

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 engage 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 | | <ul style="list-style-type: none"> • 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 ~ 264VAC (GM6-PAFA/B) 10.5 ~ 28VDC (GM6-PDFA) 20 ~ 28VDC (GM6-PD3A) | Change supply power |
| Battery | | Check battery replacement time and battery capacity reduction | <ul style="list-style-type: none"> • 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 |