

Precautions for Using Industrial Terminal Blocks

Safety Precautions

To prevent injury to yourself or others, as well as damage to property, please follow the safety instructions below.

◆ The degree of possible harm or damage resulting from improper use is classified and explained as follows:



Warning : Indicates the risk of death or serious injury if the product is used incorrectly.



Caution : Indicates the risk of minor injury or physical damage if the product is used incorrectly.

Warning	* Installation and wiring should be carried out only by qualified personnel. Improper work may cause fire or mechanical failure. * Always make sure that the power is turned off before performing any work. Electric shock may occur. * Do not work with wet hands. There is a risk of electric shock or equipment failure. * Tighten screws to the torque values specified in our catalog. Failure to do so may result in smoke, fire, electric shock, or damage. * Do not use the product for purposes other than its intended use. * Do not touch terminal parts while the product is energized. Electric shock may occur. * Use only within the specified ratings. Exceeding specifications may cause fire or electric shock. * Do not use deformed or damaged products. Electric shock or burning may occur. * Do not use the product when condensation is present. Electric shock or malfunction may occur. * If abnormal heat, smoke, or odor is detected, stop using the product immediately and identify the cause. Replace the product if discoloration, deformation, or other faults are found. * Depending on the frequency and environment of use, product life may vary. Even before the recommended 10-year replacement period, deterioration of insulation or contact failure may cause smoke, fire, or electric shock. In addition, aging of resin or metal parts may cause deformation or breakage. Replace the product as needed to ensure preventive maintenance of your equipment.
Caution	* Do not use the product in locations exposed to water, dust, or oil mist. * Do not use in areas where corrosive gases are present. * Do not install in locations exposed to direct sunlight or high temperatures. * Installation locations must meet the following conditions: • Low vibration • Sufficient mechanical strength • Flat mounting surface
Notes	- Do not modify the product. - Do not disassemble any parts other than those designed for removal. - Use only accessories specified for each model. - Do not clean with thinner, benzene, gasoline, oil, or chemicals. - Clean the product regularly to prevent dust accumulation. - Periodically check for loosening of mounting screws and wiring connections. In environments subject to vibration or shock, loose mounting may lead to product detachment, damage, or personal injury. - Under wiring conditions involving a large number of poles or heavy wires, ensure that the wiring is properly supported and secured so that the weight of the wires and any external forces are not applied directly to the terminal block. Terminal blocks are designed for the electrical connection of wires and are not intended to support the weight of wires or withstand tensile loads. Depending on the installation conditions, external forces may place stress on the terminal sections and adversely affect the contact performance.

〈For Push-in Terminal Blocks〉

Caution	* Do not route or secure wires in a way that transmits vibration to the terminal. Smoke, fire, electric shock, or damage may occur. * Strip wires to the specified length and do not solder-tin the wire ends. Failure to comply may result in smoke, fire, electric shock, or damage.
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〈For Screw-type Terminal Blocks〉

Caution	* Always use a terminal cover.
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Maintenance and Inspection Precautions

Warning	* Retighten terminal screws periodically. Failure to do so may cause smoke, fire, electric shock, or damage.
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Tightening Torque (for Wiring Connections)

Caution	Tighten terminal screws to the following torque values when connecting wires: M3: $0.8^{+0.1}_{-0.2}$ N·m, M3.5: $1.2^{+0.1}_{-0.2}$ N·m, M4: 1.6 ± 0.2 N·m, M5: 2.5 ± 0.3 N·m, M6: 4.5 ± 0.5 N·m, M8: 9 ± 1 N·m, M10: 18^{+2}_{-3} N·m, M12: 30 ± 5 N·m, M16: 80 ± 10 N·m,
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Tightening Torque (for Mounting the Product)

Caution	When mounting the product, tighten screws to the following torque values: * M4: 1.6 ± 0.2 N·m M5: 2.5 ± 0.3 N·m M6: 4.5 ± 0.5 N·m M8: 9 ± 1 N·m * For tapping screws: tighten until there is no gap between the screw and the product.
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