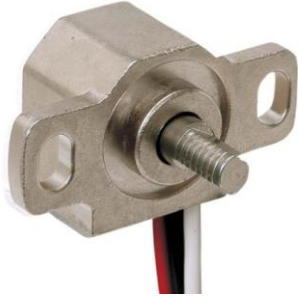


Contactless Hall-IC Angle Sensor

QP-3HB Series

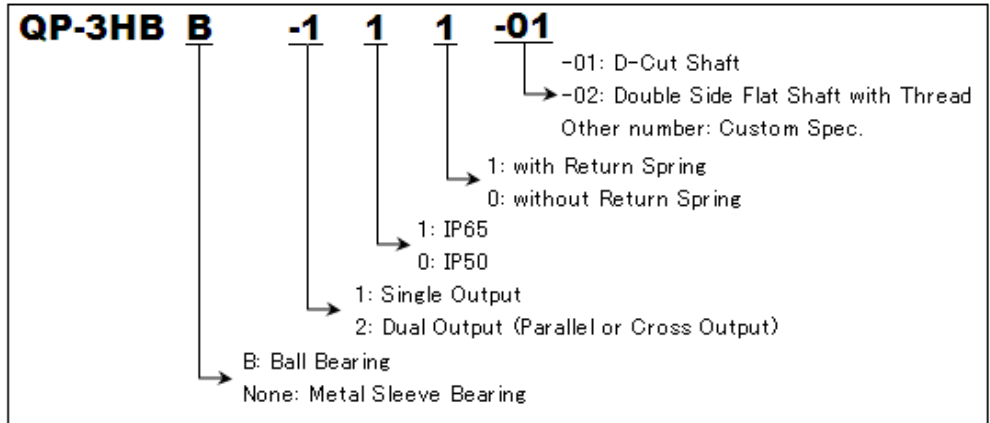


- Contactless Hall-IC Angle Sensor
- Effective Electrical Angle : $\pm 45^\circ$ (Option: $\pm 10^\circ$, $\pm 30^\circ$, $\pm 60^\circ$)
- Independent Linearity : $\pm 2\%$ FS
- with / without Return Spring

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

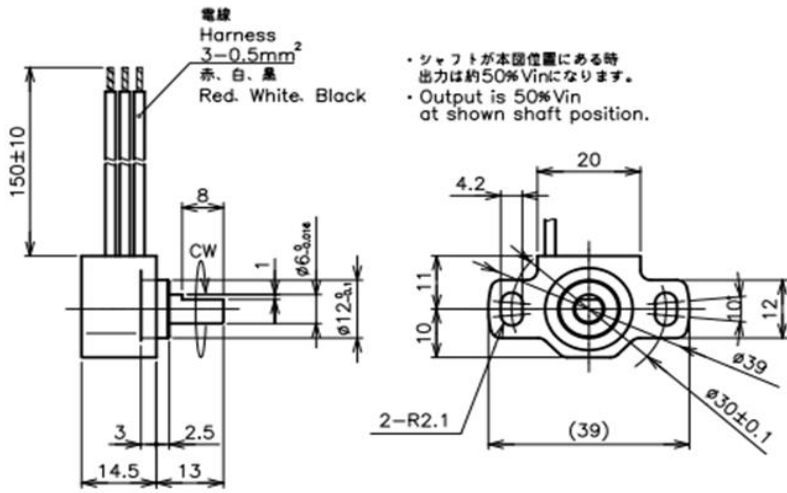
- 【Material】**
- Housing : Zinc Alloy
 - Shaft : Stainless Steel
 - Bearing : QP-3HB (Metal Sleeve Bearing) : Copper Alloy
QP-3HBB (Ball Bearing) : Stainless Steel

QP-3HB Model Number Designation

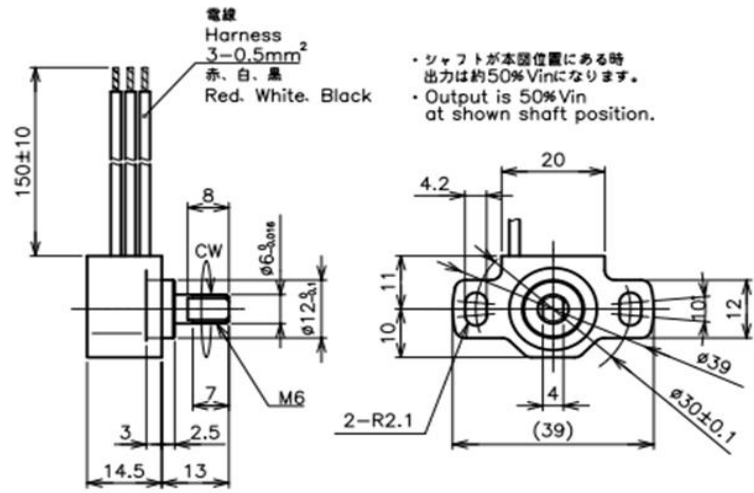


Dimension [mm]

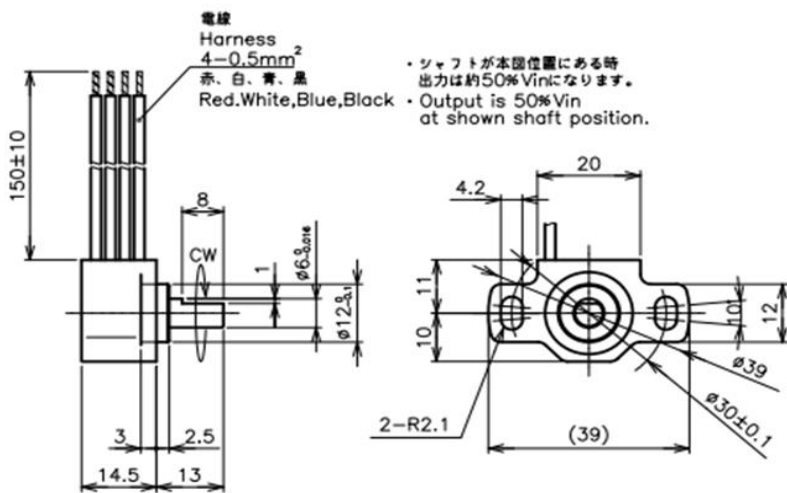
QP-3HB-1xx-01



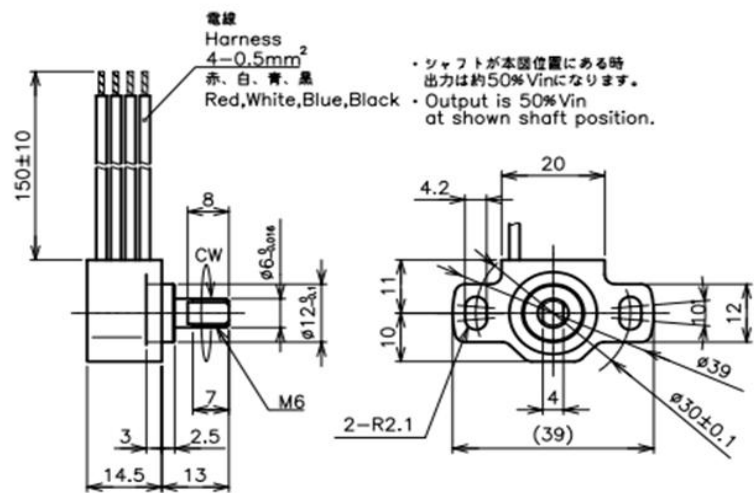
QP-3HB-1xx-02



QP-3HB-2xx-01

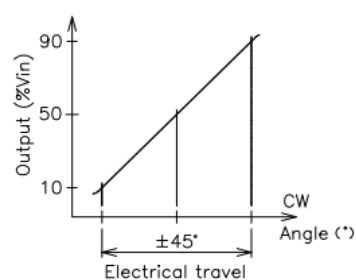


QP-3HB-2xx-02

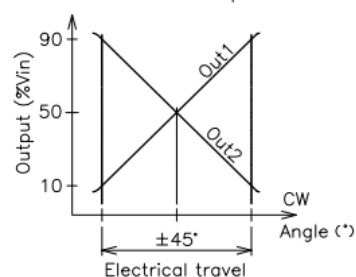


Output Characteristics

Single Output



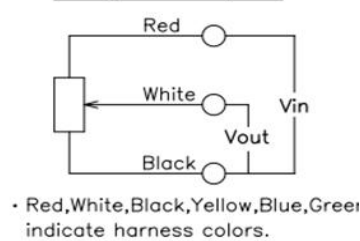
Dual Output



* Parallel Output is also available

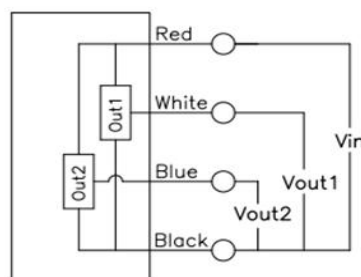
Schematic

Single Output



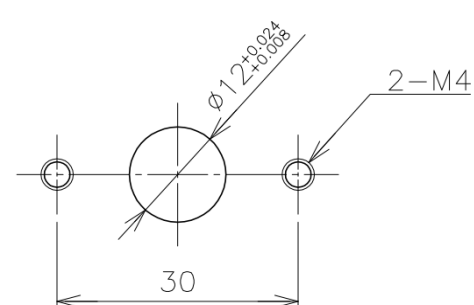
• Red, White, Black, Yellow, Blue, Green indicate harness colors.

Dual Output



• Red, White, Blue, Black indicate lead colors.

Mounting



Model No.

Model No.	QP-3HB-100-01	QP-3HB-101-02	QP-3HB-110-01	QP-3HB-111-02	QP-3HB-110-01	QP-3HB-110-01
Single Output	QP-3HB-100-01	QP-3HB-101-02	QP-3HB-110-01	QP-3HB-111-02	QP-3HB-110-01	QP-3HB-110-01
Dual Output	QP-3HB-200-01	QP-3HB-201-02	QP-3HB-210-01	QP-3HB-211-02	QP-3HB-210-01	QP-3HB-210-01
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.