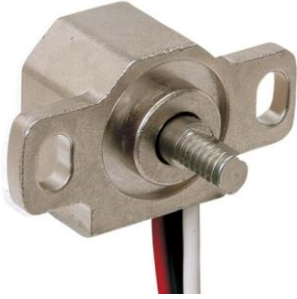


Contactless Hall-IC Angle Sensor

QP-3HB Series

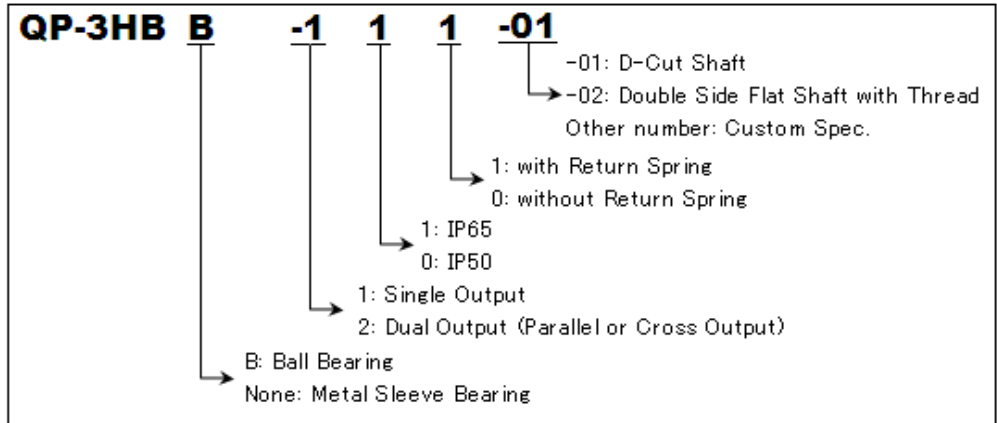


- Contactless Hall-IC Angle Sensor
- Effective Electrical Angle : $\pm 45^\circ$ (Option: $\pm 10^\circ$, $\pm 30^\circ$, $\pm 60^\circ$)
- Independent Linearity : $\pm 2\%FS$
- with / without Return Spring

- QP-3HB : Metal Sleeve Bearing
- QP-3HBB : Ball Bearing

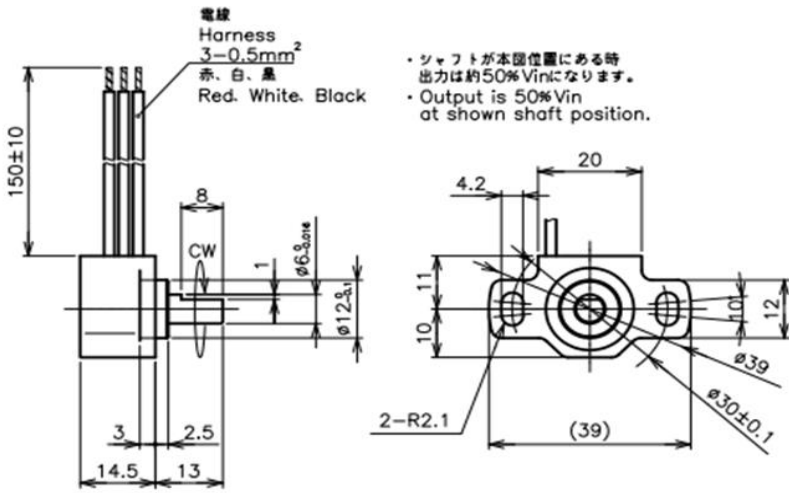
- 【Material】
- Housing : Zinc Alloy
 - Shaft : Stainless Steel
 - Bearing : QP-3HB (Metal Sleeve Bearing) : Copper Alloy
QP-3HBB (Ball Bearing) : Stainless Steel

QP-3HB Model Number Designation

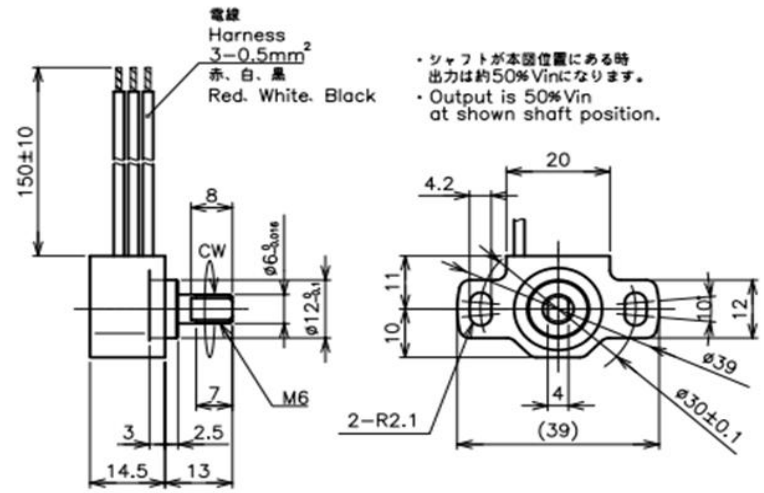


Dimension [mm]

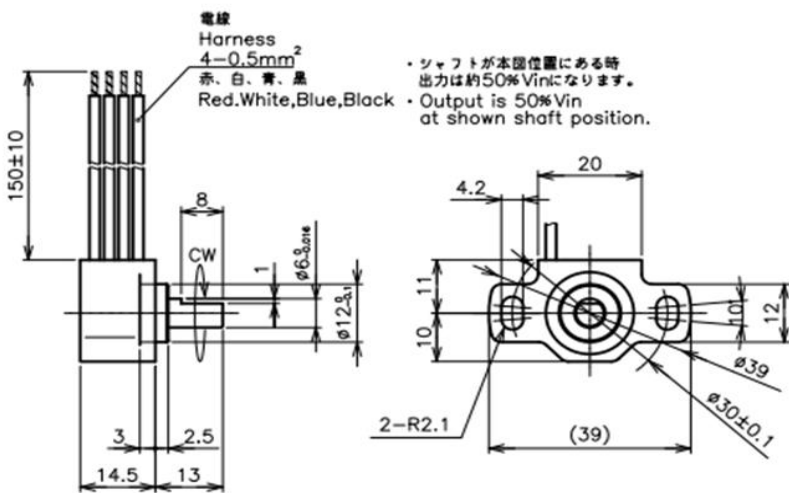
QP-3HB-1xx-01



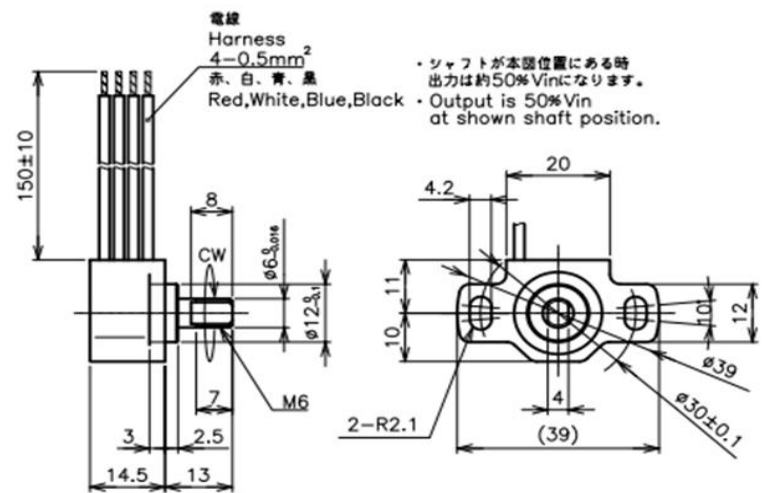
QP-3HB-1xx-02



QP-3HB-2xx-01

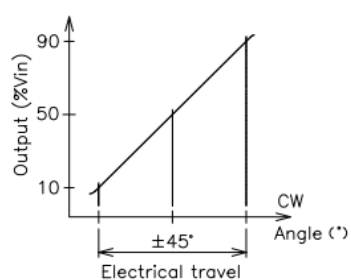


QP-3HB-2xx-02

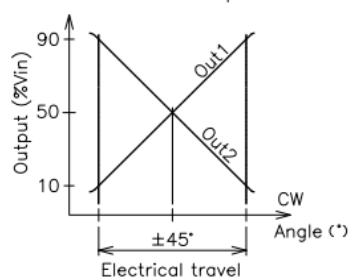


Output Characteristics

Single Output



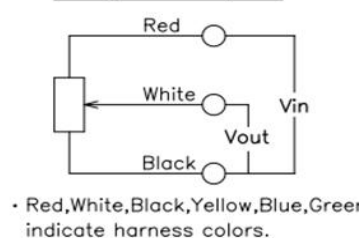
Dual Output



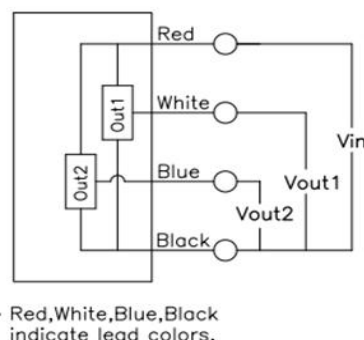
* Parallel Output is also available

Schematic

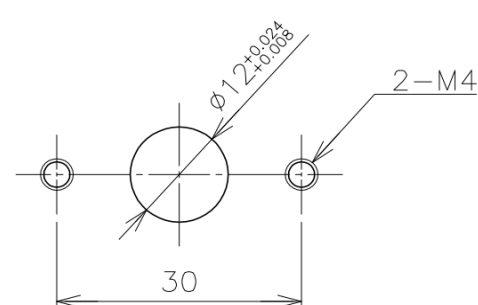
Single Output



Dual Output



Mounting



Model No.

| | | | | | (Ball Bearing) | (Ball Bearing) |
|---------------|---------------|---------------------------|---------------|---------------------------|----------------|----------------|
| Single Output | QP-3HB-100-01 | QP-3HB-101-02 | QP-3HB-110-01 | QP-3HB-111-02 | QP-3HBB-100-01 | QP-3HBB-110-01 |
| Dual Output | QP-3HB-200-01 | QP-3HB-201-02 | QP-3HB-210-01 | QP-3HB-211-02 | - | - |
| Return Spring | × | ○ | × | ○ | × | × |
| Shaft | D-Cut | Double Side Flat Threaded | D-Cut | Double Side Flat Threaded | D-Cut | D-Cut |

Electrical Data

| | | | |
|---|--------------------------------|-----------------------|------|
| Electrical Angle | ±45 (Option: ±10°, ±30°, ±60°) | | ° |
| Output Range | 10~90 | | %Vin |
| Independent Linearity | ±2(FS=90°) | | %FS |
| Input Voltage | DC5±0.5 | | V |
| Load Resistance | MIN. 10 | | kΩ |
| Supply Current | MAX. 10 (Single Output) | MAX. 20 (Dual Output) | mA |
| Insulation Resistance | MIN. 100/DC50V | | MΩ |
| Temp. Characteristics -40~125°C(Reference Temp.25°C) | At 0°: ±1.5° At ±45°: ±3° | | |

Mechanical Data

| | | | | | | |
|-------------------------|-------------|-----------|-------------|-----------|--------------|-------------|
| Total Mechanical Travel | 360°Endless | 120°±5° | 360°Endless | 120°±5° | 360°Endless | 360°Endless |
| Stopper Strength | - | 1N·m MIN. | - | 1N·m MIN. | - | - |
| Torque | MAX. 3mN·m | 5~30mN·m | MAX. 5mN·m | 5~30mN·m | MAX. 0.5mN·m | MAX. 5mN·m |
| Mass | Approx. 50g | | | | | |

Environmental Data

| | | | |
|----------------------------|--|------|-----------|
| Life Cycles | 50 Million | | Cycle |
| Category Temperature Range | -40~+125 | | °C |
| Storage Temperature Range | -40~+125 | | °C |
| Vibration | 200m/s ² 5~400Hz/10min. 3axis | | |
| Shock | 500m/s ² 11ms 3axis 3times | | |
| EMS | 100V/m 10k ~1GHz | | |
| ESD(Case-Each Terminal) | ±2.5kV | | |
| ESD(Each Terminal) | ±4kV | | |
| IP Level | IP50 | IP65 | IP50 IP65 |

Handling Instruction

- Do not use Hall-IC sensor as a variable resistor.
- This product may be influenced from external magnetic field.
- Use this sensor in the place where is protected from ESD.