

## Chapter 10 Maintenance and Repair

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### Chapter 10 Maintenance and Repair

To maintain the PLC in the optimal status, please carry out daily check and regular check.

#### 10.1 Repair and Check

I/O module is composed usually of semiconductor microelectronic device and the life is semi-permanent. As the microelectronic device may occur the error caused by the ambient environment, it is required to check periodically. The following is the items to be checked 1~2 times every 6 months.

Check items		Judgment basis	Action
Ambient environment	Temperature	0 ~ +55°C	Control the use temperature and the use humidity.
	Humidity	5 ~ 95%RH	
	Vibration	No vibration	Use the dust-proof rubber or take the vibration protection policy.
Shaking of each unit and module		No shake	Make all unit and module not to be shaken
Terminal screw loosened.		No loosening	Tighten the loosened screw.
Input voltage change rate		Within -15%/+10%	Maintain the change rate within the allowable range.
Spare parts		Check if the quantity of spare part and the preservation status is good.	Make up the insufficient and improve the preservation status.

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### 10.2 Daily Check

Daily checking point for Smart I/O module is as follows.

#### 1) Daily check for Profibus-DP module

Checking items		Description	Judgment basis	Action
Cable connection status		Cable loosening	No loosening	Tighten the cable
Module connection status		Screw loosening	No loosening	Tighten the module screw.
Indication LED	RUN LED	Light 'ON' check	Steady-state of Power	Refer to Chapter 3.
	RDY LED	Light 'ON' check	Steady-state of communication module interface	Refer to Chapter 3.
	ERR LED	Light 'ON' check	Abnormal communication H/W or cable check	Refer to Chapter 3.

#### 2) Daily check for DeviceNet module

Checking items		Description	Judgment basis	Action
Cable connection status		Cable loosening	No loosening	Tighten the cable
Module connection status		Screw loosening	No loosening	Tighten the module screw.
Indication LED	PWR LED	Light 'ON' check	Steady-state of Power	Refer to Chapter 3.
	MS LED	Light 'ON' check	Steady-state of communication module interface (if abnormal, check the H/W or the cable)	Refer to Chapter 3.
	NS LED	Light 'ON' check	Steady-state of communication module network (if abnormal, check Smart I/O H/W)	Refer to Chapter 3.

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### 3) Daily check for Rnet module

Checking items		Description	Judgment basis	Action
Cable connection status		Cable loosening	No loosening	Tighten the cable
Module connection status		Screw loosening	No loosening	Tighten the module screw.
Indication LED	PWR LED	Light 'ON' check	Steady-state of power	Refer to Chapter 3.
	TX LED	Light 'ON' check	While sending/receiving with the master (if error occurs, check the H/W or the cable)	Refer to Chapter 3.
	RX LED	Light 'ON' check	While communicating with Smart I/O, (if error occurs, check Smart I/O Hardware.)	Refer to Chapter 3.

### 4) Daily check for Modbus module

Checking items		Description	Judgment basis	Action
Cable connection status		Cable loosening	No loosening	Tighten the cable
Module connection status		Screw loosening	No loosening	Tighten the module screw.
Indication LED	PWR LED	Light 'ON' check	Steady-state of power	Refer to Chapter 3.
	TX LED	Light 'ON' check	Steady-state of communication module interface (if error occurs, check the H/W or the cable)	Refer to Chapter 3.
	RX LED	Light 'ON' check	Steady-state of communication network (if error occurs, check Smart I/O hardware.)	Refer to Chapter 3.

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### 10.3 Regular Check

Check the following items 1~2 times every 6 months and take the necessary actions.

Checking items		Checking method	Judgment basis	Action
Ambient environment	Temperature	Measure by thermometer/hygrometer.	0 ~ 55°C	Adjust suitable for general standard (in case of using in the area, apply the environment basis in the area)
	Humidity		5 ~ 95%RH	
	Pollution	Measure the corrosive gas.	No corrosive gas	
Module status	Loosening, shaking	Shake the communication module.	Tightening status	Tighten the screw.
	Dust, foreign material adding	Macrography	No adding	
Connection status	Terminal screw loosened	Tightening by the driver	No loosening	Tightening
	Pressed terminal approach	Macrography	Proper interval	Correction
	Connector loosened.	Macrography	No loosening	Connector correction Screw tightening
Power/voltage check		Voltage measure between terminals	AC 85 ~ 132V AC 170 ~ 264V	Power supply change