# Ping Driver

This document has the specific information related to the driver configuration. For a generic explanation on Devices, Channels, Nodes and Points configuration, please refer to reference guide.

## Contents

# Section 1 – Summary Information

**Communication Driver Name**: Ping

**Current Version**: 1.0.0.0

**Implementation DLL**: T.ProtocolDriver.Ping.dll

**Interface**: TCP/IP

**Description**: Ping driver is responsible to check wheter a IP address is responding or not by sending a package and receiving it back.

**Max number of nodes**: user defined

**PC Hardware requirements**: Standard PC Ethernet interface board

**Supported Operands:**

| Operand | Read | Write | Data Type | Address size |
|---|---|---|---|---|
| AverageTime | ✓ | X | Real | 8 bytes |
| Lost | ✓ | X | Integer | 4 bytes |
| Received | ✓ | X | Integer | 4 bytes |
| MinimumTime | ✓ | X | Long | 8 bytes |
| MaximumTime | ✓ | X | Long | 8 bytes |

**Table 1**

# Section 2 – Channel Configuration

## Protocol Options

- **Maximum size of blocks:** Defines package size that will be sent.

## Settings

- **Number of Retries:** Defines how many times the package will be sent (when it’s zero the driver uses 4 retries as default).

## TimeOut

- **TimeOut RxStart:** Defines the how long the driver will wait for a response (in milliseconds)

# Section 3 – Node Configuration

## Station Configuration

TCP/IP:

- Station syntax: <IP address>

  Where : <IP address> = IP address in the network that will be checked for the Ping driver.

  Ex: 192.168.1.1

# Section 4 – Point Configuration

The syntax for the Ping address points is: < Property > . Where property can be one of the the above:

| | |
|---|---|
| AvarageTime | Avarage response time (ms) of last execution |
| Lost | Number of lost packages in last execution |
| Received | Number of received packages in last execution |
| MinimumTime | Minumum response time of last execution |
| MaximumTime | Maximum response time of last execution |

# Section 5 – Troubleshoot

The status of the driver execution can be observed through the diagnostic tools, that are:

- Trace window
- Property Watch
- Module Information

The above tools indicate if the operations have succeeded or have failed where the status 0 (zero) means success. The possible error codes are in the table below:

| Error Code | Description |
|---|---|
| -1 | The ICMP echo request failed for an unkown reason. |
| 1102 | The ICMP echo request failed because the network that contains the destination computer is not reachable. |
| 1103 | The ICMP echo request failed because the destination computer is not reachable. |
| 1104 | The ICMP echo request failed because the destination computer that is specified in an ICMP echo message is not reachable, because it does not support the packet's protocol. |
| 1105 | The ICMP echo request failed because the port on the destination computer is not available. |
| 1106 | The ICMP echo request failed because of insufficient network resources. |
| 1107 | The ICMP echo request failed because it contains an invalid option. |
| 1108 | The ICMP echo request failed because of a hardware error. |
| 1109 | The ICMP echo request failed because the packet containing the request is larger than the maximum transmission unit (MTU) of a node (router or gateway) located between the source and destination. The MTU defines the maximum size of a transmittable packet. |
| 11010 | The ICMP echo Reply was not received within the allotted time. The default time allowed for replies is 1 second. You can change this value using the channel configuration. |
| 11012 | The ICMP echo request failed because there is no valid route between the source and destination computers |
| 11013 | The ICMP echo request failed because its Time to Live (TTL) value reached zero, causing the forwarding node (router or gateway) to discard the packet |
| 11014 | The ICMP echo request failed because the packet was divided into fragments for transmission and all of the fragments were not received within the time allotted for reassembly. RFC 2460 (available at www.ietf.org) specifies 60 seconds as the time limit within which all packet fragments must be received. |
| 11015 | The ICMP echo request failed because a node (router or gateway) encountered problems while processing the packet header. This is the status if, for example, the header contains invalid field data or an unrecognized option. |
| 11016 | The ICMP echo request failed because the packet was discarded. This occurs when the source computer's output queue has insufficient storage space, or when packets arrive at the destination too quickly to be processed. |
| 11018 | The ICMP echo request failed because the destination IP address cannot receive ICMP echo requests or should never appear in the destination address field of any IP datagram. For example, specifying the IP address "000.0.0.0" in node configuration returns this error. |
| 11040 | The ICMP echo request failed because the destination computer that is specified in an ICMP echo message is not reachable; the exact cause of problem is unknown. |
| 11041 | The ICMP echo request failed because its Time to Live (TTL) value reached zero, causing the forwarding node (router or gateway) to discard the packet |

| | |
|---|---|
| 11042 | The ICMP echo request failed because the header is invalid. |
| 11043 | The ICMP echo request failed because the Next Header field does not contain a recognized value. The Next Header field indicates the extension header type (if present) or the protocol above the IP layer, for example, TCP or UDP. |
| 11044 | The ICMP echo request failed because of an ICMP protocol error. |
| 11045 | The ICMP echo request failed because the source address and destination address that are specified in an ICMP echo message are not in the same scope. This is typically caused by a router forwarding a packet using an interface that is outside the scope of the source address. Address scopes (link-local, site-local, and global scope) determine where on the network an address is valid. |

## Revision History

| Revision | Description | Date |
|---|---|---|
| **A** | Initial Revision | November, 28, 2014 |