~1000A 系列电流传感器 型号规格及技术参数

| 额定电流(A) | 产品型号 | 测量范围 | 工作原理 | 电源电压(V) | 额定测量输出 | 基本误差 | | | 线性度误差 | 零点输出误差(+25°C) | 响应时间 | | 耐压 | 工作温度 | 外形图 | 备注 |
|-------------------------|-------------------|-----------------|-----------------------------|--------------------------|--------------------------|----------|--|--|-----------|----------------|---------------|--|-------------------|-----------------------|---|-----------------|
| Primary Nominal Current | product Modle No. | Measuring Range | Working Principle | Supply Voltage | Secondary Nominal output | Accuracy | | | Linearity | Offset of zero | Response Time | | Isolation Voltage | Operating Temperature | Drawing | |
| 400A | NACL.400C-S5/SP3 | 0 ~ ± 600A | 磁平衡式 Magnetic Balance | ± 15 × (1 ± 5%)V | 80mA | ≤ ± 0.9% | | | ≤ 0.1% | ≤ ± 0.3mA | ≤ 1us | | 5.5kV/50Hz/1min | -40°C~+85°C |  | page14 Fig.(5) |
| 400A | NACF.400-S1/SP1V | 0 ~ ± 1200A | 直接放大 Straight Amplification | ± 15 × (1 ± 5%)V | 4V | ≤ ± 1% | | | ≤ 1% | ≤ ± 30mV | ≤ 100us | | 2.5kV/50Hz/1min | -40°C~+85°C |  | page13 Fig.(3) |
| 500A | NCA1N-500A | 0 ~ ± 550A | 直接放大 Straight Amplification | ± 15 × (1 ± 5%)V | 10V | ≤ ± 1% | | | ≤ 1% | ≤ ± 30mV | ≤ 25us | | 3.5kV/50Hz/1min | -40°C~+85°C |  | page14 Fig.(6) |
| 500A | NT500C-S | 0 ~ ± 1500A | 磁平衡式 Magnetic Balance | ± (15 ~ 24) × (1 ± 5%)V | 100mA | ≤ ± 0.7% | | | ≤ 0.1% | ≤ ± 0.5mA | ≤ 1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page15 Fig.(7) |
| 500A | NACL.500H-T1/SP4 | 0 ~ ± 800A | 磁平衡式 Magnetic Balance | ± (15 ~ 24) × (1 ± 10%)V | 125mA | ≤ ± 0.5% | | | ≤ 0.1% | ≤ ± 0.5mA | ≤ 1us | | 6kV/50Hz/1min | -40°C~+85°C |  | page15 Fig.(8) |
| 500A | NT508-S | 0 ~ ± 800A | 磁平衡式 Magnetic Balance | ± (12 ~ 15) × (1 ± 5%)V | 100mA | ≤ ± 0.4% | | | ≤ 0.1% | ≤ ± 0.2mA | ≤ 1us | | 6kV/50Hz/1min | -25°C~+85°C |  | page14 Fig.(4) |
| 500A | NT508-S/SP2 | 0 ~ ± 800A | 磁平衡式 Magnetic Balance | ± (15 ~ 18) × (1 ± 5%)V | 100mA | ≤ ± 0.4% | | | ≤ 0.1% | ≤ ± 0.13mA | ≤ 1us | | 6kV/50Hz/1min | -40°C~+70°C |  | page15 Fig.(9) |
| 500A | NA505-S | 0 ~ ± 1000A | 磁平衡式 Magnetic Balance | ± (15 ~ 24) × (1 ± 5%)V | 142.8mA | ≤ ± 0.8% | | | ≤ 0.1% | ≤ ± 0.15mA | ≤ 1us | | 6kV/50Hz/1min | -40°C~+85°C |  | page16 Fig.(10) |
| 500A | NA505-S/SP3 | 0 ~ ± 800A | 磁平衡式 Magnetic Balance | ± (12 ~ 15) × (1 ± 5%)V | 250mA | ≤ ± 0.8% | | | ≤ 0.1% | ≤ ± 0.25mA | ≤ 1us | | 6kV/50Hz/1min | -40°C~+85°C |  | page16 Fig.(11) |
| 500A | New NACL.500-S1 | 0 ~ ± 1000A | 磁平衡式 Magnetic Balance | ± (15 ~ 24) × (1 ± 5%)V | 142.8mA | ≤ ± 0.8% | | | ≤ 0.1% | ≤ ± 0.15mA | ≤ 1us | | 6kV/50Hz/1min | -40°C~+85°C |  | page16 Fig.(12) |
| 500A | NACL.500Q1-S3 | 0 ~ ± 1200A | 磁平衡式 Magnetic Balance | ± (15 ~ 24) × (1 ± 5%)V | 125mA | ≤ ± 0.6% | | | ≤ 0.1% | ≤ ± 0.5mA | ≤ 1us | | 12kV/50Hz/1min | -40°C~+85°C |  | page17 Fig.(13) |
| 500A | NACF.500-S1/SP2V | 0 ~ ± 1200A | 直接放大 Straight Amplification | ± 15 × (1 ± 5%)V | 4V | ≤ ± 1% | | | ≤ 1% | ≤ ± 30mV | ≤ 10us | | 2.5kV/50Hz/1min | -40°C~+85°C |  | page13 Fig.(3) |
| 600A | NACL.600Q-S3/SP3 | 0 ~ ± 1500A | 磁平衡式 Magnetic Balance | ± (15 ~ 24) × (1 ± 5%)V | 200mA | ≤ ± 0.7% | | | ≤ 0.1% | ≤ ± 0.5mA | ≤ 1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page15 Fig.(7) |
| 800A | NACF.800-S1/SP2V | 0 ~ ± 2400A | 直接放大 Straight Amplification | ± 15 × (1 ± 5%)V | 4V | ≤ ± 1% | | | ≤ 1% | ≤ ± 30mV | ≤ 10us | | 2.5kV/50Hz/1min | -40°C~+85°C |  | page13 Fig.(3) |
| 1000A | NT1000C-S/SP2 | 0 ~ ± 2400A | 磁平衡式 Magnetic Balance | ± (15 ~ 24) × (1 ± 5%)V | 200mA | ≤ ± 0.4% | | | ≤ 0.1% | ≤ ± 0.5mA | ≤ 1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page15 Fig.(7) |

1000 ~ 3000A 系列电流传感器 型号规格及技术参数

1000 ~ 3000A 系列电流传感器 型号规格及技术参数

| 额定电流(A) | 产品型号 | 测量范围 | 工作原理 | 电源电压 | 额定测量输出 | 基本误差 | | | 线性度误差 | 零点输出误差(+25°C) | 响应时间 | | 耐压 | 工作温度 | 外形图 | 备注 |
|---|--------------------|-----------------|-----------------------------|-----------------------|--------------------------|----------|--|--|-----------|----------------|---------------|--|-------------------|-----------------------|---|-----------------|
| Primary Nominal Current | product Modle No. | Measuring Range | Working Principle | Supply Voltage | Secondary Nominal output | Accuracy | | | Linearity | Offset of zero | Response Time | | Isolation Voltage | Operating Temperature | Drawing | |
| 1000A | NT1000C-S/SP3 | 0 ~ ±2400A | 磁平衡式 Magnetic Balance | ±(15 ~ 24) ×(1 ± 5%)V | 200mA | ≤ ± 0.4% | | | ≤0.1% | ≤ ± 0.5mA | ≤1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page17 Fig.(15) |
| 1000A | NACL_1000Q-S5/SP2 | 0 ~ ±3000A | 磁平衡式 Magnetic Balance | ± 24 × (1 ± 20%)V | 250mA | ≤ ± 0.6% | | | ≤0.1% | ≤ ± 0.5mA | ≤1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page18 Fig.(16) |
| 1000A | NACL_1000Q-S5/SP7 | 0 ~ ±2400A | 磁平衡式 Magnetic Balance | ±(15 ~ 24) ×(1 ± 5%)V | 200mA | ≤ ± 0.4% | | | ≤0.1% | ≤ ± 0.5mA | ≤1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page18 Fig.(17) |
| 1000A  New | NACL_1000Q-S3/SP4 | 0 ~ ±2400A | 磁平衡式 Magnetic Balance | ±(15 ~ 24) ×(1 ± 5%)V | 200mA | ≤ ± 0.4% | | | ≤0.1% | ≤ ± 0.5mA | ≤1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page18 Fig.(18) |
| 1000A  New | NACL_1000Q-S5/SP9 | 0 ~ ±3000A | 磁平衡式 Magnetic Balance | ± 24 × (1 ± 20%)V | 250mA | ≤ ± 0.6% | | | ≤0.1% | ≤ ± 0.5mA | ≤1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page19 Fig.(19) |
| 1000A  New | NACL_1000Q-S5/SP8 | 0 ~ ±3000A | 磁平衡式 Magnetic Balance | ± 24 × (1 ± 20%)V | 250mA | ≤ ± 0.6% | | | ≤0.1% | ≤ ± 0.5mA | ≤1us | | 13.4kV/50Hz/1min | -40°C~+85°C |  | page19 Fig.(20) |
| 2000A | NCA1N-2000A | 0 ~ ±2200A | 直接放大 Straight Amplification | ± 15 × (1 ± 3%)V | 10V | ≤ ± 1% | | | ≤1% | ≤ ± 30mV | ≤25us | | 3.5kV/50Hz/1min | -40°C~+85°C |  | page14 Fig.(6) |
| 2000A | NCA1P-2000A | 0 ~ ±3000A | 直接放大 Straight Amplification | ±(12 ~ 15) ×(1 ± 5%)V | 4V | ≤ ± 2% | | | ≤1% | ≤ ± 40mV | ≤10us | | 3kV/50Hz/1min | -40°C~+85°C |  | page19 Fig.(21) |
| 2000A | NT2000C-S/SP2 | 0 ~ ±3500A | 磁平衡式 Magnetic Balance | ±(15 ~ 24) ×(1 ± 5%)V | 400mA | ≤ ± 0.5% | | | ≤0.1% | ≤ ± 0.4mA | ≤1us | | 12kV/50Hz/1min | -40°C~+85°C |  | page20 Fig.(22) |
| 2000A | NACL_2000B1-S5/SP3 | 0 ~ ±3800A | 磁平衡式 Magnetic Balance | ±(15 ~ 24) ×(1 ± 5%)V | 500mA | ≤ ± 0.4% | | | ≤0.1% | ≤ ± 0.4mA | ≤1us | | 12kV/50Hz/1min | -40°C~+85°C |  | page20 Fig.(23) |
| 2000A  New | NACL_2000A-S1 | 0 ~ ±3500A | 磁平衡式 Magnetic Balance | ±(15 ~ 24) ×(1 ± 5%)V | 400mA | ≤ ± 0.5% | | | ≤0.1% | ≤ ± 0.4mA | ≤1us | | 12kV/50Hz/1min | -40°C~+85°C |  | page20 Fig.(24) |
| 3000A | NACF.3000-S1/V | 0 ~ ±3600A | 直接放大 Straight Amplification | ± 15 × (1 ± 5%)V | 10V | ≤ ± 1% | | | ≤1% | ≤ ± 50mV | ≤100us | | 2.5kV/50Hz/1min | -40°C~+85°C |  | page13 Fig.(3) |



外形安装尺寸图

Dimensions Diagram



Fig.(1)

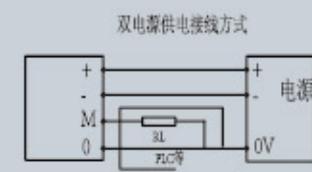
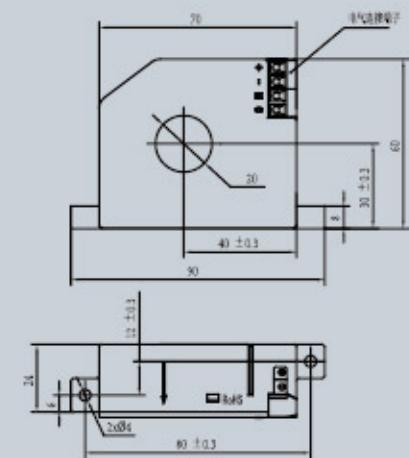


Fig.(2)

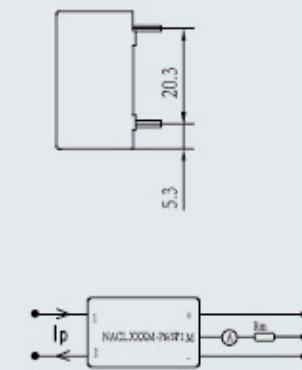
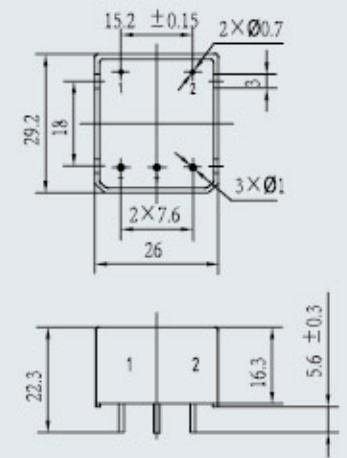
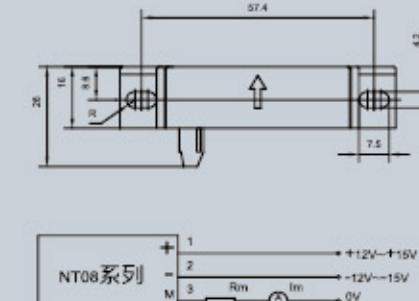
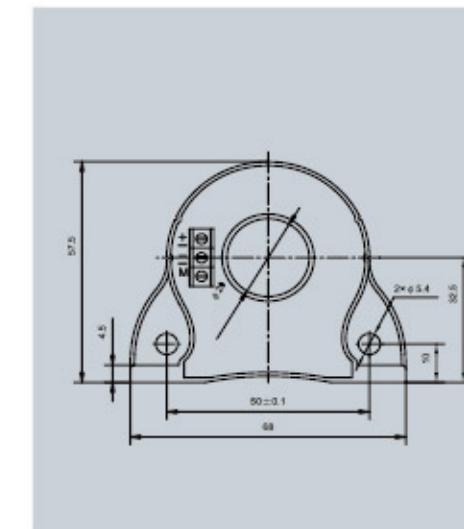
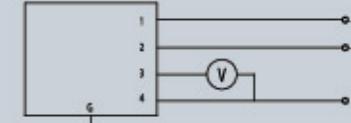
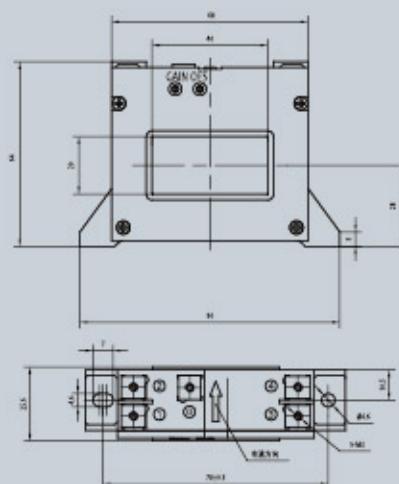


Fig.(3)



连接方式

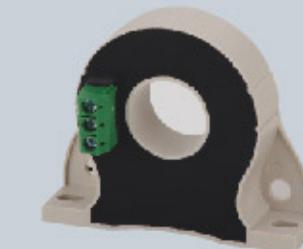


Fig.(4)

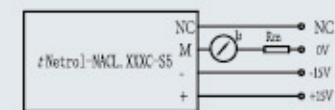
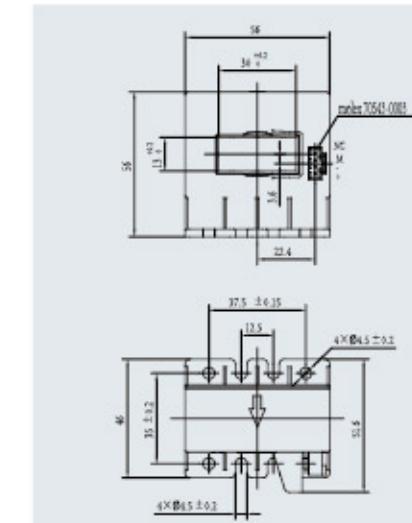


Fig.(5)

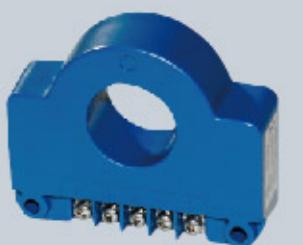
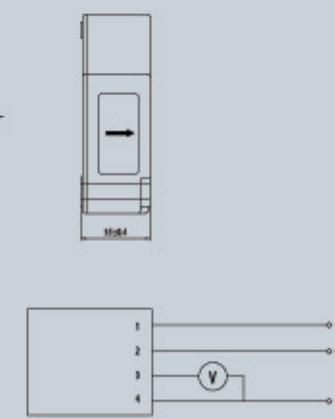
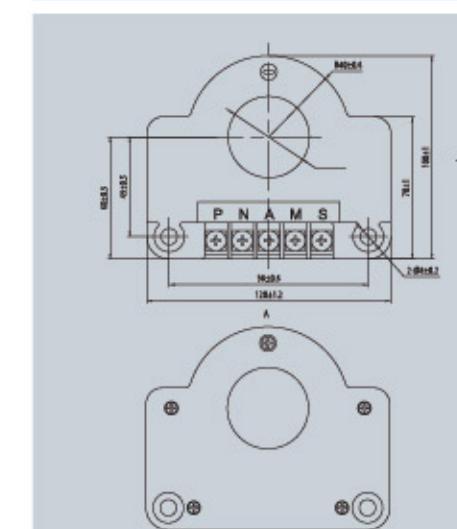


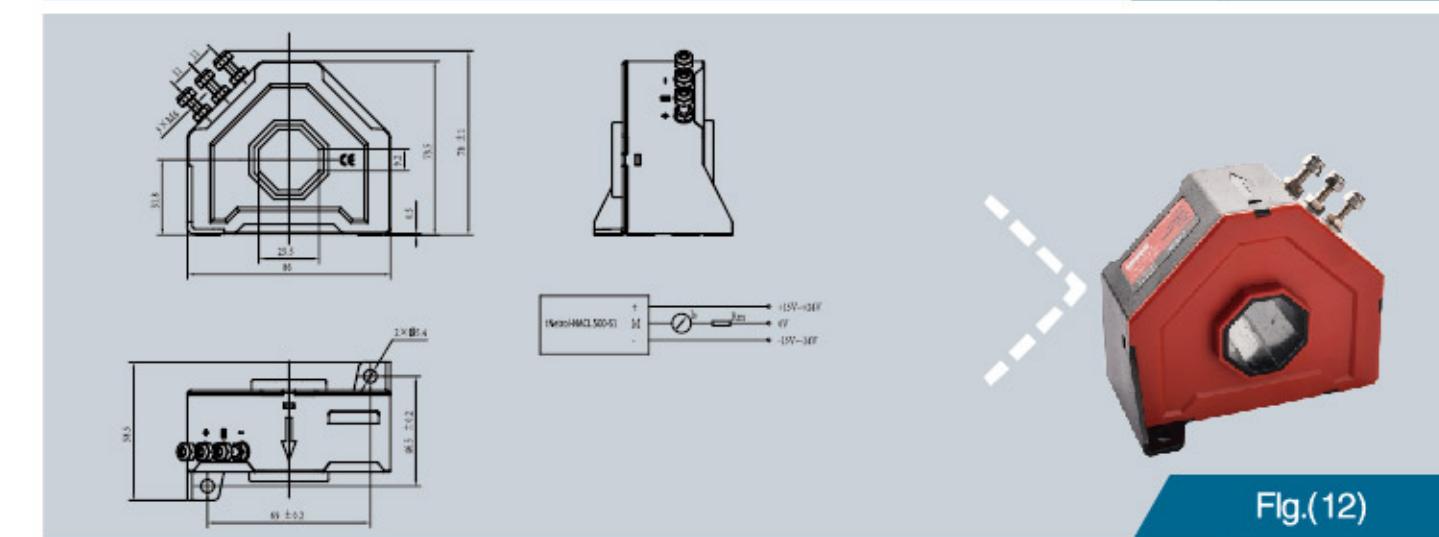
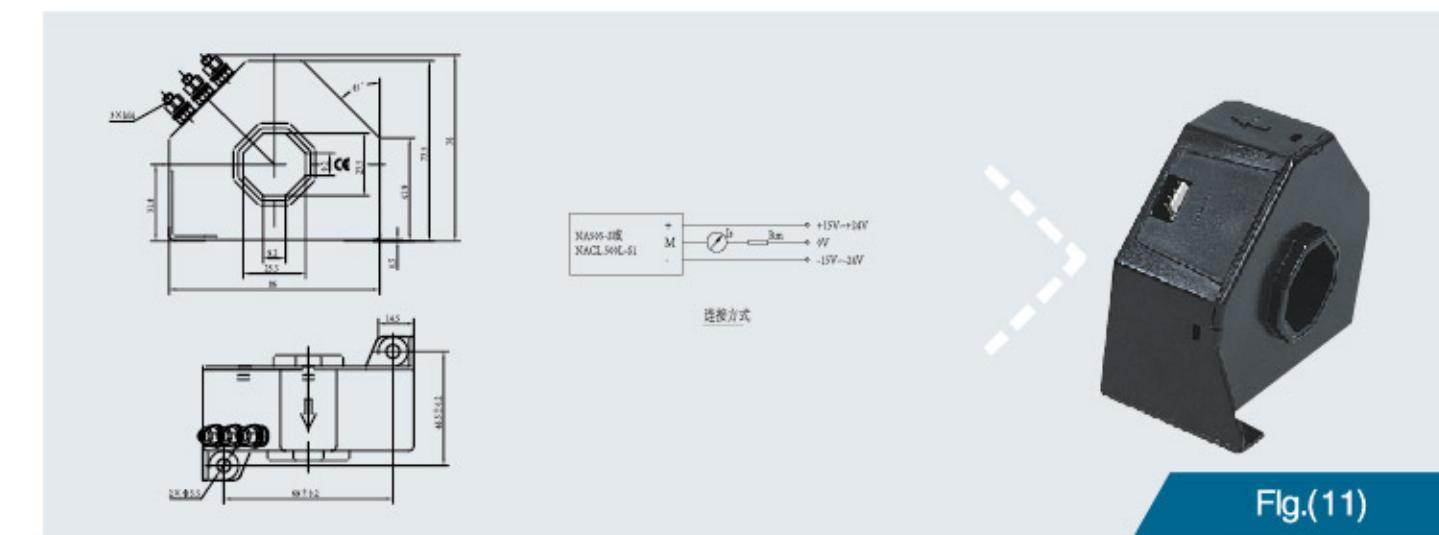
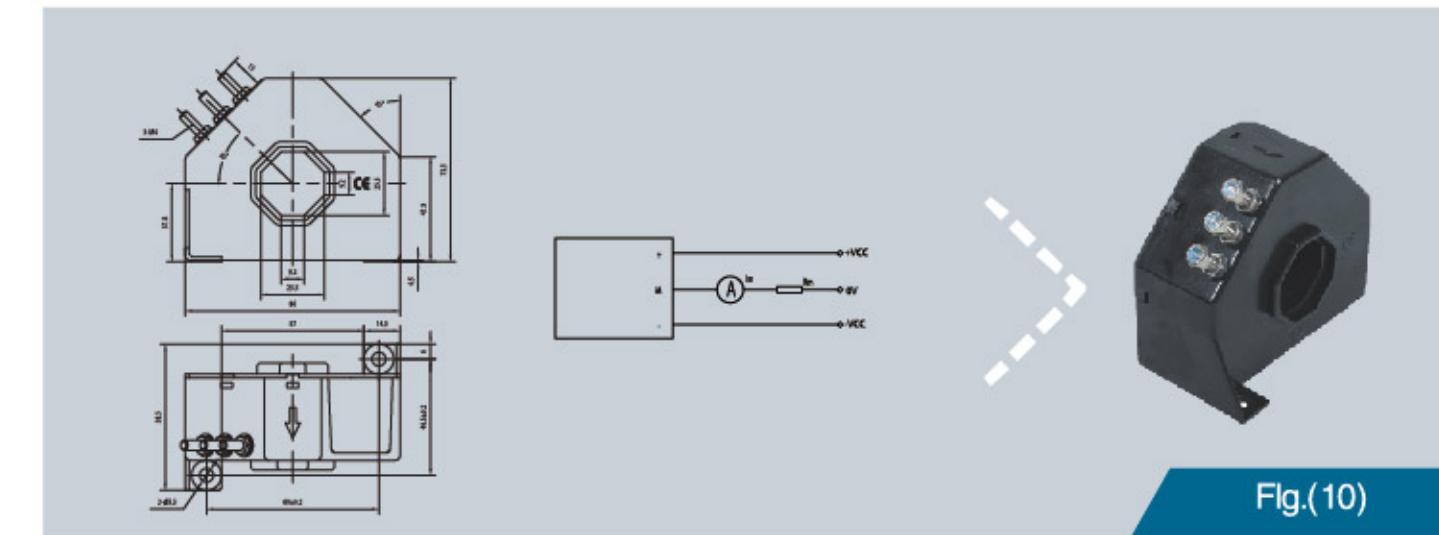
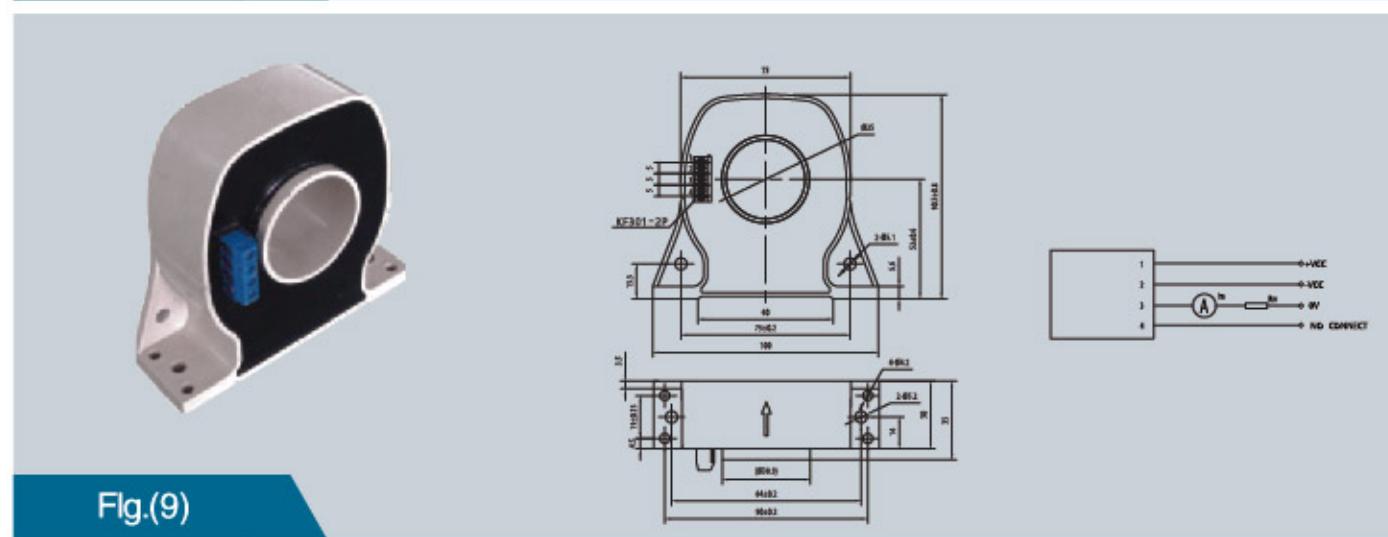
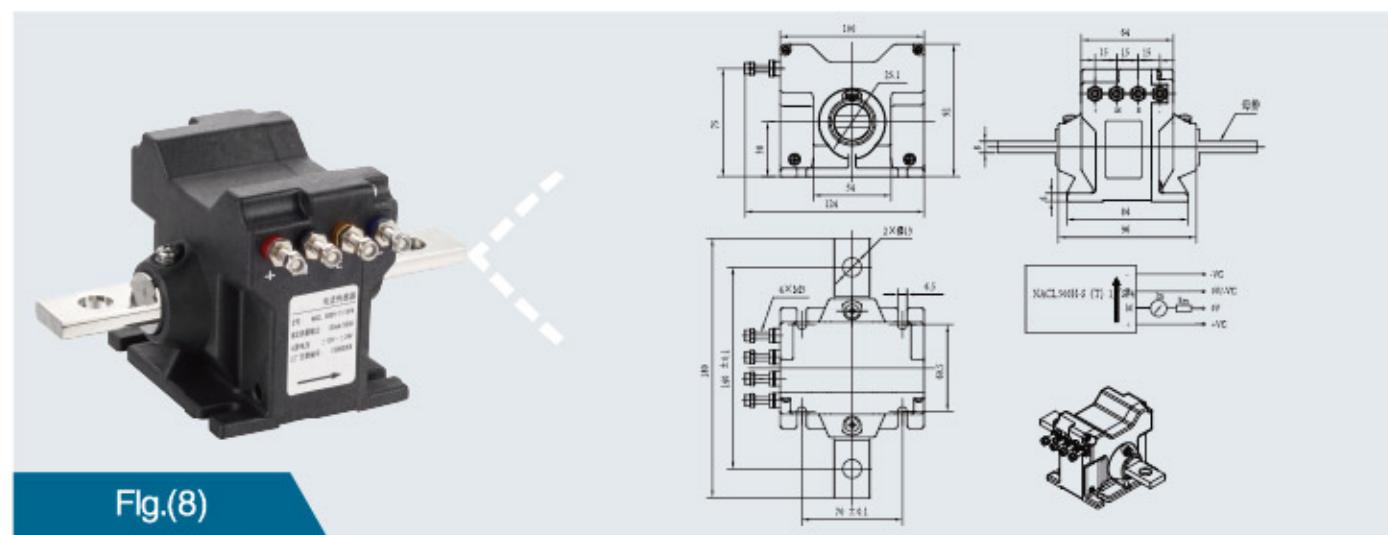
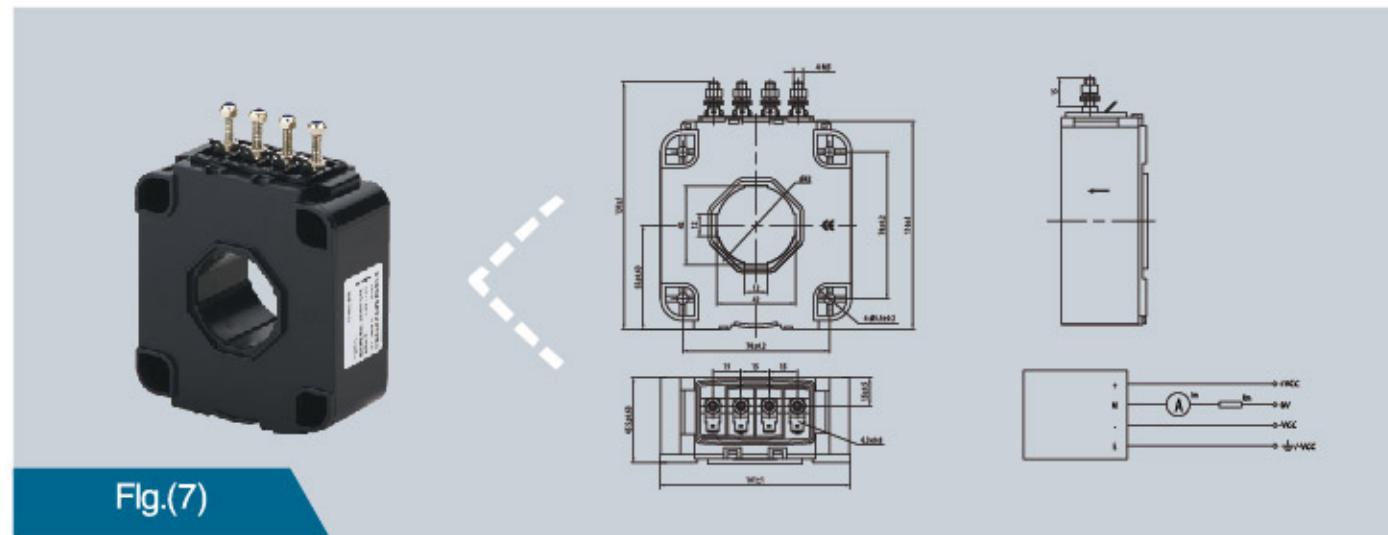
Fig.(6)

外形安装尺寸图

Dimensions Diagram

外形安装尺寸图

Dimensions Diagram



外形安装尺寸图

Dimensions Diagram

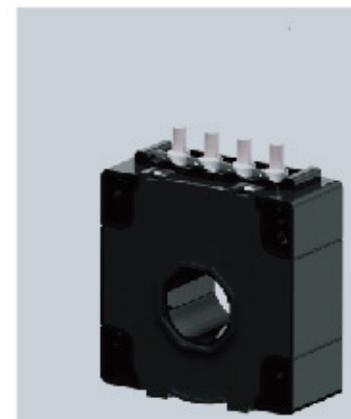


Fig.(13)

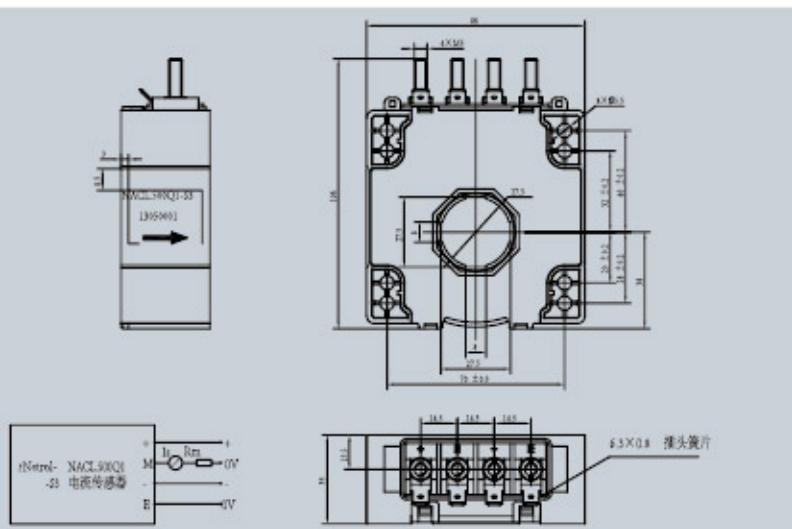


Fig.(14)

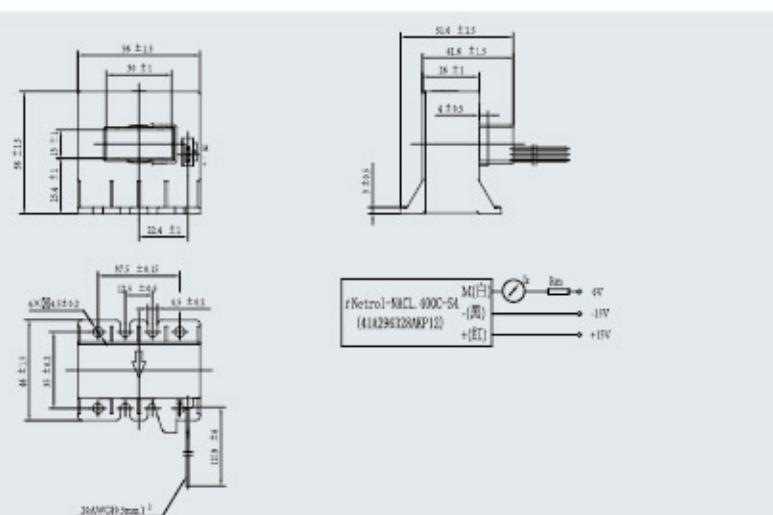


Fig.(15)

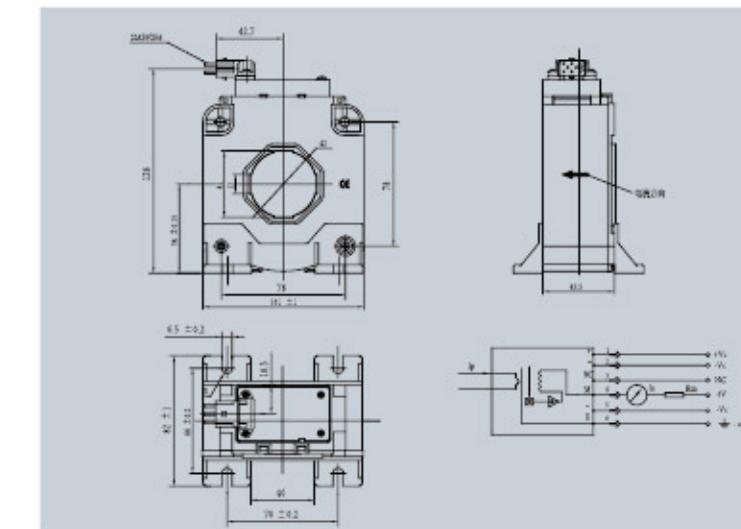
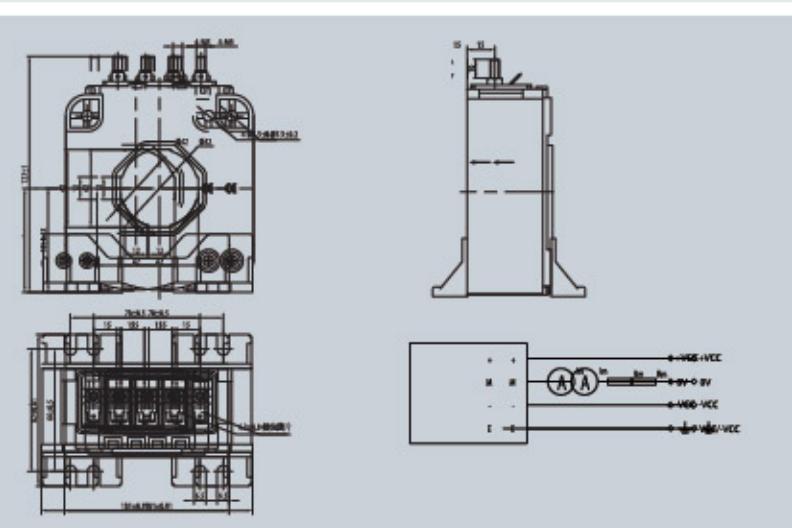


Fig.(16)

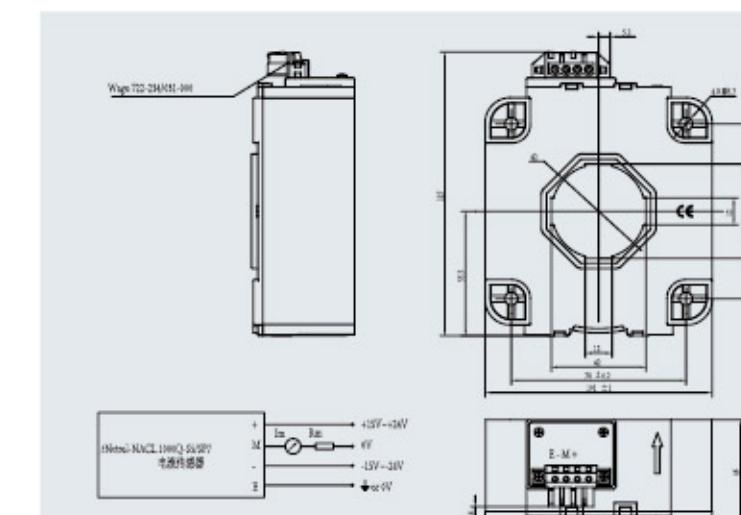


Fig.(17)

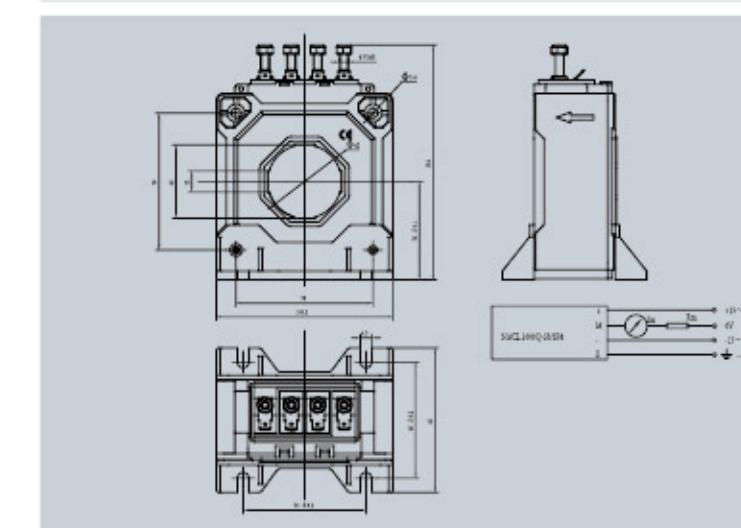


Fig.(18)

外形安装尺寸图

Dimensions Diagram

