Chapter 11. MAINTENANCE

Be sure to perform daily and periodic maintenance and inspection in order to maintain the PLC in the best conditions.

11.1 Maintenance and Inspection

The I/O module mainly consist of semiconductor devices and its service life is semi-permanent. However, periodic inspection is requested for ambient environment may cause damage to the devices. When inspecting one or two times per six months, check the following items.

Check Items		Judgment	Corrective Actions
Ambient environment	Temperature	0 to +55°C	Adjust the operating temperature and humidity with the defined range
	Humidity	5 to 95%RH	
	Vibration	No vibration	Use vibration resisting rubber or the vibration prevention method
Play of modules		No play allowed	Securely enrage the hook
Connecting conditions of terminal screws		No loose allowed	Retighten terminal screws
Change rate of input voltage		-15% to 15%	Hold it with the allowable range
Spare parts		Check the number of spare parts and their storage conditions	Cover the shortage and improve the storage condition

11.2 Daily Inspection

The following table shows the inspection and items which are to be checked daily

Check Items		Check points	Judgment	Corrective Actions
Base unit mounting conditions		Check for loose mounting screws	The base unit should be securely mounted	Retighten Screws
Mounting conditions of I/O modules		• Check if the hook is securely engaged • Check if the upper cover is securely mounted	The hook should be securely engaged	Securely engage the hook
Connecting conditions of terminal block or extension cable		Check for loose terminal screws	Screws should not be loose	Retighten terminal screws
		Check the distance between solderless terminals	Proper clearance should be provided	Correct
		Check connectors of extension cable	Connectors should not be loose	Correct
Indicating LED	Power LED	Check that the LED is ON	ON(OFF indicates an error)	See chapter 12
	Run LED	Check that the LED is ON during Run	ON(ON or flickering indicates an error)	"
	Stop LED	Check that the LED is OFF during Run	OFF(ON indicates an error)	"
	Input LED	Check that the LED turns ON and OFF	ON when input is ON, OFF when input is off	"
	Output LED	Check that the LED turns ON and OFF	ON when output is ON. OFF when output is OFF	"

11.3 Periodic Inspection

Check the following items once or twice every six months, and perform the needed corrective actions.

Check Items		Checking Methods	Judgment	Corrective Actions
Ambient environment	temperature	Measure with thermometer and hygrometer Measure corrosive gas	0 to 55°C	
	Ambient humidity		5 to 95% RH	
	Ambience		There should be no corrosive gases	
PLC conditions	Looseness, play	Move the unit	The module should be mounted securely	Retighten screws
	Ingress of dust or foreign material	Visual check	No dust or foreign material	
Connecting conditions	Loose terminal screws	Re-tighten	Screws should not be loose	Retighten
	Distance between terminals	Visual check	Proper clearance	Correct
	Loose connector	Visual check	Connectors should not be loose	Retighten connector mounting screws
Line voltage check		Measure voltage across 110/ 220 VAC terminal	85 to 132VAC 170 to 264VAC	Change supply power
Battery		Check battery replacement time and battery capacity reduction	• Check total power failure time and the specified source life • Battery capacity reduction should not be indicated	If battery capacity reduction is not indicated, Change the battery when specified service life is exceeded
Fuse		Visual check	No melting disconnection	If fuse melting disconnection, change the fuse periodically because a surge current can cause heat