



Safety Precautions

Be sure to read this section before use.

When designing and manufacturing a device using CKD products, the manufacturer is obligated to check that device safety mechanism, pneumatic control circuit, or water control circuit and the system operated by electrical control that controls the devices is secured.

It is important to select, use, handle and maintain the product appropriately to ensure that the CKD product is used safely.

Observe warnings and precautions to ensure device safety.

Check that device safety is ensured, and manufacture a safe device.

WARNING

- 1 This product is designed and manufactured as a general industrial machine part. It must be handled by an operator having sufficient knowledge and experience.
 - 2 Use this product in accordance with specifications.

This product must be used within its stated specifications. In addition, never modify or additionally machine this product. This product is intended for use in general industrial machinery equipment or parts. It is not intended for use outdoors (except for products with outdoor specifications) or for use under the following conditions or environments. (Note that this product can be used when CKD is consulted prior to its usage and the customer consents to CKD product specifications. The customer should provide safety measures to avoid danger in the event of problems.)

 - ① Use for applications requiring safety, including nuclear energy, railways, aircraft, marine vessels, vehicles, medical devices, devices or applications in contact with beverages or foodstuffs, amusement devices, emergency cutoff circuits, press machines, brake circuits, or safety devices or applications.
 - ② Use for applications where life or assets could be significantly affected, and special safety measures are required.
 - 3 Observe organization standards and regulations, etc., related to the safety of device design and control, etc. ISO4414, JIS B 8370 (Pneumatics fluid power - General rules and safety requirements for systems and their components) JFPS2008 (Principles for pneumatic cylinder selection and use) Including the High Pressure Gas Safety Act, Industrial Safety and Health Act, other safety rules, organization standards and regulations, etc.
 - 4 Do not handle, pipe, or remove devices before confirming safety.
 - ① Inspect and service the machine and devices after confirming safety of all systems related to this product.
 - ② Note that there may be hot or charged sections even after operation is stopped.
 - ③ When inspecting or servicing the device, turn OFF the energy source (air supply or water supply), and turn OFF power to the facility. Discharge any compressed air from the system, and pay attention to possible water leakage and leakage of electricity.
 - ④ When starting or restarting a machine or device that incorporates pneumatic components, make sure that the system safety, such as pop-out prevention measures, is secured.
 - 5 Observe warnings and cautions in the following pages to prevent accidents.
- The precautions are ranked as "DANGER", "WARNING" and "CAUTION" in this section.

DANGER: When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries, and when there is a high degree of emergency to a warning.

WARNING: If handled incorrectly, a dangerous situation may occur, resulting in death or serious injury.

CAUTION: When a dangerous situation may occur if handling is mistaken leading to minor injuries or physical damage.

Note that some items described as "CAUTION" may lead to serious results depending on the situation. Every item provides important information and must be observed.

Warranty

- 1 **Warranty period**

The product specified herein is warranted for one (1) year from the date of delivery to the location specified by the customer.
- 2 **Warranty coverage**

If the product specified herein fails for reasons attributable to CKD within the warranty period specified above, CKD will promptly provide a replacement for the faulty product or a part thereof or repair the faulty product at one of CKD's facilities free of charge. However, following failures are excluded from this warranty:

 - 1) Failure caused by handling or use of the product under conditions and in environments not conforming to those stated in the catalog, the Specifications, or the Instruction Manual.
 - 2) Failure caused by use of the product exceeding its durability (cycles, distance, time, etc.) or caused by consumable parts.
 - 3) Failure not caused by the product.
 - 4) Failure caused by use not intended for the product.
 - 5) Failure caused by modifications/alterations or repairs not carried out by CKD.
 - 6) Failure caused by reasons unforeseen at the level of technology available at the time of delivery.
 - 7) Failure caused by acts of nature and disasters beyond control of CKD.

The warranty stated herein covers only the delivered product itself. Any loss or damage induced by failure of the delivered product is excluded from this warranty.

Note: For details on the durability and consumable parts, contact your nearest CKD sales office.
- 3 **Compatibility check**

The customer is responsible for confirming the compatibility of CKD products with the customer's systems, machines and equipment.



Pneumatic Components

Safety Precautions

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Product-specific cautions: Remote I/O RT series

Design / Selection

1. Safety design

WARNING

- When used in an interlock circuit, multiple interlocks should be provided by a separate system using mechanical protection or other means. Malfunctions may result in accidents.

CAUTION

- Use with 24 VDC.

If used with voltage other than 24 VDC, it may cause breakdown or malfunction.
- Do not mount in a location used for footing.

The product may be damaged if excessive load is applied by stepping or putting feet on it.
- Be sure to secure space for maintenance work.

Secure sufficient space for maintenance and inspection.
- Do not remove the nameplate.

Errors during adjustment/maintenance and inspection or misuse of the instruction manual may result in breakdown or malfunction. It may also cause non-conformity with safety standards.
- Be careful of rush current when turning the power ON.

Depending on the connected load, the overcurrent protection function may operate due to the initial charging current, leading to malfunction.
- The behavior when an error occurs is described in the instruction manual for each unit. Fully understand contents before use.

2. Working environment

WARNING

- Do not use in flammable or explosive gas atmospheres.

There is a risk of fire or explosion. This product does not have an explosion-proof structure.
- Consider the required degree of protection and working environment.

IP20 when using the device unit USB connector. During use, be careful to prevent foreign matter from entering the product and coming in contact with water, solvents, or oil. Protective structure IP65/IP67 can be achieved when the following conditions are implemented.

 - 1) Use an M12 cable with connector to wire the product and the external device appropriately.
 - 2) Be sure to mount a waterproof cap on any unused connectors. Countermeasures such as covering the unit should also be taken if using in environments where it will be constantly exposed to water.
 - 3) Avoid use in conditions where water or cutting oil directly contacts the unit.
 - 4) Do not include units other than IP65/IP67.
- For use in the following locations, be sure to implement sufficient cutoff measures.

Insufficient measures may cause malfunction or breakdown. Confirm the effects of the measures after assembly into individual components or devices.

 - 1) Locations with noise due to static electricity, etc.
 - 2) Locations with strong electric field strength
 - 3) Locations close to power lines

⚠ CAUTION

- Do not use this product in environments where it will be exposed to oil or chemicals.
Use in environments where oil or chemicals such as coolant or cleaning fluid contact the unit, even for short periods, may adversely affect the unit (breakdown, malfunctions, etc.).
- Do not use in environments exposed to corrosive gases or liquids.
The unit may be damaged or malfunction.
- Do not use this product in surge generating areas.
If there are components (solenoid lifters, high frequency induction furnace, welding machines, motors, etc.) around the unit that generate a large surge, consider surge protection of the source and avoid accidental line contact, in order to prevent degradation or damage of the unit's internal circuit element.
- Direct drive of a load where surge voltage is generated may damage the unit.
- This product is not equipped with CE marking surge immunity (EN61000-4-5). Implement measures on the device side for use.

- Prevent foreign matter such as dust or wiring chips from entering the product.
Allowing so may cause a failure or malfunction.
- Mount the unit in a location not subject to vibration or impact.
Allowing so may cause a failure or malfunction.
- Do not use this product in environments with a temperature cycle.
Temperature cycles other than normal temperature changes may negatively affect the unit interior.
- Do not use this product in areas exposed to direct sunlight.
Cut off any direct sunlight the product is exposed to. Allowing so may cause a failure or malfunction.
- Use this product within the ambient temperature range.
There is a risk of malfunction.
- Do not use the product in a location exposed to radiant heat from heat sources nearby.
This may cause malfunction.

For cautions for mounting, installation, adjustment, use and maintenance, refer to the CKD components Product Site (<https://www.ckd.co.jp/kiki/jp/>) → "Model No. → Instruction manual for details.

Related products**IoT Compatible components Series**

- Supports various industrial networks to accommodate the creation of IoT at production sites. Contributes to the visualization of actuators and sensors operating within equipment.
- In addition to electric components such as electric actuators and direct drive motors with high reduced wiring needs, there is a wide lineup of network components with a sensor level that is closer to the workpiece.
- Since the air and electric components are listed by network, it is possible to reduce the man-hours for examining the network inside the equipment.

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