Chapter 11 Trouble Shooting

Here describes the contents of each error to be occurred while operating the system, the method to find the cause and the action.

11.1 Basic Procedure of Trouble Shooting

It is important to use the high reliable machine to increase the system reliability but it is important to take a prompt action when the trouble occurs as well.

To start the system promptly, it is more important to find the trouble occurring cause promptly and take the necessary action. The basic items to comply when taking this trouble shooting are as follows.

1) Check by the naked eye

Check the following items by the naked eye.

- Machine action status (stop, action)
- Power appliance status
- I/O machine status
- Wiring status (I/O cable, extended or communication cable)
- Check the indication status of each indicator (POWER LED, RUN LED, ERR LED, TX LED,RX LED, MS LED,NS LED, I/O LED etc.) and connect the peripheral device and then check the PLC action status or the program contents.

2) Check the trouble

Examine how the trouble is changed by the following action.

- Place the key switch on STOP position and apply the power ON/OFF.

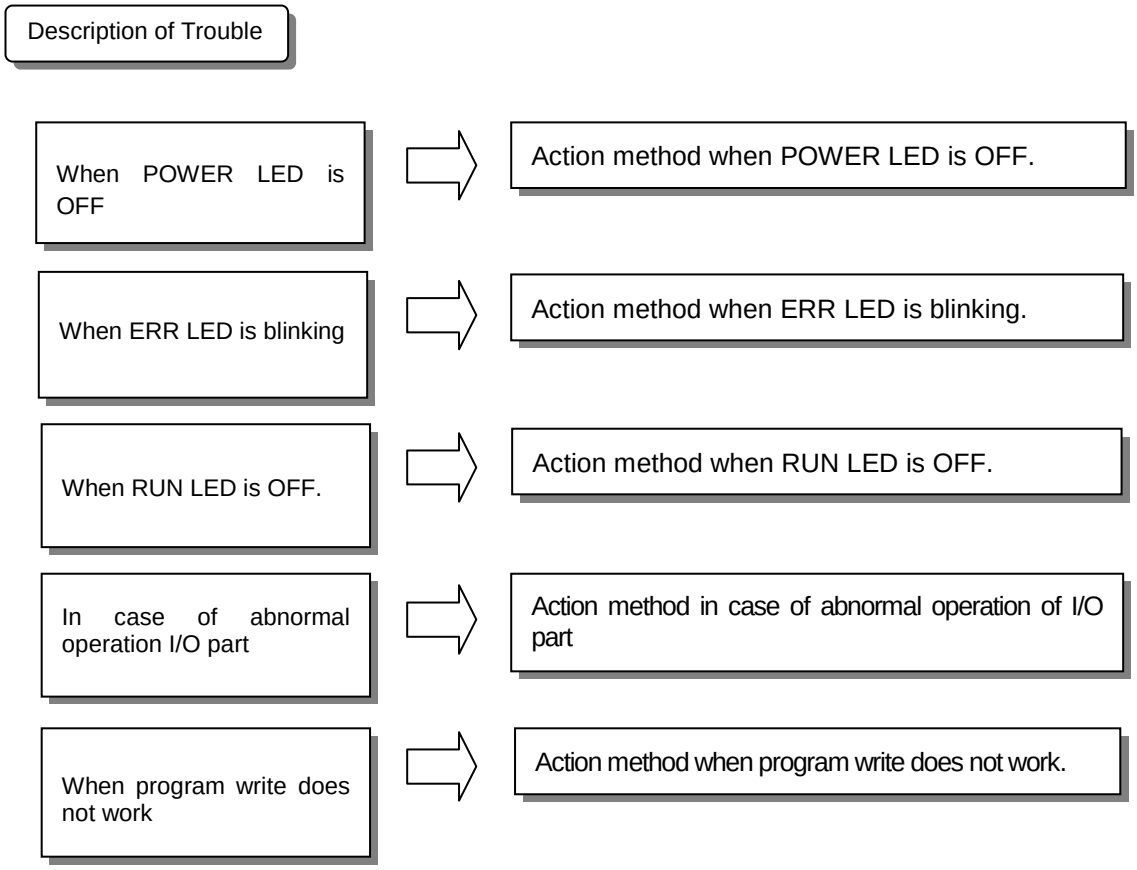
3) Limit range

Estimate what is the trouble cause using the above method.

- Is it the cause from PLC itself? Or external cause?
- Is it the cause from I/O part? Or other cause?
- Is it the cause from PLC program?

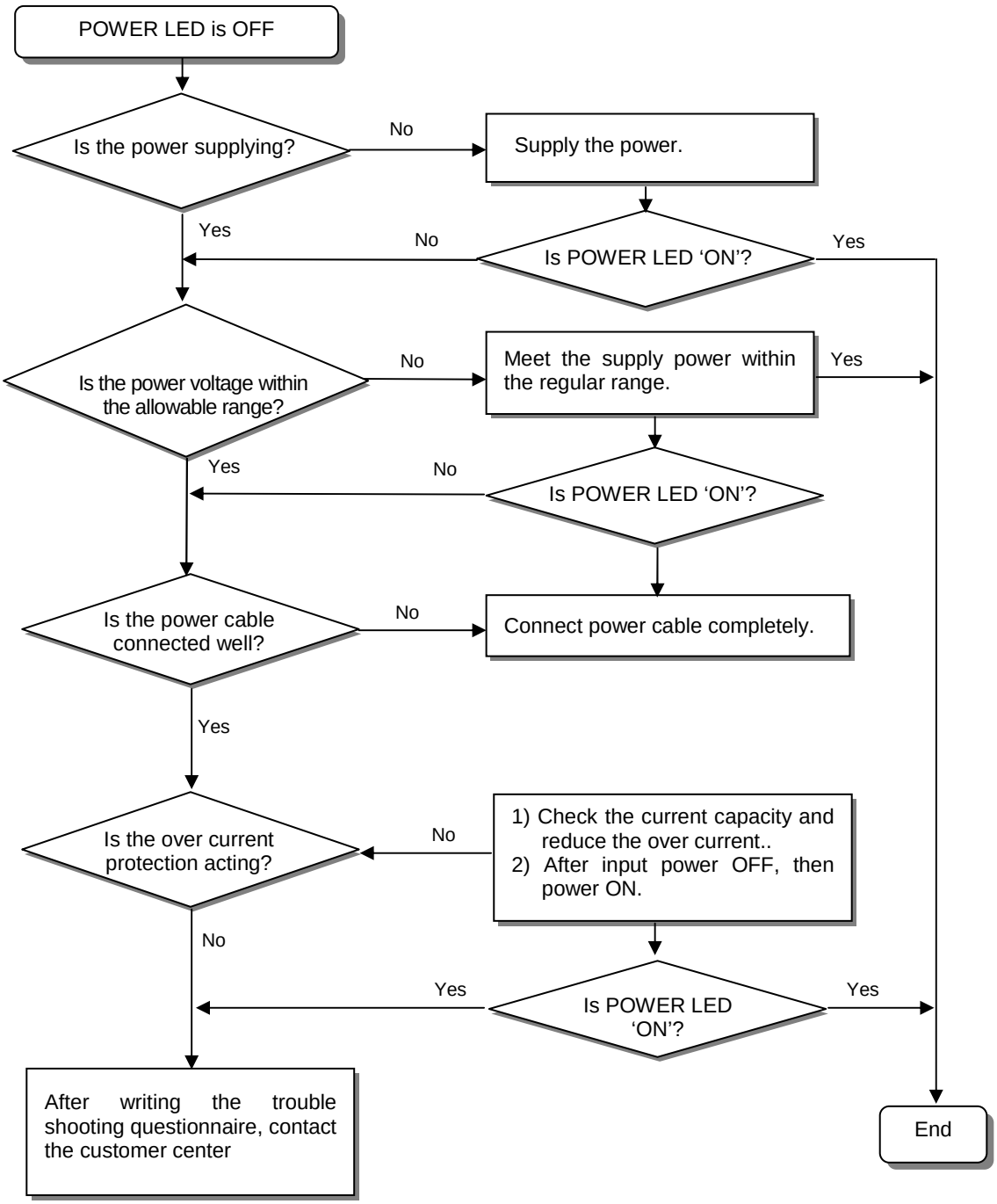
11.2 Trouble Shooting

Here describes the trouble finding method, the error code and the actions on the above by dividing them per phenomenon.



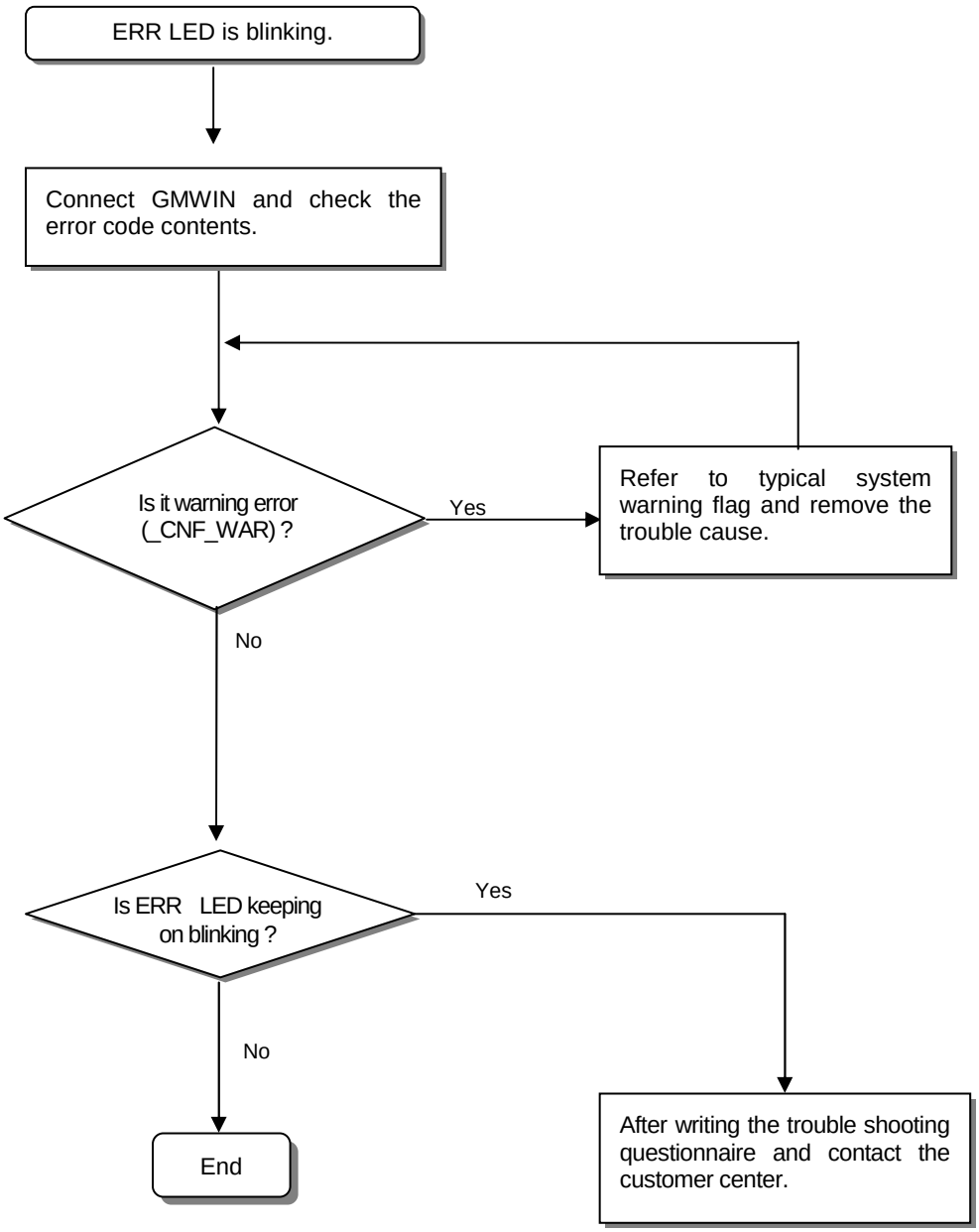
11.2.1 Action method when POWER LED is OFF.

Here describes the action order when POWER LED is OFF while apply the power or during the operation.



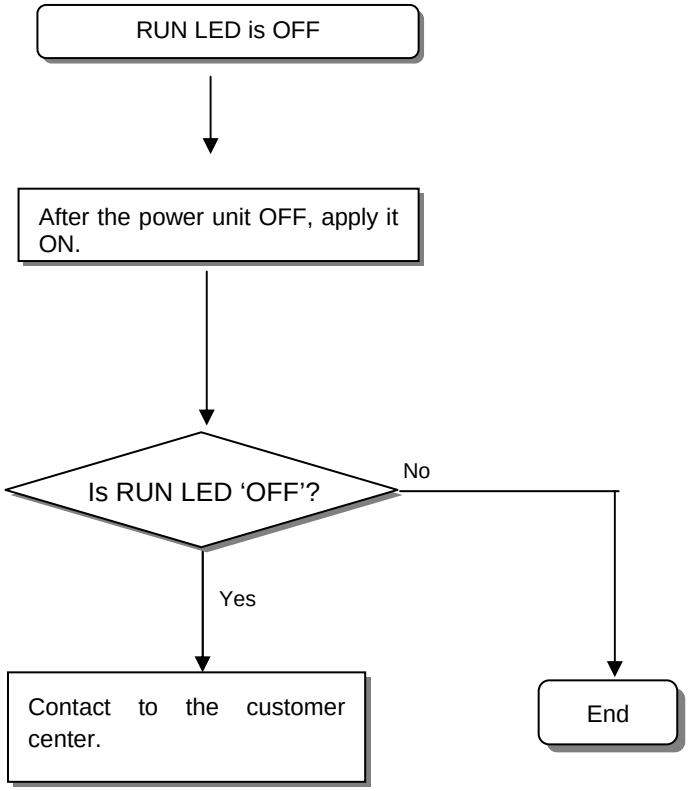
11.2.2 Action method when ERR LED is blinking.

Here describes the action order when ERR LED is blinking in case of the power input, or when operation start, or during operation.



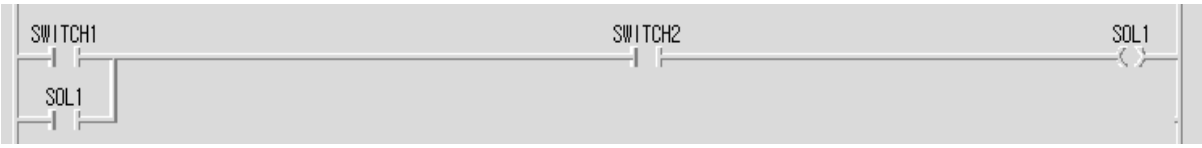
11.2.3 Action method when RUN LED is OFF

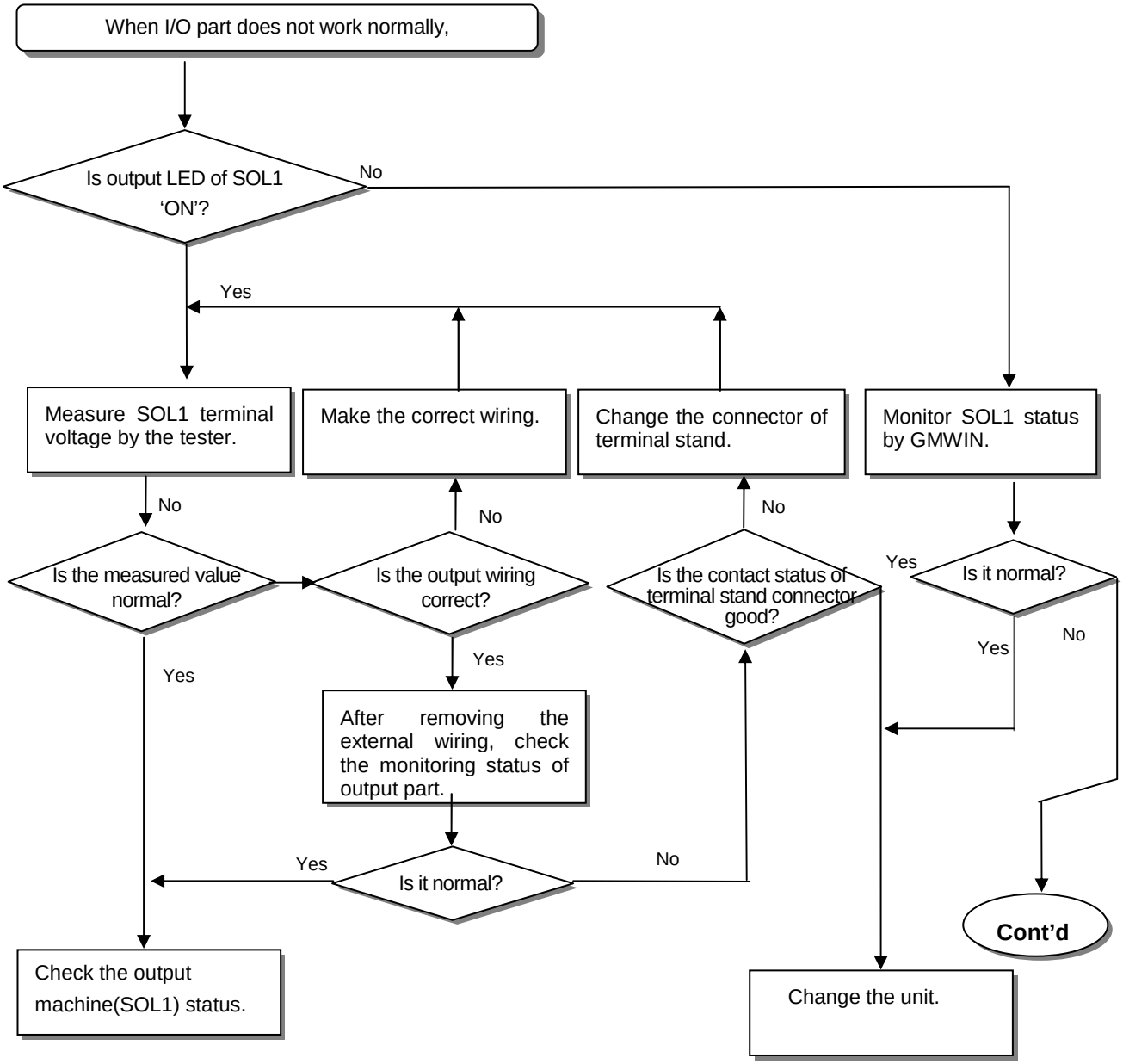
Here describes the action order when RUN LED is blinking in case of the power input, or when operation start, or during operation.

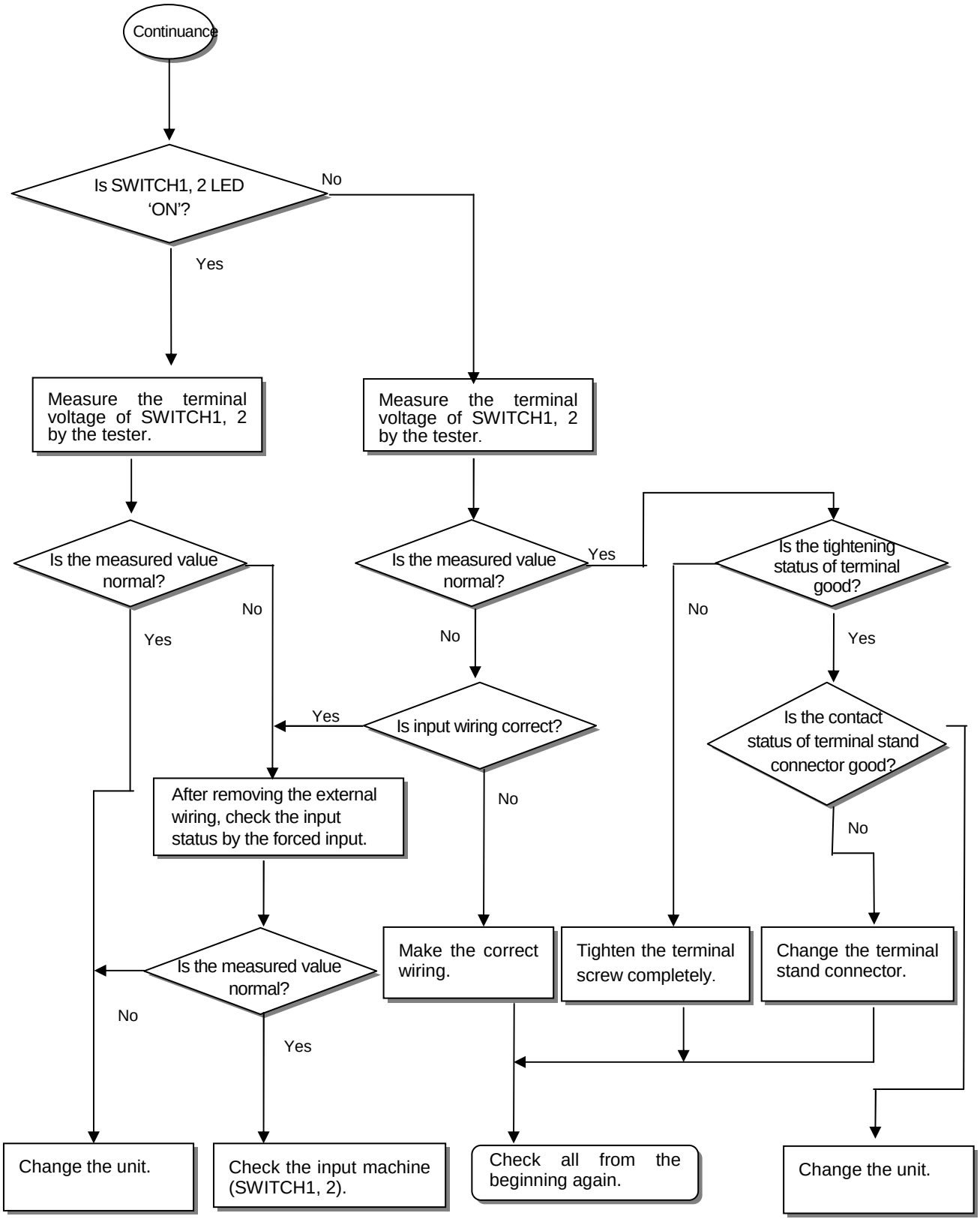


11.2.4 Action method when I/O part does not work normally.

Here describes the action order when I/O part does not work normally during operation, as shown on the program example below.

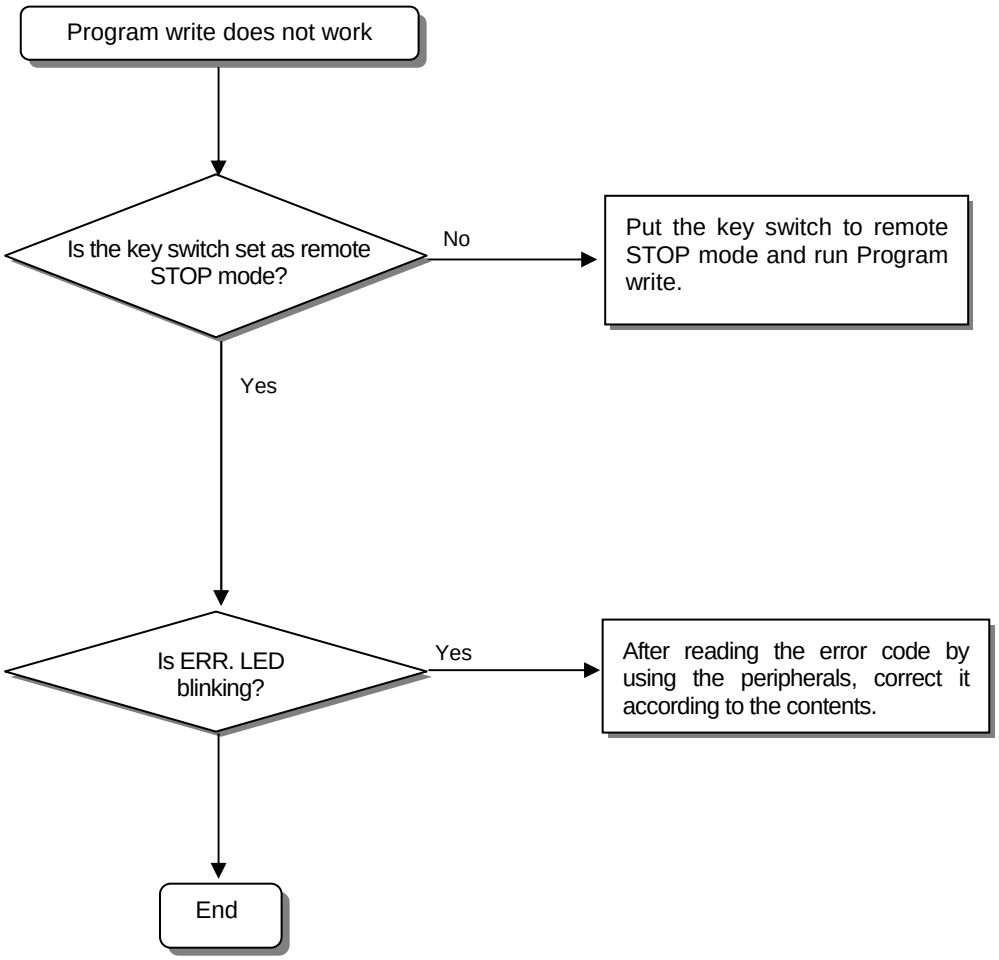





Continuance
Is SWITCH1, 2 LED 'ON'?
No
Yes
Measure the terminal voltage of SWITCH1, 2 by the tester.
Measure the terminal voltage of SWITCH1, 2 by the tester.
Is the measured value normal?
No
Yes
Is the measured value normal?
Yes
No
Is the tightening status of terminal good?
No
Yes
Yes
Is input wiring correct?
No
Is the contact status of terminal stand connector good?
No
After removing the external wiring, check the input status by the forced input.
Is the measured value normal?
No
Yes
Make the correct wiring.
Tighten the terminal screw completely.
Change the terminal stand connector.
Change the unit.
Check the input machine (SWITCH1, 2).
Check all from the beginning again.
Change the unit.

11.2.5 Action method when *Program Write* does not work

Here describes the action order when Program write does not work in the Master CPU.



11.3 Trouble Shooting Questionnaire

If the trouble occurs when using SMART I/O series, fill in the following questionnaire and contact to the customer center by phone or by fax.

• In case of error related to specific and communication module, use the questionnaire added to the user's manual of the corresponding product.

1. User contact point : TEL.) _____
   FAX) _____
2. Model : ( )
3. Applied machine details
   – Network status : – OS version ( ), – Serial no. of product ( )
   – GMWIN version no. used in program compile : ( )
4. brief description of control object machine and system :

5. Network model using :
6. ERR LED 'OFF' of network unit? Yes( ), No( )
7. Error message content by GMWIN :
8. Action trial status for the error code. :
9. Trouble shooting method for other error action :
10. Error features
    • Repeat( ) : periodical( ) , specific sequence level related( ) environment related( )
    • Intermittent( ) : error interval :
12. Detail description for the error phenomena :

13. Configuration diagram of applied system: