



Fieldbus System Precautions 1

Be sure to read this before handling products.
For detailed precautions on each series, refer to the main text.

Design / Selection

Warning

- 1. Do not use beyond the specification range.**
Using beyond the specification range may result in a fire, malfunction, or damage to the system.
Check the specifications before operation.
- 2. When using for an interlock circuit:**
 - **Provide a multiple interlock system which is operated by another system (such as a mechanical protection function).**
 - **Perform an inspection to confirm that it is working properly.**
Failure to do so may result in possible injuries due to malfunction.

Caution

- 1. When applicable to UL, use a Class 2 power supply unit which is UL1310 compliant for direct current power supply.**
- 2. Use within the specified voltage range.**
Using beyond the specified voltage range is likely to cause damage product or malfunction.
- 3. Do not install in places where it can be used as a foothold.**
Applying any excessive load such as stepping on the product by mistake or placing a foot on it will cause it to break.
- 4. Keep the surrounding space free for maintenance.**
When designing a system, take into consideration the amount of free space needed to perform maintenance.
- 5. Do not remove the name plate.**
Improper maintenance or incorrect use of the Operation Manual may lead to equipment failure or malfunction. Also, there is a risk of losing conformity with safety standards.
- 6. Beware of inrush currents when the power supply is turned on.**
Some connected loads can apply an initial charge current which will trigger the over current protection function, causing the product to malfunction.

Mounting

Caution

- 1. When handling and assembling products:**
 - **Do not apply excessive force to the product when disassembling.**
The connecting parts of the product are firmly joined with seals.
 - **When joining units, take care not to get your fingers caught between the products.**
Injury may result.
- 2. Do not drop, bump, or apply excessive impact to the product.**
Doing so may result in damage, equipment failure, or malfunction.

Mounting

Caution

- 3. Observe the tightening torque range.**
Tightening outside of the allowable torque range will likely damage the screw.
IP65/IP67 cannot be guaranteed if the screws are not tightened to the specified torque.
- 4. When lifting a large solenoid valve manifold, take care to avoid causing stress to the valve connection joint.**
The connection parts of the product may be damaged.
Because the product may be heavy, carrying and installation should be performed by more than one operator to avoid strain or injury.
- 5. When installing the product, mount it on a flat surface.**
Torsion in the whole product may lead to problems such as air leakage or contact failure.

Wiring

Caution

- 1. Provide grounding to improve noise immunity.**
Perform the dedicated grounding separate from the inverter of the drive system and minimize the grounding distance from the product.
- 2. Avoid repeatedly bending or stretching the cable and applying heavy objects or force to it.**
Wiring where repeated bending and tensile stress are applied to the cable may result in circuit breakage.
- 3. Avoid miswiring.**
If miswired, there is a danger of malfunction or damage to the product.
- 4. Do not wire while energizing the product.**
There is a danger of malfunction or damage to the product or input/output device.
- 5. Avoid wiring the power line and high-pressure line in parallel.**
Signal line noise or surge from the power line or high-pressure line could cause a malfunction.
Wiring of the product or input/output device and the power line or high-pressure line should be separated from each other.
- 6. Check the wiring insulation.**
Defective insulation (contact with other circuits, improper insulation between terminals, etc.) may cause damage to the product or input/output device due to excessive voltage or current.



Fieldbus System Precautions 2

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Wiring

Caution

- 7. When the product is installed in machinery/equipment, provide adequate protection against noise by using noise filters, etc.**
Noise in signal lines may cause a malfunction.
- 8. When connecting wires, prevent the entry of water, solvent, or oil from the connector section.**
Failure to do so may result in damage, equipment failure, or malfunction.
- 9. Avoid wiring patterns in which excessive stress is applied to the connector.**
Failure to do so may result in equipment failure or malfunction due to contact failure.

Operating Environment

Warning

- 1. Do not use in atmospheres containing inflammable or explosive gases.**
Use in such atmospheres is likely to cause a fire or explosion.
This product is not explosion proof.

Caution

- 1. Provide adequate protection when operating in locations such as the following.**
Failure to do so may cause a malfunction or equipment failure. The effect of countermeasures should be checked in individual equipment and machines.
 - 1) Where noise is generated by static electricity, etc.
 - 2) Where there is a strong electric field
 - 3) Where there is a danger of exposure to radiation
 - 4) When in close proximity to power lines or high-voltage lines
- 2. Do not use in environments where oil and chemicals are used.**
Operating in environments where coolants, cleaning solvents, various oils, or chemicals are present may cause adverse effects (damage, malfunction, etc.) to the product even within a short period of time.
- 3. Do not use in environments where the product could be exposed to corrosive gases or liquids.**
Use in such environments may cause product damage or malfunction.

Operating Environment

Caution

- 4. Do not use in locations with sources of surge generation.**
Installation of the product in an area around equipment (electromagnetic lifters, high-frequency induction furnaces, welding machines, motors, etc.) which generates large surge voltages could cause an internal circuitry element of the product to deteriorate or result in damage. Implement countermeasures against the surge from the generating source, and avoid contact between the lines.
- 5. When directly driving a load which generates a surge voltage by relay, solenoid valve, or lamp, use a load that has an integrated surge-absorption element.**
When a surge generating load is directly driven, the product may be damaged.
- 6. The product is CE marked but not immune to lightning strikes. Take measures against lightning strikes in your system.**
- 7. Keep dust, wire scraps, and other foreign matter from entering the product.**
Such materials may cause equipment failure or malfunction.
- 8. Mount the product in a location, which is not affected by vibration or shock.**
Failure to do so may cause equipment failure or malfunction.
- 9. Do not use in places where there are cyclic temperature changes.**
When the cyclic temperature exceeds normal temperature changes, the internal product is likely to be adversely affected.
- 10. Do not use in direct sunlight.**
This may cause equipment failure or malfunction.
- 11. Use within the ambient temperature range.**
Failure to do so may cause a malfunction.
- 12. Do not use in places where radiated heat may affect the product.**
Such places are likely to cause a malfunction.



Fieldbus System Precautions 3

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Adjustment / Operation

Warning

1. **Do not perform operation or setting with wet hands.**
There is a risk of electrical shock.

Caution

1. **Use a watchmaker's screwdriver with a thin blade for the setting switch.**
When setting the switch, do not touch any unrelated parts.
This may cause parts damage or malfunction due to a short circuit.
2. **Perform appropriate setting for the operating conditions.**
Failure to do so could result in malfunction.
Refer to the Operation Manual for details on setting each switch.
3. **For details on programming and address setting, refer to the manual from the PLC manufacturer.**
The programming content related to the protocol is designed by the manufacturer of the PLC used.

Maintenance

Warning

1. **Do not disassemble, modify (including circuit board replacement), or repair this product.**
Such actions are likely to cause injuries or equipment failure.
2. **When an inspection is performed:**
 - Turn off the power supply.
 - Stop the air supply, exhaust the residual pressure in the piping, and confirm that the air has been released before performing maintenance work.Failure to do so may result in the unexpected malfunction of system components or injury.

Caution

1. **When removing from/attaching to the valve manifold:**
 - Do not apply excessive force to the unit.
The connecting parts are firmly joined with seals.
 - Take care not to get your fingers caught.
Injury may result.
2. **Perform periodic inspection.**
Unexpected malfunction in the system composition devices is likely to occur due to malfunction of machinery or equipment.
3. **After maintenance, make sure to perform an appropriate functionality inspection.**
When abnormalities such as faulty operation occur, stop operation immediately. Unexpected malfunction in the system composition devices is likely to occur.
4. **Do not use benzine or thinner for cleaning the product.**
Damage to the surface or erasure of the display may result.
Wipe off any stains with a soft cloth.
If the stain is persistent, soak a cloth in a dilute solution of neutral detergent, wring it out sufficiently, wipe the product, and then finish with a dry cloth.

Other

Caution

1. Refer to the catalog of each series for Common Precautions and Specific Product Precautions for valve manifolds.