

# Our core technology gets the job done. Optimized solenoids for the application!

For high speed coating/sorting

## 3QR high-response specifications

Industry top level

Response time 2 ms



### Characteristics of high-response specifications

- High response  
2±0.5 ms/1±0.5 ms (ON/OFF)
- Long service life 100 million cycles
- Coil surge voltage reduced

### Applications



Dispenser



Taping machine

For battery drive/continuous energizing

## 3QR Wide power supply specifications

Industry first

Multi-voltage solenoid

Patent pending



### Characteristics of wide power supply specifications

- Can be used with 5 to 32 VDC  
Ideal for battery drive
- Proprietary electronic circuit technology enables stable operation even with voltage fluctuations
- Continuous energization enabled at low heat generation (0.9 W)



# 3QR high-response specifications/wide power supply specifications [Made-to-order product]

**CKD Corporation**

<https://www.ckd.co.jp/english/>

CC-1501A<sup>1</sup>

● Contact CKD regarding made-to-order products.

# 3QR high-response specifications/wide power supply specifications [Made-to-order product]

## Common specifications

Item	Description	
	High-response specifications	Wide power supply specifications
Valve and operation	Direct acting poppet valve	
Working fluid	Compressed air, low vacuum	
Min. working pressure MPa	-100 kPa	
Max. working pressure MPa	0.7 MPa	
Proof pressure MPa	1.05 MPa	
Ambient temperature °C	-5 to 40°C (no freezing)	-5 to 50°C (no freezing)
Fluid temperature °C	5 to 40	5 to 50
Lubrication	Not available	
Degree of protection	Dust-proof	
Vibration resistance m/s <sup>2</sup>	50 or less	
Impact resistance m/s <sup>2</sup>	300 or less	
Atmosphere	Cannot be used in corrosive gas environments	

## Electrical specifications

Item	Description	
	High-response specifications	Wide power supply specifications
Rated voltage V	DC24	DC5 to 32
Voltage fluctuation range	-10% to +4%	-
Starting current A	0.38	0.4
Holding current A	0.15	0.26
Power consumption (retained) W	2.6	0.9
Startup time ms	5	50
Thermal class	B	

\*1: High-response specifications cannot be used with continuous energization.

Maximum continuously energized time 5 mins.

\*2: Free power supply specifications can be used with continuous energization, but as deterioration progresses with accumulated energized time, the life operational cycle will decrease.

\*3: Sales will take place following the exchange of specification documents.

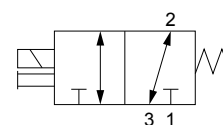
## Performance characteristics

Item	Description			
	High-response specifications		Wide power supply specifications	
	Direct piping	Base piping	Direct piping	Base piping
Response time *4 ms	ON: 2 ±0.5 ms OFF: 1 ±0.5 ms		ON: 5 ms or less OFF: 10 ms or less	
Flow characteristics dm <sup>3</sup> /(s·bar)	Flow path 1 → 2	0.36	0.30	0.30
	Flow path 2 → 1	0.38	0.32	0.34
	Flow path 2 → 3	0.38	0.32	0.36
	Flow path 3 → 2	0.36	0.30	0.34

\*4: According to JIS B 8419:2010 Dynamic performance testing

(Initial values at supply pressure 0.5 MPa, 20°C, no lubrication, constant voltage (24 VDC), continuously energized operation)

## 2-position universal



Port numbers 1, 2, and 3 are

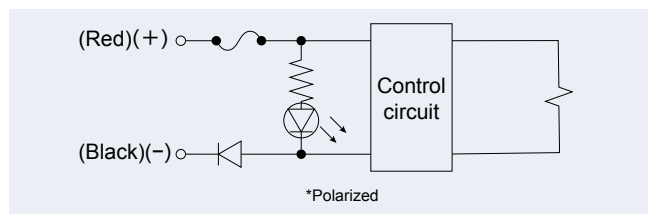
Port 1: P, NC

Port 2: A, COM

Port 3: R, NO.

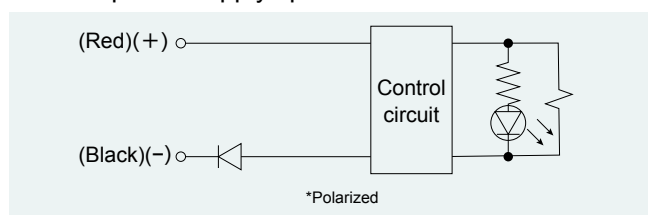
## Connection circuit

### High-response specifications



\*Polarized

### Wide power supply specifications



\*Polarized

Both high-response and wide power supply specifications have polarity. Note that they will not operate if miswired.

## How to order

### High-response specifications

**3QRA1** 10 - M5 - **C2** H - **FLA\*\*\*\*** - 3

Model No.

Electrical connections

\*1

### Free power supply specifications

**3QRB1** 10 - M5 - **C2** - **FLA\*\*\*\*** - 3

Model No.

Electrical connections

\*1

\*1: After the order model No. is selected, CKD will enter a five-digit number into the \*\*\*\* section.

\*2: "Large flow rate H" cannot be selected with free power supply specifications.

\*3: Manifold specifications can also be selected.

\*4: Only 24 VDC is available for high-response specification voltage.

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