Unitronics Vision 280 Driver

Filename	Vision280.dll
Manufacturer	Unitronics - Industrial Automation Systems
Devices	M90/M91/Vision OPLC Series
Protocol	Proprietary over Serial or TCP/IP
Version	2.0.1
Last Update	01/08/2025
Platform	Win32
Dependencies	UnCmDrv1.dll ActiveX from Unitronics, version 4.0 or later
Superblock Reading	No
Level	0

Introduction

The Vision280 Driver implements a Master-Slave communication with M90/M91/Vision OPLC Series devices compatible with UnCmDrv1.dll ActiveX, by using an **Elipse Software**'s application interface.

The UnCmDrv1.dll file must have a key registered in Windows, which is performed during the installation of the PLC software.

Preparing a Device

All PLCs must communicate via RS-485 Serial as Slaves, by defining a unique Slave ID for their addressing on the RS-485 Serial network.

If communication with PLCs is via Ethernet TCP/IP, users must pay attention to the following details:

- **M90**-, **M91**- and **Vision 120**-type PLCs do not support communication in **Ethernet** mode
- **230**-, **260**-, and **280**-type Vision PLCs require the installation of an Ethernet port for communication via TCP/IP

This Driver communicates using the UnCmDrv1.dll ActiveX, provided by the PLC manufacturer. However, this ActiveX requires several dependencies, which must be pre-installed and registered in the operating system. The next files are required:

- ssa3d30.ocx
- ComDlg32.ocx
- MSComCtl.ocx
- AmiCommPro.ocx
- MSComm32.ocx
- MSWinSck.ocx
- UnCmDrv1.dll

By default, installing any Unitronics software must install all these dependencies in order. However, if any of these files is not registered, users must use the **regsvr32** command on a Command Prompt with Administrator privileges, according to the next example.

```
regsvr32 [filename with extension]
```

Driver Configuration

This Driver uses the **[P]** parameters to define the configuration of communication in **Serial** mode. To configure other communication modes, open this Driver's properties window on **Elipse E3**, **Elipse Power**, or **Elipse Water** or select the **Extra Settings** option on **Elipse SCADA**.

Serial Communication

Use the **[P]** parameters to configure this Driver's communication in **Serial** mode, according to the next table.

P1	Defines the port used for Serial RS232 communication. Possible values for this parameter are **1**: COM1 (default), **2**: COM2, **3**: COM3, **4**: COM4, or **n**: COM*n*
P2	Defines the transmission rate, in bits per second. Possible values for this parameter are **1**: 110, **2**: 300, **3**: 600, **4**: 1200, **5**: 2400, **6**: 4800, **7**: 9600 (default), **8**: 19200, **9**: 38400, or **10**: 57600
P3	Defines the character size, parity, and stop bits, according to the next **table**. To configure this parameter, users must sum all values for character size, parity, and stop bits. For example, to configure a character with 8 (eight) bits, odd parity, and 1 (one) stop bit, the value of this parameter must be 811 (800 + 10 + 1)
P4	Not used. Please check the next **note** for more information

NOTE

Starting with version **2.0** of this Driver, the *P4* parameter is no longer used. Therefore, the time-out value must be defined on the **Setup** tab of this Driver's properties window.

Possible values for the P3 parameter

VALUE	DESCRIPTION
700	7-bit character
800	8-bit character
000	No parity
010	Odd parity
020	Even parity
001	1 (one) stop bit
002	2 (two) stop bits

Ethernet Communication

To enable communication in **Ethernet TCP/IP** mode, open this Driver's properties window on **Elipse E3**, **Elipse Power**, or **Elipse Water** or select the **Extra Settings** option on **Elipse SCADA**.

Enable the **Use Ethernet** option to select communication in **Ethernet TCP/IP** mode and then inform the IP address and TCP/IP port used to perform a connection with a device.

NOTE
Starting with version **2.0** of this Driver, the *P4* parameter is no longer used. Therefore, the time-out value must be defined on the **Setup** tab of this Driver's properties window.

Tag Reference

Tags are configured using **N/B** parameters. Parameters not mentioned are irrelevant when configuring Tags. It is recommended to leave these parameters in 0 (zero).

Value Tag

Value Tag (Reading and Writing)

N1/B1	Unit Identifier
N2/B2	Data type
N3/B3	Initial IP address
N4/B4	Not used

Use a PLC or Block Tag to check a variable. This variable's data type must be referenced in the *N2/B2* parameter, according to the topic **Data Types**. Check this topic for the supported types of operations for each data type, if read-only, write-only, or both. The next tables show examples of configuration for this Tag.

- This configuration read or writes an integer value at the memory address 10 of a device

N PARAMETER	DESCRIPTION
N1	1 (one, Unit Identifier)
N2	22 (MEM INTEGERS)
N3	10 (initial address)
N4	0 (zero)

- This configuration reads or writes 5 (five) integer values at memory addresses from 10 to 14 of a device

B PARAMETER	DESCRIPTION
B1	1 (one, Unit Identifier)
B2	22 (MEM INTEGERS)
B3	10 (initial address)
B4	0 (zero)

Data Types

Available codes for data types

CODE	DATA TYPE	PROCESS
01	INPUTS BITS	Read-only
02	OUTPUTS BITS	Write-only
11	SYS BITS	Reading and writing
12	SYS INTEGERS	Reading and writing
13	SYS LONGS	Reading and writing
14	SYS DOUBLE WORDS	Reading and writing
21	MEM BITS	Reading and writing
22	MEM INTEGERS	Reading and writing
23	MEM LONGS	Reading and writing
24	MEM DOUBLE WORDS	Reading and writing
25	MEM FLOATS	Reading and writing
92	M90 DB INTEGERS	Reading and writing

Special Tags with Ethernet Services

Some special Tags are dedicated to services from the **Ethernet** interface, which can be used at run time by this Driver.

IP and Port Tag

IP and Port Tag (Reading and Writing)

B1	999
B2	1 (one)
B3	Not used
B4	Not used

Changes the configuration for the IP address and TCP/IP port to connect with a device. These new values are effective only when there is a disconnection and a new connection. The Block Tag must contain 5 (five) Elements, described next.

- **Element 1**: IP address 0 (zero, least significant)

- **Element 2**: IP address 1 (one)
- **Element 3**: IP address 2 (two)
- **Element 4**: IP address 3 (three, most significant)
- **Element 5**: TCP/IP port

Example of configuring a Block Tag for the IP address 127.0.0.1 and TCP/IP port 8080:

- **Element 1**: 1 (one)
- **Element 2**: 0 (zero)
- **Element 3**: 0 (zero)
- **Element 4**: 127
- **Element 5**: 8080

Writing to this Block Tag does not change the values defined on the parameters of this Driver's properties window.

NOTE

Starting with version **2.0** of this Driver, the configuration of *B1* and *B2* parameters equal to -1 (minus one) is no longer used, to avoid a conflict of configuration with default I/O Tags from **IOKit**.

Reconnect Tag

Reconnect Tag (Write-Only)

N1	999
N2	2 (two)
N3	Not used
N4	Not used

Writing to this Tag requests a reconnection.

NOTE

Starting with version **2.0** of this Driver, the configuration of the *N1* parameter equal to -1 (minus one) and the *N2* parameter equal to -2 (minus two) is no longer used, to avoid a conflict of configuration with default I/O Tags from **IOKit**.

Disconnect Tag

Disconnect Tag (Write-Only)

N1	999
N2	3 (three)
N3	Not used
N4	Not used

Writing to this Tag discards the active TCP/IP connection.

NOTE

Starting with version **2.0** of this Driver, the configuration of the *N1* parameter equal to -1 (minus one) and the *N2* parameter equal to -3 (minus three) is no longer used, to avoid a conflict of configuration with default I/O Tags from **IOKit**.

Documentation of I/O Interfaces

Configuration of a Driver

I/O Interface configuration is performed on a Driver's configuration dialog box. To access the configuration of this dialog box in **Elipse E3** in version 1.0, follow these steps:

1. Right-click a Driver object (IODriver).
2. Select the **Properties** item on the contextual menu.
3. Select the **Driver** tab.
4. Click **Other parameters**.

In **Elipse E3** version 2.0 or later, click **Configure driver** on a Driver's toolbar. In **Elipse SCADA**, follow these steps:

1. Open the Organizer.
2. Select a Driver on Organizer's tree.
3. Click **Extras** on the **Driver** tab.

Currently, an I/O Interface allows opening only one connection for each Driver. This means that, if users want to access two serial ports, they must add two Drivers to an application and then configure each one of these Drivers for each serial port.

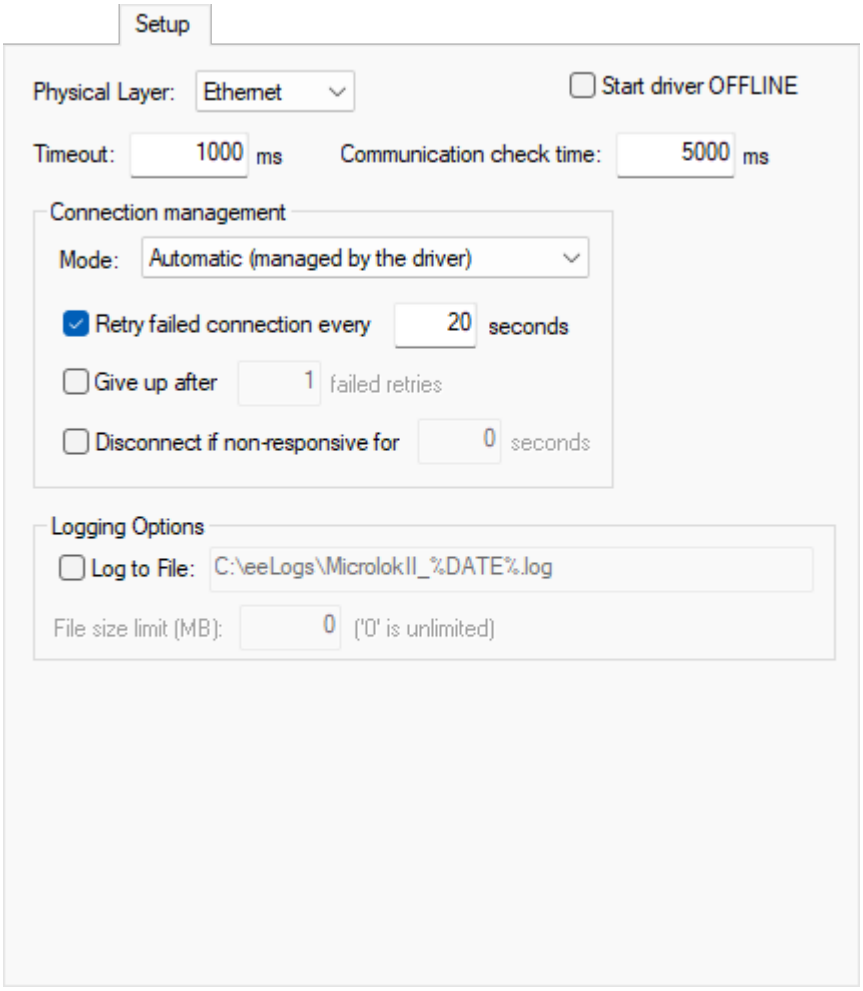
Configuration Dialog Box

The dialog box of I/O Interfaces allows configuring the I/O connection used by a Driver. This dialog box contains the **Setup**, **Serial**, **Ethernet**, **Modem**, and **RAS** tabs, described on the next topics. If a Driver does not implement a specific I/O connection, its corresponding tab is not available for configuration. Some Drivers may contain additional tabs, specific for that Driver, on the configuration dialog box.

Setup Tab

The **Setup** tab contains general configurations of a Driver. This tab is divided into the following groups:

- **General configurations**: Configurations of a Driver's physical layer, time-out, and initialization mode
- **Connection management**: Configurations on how the I/O Interface keeps a connection and which recovery policy is used on failure
- **Logging options**: Controls the generation of log files



Setup tab

General options on the Setup tab

OPTION	DESCRIPTION
Physical Layer	Select the physical layer on a list. Available options are **Serial**, **Ethernet**, **Modem**, and **RAS**. The selected interface must be configured on its specific tab
Timeout	Configure a time-out, in milliseconds, for the physical layer. This is the amount of time an I/O interface waits to receive any byte from the reception's buffer
Communication check time	Set the time, in milliseconds, to define the interval at which communication is considered to be in an inactive state. As long as an I/O Driver receives valid data, its communication state is considered active. However, if during operation an I/O Driver does not receive valid data inside this period of time, the state is considered inactive. The communication state is shown in the **IO.CommunicationStatus** Tag

OPTION	DESCRIPTION
Start driver OFFLINE	Select this option so that a Driver starts in **Offline** mode or stopped. This means that the I/O interface is not created until this Driver is configured to **Online** mode by using a Tag in an application. This mode enables a dynamic configuration of an I/O interface at run time

Options on the Connection management group

OPTION	DESCRIPTION
Mode	Selects a management mode of a connection. Selecting the **Automatic** option allows a Driver to manage the connection automatically, as specified in the next options. Selecting the **Manual** option allows an application to fully manage a connection
Retry failed connection every ... seconds	Select this option to enable a Driver's connection retry in a certain interval, in seconds. If the **Give up after failed retries** option is not selected, this Driver keeps retrying until a connection is performed, or until the application is stopped
Give up after ... failed retries	Enable this option to define a maximum number of connection retries. When the specified number of consecutive connection retries is reached, a Driver goes to the **Offline** mode, assuming that a hardware problem was detected. If a Driver establishes a successful connection, the number of unsuccessful retries is cleared. If this new connection is lost, then the retry counter starts at zero
Disconnect if non-responsive for ... seconds	Enable this option to force a Driver to disconnect if no byte was received by the I/O interface during the specified time-out, in seconds. This time-out must be greater than the time-out configured in the **Timeout** option

Options on the Logging Options group

OPTION	DESCRIPTION
Log to File	Enable this option and configure the name of a file to write a log. Log files can be large, so use this option for short periods of time, only for testing and debugging purposes. If the **%PROCESS%** macro is used in the log file name, it is replaced by the identifier of the current process. This option is particularly useful when using several instances of the same Driver in **Elipse E3**, thus allowing each instance to generate a separate log file. For example, when configuring this option with value "c:\e3logs\drivers\sim_%PROCESS%.log", it generates a file named c:\e3logs\drivers\sim_00000FDA.log for process **0FDAh**. Users can also use the **%DATE%** macro in the file name. In this case a log file is generated every day, in the format **aaaa_mm_dd**. For example, when configuring this option with value "c:\e3logs\drivers\sim_%DATE%.log", it generates a file named c:\e3logs\drivers\sim_2005_12_31.log in 12/31/2005 and a file named c:\e3logs\drivers\sim_2006_01_01.log in 01/01/2006. Similarly, the **%DATE_HOUR%** macro generates one log file per hour, in the format **aaaa_mm_dd_hh**
File size limit (MB)	Configure the log file size limit, in megabytes. A value equal to 0 (zero) means that there is no size limit for the log file

General Configurations

This section contains information about the configuration of general **I/O Tags** and **Properties** of I/O Interfaces.

I/O Tags

General I/O Interfaces Tags (N2/B2 = 0)

The Tags described next are provided for all supported I/O Interfaces.

IO.CommunicationStatus

Type of Tag	I/O Tag
Type of Access	Reading
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	6 (six)
String Configuration	IO.CommunicationStatus

This Tag informs the communication status of a Driver. It indicates how communication works relative to receiving valid data within a time period arbitrated in the configuration. For more information, please check topic **Setup Tab**. Possible values are **0 - Inactive communication**: The Driver did not receive valid data or stopped receiving data after *n* milliseconds, as configured in the properties window, or **1 - Active communication:** The Driver is receiving valid data.

IO.IOKitEvent

Type of Tag	Block Tag
Type of Access	Read-Only
B1 Parameter	-1 (minus one)
B2 Parameter	0 (zero)
B3 Parameter	0 (zero)
B4 Parameter	1 (one)
Size Property	4 (four)
ParamItem Property	IO.IOKitEvent

This Block returns Driver events generated by several sources in I/O Interfaces. The **TimeStamp** property of this Block represents the moment this event occurred. The Block Elements are the following:

- **Element 0**: Type of event. Possible values are **0**: Information, **1**: Warning, or **2**: Error
- **Element 1**: Source of an event. Possible values are **0**: Driver (specific of a Driver), **-1**: IOKit (generic events of I/O Interfaces), **-2**: **Serial** Interface, **-3**: **Modem** Interface, **-4**: **Ethernet** Interface, or **-5**: **RAS** Interface
- **Element 2**: Error number, specific for each source of event
- **Element 3**: Message of an event, a **String** specific for each event

NOTE

A Driver keeps a maximum number of 100 events internally. If additional events are reported, older events are discarded.

IO.PhysicalLayerStatus

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	2 (two)
String Configuration	IO.PhysicalLayerStatus

This Tag indicates the status of a physical layer. Possible values are the following:

- **0**: Physical layer stopped, that is, a Driver is in **Offline** mode, the physical layer failed when initializing, or exceeded the maximum number of reconnection attempts
- **1**: Physical layer started but not connected, that is, a Driver is in **Online** mode but the physical layer is not connected. If the **Connection management** option is configured with the value **Automatic**, the physical layer can be connecting, disconnecting, or waiting for a reconnection attempt. If the **Connection management** option is configured with the vlaue **Manual**, then the physical layer remains in this status until forced to connect
- **2**: Physical layer connected, that is, the physical layer is ready for use. This **DOES NOT** mean a device is connected, only that the access layer is working

IO.SetConfigurationParameters

Type of Tag	Block Tag
Type of Access	Read-Only
B1 Parameter	-1 (minus one)
B2 Parameter	0 (zero)
B3 Parameter	0 (zero)
B4 Parameter	3 (three)
Size Property	2 (two)
ParamItem Property	IO.SetConfigurationParameters

Use this Tag to change any property of a Driver's configuration dialog box at run time.

This Tag works only while a Driver is in **Offline** mode. To start a Driver in **Offline** mode, select the **Start driver OFFLINE** option on that Driver's configuration dialog box. Users can write to a PLC Tag or to a Block Tag containing the parameters to change. Writing individual Block Elements is not supported, the whole Block must be written at once.

In **Elipse SCADA**, users must use a Block Tag. Every parameter to configure uses two Block Elements. For example, if users want to configure 3 (three) parameters, then the size of the Block must be 6 (six, 3 × 2). The first Element is the property's name, as a **String**, and the second Element is the property's value, according to the next example.

```
// 'Block' must be a Block Tag with automatic reading,
// scan reading, and automatic writings disabled.
// Configure all parameters
Block.element001 = "IO.Type" // Parameter 1
Block.element002 = "Serial"
Block.element003 = "IO.Serial.Port" // Parameter 2
Block.element004 = 1
Block.element005 = "IO.Serial.BaudRate" // Parameter 3
Block.element006 = 19200
// Writes the whole Block
Block.Write()
```

When using **Elipse E3**, the ability to create arrays at run time allows using an I/O Tag as well as a Block Tag. Users can use the **Write** method of a Driver to send the parameters directly to that Driver, without creating a Tag, according to the next example.

```
Dim arr(6)
' Configure all array elements
arr(1) = "IO.Type"
arr(2) = "Serial"
arr(3) = "IO.Serial.Port"
arr(4) = 1
arr(5) = "IO.Serial.BaudRate"
arr(6) = 19200
' There are two methods to send parameters
' Method 1: Using an I/O Tag
tag.WriteEx arr
' Method 2: Without using a Tag
Driver.Write -1, 0, 0, 3, arr
```

A variation of the previous example uses a bidimensional array.

```
Dim arr(10)
' Configure all array elements. Notice the array was resized
' to 10 elements. Empty array elements are ignored by a Driver
arr(1) = Array("IO.Type", "Serial")
arr(2) = Array("IO.Serial.Port", 1)
arr(3) = Array("IO.Serial.BaudRate", 19200)
Driver.Write -1, 0, 0, 3, arr
```

A Driver does not validate parameter names or passed values, therefore be careful when writing parameters and values. The **Write** method fails if the configuration array is incorrectly created. Users can check the log of a Driver or use the *writeStatus* parameter of the **WriteEx** method to find out the exact cause of an error.

```
Dim arr(10), strError
arr(1) = Array("IO.Type", "Serial")
arr(2) = Array("IO.Serial.Port", 1)
arr(3) = Array("IO.Serial.BaudRate", 19200)
If Not Driver.WriteEx -1, 0, 0, 3, arr, , , strError Then
  MsgBox "Failed configuring Driver parameters: " + strError
End If
```

IO.WorkOnline

Type of Tag	I/O Tag
Type of Access	Reading or Writing
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	4 (four)
String Configuration	IO.WorkOnline

This Tag informs the current status of a Driver and allows starting or stopping the physical layer. Possible values are the following:

- **0 - Driver Offline**: Physical layer is closed or stopped. This mode allows a dynamic configuration of a Driver's parameters using the **IO.SetConfigurationParameters** Tag
- **1 - Driver Online**: Physical layer is open or executing. While in **Online** mode, the physical layer can be connected or disconnected and its current status can be checked using the **IO.PhysicalLayerStatus** Tag

In the next example, using **Elipse E3**, a Driver is configured to **Offline** mode, its COM port is changed, and then configured to **Online** mode again.

```
'Configure to Offline mode
Driver.Write -1, 0, 0, 4, 0
'Change port to COM2
Driver.Write -1, 0, 0, 3, Array("IO.Serial.Port", 2)
'Configure to Online mode
Driver.Write -1, 0, 0, 4, 1
```

The **Write** method may fail when configuring a Driver to **Online** mode, that is, writing the value 1 (one). In this case, this Driver remains in **Offline** mode. The cause of failure can be:

- Type of physical layer incorrectly configured, probably an invalid value was configured in the **IO.Type** property
- This Driver may have run out of memory
- Physical layer probably did not create its working thread. Search the log file for a message "Failed to create physical layer thread!"
- Physical layer could not start. The cause of this failure depends on the type of physical layer. It can be an invalid serial port number, a failure when starting Windows Sockets, or a failure when starting TAPI (modem), among others. This cause is recorded on the log file

IMPORTANT

Even if the configuration of a Driver to **Online** mode is successful, this does not necessarily mean the physical layer is ready to use, that is, ready to execute input and output operations with an external device. The **IO.PhysicalLayerStatus** Tag must be checked to ensure the physical layer is connected and ready for communication.

Properties

These are general properties of all supported I/O Interfaces.

IO.ConnectionMode

9 Controls the management mode of a Connection. Possible values are **0**: Automatic mode, in which a Driver manages the connection or **1**: Manual mode, in which an application manages the connection.

IO.GiveUpEnable

◩ When configured to True, defines a maximum number of reconnection attempts. If all reconnection attempts fail, a Driver enters the **Offline** mode. When configured to False, a Driver tries until a reconnection is successful.

IO.GiveUpTries

9 Number of reconnection attempts before this one is aborted. For example, if the value of this property is equal to 1 (one), a Driver tries only one reconnection when the connection is lost. If this one fails, this Driver enters the **Offline** mode.

IO.InactivityEnable

◩ Configure to True to enable and to False to disable inactivity detection. The physical layer is disconnected if inactive for a certain period of time. The physical layer is considered inactive only if it is capable of sending data but not capable of receiving it back.

IO.InactivityPeriodSec

9 Number of seconds to check for inactivity. If the physical layer is inactive for this period of time, it is then disconnected.

IO.RecoverEnable

Configure to True to enable a Driver to recover lost connections and to False to leave a Driver in **Offline** mode when a connection is lost.

IO.RecoverPeriodSec

Delay time between two connection attempts, in seconds.

NOTE

The first reconnection is executed immediately after a connection is lost.

IO.StartOffline

Configure to True to start a Driver in **Offline** mode and to False to start a Driver in **Online** mode.

NOTE

It is pointless to change this property at run time, as it can only be changed when a Driver is already in **Offline** mode. To configure a Driver in **Online** mode at run time, write the value 1 (one) to the **IO.WorkOnline** Tag.

IO.TimeoutMs

Defines a time-out for the physical layer, in milliseconds. One second is equal to 1000 milliseconds.

IO.Type

Defines the type of physical interface used by a Driver. Possible values are the following:

- **N or None**: Does not use a physical interface, that is, a Driver must provide a customized interface
- **S or Serial**: Uses a local serial port (COM*n*)
- **M or Modem**: Uses a local modem, internal or external, accessed via TAPI (*Telephony Application Programming Interface*)
- **E or Ethernet**: Uses a TCP/IP or UDP/IP socket
- **R or RAS**: Uses a **RAS** (*Remote Access Server*) Interface. A Driver connects to a RAS device using the **Ethernet** Interface and then sends an **AT** (*dial*) command

Statistical Configuration

This section contains information about the configuration of **I/O Tags** and **Properties** of I/O Interfaces statistics.

I/O Tags

Tags of I/O Interface Statistics (N2/B2 = 0)

The Tags described next display statistics for all I/O Interfaces.

IO.Stats.Partial.BytesRecv

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1101
Configuration by String	IO.Stats.Partial.BytesRecv

This Tag returns the number of bytes received in the current connection.

IO.Stats.Partial.BytesSent

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1100
Configuration by String	IO.Stats.Partial.BytesSent

This Tag returns the number of bytes sent through the current connection.

IO.Stats.Partial.TimeConnectedSeconds

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1102
Configuration by String	IO.Stats.Partial.TimeConnectedSeconds

This Tag returns the number of seconds a Driver is connected in the current connection or 0 (zero) if a Driver is disconnected.

IO.Stats.Partial.TimeDisconnectedSeconds

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1103
Configuration by String	IO.Stats.Partial.TimeDisconnectedSeconds

This Tag returns the number of seconds a Driver is disconnected since the last connection ended or 0 (zero) if a Driver is connected.

IO.Stats.Total.BytesRecv

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1001
Configuration by String	IO.Stats.Total.BytesRecv

This Tag returns the number of bytes received since a Driver was loaded.

IO.Stats.Total.BytesSent

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1000
Configuration by String	IO.Stats.Total.BytesSent

This Tag returns the number of bytes sent since a Driver was loaded.

IO.Stats.Total.ConnectionCount

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1004
Configuration by String	IO.Stats.Total.ConnectionCount

This Tag returns the number of connections a Driver already established, successfully, since it was loaded.

IO.Stats.Total.TimeConnectedSeconds

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1002
Configuration by String	IO.Stats.Total.TimeConnectedSeconds

This Tag returns the number of seconds a Driver remained connected since it was loaded.

IO.Stats.Total.TimeDisconnectedSeconds

Type of Tag	I/O Tag
Type of Access	Read-Only
N1 Parameter	-1 (minus one)
N2 Parameter	0 (zero)
N3 Parameter	0 (zero)
N4 Parameter	1003
Configuration by String	IO.Stats.Total.TimeDisconnectedSeconds

This Tag returns the number of seconds a Driver remained disconnected since it was loaded.

Properties

Currently, there are no properties defined specifically to display I/O Interface statistics at run time.

Driver Revision History

VERSION	DATE	AUTHOR	COMMENTS
2.0.1	01/08/2025	C. Mello	• Adjustments to migrate to the new **IOKit** version 2.0 (*Case 36743*).
1.2.1	07/13/2010	M. Ludwig	• Configuration of IP address and TCP/IP port at run time (*Case 11338*). • Implemented communication in **Ethernet** mode (*Case 10586*).
1.1.1	09/21/2004	C. Mello	• Implemented the **Delay between address exchange** parameter on the **Extras** dialog box of this Driver, to allow a delay setting between remote units swapping. • Replaced the **Log Date & Time** option by the **Log Timestamp** option on the **Log** tab of the **Extras** dialog box. The **Log Date & Time** option is the default for this Driver. • General revision of all source code.
1.0.1	09/11/2003	C. Mello	• Initial version of this Driver.

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