

PRECAUTIONS IN USING S1DXM-A/M AND S1DX

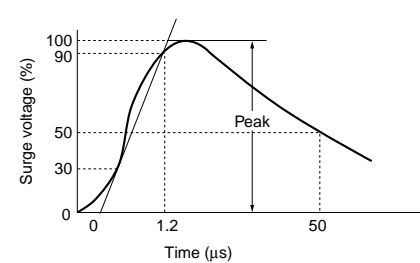
Reset periods

After unscheduled operations have been completed, or if the timer operation power supply has been turned off at any time during operation, a reset period of at least 0.1 seconds should be allowed before resuming operation.

External surge protection

External surge protection may be required if the following values are exceeded. Otherwise, the internal circuit will be damaged. The typical surge absorption elements include a varistor, a capacitor, and a diode. If a surge absorption element is used, use an oscilloscope to see whether or not the foreign surge exceeding the specified value appears.

Single-pole, full-wave voltage for surge waveform [$\pm(1.2 \times 50)$ μ s]



Operation voltage	Surge voltage
100 to 120V AC, 200 to 220V AC	4,000V
12V DC, 24V DC	1,000V

Since the main body cover and knob are made of polycarbonate resin, prevent contact with organic solvents such as methyl alcohol, benzene and thinner, or strong alkali materials such as ammonia and caustic soda.

Terminal wiring

Make sure that terminals are wired carefully and correctly, referring to the terminal layout and wiring diagrams. Particularly, since the DC type has polarity, do not operate it with reverse polarity.

Applicable standard

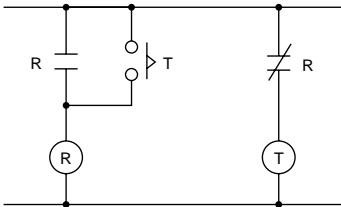
Safety standard	EN61812-1	Pollution Degree 2/Overvoltage Category II (2 Form C type) Pollution Degree 1/Overvoltage Category II (4 Form C type)
EMC	(EMI)EN61000-6-4 Radiation interference electric field strength Noise terminal voltage (EMS)EN61000-6-2 Static discharge immunity RF electromagnetic field immunity EFT/B immunity Surge immunity Conductivity noise immunity Power frequency magnetic field immunity Voltage dip/Instantaneous stop/Voltage fluctuation immunity	EN55011 Group1 ClassA EN55011 Group1 ClassA EN61000-4-2 4 kV contact 8 kV air EN61000-4-3 10 V/m AM modulation (80 MHz to 1 GHz) 10 V/m pulse modulation (895 MHz to 905 MHz) EN61000-4-4 2 kV (power supply line) 1 kV (signal line) EN61000-4-5 1 kV (power supply line) EN61000-4-6 10 V/m AM modulation (0.15 MHz to 80 MHz) EN61000-4-8 30 A/m (50 Hz) EN61000-4-11 10 ms, 30% (rated voltage) 100 ms, 60% (rated voltage) 1,000 ms, 60% (rated voltage) 5,000 ms, 95% (rated voltage)

Assembly

- 1) When installing, use a terminal socket or socket intended for HC/HJ relay. For adjacent installations, be sure to first verify the installation conditions of the terminal sockets or sockets you will be using.
- 2) Use the separately-sold dedicated socket leaf holding clip to secure terminal sockets and sockets to the timer unit. The conditions of use for dedicated socket leaf holding clip will differ depending on the terminal socket or socket you will be using. Therefore, please test under actual conditions before putting into operation.
- 3) If terminals are to be soldered directly, please hand solder with a 30 to 60 W solder iron with a tip temperature of 300°C for no more than 3 seconds. Automatic soldering should be avoided.
- 4) A flux-tight construction is not used with this timer, so be careful that flux or cleaning fluid does not get inside the case.
- 5) To assure that characteristics are maintained, do not remove the case.

Long Continuous Current Flow

Long continuous current flow through the timer cause generation of heat internally, which degrade the electronic parts. Use the timer in combination with a relay and avoid long continuous current flow through the timer. (Refer to the circuit diagram below when using a safety circuit for continuous operation.)



Phase synchronization using AC load

If the turning on of the timer output relay is synchronized to the AC power supply phase, there may be times when the service life is shortened because of electrical factors, or when a locking phenomenon (defective relay return) occurs because of contact point welding or a shift in the contact relay. Check the operation using the actual timer.

Acquisition of CE marking

Please abide by the conditions below when using in applications that comply with EN61812-1.

- 1) Overvoltage category II, pollution degree 2 (2 Form C type)
Overvoltage category II, pollution degree 1 (4 Form C type)
- 2) The load connected to the output contact should have basic insulation. This timer is protected with basic insulation and can be double-insulated to meet EN/IEC requirements by using basic insulation on the load.
- 3) Please use a power supply that is protected by an overcurrent protection device which complies with the EN/IEC standard (example: 250 V 1 A fuse, etc.).
- 4) You must use a terminal socket or socket for the installation. Do not touch the terminals or other parts of the timer when it is powered. When installing or uninstalling, make sure that no voltage is being applied to any of the terminals.
- 5) Do not use this timer as a safety circuit. For example when using a timer in a heater circuit, etc., provide a protection circuit on the machine side.

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■ Others

- 1) When setting the time, the dial should be kept within the range indicated on the dial face. The "0" marking on the dial indicates the minimum time during which the control time can be varied (it does not indicate 0 seconds).
- 2) Do not rotate the knob past the stopper.
- 3) Turn off the power before changing the DIP switch settings. Changing the DIP switch with the power on can cause breakdown.
- 4) When connecting the operating power supply, make sure that no leakage current enters the timer. For example, when performing contact protection, if set up like that of fig. A, leaking current will pass through C and R, enter the timer, and cause incorrect operation. The fig. B shows the correct setup.

When a contact switch having an operation indicating lamp (lamp equipped limit switch, etc.) is used to apply power to the timer, a resistor having a value equal to or greater than the value below shall be connected in series with the lamp.

100 to 120V AC operating type:

Min. 33k Ω

200 to 220V AC operating type:

Min. 82k Ω

