

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)

		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,

			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

			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 setttable	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.

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