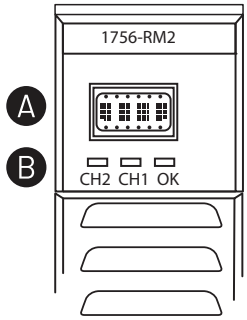
Table 64 - 1756-RM3 Status Indicators

Indicator	Status	Description
Link 1/Link 2	Steady off	One of these conditions exist: • The module has a major recoverable or major nonrecoverable fault. • A non-volatile storage (NVS) update is in process. • The port is not connected. • The port is disabled. • No power is applied to the module.
	Flashing green	The module is receiving traffic on the port.
	Steady green	The port is active, but not receiving data.
	Flashing red	One of these conditions exist: • Link 1 is connected to Link 2. • The port has an intermittent loss of communication.
	Steady red	One of these conditions exist: • The port is enabled, but no SFP module is installed. • The SFP module is faulted or failed. • The SFP module is installed and operating, but has a mismatched vendor ID.
	Flashing green, red, off	When green for approximately 250 ms, red for approximately 250 ms, and then off, the module is performing its power-up testing. The status indicator continues this sequence until the power-up testing is complete.
NET	Steady off	One of these conditions exist: • No power is applied to the module. • The module has a major nonrecoverable fault.
	Flashing green	The module is ready to communicate with its partner but no connection has been made yet.
	Steady green	The module is communicating with its partner.
	Flashing green, red, off	When green for approximately 250 ms, red for approximately 250 ms, and then off, the module is performing its power-up testing. The status indicator continues this sequence until the power-up testing is complete.
MOD	Steady off	No power is applied to the module.
	Flashing green	One of these conditions exist: • The module has not been configured. • A non-volatile storage (NVS) update is in process.
	Steady green	The module is operating normally.
	Flashing red	One of these conditions exist: • The module has a major recoverable fault. • A firmware update is required.
	Steady red	The module has a major nonrecoverable fault.
	Flashing green, red, green	When green for approximately 250 ms, red for approximately 250 ms, and then steady green, the module is performing its power-up testing. The status indicator continues this sequence until the power-up testing is complete.

1756-RM2 Status Indicators

The 1756-RM2XT status indicators operate the same as 1756-RM2 status indicators.



Item	Description
A	Status messages—Provide diagnostic information.
B	Status indicators: • CH1 and CH2—Indicates the current state of Channel 1 and Channel 2. • OK—Indicates the current state of the redundancy module.

Table 65 - 1756-RM2 Status Messages

Message	Description
Txxx	The redundancy module is executing a self-test at powerup. (xxx represents a hexadecimal test identification number.) Wait for the self-test to finish. No action is required.
XFER	Application firmware update is in progress. Wait for the firmware update to finish. No action is required.
ERAS	Boot mode - Erasing current redundancy module firmware
PROG	Update mode - Updating redundancy module firmware Wait for the firmware update to finish. No action is required.
????	Resolving initial redundancy module state Wait for the state resolution to finish. No action is required.
PRIM	Primary redundancy module. The module is operating as the primary module. No action is required.
DISQ	Disqualified secondary redundancy module. Check the type and revision of the secondary partner module.
QFNG	Qualifying secondary redundancy module. Redundant system status. No action is required.
SYNC	Qualified secondary redundancy module. Redundant system status. No action is required.
LKNG	Secondary redundancy module that is in the process of locking for update.
LOCK	Secondary redundancy module that is locked for update.
Exxx	Major fault has occurred (xxx represents an error or fault code, with the two least-significant characters in decimal). Use the Error ID code to diagnose and address the error.
EEPROM Update Required	Onboard EEPROM is empty. Replace the module.
BOOT Erase Error	Error in erasing NVS device while updating boot image. Cycle power to the module. If the error persists, replace the module.
BOOT Program Error	Error in writing in NVS device while updating boot image. Cycle power to the module. If the error persists, replace the module.
APP Erase Error	Error in erasing NVS device while updating application image. Cycle power to the redundancy module. If the error persists, replace the module.
APP Program Error	Error in writing in NVS device while updating application image. Cycle power to the redundancy module. If the error persists, replace the module.
CONFIG Erase Error	Error in erasing NVS device while updating configuration log image. Cycle power to the redundancy module. If the error persists, replace the module.
CONFIG Program Error	Error in writing in NVS device while updating configuration log image. Cycle power to the redundancy module. If the error persists, replace the module.
EEPROM Write Error	Error in writing in EEPROM device while updating configuration log image. Cycle power to the redundancy module. If the error persists, replace the module.
Application Update Required	The module is running boot firmware. Download the application firmware that is obtained from the respective redundancy bundle.
ICPT	A test line on the backplane is asserted. Check if the error message goes away after removing each module, one at a time. If the error persists, cycle power to the chassis, or replace the chassis.
!Cpt	All modules in the chassis do not belong to the same redundancy platform.
Untrusted Certificate Error	The 1756-RM2 and 1756-RM2XT modules use signed firmware. This error appears when either the contents of the downloaded certificate or its signature for the downloaded firmware is invalid.
Unknown(1)	Operating state is not yet determined.
Active(1)	The channel is operating normally as the active channel.
Redundant(1)	The channel is operating normally as the redundant channel.
Link Down(1)	The channel is disconnected. Several causes could be: – The cable is disconnected, broken, or damaged – The signal is attenuated – The connector is loose – The partner 1756-RM2 module is powered down or in a major fault state
No SFP(1)	No transceiver was detected. Several causes could be: – It has failed – It is loosely connected – It is not installed
SFP !Cpt(1)	Rockwell Automation does not support the transceiver.
SFP Fail(1)	The transceiver is in a failed state.

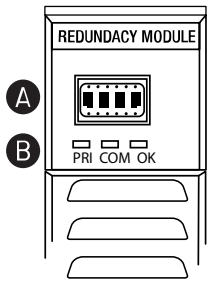
(1) Can be present for either CH1 or CH2, but not both simultaneously.

Table 66 - 1756-RM2 Status Indicators

Indicator	Status	Description
OK	Off	No power is applied to the redundancy module. If necessary, apply power.
	Steady red	One of these conditions exists: • The redundancy module is conducting a self-test during powerup. No action is necessary. • The redundancy module has experienced a major shutdown fault. Cycle power to clear the fault. If the major fault does not clear, replace the module.
	Flashing red	One of these conditions exists: • The redundancy module is updating its firmware. No action is necessary. • The redundancy module has been configured improperly. Check the module configuration and correct any issues. • The redundancy module has experienced a major fault that can be cleared remotely using the RMCT.
	Steady green	The redundancy module is operating normally. No action is required.
	Flashing green	The redundancy module is operating normally but is not communicating with the other redundancy modules in the same chassis. If necessary, establish communication with the other redundancy module.
CH1/CH2	Off	One of these conditions exists: • No power • RM major fault • NVS update
	Steady green(1)	Channel is operating as the active channel.
	Steady red	One of these conditions exists: • No transceiver plugged in • Faulted or failed transceiver detected • Transceiver with incorrect or vendor ID detected
	Intermittent red	For 1 s, then off, indicates powerup.
	Flashing red	One of these conditions exists: • Redundant channel error • No cable connection
	Intermittent green(1)	On for 256 ms for each packet that is received, then off. Active operating channel. (Channel that is used for data communication between the partner 1756-RM2 modules.)
	Flashing green(1)	The channel is operating as the back-up channel and is ready to become the Active channel if the current Active channel fails.

(1) Can be present for either CH1 or CH2, but not both simultaneously.

1756-RM Status Indicators



Item	Description
A	Status messages—Provide diagnostic information.
B	Status indicators: • PRI—Indicates whether the module is functioning as the primary module. • COM—Indicates state of communication between the redundant chassis pair. • OK—Indicates the current state of the redundancy module.

Table 67 - 1756-RM Status Messages

Message	Description
Txxx	The redundancy module is executing a self-test at power-up. (xxx represents a hexadecimal test identification number.) Wait for the self-test to finish. No action is required.
XFER	Application firmware update is in progress. Wait for the firmware update to finish. No action is required.
ERAS	Boot mode - Erasing current redundancy module firmware.
PROG	Boot mode - Updating redundancy module firmware. Wait for the firmware update to finish. No action is required.
????	Resolving initial redundancy module state. Wait for the state resolution to finish. No action is required.
PRIM	Primary redundancy module. The module is operating as the primary module. No action is required.
DISQ	Disqualified secondary redundancy module. Check the type and revision of the secondary partner module.
QFNG	Qualifying secondary redundancy module. Redundant system status. No action is required.
SYNC	Qualified secondary redundancy module. Redundant system status. No action is required.
LKNG	Secondary redundancy module that is in the process of locking for update.
LOCK	Secondary redundancy module that is locked for update.
Exxx	Major fault has occurred (xxx represents an error or fault code, with the two least-significant characters in decimal). Use the Error ID code to diagnose and address the error.
EEPROM Update Required	Onboard EEPROM is empty. Replace the module.
BOOT Erase Error	Error in erasing NVS device while updating boot image. Cycle power to the module. If the error persists, replace the module.
BOOT Program Error	Error in writing in NVS device while updating boot image. Cycle power to the module. If the error persists, replace the module.
APP Erase Error	Error in erasing NVS device while updating application image. Cycle power to the redundancy module. If the error persists, replace the module.
APP Program Error	Error in writing in NVS device while updating application image. Cycle power to the redundancy module. If the error persists, replace the module.
CONFIG Erase Error	Error in erasing NVS device while updating configuration log image. Cycle power to the redundancy module. If the error persists, replace the module.
CONFIG Program Error	Error in writing in NVS device while updating configuration log image. Cycle power to the redundancy module. If the error persists, replace the module.
EEPROM Write Error	Error in writing in EEPROM device while updating configuration log image. Cycle power to the redundancy module. If the error persists, replace the module.
Application Update Required	The module is running boot firmware. Download the application firmware that is obtained from the respective redundancy bundle.
ICPT	A test line on the backplane is asserted. Check if the error message goes away after removing each module, one at a time. If the error persists, cycle power to the chassis, or replace the chassis.
!Cpt	All modules in the chassis do not belong to the same redundancy platform.

Table 68 - 1756-RM Status Indicators

Indicator	Status	Description
COM	Off	One of these conditions exists: • No power is applied to the module. • Apply power to the module. • There is no communication between redundancy modules in the redundant chassis pair. Diagnose the redundancy configuration to determine why no communication is taking place.
	Red < 1 second	The module has been started and has established partner communication. No action is required.
	Steady red	The module has experienced a critical communication failure. Cycle power to clear the fault. If the major fault does not clear, replace the module.
	Flashing green > 250 ms	Communication activity is present. No action is required.

Table 68 - 1756-RM Status Indicators (Continued)

Indicator	Status	Description
OK	Off	No power is applied to the redundancy module. If necessary, apply power.
	Steady red	One of these conditions exists: • The redundancy module is conducting a self-test during power-up. • No action is necessary. • The redundancy module has experienced a major fault. Cycle power to clear the fault. If the major fault does not clear, replace the module.
	Flashing red	One of these conditions exists: • The redundancy module is updating its firmware. • No action is necessary. • The redundancy module has been configured improperly. • Check the module configuration and correct any issues. • The redundancy module has experienced a minor failure. Cycle power to clear the fault. If the major fault does not clear, replace the module.
	Steady green	The redundancy module is operating normally. No action is required.
	Flashing green	The redundancy module is operating normally but is not communicating with the other redundancy module. If necessary, establish communication with the other redundancy module.
PRI	Steady green	Indicates that the module is functioning as the primary module.
	Off	Indicates that the module is functioning as the secondary module.