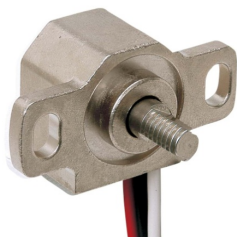
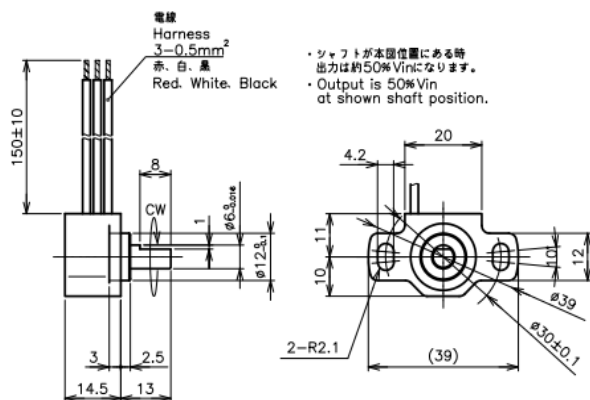
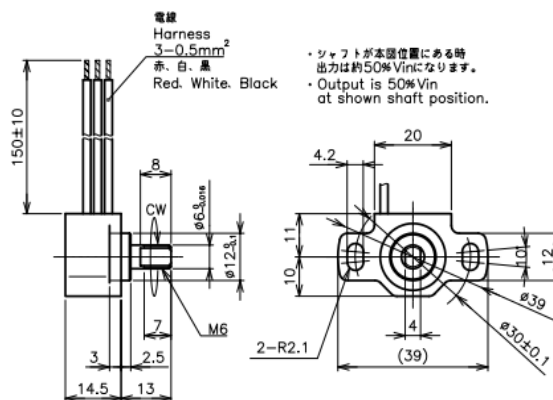
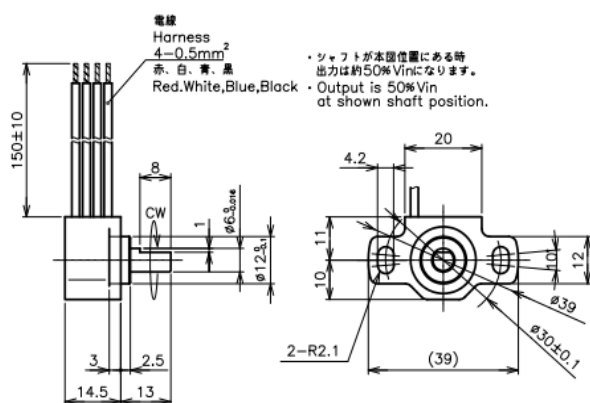
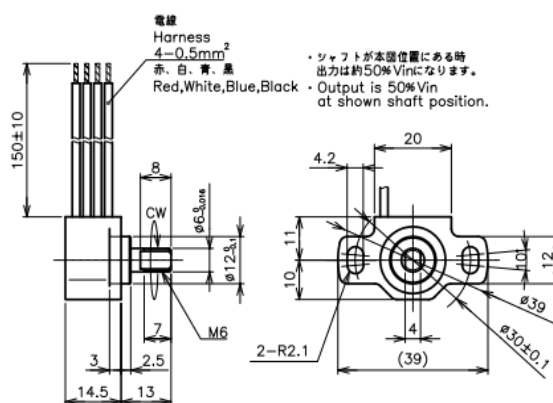


Contactless Angle Sensor

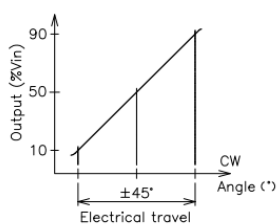
QP-3HB Series

- Contactless Angle Sensor
 - Effective Electrical Travel : $\pm 45^\circ$
 - Absolute Linearity : $\pm 2\%FS$
 - IP Rating : IP67
 - Output : Dual Output
 - Return Spring
 - Shaft : D-Cut, Double Side Flat
 - Bearing : Ball Bearing, Metal Sleeve Bearing
- 【Material】**
- Housing : Zinc alloy
 - Shaft : Stainless Steel
 - Bearing : Stainless steel or Copper alloy

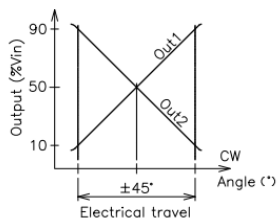
Dimension [mm]QP-3HB-1xx-01QP-3HB-1xx-02QP-3HB-2xx-01QP-3HB-2xx-02

Output Characteristics

Single Output

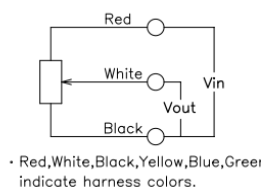


Dual Output



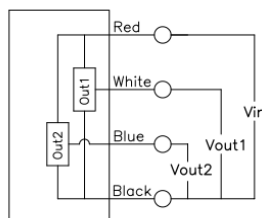
Schematic

Single Output



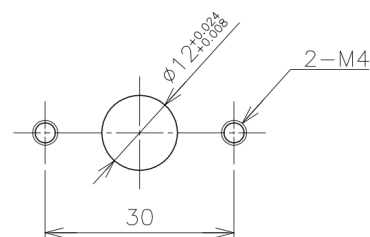
• Red, White, Black, Yellow, Blue, Green indicate harness colors.

Dual Output



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

Mounting



Model No.]

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 Style	D Cut	Double Side Flat Threaded	D Cut	Double Side Flat Threaded	D Cut	D Cut

Electrical Data]

Effective Electrical Travel	$\pm 45^\circ$ (Option: $\pm 10^\circ$, $\pm 30^\circ$, $\pm 60^\circ$)	°
Output Range	10~90	% V_{in}
Independent Linearity	± 2 (FS=90°)	%FS
Input Voltage	DC5 \pm 0.5	V
Load Resistance	MIN. 10	k Ω
Supply Current	MAX. 10 (single output) / MAX. 20 (dual output)	mA
Insulation Resistance	MIN. 100/DC50V	M Ω
Temp. Characteristics -40~125°C (Reference Temp. 25°C)	At 0°: $\pm 1.5^\circ$ At $\pm 45^\circ$: $\pm 3^\circ$	

Mechanical Data]

Total Mechanical Travel	360° Endless	120° $\pm 5^\circ$	360° Endless	120° $\pm 5^\circ$	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	50g Approx.					

Environmental Data]

Life Cycles	50 Million	Cycle
Operating Temp.	-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)	± 2.5 kV	
ESD (Each Terminal)	± 4 kV	
IP Rating	IP50	IP65
		IP50
		IP65

Handling Instruction

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