To Use This Product Safely

Be sure to read this before use.
For general information on electric actuators, please see Intro 17.

Individual Precautions: Controller for Electric Actuators ECMG, ECG, ECR, ESC4 Series

During Design and Selection

1. Common

Danger

■ Do not use in places where hazardous materials such as flammable, ignitable, or explosive substances are present.
There is a risk of ignition, fire, or explosion.

■ Do not allow water droplets, oil droplets, etc. to come into contact with the product.
This can cause fire or malfunction.

■ When installing the product, be sure to hold and fix it securely (including the workpiece).
There is a risk of injury due to the product tipping over, falling, malfunctioning, etc. As a general rule, please fix the product using all mounting holes.

■ Be sure to use a DC stabilized power supply (48 VDC ±10% or 24 VDC ±10%) for the motive power supply and control power supply of the ECR Series.
Direct connection to an AC power supply can cause fire, bursting, damage, etc.

■ Be sure to use a DC stabilized power supply (24 VDC ±10%) for the I/O circuit power supply and the motive power supply/control power supply of the ECMG, ECG, and ESC4 Series.
Direct connection to an AC power supply can cause fire, bursting, damage, etc.

■ Please use only a 24 VDC power supply for the ECMG, ECG, and ESC4 Series.
Using a 48V power supply may cause the controller to malfunction.

Warning

■ Install in a dry indoor location.
In places where it is exposed to rainwater or in humid places (humidity of 80% or more, places with condensation), there is a risk of electric leakage or fire. Oil drops and oil mist are also strictly prohibited. Use in such environments can cause damage or malfunction.

■ The product must be subjected to Class D grounding work (grounding resistance of 100 Ω or less).
If an electric leakage occurs, there is a risk of electric shock or malfunction.

■ Observe the operating and storage temperatures, and use and store in a condensation-free state.
(Storage Temperature: -10°C to 50°C, Storage Humidity: 35% to 80%, Operating Temperature: 0°C to 40°C (10°C to 40°C for EBS-G and EBR-G), Operating Humidity: 35% to 80%) It may cause abnormal shutdown of the product or decrease its service life. Ventilate if heat builds up.

■ Do not use in places where condensation occurs due to sudden changes in ambient temperature.

■ Install in a location free from direct sunlight, dust, heat sources, corrosive gases, explosive gases, flammable gases, and combustible materials. In addition, this product has not been considered for chemical resistance.
This can cause malfunction, explosion, or fire.

■ Use and store in a location free from strong electromagnetic waves, ultraviolet rays, and radiation.
This can cause malfunction or failure.

■ Do not use in places with impact or vibration.

Caution

■ Clearly state the maintenance conditions in the equipment's instruction manual.
Depending on the usage status, usage environment, and maintenance, the functions of this product may be significantly degraded, and safety may not be ensured. If maintenance is performed correctly, the product functions can be fully demonstrated.

■ The product is manufactured in accordance with various standards. Never disassemble or modify.

■ Please confirm the suitability of our products for the system, machine, and equipment you use at your own responsibility.

■ Use wiring that does not induce induction noise.
Avoid places where large currents or strong magnetic fields are generated. Do not use the same wiring (with multi-core cables) as the power lines for large motors other than this product. Do not use the same wiring as the inverter power supply and wiring part used for robots, etc., apply a frame ground to the power supply, and insert a filter in the output part.

■ Do not use in an environment where strong magnetic fields are generated.
This can cause malfunction.

■ Separate the power supply for the output part of this product from the power supply for inductive loads that generate surges, such as solenoid valves and relays.
If the power supply is shared, surge current will flow into the output part, causing damage. If a separate power supply cannot be used, connect a surge absorbing element directly in parallel to all inductive loads.

■ Select a power supply with sufficient capacity for the number of products installed.
If there is not enough capacity, it may malfunction.

Control power supply:
Please select a power supply so that the rated output current of the applicable power supply is 0.4 A×the number of units or more. (Excluding end units)

Motive power supply:
Please select a power supply so that the rated output current or output peak current of the applicable power supply is greater than or equal to the maximum motive power current (see the specifications P. for each model).

■ Fixed cables cannot be used for applications involving repeated bending, so please use a flexible cable for use in locations involving repeated bending.

■ Please use the fixed/flexible cable with a bending radius of 51 mm or more.
The bending radius cannot accommodate bending of the connector part, so it is recommended to fix it near the connector.

■ Please check if the actuator's software version is compatible with ECMG. For details, please refer to the instruction manual.

For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Equipment Product Site (https: //www.ckd.co.jp/kiki/en/) → 'model No.' → Instruction Manual