

CIP Status Codes

The following tables lists the **CIP General Status Codes** and **UCMM Extended Status Codes** that are returned by the CIP protocol. Not all of these status codes are valid for the *Ethernet/IP* interfaces supported by CTI products, but this complete list can be helpful when diagnosing *Ethernet/IP* problems using a network capture program such as Wireshark.

In CTI products, these error codes may be reported to the application program by the diagnostic variables associated with the I/O assembly objects when using the *Ethernet/IP I/O Scanner* or diagnostic variables associated with controller tags when using the *Ethernet/IP Tag Client* interface.

General Status Codes

| General Status Code (Hex) | General Status Code (Decimal) | Status Name | Description |
|---------------------------|-------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 0x00 | 0 | Success | Service was successfully performed by the object specified. |
| 0x01 | 1 | Connection failure | A connection related service failed along the request path. When detected, the Extended Status value is returned |
| 0x02 | 2 | Resource unavailable | Resources needed for the object to perform the requested service were unavailable |
| 0x03 | 3 | Invalid Parameter Value | See Status Code 0x20, which is the preferred value to use for this condition. |
| 0x04 | 4 | Path segment error | The path segment identifier or the segment syntax was not understood by the processing node. |
| 0x05 | 5 | Path destination unknown | The path references an object class, instance or structure element that is not known or is not contained in the processing node. |
| 0x06 | 6 | Partial transfer | Only part of the expected data was transferred |
| 0x07 | 7 | Connection lost | The messaging connection was lost. |
| 0x08 | 8 | Service not supported | The requested service was not implemented or was not defined for this Object Class/Instance |
| 0x09 | 9 | Invalid attribute value | Invalid attribute data was detected by the processing node |
| 0x0A | 10 | Attribute list error | An attribute in the Get_Attribute_List or Set_Attribute_List response has a non-zero status |
| 0x0B | 11 | Already in requested mode/state | The object is already in the mode/state being requested by the service |
| 0x0C | 12 | Object state conflict | The object cannot perform the requested service in its current mode/state |
| 0x0D | 13 | Object already exists | The requested instance of object to be created already exists. |
| 0x0E | 14 | Attribute not settable | A request to modify a non-modifiable attribute was received. |
| 0x0F | 15 | Privilege violation | A permission/privilege check failed |
| 0x10 | 16 | Device state conflict | The device's current mode/state prohibits the execution of the requested service. |
| 0x11 | 17 | Reply data too large | The reply data is larger than the allocated response buffer |
| 0x12 | 18 | Fragmentation of a primitive value | The service specified an operation that will fragment a primitive data value, (such as half of a REAL data type value) |
| 0x13 | 19 | Not enough data | The service did not supply enough data to perform the specified operation |
| 0x14 | 20 | Attribute not supported | The attribute specified in the request is not supported |
| 0x15 | 21 | Too much data | The service supplied more data than was expected |
| 0x16 | 22 | Object does not exist | The object specified does not exist in the device. |
| 0x17 | 23 | Service fragmentation sequence inactive | The fragmentation sequence for this service is not currently active for this data. |
| 0x18 | 24 | No stored attribute data | The attribute data of this object was not saved prior to the requested service. |
| 0x19 | 25 | Store operation failure | The attribute data of this object was not saved due to a failure during the attempt |
| 0x1A | 26 | Routing failure, request packet too large | The service request packet was too large for retransmission on the specified network and was aborted by the routing device |
| 0x1B | 27 | Routing failure, response packet too large | The service response packet was too large for retransmission on the specified network and was aborted by the routing device |
| 0x1C | 28 | Missing attribute list entry data | The service did not supply an attribute needed to perform the requested operation. |
| 0x1D | 29 | Invalid attribute value list | The service is returning the list of attributes supplied with state information for the invalid attributes |
| 0x1E | 30 | Embedded service error | An embedded service resulted in an error. |
| 0x1F | 31 | Vendor specific error | A vendor specific error has occurred. The Extended Status field of the Error Response specifies the error condition. |
| 0x20 | 32 | Invalid parameter | A parameter associated with the request does not meet the specification requirements |
| 0x21 | 33 | Write-once value or medium | An attempt to write to a write-once medium (e.g. WORM drive or PROM) |

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| | | already written | that has already been written, or to modify an unchangeable value failed |
| 0x22 | 34 | Invalid Reply Received | The response service code does not match the request service code or reply message is shorter than the minimum reply size |
| 0x23 | 35 | Buffer Overflow | The message received is larger than the receiving buffer size. The entire message is discarded. |
| 0x24 | 36 | Message Format Error | The format of the received message is not supported by the server. |
| 0x25 | 37 | Key Failure in path | The Key Segment included as the first segment in the path does not match the destination device. The object specific status indicates which part of the key check failed. |
| 0x26 | 38 | Path Size Invalid | The size of the path sent with the Service Request is invalid; either too much or too little routing data was included. |
| 0x27 | 39 | Unexpected attribute in list | An attempt was made to set an attribute that is not able to be set at this time. |
| 0x28 | 40 | Invalid Member ID | The Member ID included in the request does not exist in the specified Class/Instance/Attribute |
| 0x29 | 41 | Member not settable | A request to modify a non-changeable member was received |
| 0x2A | 42 | Group 2 only server general failure | This error code is reported only by DeviceNet Group 2 Only servers with 4K or less code space in place of "Service not supported", "Attribute not supported" or "Attribute not settable" errors. |
| 0x2B | 43 | Unknown Modbus Error | A CIP to Modbus translator received an unknown Modbus Exception Code. |
| 0x2C | 44 | Attribute not gettable | A request to read a non-readable attribute was received |
| 0x2D | 45 | Instance Not Deleted | The requested object instance cannot be deleted |
| 0x2E | 46 | Service Not Supported for Specified Path | The object does not support the designated application path (e.g. attribute) for the specified service |
| 0x2F - 0xCF | 47 - 207 | Reserved | Reserved by CIP for future extensions |
| 0xD0 - 0xFF | 208 - 255 | Reserved for Object Class specific errors | This range of error codes indicates Object Class specific errors when none of the other Error Codes in this table accurately reflect the error that was encountered |
| 0xF0 | 240 | Timeout set to less than 100 ms | |
| 0xF2 | 242 | Number of bytes exceeds message maximum size | |
| 0xF3 | 243 | Internal logic error. Contact CTI. | |

UCMM Extended Status Codes

| General Status Code (Hex) | General Status Code (Decimal) | Status Name | Description |
|---------------------------|-------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x0100 | 256 | Connection in Use or Duplicate Forward Open | The Originator is attempting to make a connection to a Target to which the Originator has already established a connection via a Forward Open request. This could be caused by poor network traffic. Check the cabling, switches and connections. |
| 0x0103 | 259 | Transport Class or Trigger Not Supported | The Target does not support Class 1 / Class 3 transports or specified trigger-type. CTI products support only Cyclic triggers for I/O messages. |
| 0x0106 | 262 | Ownership Conflict | The connection cannot be established since the required resources are already allocated to a different connection. An example of this would be only one exclusive owner connection can control an I/O module output point. Check to see if other Scanner devices are connected or verify that Multicast is supported by the Adapter (if Multicast is selected). This error could be caused by poor network traffic. Check the cabling, switches and connections. |
| 0x0107 | 263 | Connection Not Found | This occurs if a device sends a Forward Close on a connection that is inactive. This could occur if one of these devices has powered down or if the connection timed out due to poor network traffic. Check the cabling, switches and connections. |
| 0x0108 | 264 | Invalid Network Connection Parameter | One of the parameters specified in the Forward Open (such as Connection ID, Connection Type, Connection Priority, Redundant Owner, or Fixed/Variable) is not supported. |
| 0x0109 | 265 | Invalid Connection Size | The Target or Router does not support the specified connection size. This could occur when the assembly size configured for the Target does not match the required size for a fixed connection. CTI products support only fixed connection sizes. Check the manufacturer documentation to verify the connection size required by the device. Note that most devices specify this value in terms of bytes. |
| 0x0110 | 272 | Target for Connection Not Configured | The Target has received a request for connection that has not been configured. This could occur if the device has powered down or if the connection timed out. This could be caused by poor network traffic. Check the cabling, switches and connections. |
| 0x0111 | 273 | RPI Not Supported | The Target does not support the specified Requested Packet Interval (RPI) for O->T or T->O connection. This status code can also indicate an unsupported connection timeout produced by the connection timeout multiplier. Although CTI products allow RPI to be set as low as 1 msec, |

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| | | | I/O data cannot be produced or processed any faster than the product cycle time of the application. |
| 0x0112 | 274 | RPI Values Not Acceptable | The Requested Packet Interval (RPI) values in the Forward Open message are outside the range required by the Target, or the Target is producing at a different interval. |
| 0x0113 | 275 | Out of Connections | All CIP connections available to Target are already in use. The maximum number of connections supported by the Connection Manager is already in use. |
| 0x0114 | 276 | Vendor ID or Product Code Mismatch | The compatibility bit was set in the Forward Open message but the Product Code or Vendor ID specified in the electronic key logical segment does not match the Product Code or Vendor ID of the device. |
| 0x0115 | 277 | Device Type Mismatch | The compatibility bit was set in the Forward Open message but the Device Type specified in the electronic key logical segment does not match the Device Type of the device. |
| 0x0116 | 278 | Revision Mismatch | The compatibility bit was set in the Forward Open message but the major/minor revisions specified in the electronic key logical segment do not correspond to a valid device revision. |
| 0x0117 | 279 | Invalid Produced or Consumed Application Path | The Connection ID specified for the O->T or T->O connection is incorrect or not supported by the Target.. |
| 0x0118 | 280 | Invalid Configuration Application Path | The Connection ID specified the Configuration data is incorrect or not supported by the Target. |
| 0x0119 | 281 | Non-Listen Only Connection Not Opened | The Originator requested a Listen-only connection when a Non-Listen Only connection is not already established. CTI products do not support Listen-only connections as Scanner or Adapter. |
| 0x011A | 282 | Target Object Out of Connections | The maximum number of connections supported by this instance of the Target object has been exceeded. |
| 0x011B | 283 | Production Inhibit Time is greater than RPI Value | The T->O RPI is smaller than the T->O Production Inhibit Time. Consult the manufacturer's documentation as to the minimum rate that data can be produced and configure the RPI to greater than this value. |
| 0x011C | 284 | Transport Class Not Supported | The Transport Class requested in the Forward Open is not supported by the Server. Only Class 1 and Class 3 messages are supported by the CTI products. |
| 0x011D | 285 | Production Trigger Not Supported | The Server does not support the trigger to produce messages requested in the Forward Open is not supported. In Class 1, only Cyclic and Change of state are supported in |
| 0x011E | 286 | Direction Not Supported | The Direction requested in the Forward Open is not supported by the Target. |
| 0x011F | 287 | Invalid O->T Network Connection FIXVAR | The O-> T Fixed/Variable flag specified in the Forward Open is not supported. Only Fixed is supported in CTI products. |
| 0x0120 | 288 | Invalid T->O Network Connection FIXVAR | The T-> O Fixed/Variable flag specified in the Forward Open is not supported. Only Fixed is supported in CTI products. |
| 0x0121 | 289 | Invalid O->T Network Connection Priority | The O-> T Network Connection Priority specified in the Forward Open is not supported. CTI products support Low, High, Scheduled, and Urgent Priority settings. |
| 0x0122 | 290 | Invalid T->O Network Connection Priority | The T->O Network Connection Priority specified in the Forward Open is not supported. CTI products support Low, High, Scheduled, and Urgent Priority settings. |
| 0x0123 | 291 | Invalid O->T Network Connection Type | The O->T Network Connection Priority specified in the Forward Open is not supported. CTI products support Low, High, Scheduled, and Urgent Priority settings. |
| 0x0124 | 292 | Invalid T->O Network Connection Type | The T->O Network Connection Type (Unicast or Multicast) specified in the Forward Open is not supported. CTI products support both Unicast and Multicast connections. |
| 0x0125 | 293 | Invalid O->T Network Connection Redundant Owner Flag | The O->T Network Connection Redundant Owner flag specified in the Forward Open is not supported. Only Exclusive owner connections are supported in CTI products. |
| 0x0126 | 294 | Invalid Configuration Size | The Configuration data sent in the Forward Open does not match the size specified or is not supported by the Adapter. The Target usually returns an additional value that specifies the maximum size allowed for this data. This information is displayed on the Ethernet/IP statistics page of the CTI product web server |
| 0x0127 | 295 | Invalid Originator to Target Size | The O->T (Output data) size specified in the Forward Open does not match what is expected by the Target. Consult the documentation of the Adapter device to verify the size. Note if the Run/Idle header is included in the O->T data size. The Run/Idle Header can be enabled/disabled as needed to match the Adapter setting when a CTI product is acting as the I/O Scanner. When a CTI product is serving as the Adapter, it always requires the Run/Idle header to be included in the O->T data. If the I/O Scanner does not have the option to send the Run/Idle Header, then 4 additional bytes must be added to the O->T size (with first 4 bytes unused). Some devices publish the expected T->O size as an additional value when the error is returned. If available, this information is displayed on the Ethernet/IP statistics page of the CTI product web server. NOTE: The Target device may return this error if the O->T Connection ID is invalid for I/O Message data. |
| 0x0128 | 296 | Invalid Target to Originator Size | The T->O (Input data) size specified in the Forward Open does not match the Target configuration. Consult the documentation of the |

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| | | | Adapter device to verify the size. Note if the Run/Idle header is included in the T->O data size. Note if the Run/Idle Header is included in the T->O data. The Run/Idle Header can be enabled/disabled as needed to match Adapter settings when a CTI product is acting as the I/O Scanner. When CTI product is serving as the Adapter, it does not include the Run/Idle header in the T->O data. If the I/O Scanner does not have the option to exclude the Run/Idle Header from T->O data, then 4 additional bytes must be added to the T->O size (with first 4 bytes unused). Some devices publish the expected O->T size as an additional value when the error is returned. If available, this information is displayed on the Ethernet/IP statistics page of the CTI product web server. NOTE: The Target device may return this error if the T->O Connection ID is invalid for I/O Message data. |
| 0x0129 | 297 | Invalid Configuration Application Path | The Configuration Instance contained a size other than zero for Adapter where Configuration data sent with the Forward Open message is not supported. |
| 0x012A | 298 | Invalid Consuming Application Path | The Consuming (O->T) Path is not present in the Forward Open message from the I/O Scanner, or the O->T Connection ID is incorrect for the Adapter configuration. |
| 0x012B | 299 | Invalid Producing Application Path | The Producing (T->O) Path is not present in the Forward Open message from the I/O Scanner, or the T->O Connection ID is incorrect for the Adapter configuration. |
| 0x012C | 300 | Configuration Symbol Does Not Exist | An invalid reply is received (e.g. reply service code does not match the request service code, or reply message is shorter than the minimum expected reply size). This status code can serve for other causes of invalid replies. |
| 0x012D | 301 | Consuming Symbol Does Not Exist | The message received is larger than the receiving buffer can handle. The entire message was discarded. |
| 0x012E | 302 | Producing Symbol Does Not Exist | The format of the received message is not supported by the server. |
| 0x012F | 303 | Inconsistent Application Path Combination | The Key Segment that was included as the first segment in the path does not match the destination module. The object specific status shall indicate which part of the key check failed. |
| 0x0130 | 304 | Inconsistent Consume Data Format | The size of the path which was sent with the Service Request is either not large enough to allow the Request to be routed to an object or too much routing data was included. |
| 0x0131 | 305 | Inconsistent Produce Data Format | An attempt was made to set an attribute that is not able to be set at this time. |
| 0x0132 | 306 | Null Forward Open Function Not Supported | Invalid Member ID The Member ID specified in the request does not exist in the specified Class/Instance/Attribute |
| 0x0133 | 307 | Member not settable | A request to modify a non-modifiable member was received |
| 0x0203 | 515 | Connection Timed Out | An I/O message was received on a connection that has already timed out. Connections timeout when no I/O message is received in the time period specified by RPI Rate X 'Connection Multiplier' (fixed at '4' for CTI products). This could be caused by poor network traffic. Check the cabling, switches and connections. |
| 0x0204 | 516 | Unconnected Send Timed Out | An Unconnected Send message has been sent, and no response is received within the specified timeout period. This usually indicates poor network traffic. Check the cabling, switches and connections. |
| 0x0205 | 517 | Unconnected Send Parameter Error | The Connection Tick Time/Connection Timeout period specified in the Forward Open or Forward Close message is not supported. |
| 0x0206 | 518 | Message Too Large for UCMM | The Unconnected Send message is too large to be sent on the network. |
| 0x0207 | 519 | UCMM Acknowledge without Reply | The Acknowledge message to an Unconnected Send was received, but no data response occurred |
| 0x0301 | 769 | No Buffer Memory Available | The Connection memory buffers in the Target device are full. This can usually be corrected by reducing the frequency of the messages being sent to the device and/or reducing the number of connections to the device. |
| 0x0302 | 770 | Network Bandwidth Not Available for Data | The Producer device cannot support the specified RPI rate when the connection has been configured with Schedule priority. Reduce the message rate (increase RPI value) or consult the manufacturer's documentation. |
| 0x0303 | 771 | No Consumed Connection ID Filter Available | The Consumer device does not have an available consumed_connection_id filter. |
| 0x0304 | 772 | Not Configured to Send Scheduled Priority Data | A device configured for a Scheduled Priority message cannot send the data at the scheduled time slot. |
| 0x0305 | 773 | Schedule Signature Mismatch | The connection scheduling information in the Originator does not match the scheduling information in the Target. |
| 0x0306 | 774 | Schedule Signature Validation Not Possible | The connection scheduling information in the Originator cannot be validated by the Target network. |
| 0x0311 | 785 | Port Not Available | The Port number specified in a Port Segment is not available or does not exist. Consult the documentation of the device to verify the correct port number. |
| 0x0312 | 786 | Link Address Not Valid | The Link address specified in the Port Segment is not valid for the Target network. Consult the documentation of the device to verify the Port configuration. |

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| 0x0315 | 789 | Invalid Segment in Connection Path | The Target cannot decode the Connection Path. This could be caused by an unrecognized or unexpected Path or Segment Type. |
| 0x0316 | 790 | Forward Close Service Connection Mismatch | The Connection path in the Forward Close message does not match the Connection Path configured in the Target. |
| 0x0317 | 791 | Scheduling Not Specified | The Schedule Network Segment was not present or the value was invalid. |
| 0x0318 | 792 | Link Address to Self Invalid | The Link Address in the Port Segment points back to the Originator device. |
| 0x0319 | 793 | Secondary Resource Unavailable | This occurs in a Redundant system when the Secondary connection request is unable to duplicate the Primary connection request. CTI products do not support Redundant Owner connections. |
| 0x031A | 794 | Rack Connection Already Established | A module connection is refused because some of the data requested is already included in an existing rack connection. |
| 0x031B | 795 | Module Connection Already Established | A rack connection is refused because some of the data requested is already included in an existing module connection. |
| 0x031C | 796 | Miscellaneous | This error is used when there is no other applicable code for the error condition. Consult the device documentation or contact CTI Support if this error persist. |
| 0x031D | 797 | Redundant Connection Mismatch | At least one of these parameters does not match when attempting to establish a Redundant Owner connection: O->T RPI, O->T Connection parameters, T->O RPI, T->O Connection parameters, Transport Type, and Trigger. CTI products do not support Redundant Owner connections. |
| 0x031E | 798 | No more User Configurable Link Resources Available in the Producing Module | The Target device has no more available Consumer connections available for a Producer. |
| 0x031F | 799 | No User Configurable Link Resources Configured in the Producing Module | The Target device has no Consumer connections configured for a Producer connection. |
| 0x0800 | 2048 | Network Link Offline | The Network Link Path is invalid or not available. |
| 0x0810 | 2064 | No Target Application Data Available | The Target application has no valid data to produce. |
| 0x0811 | 2065 | No Originator Application Data Available | The Originator application has no valid data to produce |
| 0x0812 | 2066 | Node Address has changed since the Network was scheduled | A Router has a different node address than the value configured in the original connection. |
| 0x0813 | 2067 | Not Configured for Off-Subnet Multicast | The Producer has been requested to support a Multicast connection for a Consumer on a different subnet, and the Producer does not support this functionality. |
| 0x0814 | 2068 | Invalid Produce/Consume Data format | The format of the produced and/or consumed data is not consistent with information in the data segment. Status Codes 0x130 and 0x131 are typically used for this situation in most devices. |
| 0x2107 | 8455 | Data Type Mismatch | The data type in the request does not match the data type of the tag in the server |