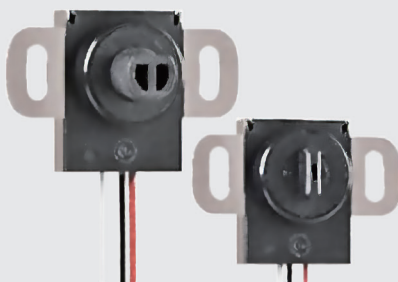


# MINIATURE DRIP-PROOF DUAL OUTPUT

## HALL IC CONTACTLESS ROTARY ANGLE TYPE

# CP-1HX series

RoHS compliant



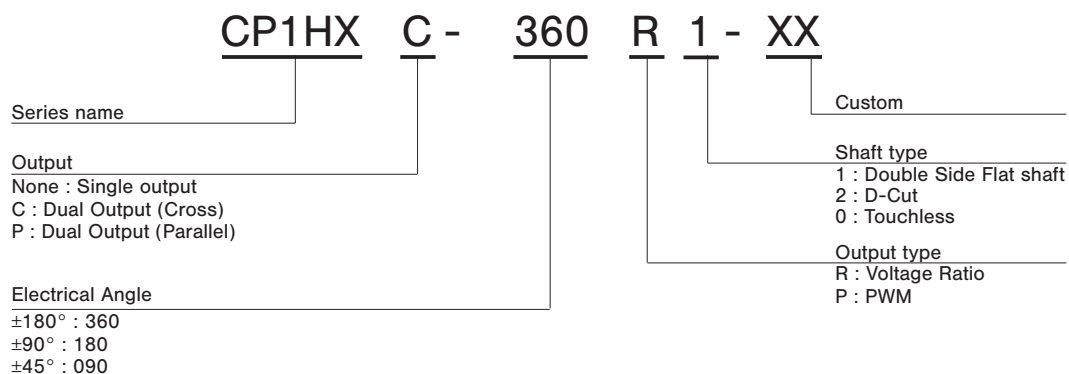
### FEATURES

- Compact and Thin Type
- Contactless Hall-IC Angle Sensor
- Effective Electrical Travel :  $\pm 180^\circ$
- Absolute Linearity :  $\pm 2\%$ FS
- Voltage Ratio or PWM Output
- Single Output (3 wires), Dual Output (6 wires)
- Shaft : Double side flat, D-Cut
- Water drip proof (Circuit part)

### OPTION

- Effective Electrical Travel :  $90^\circ \sim 360^\circ$
- Inverse output is available by programming
- Touchless type (No shaft)

### PART NUMBER DESIGNATION



### STANDARD SPECIFICATIONS

#### Electrical characteristics

| Item                                            | Part No.                  | CP-1HX-xxxRx | CP-1HXC-xxxRx | CP-1HX-xxxPx      | CP-1HXC-xxxPx |
|-------------------------------------------------|---------------------------|--------------|---------------|-------------------|---------------|
| Effective Electrical Travel                     | ±180°                     |              |               |                   |               |
| Output Range                                    | Ratio Output 10 ~ 90 %Vin |              |               | PWM 10 ~ 90 %Duty |               |
| Absolute Linearity                              | ±2 %FS                    |              |               |                   |               |
| Input Voltage                                   | 5±0.5 VDC                 |              |               |                   |               |
| Load Resistance                                 | 10 kΩ min.                |              |               |                   |               |
| Current Consumption                             | 10 mA max.                | 20 mA max.   | 10 mA max.    | 20 mA max.        |               |
| Insulation Resistance                           | 100 MΩ min. / 50 VDC      |              |               |                   |               |
| Resolution                                      | 12 bit (0 ~ 100 %Vin)     |              |               |                   |               |
| Hysteresis                                      | 1.0 %FS                   |              |               |                   |               |
| Temp. Characteristics<br>-40 ~ 85°C (Reference) | ±1°                       |              |               |                   |               |
| Dual Output Difference                          | -                         | 100 ± 1 %Vin | -             | 100 ± 1 %Duty     |               |

# CP-1HX

## POTENTIOMETERS

### STANDARD SPECIFICATIONS

#### Mechanical characteristics

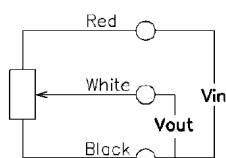
|                         |              |
|-------------------------|--------------|
| Total Mechanical Travel | 360° Endless |
| Torque                  | 3 mN·m max.  |
| Thrust Load Tolerance   | 4 N          |
| Radial Load Tolerance   | 3 N          |
| Net weight              | Approx. 5 g  |

#### Environmental characteristics

|                                |                                                                       |
|--------------------------------|-----------------------------------------------------------------------|
| Life Cycles                    | 7 Million Cycle<br>(Room Temp., No Load)                              |
| Operating Temp. Range          | -40 ~ +85 °C                                                          |
| Storage Temp. Range            | -40 ~ +85 °C                                                          |
| Vibration                      | 200 m/s <sup>2</sup> , 5~500 Hz 10min,<br>3 axis 2 hours (Room Temp.) |
| Shock                          | 500 m/s <sup>2</sup> , 11 ms, 3 axis 3 times<br>(Room Temp.)          |
| EMS                            | 100V/m, 1 MHz ~ 1 GHz<br>(ISO 11452-2, -3)                            |
| ESD<br>(Case to Each Terminal) | Contact Discharge ±15 kV<br>(IEC 61000-4-2)                           |
| ESD<br>(Between Each Terminal) | Contact Discharge ±15 kV<br>(IEC 61000-4-2)                           |
| IP Grade                       | IP67 (Circuit part only)                                              |

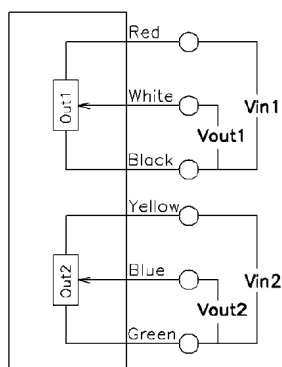
### SCHEMATIC

#### Single Output



Red, White, Black indicate lead colors.

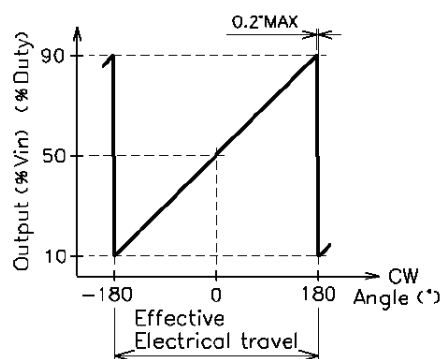
#### Dual Output



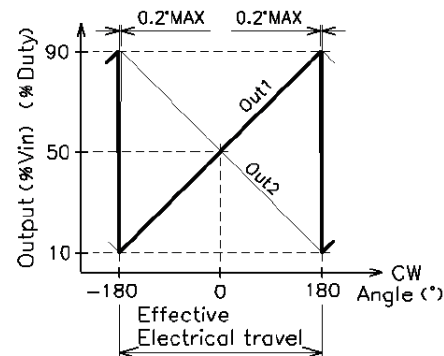
Red, White, Black, Yellow, Blue, Green indicate lead colors.

### OUTPUT CHARACTERISTICS

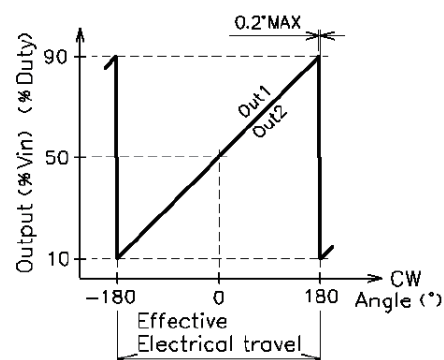
#### Single Output



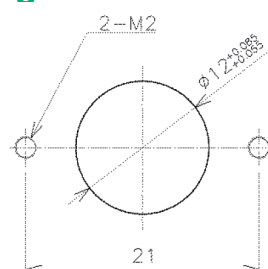
#### Dual Output (Cross)



#### Dual Output (Parallel)



### Mounting



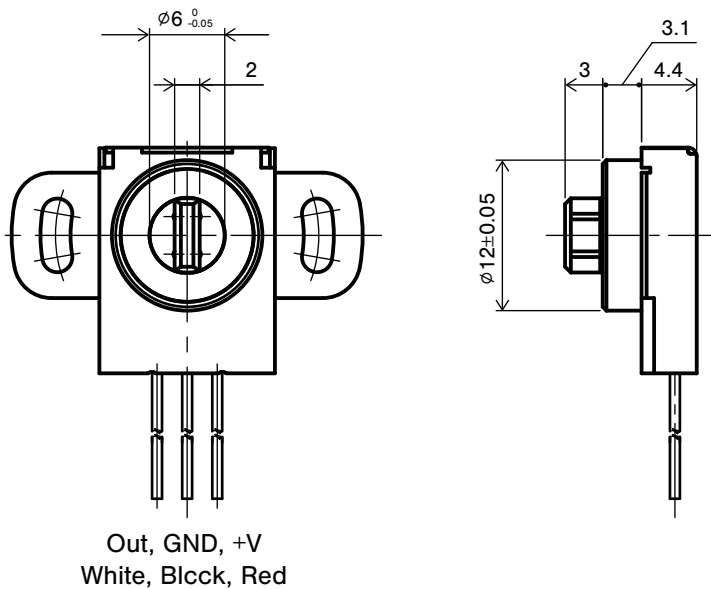
# CP-1HX

## POTENTIOMETERS

### OUTLINE DIMENSIONS

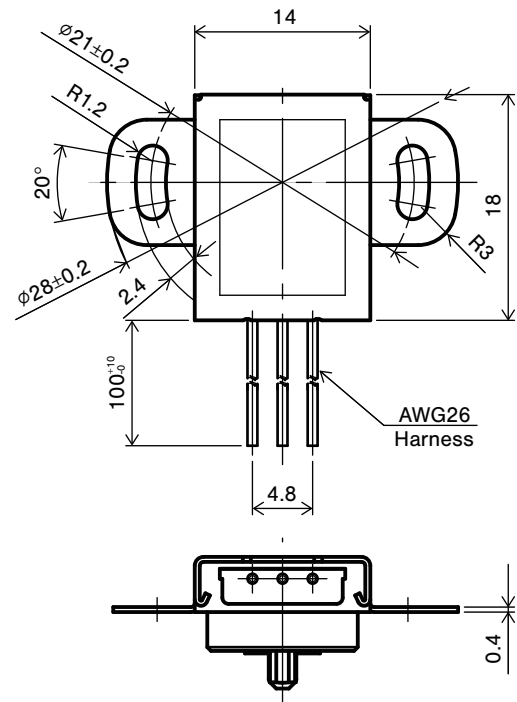
(Unit:mm)

#### ● Shaft : Double side flat

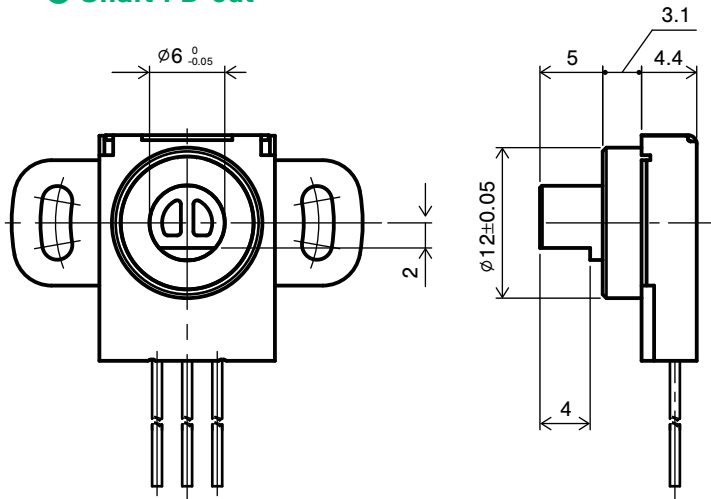


- Shaft position is shown for approx. 50 %Vin.

#### ● Single Output (3 wires)

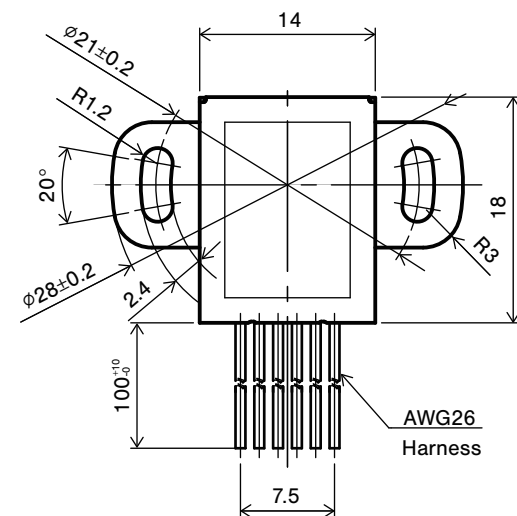


#### ● Shaft : D-cut



- Shaft position is shown for approx. 50 %Vin.

#### ● Dual Output (6 wires)



+V1, GND1, Out1, +V2, GND2, Out2  
Red, Black, White, Yellow, Green, Blue

### HANDLING INSTRUCTION

- This product may be influenced from external magnetic field.
- Use this sensor in the place where is protected from ESD.