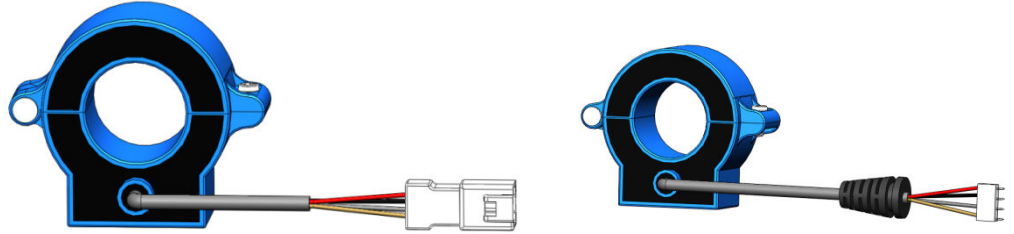


# Split Core Hall effect Current Sensor

**SCY13**



**SCY13, SCY13A, SCY13C, SCY13B**

## Product description

### Features

- Based on Hall effect measurement principle, open loop circuit mode.
- The isolation voltage between primary and secondary is greater than 3000VAC.
- Can be opened and closed up and down, no need to disassemble the busbar, easy to install.
- Comply with UL94-V0 flame retardant rating.
- Use automotive-specific lead connector output

### Performance

- It can measure DC, AC, pulse, and various irregular waveform currents of cable conductors under isolation conditions.
- Wide measurement range, fast response speed, low zero drift, low temperature drift, high accuracy and good linearity.
- Dynamic performance (di/dt and response time) is optimal when the busbar is fully filled with primary perforations.
- Strong ability to resist external electromagnetic interference (BCI, EFT, CS, CE, ESD, dv/dt, etc.).

### Application

- It can be widely used in communication power supply, UPS, photovoltaic inverter, electric vehicle drive and other products.

### Implementation standards

- GB/T 7665-2005
- JB/T 7490-2007
- JB/T 25480-2010
- JB/T 9473-2020
- SJ 20792-2000

### Certification



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## Technical Parameters

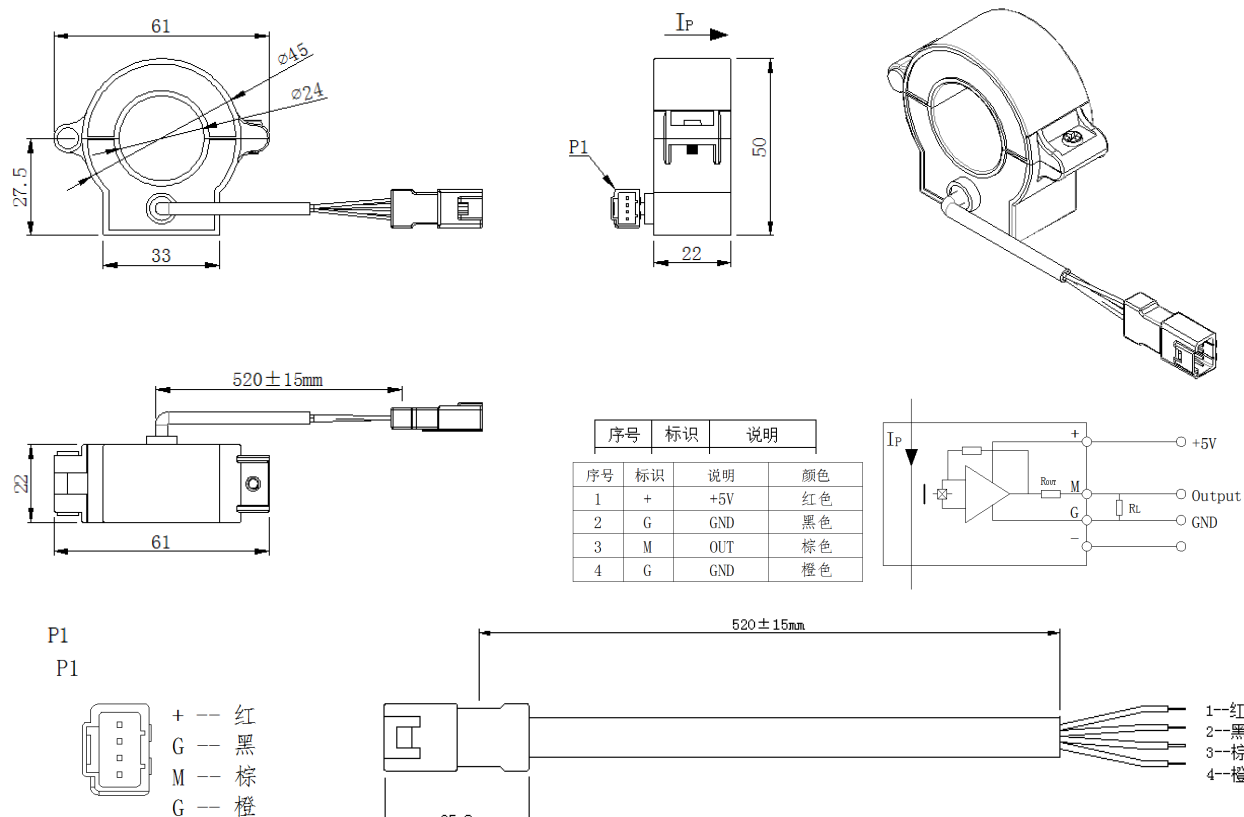
| Model<br>Parameters (25°C)                                    | SCY13-/SCY13A- |       |       |       |        |
|---------------------------------------------------------------|----------------|-------|-------|-------|--------|
|                                                               | 200A           | 300A  | 500A  | 750A  | 1000A  |
| Primary Current (A) $I_{PN}$                                  | 200A           | 300A  | 500A  | 750A  | 1000A  |
| Primary Current Max. Peak Value (A) $I_{PM}$                  | ±200A          | ±300A | ±500A | ±750A | ±1000A |
| Output voltage (V) $V_{out}$<br>@± $I_{PN}$ , $R_L=25K\Omega$ | 2.5V±2V        |       |       |       |        |

## Electrical Data

| Item                                                                        | Min.                                                                          | Max.  | Typical | Unit       |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------|---------|------------|
| Input power supply voltage range $V_c$<br>(±5%) (Remark 1, Remark 2)        | -                                                                             | +5    | -       | $V_{DC}$   |
| Current consumption $I_c$                                                   | -                                                                             | +15   | +20     | mA         |
| Withstand resistance $R_{INS}$ @500V DC                                     | 1000                                                                          | -     | -       | $M\Omega$  |
| Output voltage $V_{out}$ @ $I_{PN}$ ,<br>$R_L=25K\Omega$ , $T_A=25^\circ C$ | $V_{OUT} = 2.5 + 2.008 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$ |       |         | V          |
| Output internal resistance $R_{OUT}$                                        | -                                                                             | 102   | -       | $\Omega$   |
| Load Resistance $R_L$ (Remark 3)                                            | -                                                                             | 25    | -       | $K\Omega$  |
| Accuracy X @ $I_{PN}$ , $T_A=25^\circ C$                                    | -                                                                             | ±1    | -       | %          |
| Linearity $\varepsilon_L$ @ $R_L=10K\Omega$ , $T_A=25^\circ C$              | -                                                                             | ±1    | -       | % $I_{PN}$ |
| Offset voltage $V_{OE}$ @ $T_A=25^\circ C$                                  | -                                                                             | ±10   | ±20     | mV         |
| Hysteresis voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$                        | -                                                                             | ±10   | ±20     | mV         |
| Temperature Coefficient of Offset Voltage $TCV_{OE}$                        | -                                                                             | ±0.5  | ±1      | mV/°C      |
| Output voltage temperature coefficient $TCV_{out}$                          | -                                                                             | ±0.08 | ±0.15   | %/°C       |
| Response time $t_D$ @ $0 \rightarrow I_{PN}$ (Remark 4)                     | -                                                                             | 3     | 5       | us         |
| Ambient operating temperature $T_A$                                         | -40                                                                           | 25    | 125     | °C         |
| Ambient storage temperature $T_s$                                           | -40                                                                           | 25    | 125     | °C         |
| Withstand voltage<br>$V_D@50Hz, 60s, 0.1mA$                                 |                                                                               | 3000  |         | $V_{AC}$   |
| Weight m                                                                    |                                                                               | 80    |         | g          |

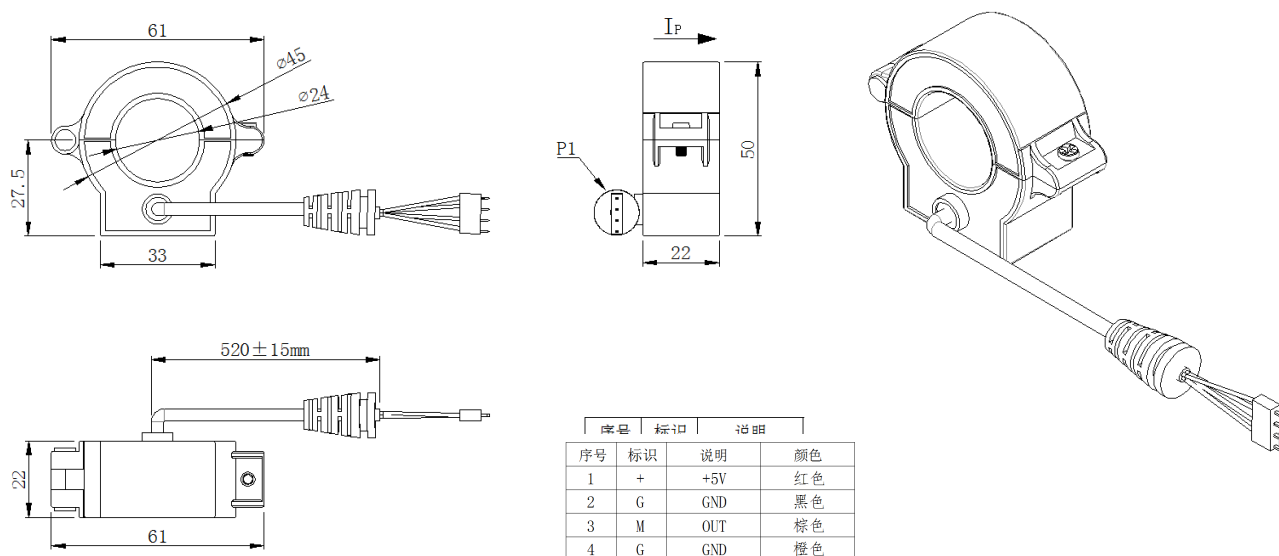
## Dimensions (in mm)

### SCY13



04T-JWPT-VSLE-S/JST

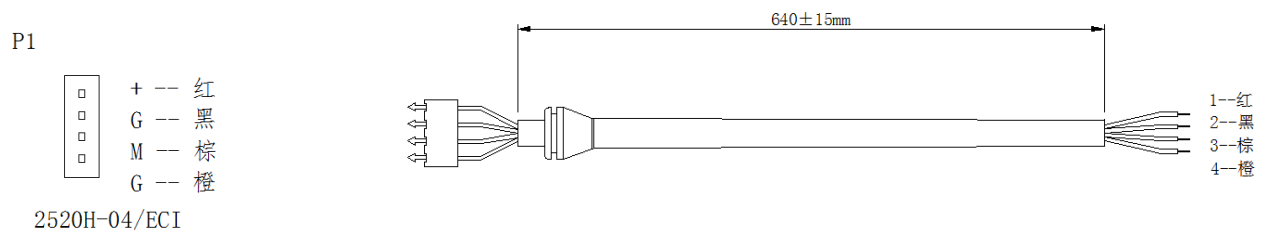
### SCY13A



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### Concentrate:

1. Size error:  $\pm 0.5\text{mm}$ ;
2. Primary aperture:  $\phi 24\text{mm}$ ;
3. SCY13 wire rubber shell: 04T-JWPT-VSLE-S/JST,

Terminal: SWPT-001T-P025/JST;

4. SCY13A wire shell: 2520H-04/ECI,

Terminal: 2521-2/ECI;

5. The IP indication direction is the positive direction of the current;
6. Incorrect wiring may cause damage to the sensor.

## Technical Parameters

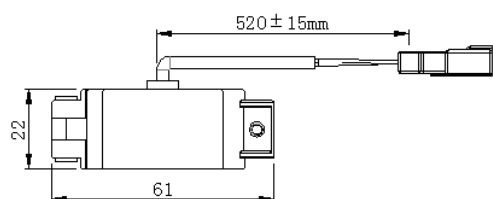
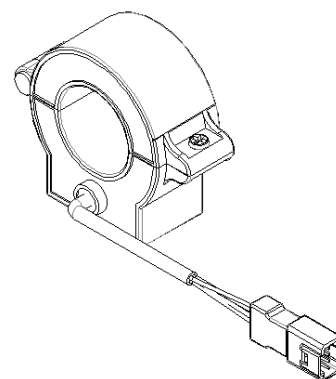
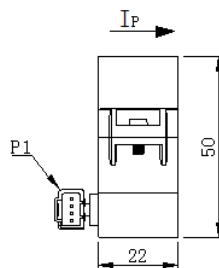
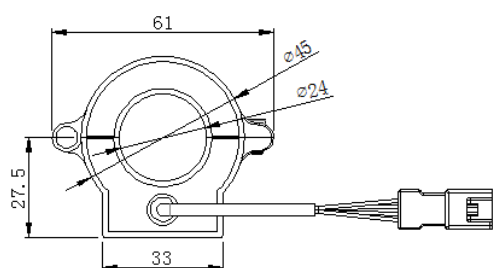
| Model<br>Parameters (25°C)                                    | SCY13B-/SCY13C- |       |       |       |        |
|---------------------------------------------------------------|-----------------|-------|-------|-------|--------|
|                                                               | 200A            | 300A  | 500A  | 750A  | 1000A  |
| Primary Current (A) $I_{PN}$                                  | 200A            | 300A  | 500A  | 800A  | 1000A  |
| Primary Current Max. Peak Value (A) $I_{PM}$                  | ±200A           | ±300A | ±500A | ±800A | ±1000A |
| Output Voltage (V) $V_{out}$<br>@± $I_{PN}$ , $R_L=25K\Omega$ | ±4.5V (±1%)     |       |       |       |        |

## Electrical Data

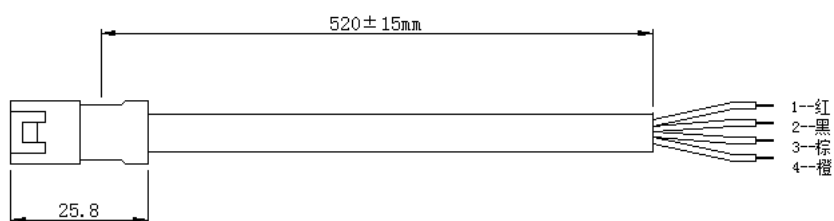
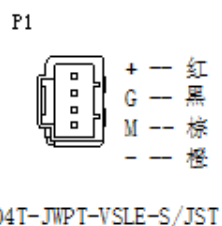
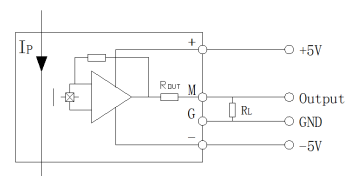
| Item                                                                        | Min.                                                                    | Max.  | Typical | Unit            |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------|-------|---------|-----------------|
| Input power supply voltage range $V_c$<br>(±5%) (Remark 1, Remark 2)        | -                                                                       | ±5    | -       | V <sub>DC</sub> |
| Current consumption $I_c$                                                   | -                                                                       | ±15   | ±20     | mA              |
| Withstand resistance $R_{INS}$ @500V DC                                     | 1000                                                                    | -     | -       | MΩ              |
| Output voltage $V_{out}$ @ $I_{PN}$ ,<br>$R_L=25K\Omega$ , $T_A=25^\circ C$ | $V_{OUT} = 4.518 * \frac{R_L}{102 + R_L} * \frac{I_P}{I_{PN}} + V_{OE}$ |       |         | V               |
| Output internal resistance $R_{OUT}$                                        | -                                                                       | 102   | -       | Ω               |
| Load Resistance $R_L$ (Remark 3)                                            | -                                                                       | 25    | -       | KΩ              |
| Accuracy X @ $I_{PN}$ , $T_A=25^\circ C$                                    | -                                                                       | ±1    | -       | %               |
| Linearity $\varepsilon_L$ @ $R_L=10K\Omega$ , $T_A=25^\circ C$              | -                                                                       | ±1    | -       | % $I_{PN}$      |
| Offset voltage $V_{OE}$ @ $T_A=25^\circ C$                                  | -                                                                       | ±20   | ±30     | mV              |
| Hysteresis voltage $V_{OM}$ @ $I_{PN} \rightarrow 0$                        | -                                                                       | ±10   | ±20     | mV              |
| Temperature Coefficient of Offset Voltage $TCV_{OE}$                        | -                                                                       | ±0.5  | ±1      | mV/°C           |
| Output voltage temperature coefficient $TCV_{out}$                          | -                                                                       | ±0.08 | ±0.15   | %/°C            |
| Response time $t_D$ @ $0 \rightarrow I_{PN}$ (Remark 4)                     | -                                                                       | 3     | 5       | us              |
| Ambient operating temperature $T_A$                                         | -40                                                                     | 25    | 125     | °C              |
| Ambient storage temperature $T_s$                                           | -40                                                                     | 25    | 125     | °C              |
| Withstand voltage<br>$V_D@50Hz, 60s, 0.1mA$                                 |                                                                         | 3000  |         | V <sub>AC</sub> |
| Weight m                                                                    |                                                                         | 80    |         | g               |

## Dimensions (in mm)

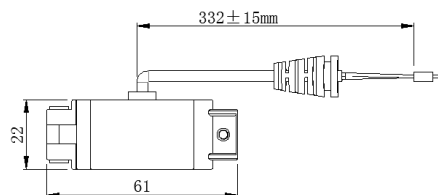
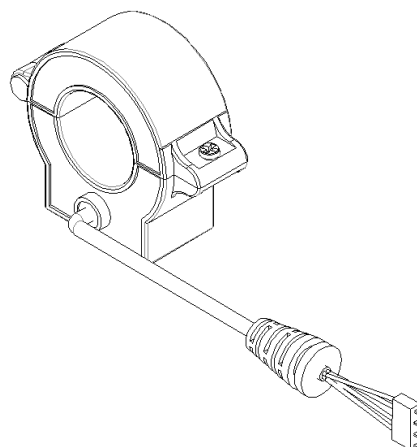
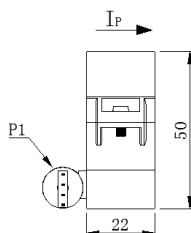
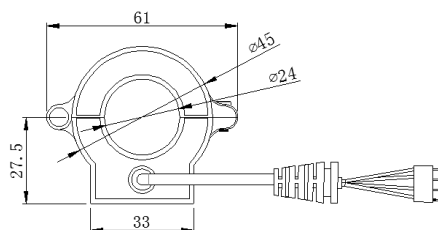
### SCY13C



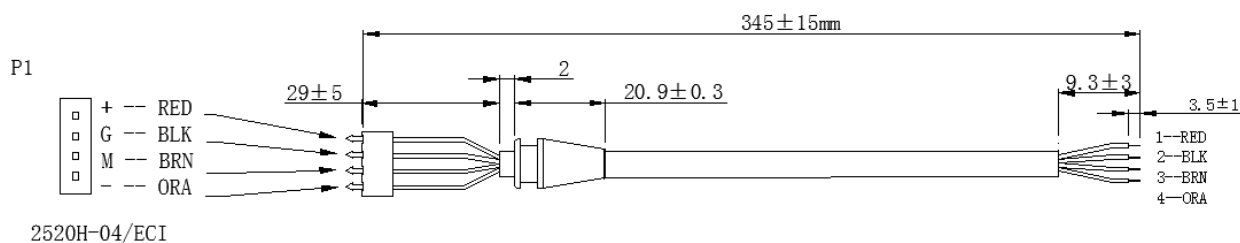
| 序号 | 标识 | 说明  | 颜色 |
|----|----|-----|----|
| 1  | +  | +5V | 红色 |
| 2  | G  | GND | 黑色 |
| 3  | M  | OUT | 棕色 |
| 4  | -  | -5V | 橙色 |



### SCY13B



| 序号 | 标识 | 说明  | 颜色  |
|----|----|-----|-----|
| 1  | +  | +5V | RED |
| 2  | G  | GND | BLK |
| 3  | M  | OUT | BRN |
| 4  | -  | -5V | ORA |



## Notes:

1. Size error:  $\pm 0.5\text{mm}$ ;
2. Primary aperture:  $\phi 24\text{mm}$ ;
3. SCY13C wire shell: 04T-JWPT-VSLE-S/JST,  
Terminal: SWPT-001T-P025/JST;
4. SCY13B wire shell: 2520H-04/ECI,  
Terminal: 2521-2/ECI;
5. The IP indication direction is the positive direction of the current;
6. Incorrect wiring may cause damage to the sensor.