

Contactless Hall-IC Angle Sensor

QP-3HB Series



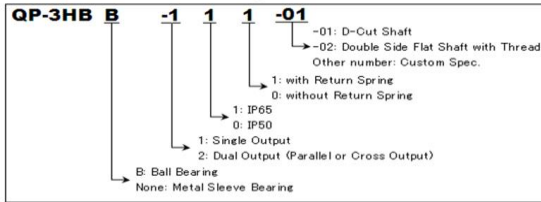
- Contactless Hall-IC Angle Sensor
- Effective Electrical Travel : ±45° (Option:±10°, ±30°, ±60°)
- Independent Linearity : ±2%FS
- With / Without Return Spring (Spring Return Direction: CCW)

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

[Material]

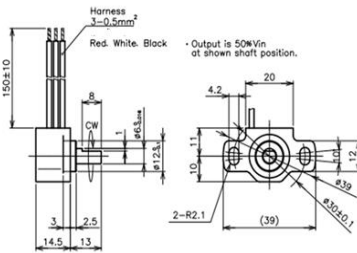
- Housing : Zinc Alloy
- Shaft : Stainless Steel
- Bearing : QP-3HB (Metal Sleeve Bearing): Copper Alloy
: QP-3HBB (Ball Bearing): Stainless Steel

QP-3HB Model Number Designation

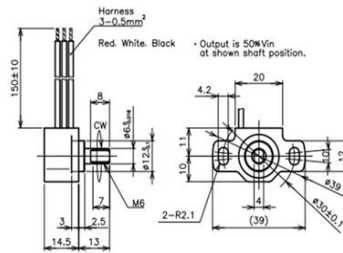


Dimension (mm)

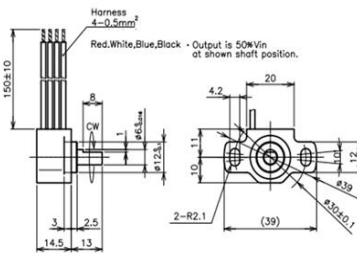
QP-3HB-1xx-01



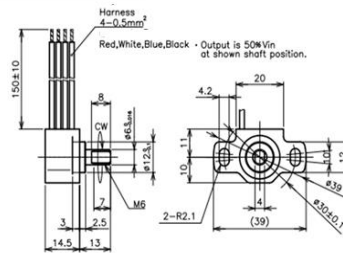
QP-3HB-1xx-02



QP-3HB-2xx-01

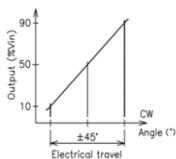


QP-3HB-2xx-02

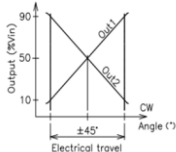


Output Characteristics

Single Output

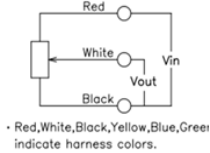


Dual Output

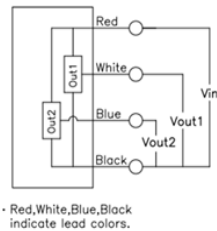


Schematic

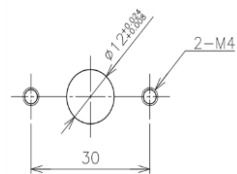
Single Output



Dual Output



Mounting



Model No.		(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	D-Cut	Double Side Flat	D-Cut	D-Cut

Electrical Specifications

Effective Electrical Travel	±45° (Option: ±10°, ±30°, ±60°)
Output Range	10%~90%Vin
Ind. Linearity	±2%FS (FS=90°)
Input Voltage	DC5V±0.5V
Load Resistance	10KΩ MIN.
Supply Current	10mA MAX. (Single Output)
	20mA MAX. (Dual Output)
Insulation Resistance	100MΩ/ DC50V MIN.
Temp. Characteristics : -40~+125°C (Reference Temp. 25°C)	@ 0°Position : ±1.5° '@ ±45° Position : ±3°

Mechanical Specifications

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

Environmental Specifications

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