

# BRQ Series (front sensing type)

## INSTRUCTION MANUAL

# Autonics

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Failure to follow this instruction may result in fire.

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Sensing type	Through-beam	Polarized retroreflective	Diffuse reflective
Product components	Product, instruction manual		
Reflector	-	MS-2A	-
Adjustment screwdriver	× 1	× 1	× 1
M18 fixing nut	× 4	× 2	× 2

- In Dark ON mode, the waveforms are reversed.
- Operation indicator and transistor output differ from the sensing method.

Technical drawings of the components:

- Emitter:** A hexagonal component with a central circular feature.
- Receiver:** A hexagonal component with a central circular feature.
- Polarized retroreflective, Diffuse reflective:** A hexagonal component with a central circular feature.
- Cable type:** A detailed view of the cable connection showing dimensions: 63, 59, 38.5, 2.5, 16.2, and Ø4,2m. The cable is labeled M18x1 and C or E.

<b>Power supply</b>	10-30 VDC= $\pm 10\%$ (ripple P-P: $\leq 10\%$ )
<b>Current consumption</b>	It depends on the sensing type
Through-beam	Emitter: $\leq 20$ mA, receiver: $\leq 20$ mA
Reflective	$\leq 30$ mA
<b>Control output</b>	NPN open collector output / PNP open collector output model
Load voltage	$\leq 30$ VDC=
Load current	$\leq 100$ mA
Residual voltage	NPN: $\leq 2$ VDC=, PNP: $\leq 2$ VDC=
<b>Protection circuit</b>	Reverse power/output protection circuit, output short overcurrent protection circuit
<b>Insulation resistance</b>	$\geq 20$ M $\Omega$ (500 VDC= megger)
<b>Noise immunity</b>	$\pm 240$ VDC= the square wave noise (pulse width: 1 $\mu$ s) by the noise simulator
<b>Dielectric strength</b>	Between the charging part and the case, 1,000 VAC $\sim$ 50/60 Hz for 1 min
<b>Vibration</b>	1.5 mm double amplitude at frequency of 10 to 55 Hz in each X, Y, Z direction for 2 hours
<b>Shock</b>	500 m/s <sup>2</sup> ( $\approx 50$ G) in each X, Y, Z direction for 3 times
<b>Ambient illuminance (receiver)</b>	Sunlight: $\leq 11,000$ lx, incandescent lamp: $\leq 3,000$ lx
<b>Ambient temperature</b>	-25 to 60 °C, storage: -30 to 70 °C (no freezing or condensation)
<b>Ambient humidity</b>	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
<b>Protection rating</b>	IP67 (IEC standard) SUS316L material model; IP67 (IEC standard), IP69K (DIN standard)
<b>Connection</b>	Cable type / Connector type model
<b>Cable spec.</b>	$\varnothing$ 4 mm, 4-wire, (Emitter: 2-wire), 2 m
<b>Wire spec.</b>	AWG26 (0.52 mm, 20-core), insulator outer diameter: $\varnothing$ 1 mm
<b>Connector</b>	M12 4-pin plug type
<b>Material</b>	Case: It depends on the model. (refer to "Ordering Information"), lens and lens cover: PMMA