

Contactless Hall-IC Angle Sensor

MIDORI QP-3HB Series



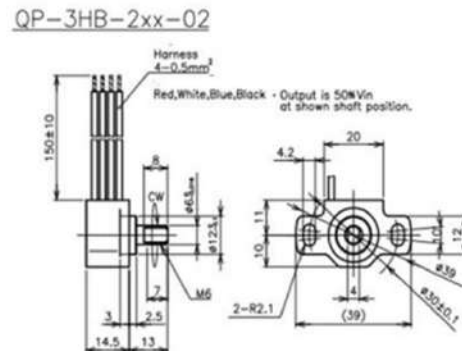
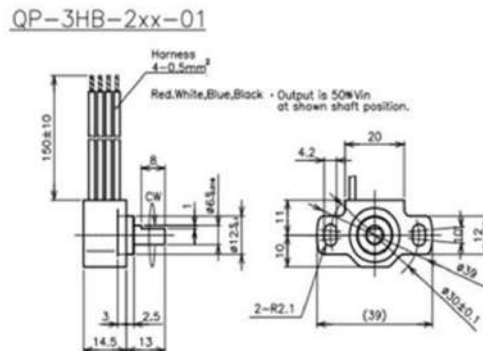
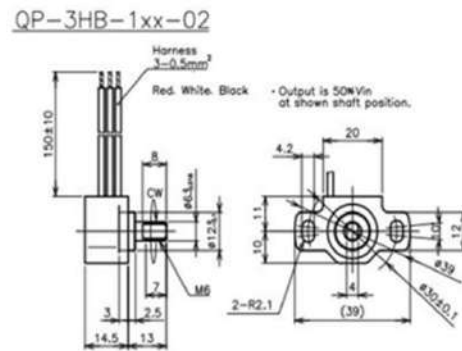
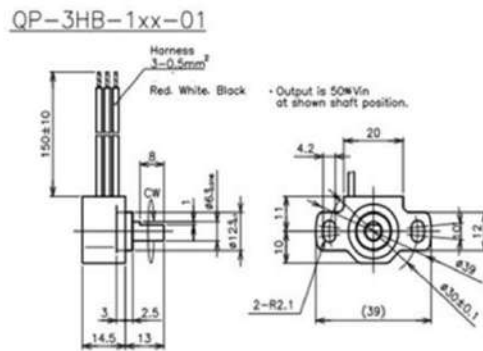
General

- Single-turn Hall-IC Angle Sensor
- Effective Electrical Travel: 90°
- Independent Linearity: $\pm 2\%$ FS
- With/ Without Return Spring
 - QP-3HB: Metal Sleeve Bearing
 - QP-3HBB: Ball Bearing

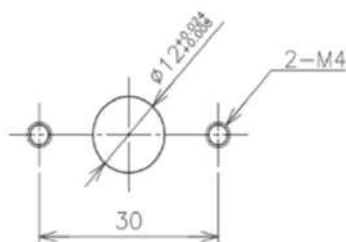
Material

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

Dimension (mm)

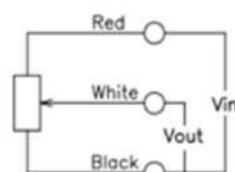


Mounting(mm)



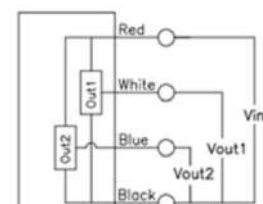
Schematic

Single Output



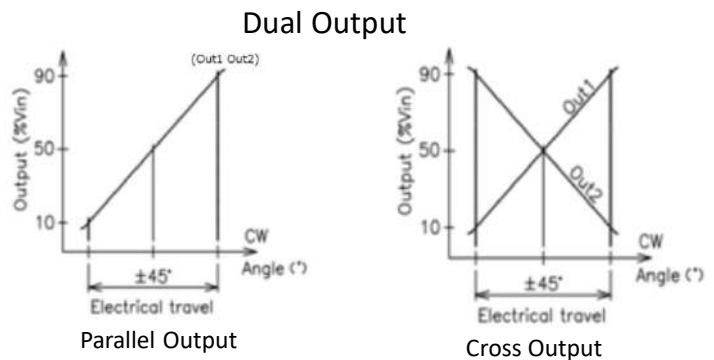
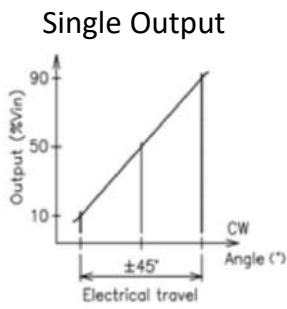
• Red, White, Black, Yellow, Blue, Green indicate harness colors.

Dual Output



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

Output Characteristics



Specifications

	Single Output	Dual Output	Return Spring	Shaft	
QP-3HB-100-01	QP-3HB-100-02	QP-3HB-101-01	QP-3HB-111-02	QP-3HBB-100-01	QP-3HBB-110-01
QP-3HB-200-01	QP-3HB-201-02	QP-3HB-210-01	QP-3HB-211-02	---	---
	X	○	X	○	X
	D-Cut	Double Side Flat	D-Cut	Double Side Flat	D-Cut

Electrical Specifications

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

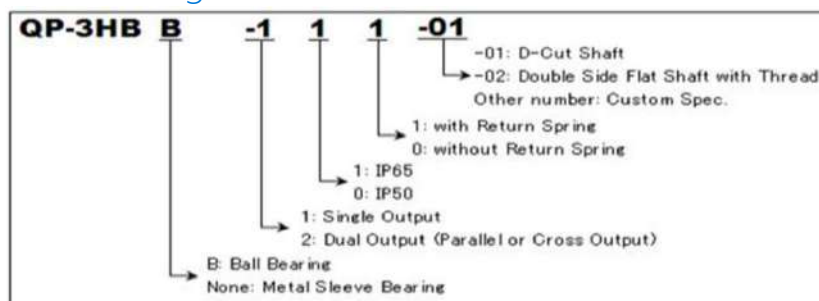
Mechanical Specifications

Total Mechanical Travel	360° Endless	120° ±5°	360° Endless	120° ±5°	360° Endless	360° Endless
Stopper Strength (Back Spring)	---	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	200mm2/S, 5~400Hz, 10minutes, 3axis
Shock	500mm2/S, 11ms, 3axis, 3times
EMS	100V/m 10K~1GHz
ESD (Case to Each Terminal)	±2.5kV
ESD (Between Each Terminal)	±4kV
Torque	IP50

QP-3HB Model Number Designation



Handling Instruction

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