12-3 Indicator/Display Status and Corrective Actions for Errors

Critical Errors

Indicators/display			Error history		Cause	Corrective actions
MS	**NS**	**Seven-segment display**	**Name**	**Saved in nonvolatile memory**		
OFF	OFF	OFF	None	Not supported	• Noise level higher than expected. • Critical hardware fault	Cycle the power supply and check operation. If the problem recurs, the NE1A-series Controller may be faulty. • Check whether there is any influence from noise, and take whatever corrective actions are required.
Lit red	OFF	Left: H Right: ---	System Failure	As much saved as possible.	• Before operation, the safety output terminal or test output terminal was short-circuited to 24 VDC. • Noise impact more than expected. • Critical hardware fault	• Check the external wiring for power supply short-circuiting at the output terminal. • Check whether there is any influence from noise, and take whatever corrective actions are required. • Turn the power OFF and back ON and check operation. If the problem recurs, the NE1A-series Controller may be faulty.
Lit red	OFF	P6	System Failure	(See note.)	A safety output terminal or test output terminal shorted to 24-VDC before operation started.	• Check the external wiring for power supply short-circuiting at the output terminal. • Turn the power OFF and back ON and check operation. If the problem recurs, the NE1A-series Controller may be faulty.

Note Not applicable to Pre-Ver. 1.0 Controllers. Applicable to unit version 1.0 or later (including Controllers that support EtherNet/IP).

Abort Errors

Indicators/display			Error history		Cause	Corrective actions
MS	NS	Seven-segment display	Name	Saved in nonvolatile memory		
 Flashing red	---	E8⇔ Node address of error	Switch Setting Mismatch	Yes	The node address and baud rate were changed after the normal completion of configuration download.	• Configure the switches properly. • Reset the configuration data.

Nonfatal Errors

Indicators/display			Error history		Cause	Corrective actions
NS	Seven-segment display	I/O	Name	Saved in nonvolatile memory		
 Lit red	F0⇔ Node address of error	---	Duplicate MAC ID	See note 1.	Node address duplication (Same node address set for more than one node.)	Check the node addresses of other nodes. Switch ON the power supply again after reconfiguring without duplication.
 Lit red	F1⇔ Node address of error	---	Bus Off	See note 1.	Bus Off (Communications cut off because of frequent data errors.)	Check the following points and take corrective actions for each, then turn ON the power supply. • Make sure the baud rate is the same for all nodes. • Make sure the cable lengths (main/branch) are not too long. • Make sure the cable is not disconnected or loose. • Make sure terminating resistance is at both ends of the main line and only at both ends. • Make sure that there is not a lot of noise.
 Flashing red	L9⇔ Master node address	---	Standard I/O Connection Timeout	See note 1.	Standard I/O connection timeout	Check the following points: • Make sure the baud rate is the same for all nodes. • Make sure the cable lengths (main/branch) are not too long. • Make sure the cable is not disconnected or loose. • Make sure terminating resistance is at both ends of the main line and only at both ends. • Make sure that there is not a lot of noise.
 Flashing red	dA⇔ Destination slave node address	---	Safety I/O Connection Timeout	See note 1.	Safety I/O connection timeout	
 Flashing red	d5⇔ Destination slave node address	---	Nonexistent Slave Device	See note 1.	No slave	
 Flashing red	d6⇔ Destination slave node address	---	Safety I/O Connection Establishment Failure	See note 1.	Safety I/O connection establishment error	Check the slave device. • Make sure it its configured. • Make sure it is in a normal operational state.
 Flashing red	d6⇔ Destination slave node address	---	Invalid Slave Device	See note 1.	Invalid slave device (verification error)	Verify the slave device (select ***Device - Parameters - Compare***) and connect a suitable slave device.
 OFF	E0⇔ Node address of error	---	Network PS Voltage Low	See note 1.	Network power supply voltage low error	Check the following points: • Make sure the power supply voltage is set within the specified range. • Make sure a cable or wire is not disconnected.

Indicators/display			Error history		Cause	Corrective actions
NS	**Seven-segment display**	**I/O**	**Name**	**Saved in nonvolatile memory**		
---	E2⇔ Node address of error	---	Transmission Timeout	See note 1.	Transmission timeout	Check the following points: • Make sure the baud rate is the same for all nodes. • Make sure the cable lengths (main/branch) are not too long. • Make sure the cable is not disconnected or loose. • Make sure terminating resistance is at both ends of the main line and only at both ends. • Make sure that there is not a lot of noise.
 Flashing red	A0⇔ Node address of error	---	Relevant Safety I/O communication stopped	Yes (See note 2.)	A safety I/O connection timed out, interrupting the relevant I/O connection.	Check the following points: • Make sure the baud rate is the same for all nodes. • Make sure the cable lengths (main/branch) are not too long. • Make sure the cable is not disconnected or loose. • Make sure terminating resistance is at both ends of the main line and only at both ends. • Make sure that there is not a lot of noise.
 Flashing red	A1⇔ Node address of error	---	All Safety I/O communication stopped	Yes (See note 2.)	A safety I/O connection timed out, interrupting the relevant I/O connection.	
---	P1⇔ Node address of error	Target terminal  lit red Paired terminal (Dual Setting)  flashing red	External Test Signal Failure at Safety Input	See note 1.	External wiring error in safety input.	Check the following points: • Make sure the input signal wire is not contacting the power source (positive side). • Make sure the input signal wire does not have an earth fault. • Make sure the input signal wire is not disconnected. • Make sure there is not a short circuit between input signal wires. • Make sure there is no failure in the connected devices. • Make sure the Discrepancy Time setting values are valid. To recover from the above error state, the following conditions are required. Latch input error time must have passed and the root cause must have been removed. The target safety input terminal inputs must turn OFF. To change the discrepancy time, reconfiguration is required.
---	P1⇔ Node address of error	Target terminal (Dual Setting)  lit red	Discrepancy Error at Safety Input	See note 1.	Discrepancy error between 2 inputs at safety input.	
---	P1⇔ Node address of error	Target terminal  lit red Paired terminal (Dual Setting)  flashing red	Internal Input Failure at Safety Input	See note 1.	Internal circuit failure at safety input.	

Indicators/display			Error history		Cause	Corrective actions
NS	**Seven-segment display**	**I/O**	**Name**	**Saved in nonvolatile memory**		
---	P2⇔ Node address of error	No LED indicator	Overload Detected at Test Output	See note 1.	Overloading was detected at test output (when a test output terminal was set as a standard signal output).	Check whether the output signal wire has an earth fault or is over loaded.
---	P2⇔ Node address of error	No LED indicator	Stuck-at-high Detected at Test Output	See note 1.	Stuck-on-high at test output (when a test output terminal was set as a standard signal output).	For the wires, check if the power supply source (positive side) is contacting the output signal wire. After the latch input error time has passed, turn OFF the input after the cause of the error has been removed. The error will be reset. If there is no fault with the wires, replace the unit.
--	P2⇔ Node address of error	No LED indicator	Under Current Detected Using Muting Lamp	See note 1.	Disconnection of indicator light was detected at test output (when Terminal T3 is set as the muting lamp signal output)	Check whether the output signal wire is disconnected. If there is no error, check the indicator light.

Indicators/display			Error history		Cause	Corrective actions
NS	**Seven-segment display**	**I/O**	**Name**	**Saved in nonvolatile memory**		
---	P3⇔ Node address of error	Target terminal ☼ lit red Paired terminal (Dual Setting) ◑ flashing red	Over Current Detected at Safety Output	See note 1.	Overcurrent was detected at safety output.	Check the following points: • Make sure there is no overcurrent for the output. • Make sure the output signal wire does not have an earth fault. • Make sure the output signal wire is not contacting the power source (positive side). • Make sure there is not a short circuit between output signal wires. To recover from these errors, the following conditions are required: Latch input error time must have passed, and the root cause must have been removed. The output signal from the user application for the target safety output must turn OFF.
---	P3⇔ Node address of error	Target terminal ☼ lit red Paired terminal (Dual Setting) ◑ flashing red	Short Circuit Detected at Safety Output	See note 1.	Short circuit was detected at safety output.	
---	P3⇔ Node address of error	Target terminal ☼ lit red Paired terminal (Dual Setting) ◑ flashing red	Stuck-at-high Detected at Safety Output	See note 1.	Stuck-on-high at safety output	
---	P3⇔ Node address of error	Target terminal ☼ lit red Paired terminal (Dual Setting) ◑ flashing red	Cross Connection Detected at Safety Output	See note 1.	Short circuit was detected between output signal wires at safety output	
---	P3⇔ Node address of error	Target terminal (Dual Setting) ☼ lit red	Dual Channel Violation at Safety Output	See note 1.	Output data error at safety output	Check whether program output data (for two outputs) in the Dual Channel Mode are configured as equivalent channels.

Indicators/display			Error history		Cause	Corrective actions
NS	Seven-segment display	I/O	Name	Saved in nonvolatile memory		
---	P4⇔ Node address of error	● All OFF	Input PS Voltage Low	See note 1.	I/O power (input) is not connected although a safety input terminal or test output terminal is used.	Check the following points: • Make sure the power supply voltage is set within the specified range. • Make sure a cable or wire is not disconnected.
---	P5⇔ Node address of error	● All OFF	Output PS Voltage Low	See note 1.	I/O power (output) is not connected although a safety output terminal is used.	

Note (1) Not saved in Pre-Ver. 1.0 Controllers, but saved in Controllers with unit version 1.0 or later (including Controllers that support EtherNet/IP).

(2) These functions are not supported by Pre-Ver. 1.0 Controllers. The error information is saved in Controllers with unit version 1.0 or later (including Controllers that support EtherNet/IP).

Errors in Controllers that Support EtherNet/IP

Fatal Errors

Indicators/display			Error history		Cause	Corrective actions
NS	Seven-segment display	MS	Name	Saved in nonvolatile memory		
● OFF	UF	☼ Lit red	System Failure	Yes	EtherNet/IP adaptor hardware error	Turn the power OFF and back ON, and check operation. If the problem occurs again, it may be necessary to replace the Controller.

Nonfatal Errors

Indicators/display			Error history		Cause	Corrective actions
NS	Seven-segment display	MS	Name	Saved in nonvolatile memory		
☼ Lit red	F0↔n4	---	IP Address Duplication Error	Yes	IP address duplication error	The same IP address is set for another device on the network. Correct the settings so that there is no duplication, and then turn the power ON again.
● OFF	E3↔n4	---	Server Connection Error	Yes	BOOTP server connection error	Check the following points. • Make sure the cable is connected correctly. • Make sure the BOOTP server is operating normally.
● OFF	F2↔n4	---	Ethernet Basic Setting Error	Yes	Basic setting logic processing error	Correct the configuration. If the problem occurs again, replace the Controller.
● OFF	E9↔n4	☼ Lit red	Memory Access Error	Yes	EtherNet/IP memory error	Cycle the power supply. If the problem occurs again, replace the Controller.
● OFF	F4↔n4	☼ Lit red	Communications Controller Error	Yes	EtherNet/IP communications controller error	Cycle the power supply. If the problem occurs again, replace the Controller.

Indicators/display			Error history		Cause	Corrective actions
NS	**Seven-segment display**	**MS**	**Name**	**Saved in nonvolatile memory**		
◑ Flashing red	L9↔n4	---	Tag Data Link Error	Yes	EtherNet/IP standard target communications error	Check the following points. • Make sure the same communications settings are used for each node. • Make sure cables are not disconnected or bent. • Make sure power is supplied to the Originator.
● OFF	E1↔n4	---	Link OFF Error	Yes	Link OFF error	Check the following points. • Make sure the same communications settings are used for each node. • Make sure cables are not disconnected or bent. • Make sure power is supplied to the hub.
---	L8 ↔ Local node address	---	EtherNet/IP Standard Target Write Timeout	Yes	There was no refresh request within the set time after the access right to an EtherNet/IP standard target I/O area was acquired.	Check the following items. • Make sure the same communications settings are used for each node. • Make sure cables are not disconnected or loose. • Make sure power is supplied to the client. • Make sure that the client application is operating.