# UNIP

## UNIP communication protocol



### Supported device types and versions

Communication supports reading and writing data by means of the UNIP protocol (© Ipesoft Žilina).

### Communication line configuration

- Communication line category: Serial, SerialOverUDP Device Redundant.
- Asynchronous line parameters according to the variant and type of the device connection.

### Communication station configuration

- Communication protocols: **UNIP**, **UNIP Input Only**, **UNIP Time Synchro**, **UNIP Input Only Time Synchro**, **UNIP SCAN**.
- The station address is a decimal number within the range 1...230, or a hexadecimal number with a hash at the beginning (e.g. #1A).
- The UNIP Time Synchro and UNIP Input Only Time Synchro protocols execute the real-time synchronization for stations (time is included in the request).

**Note:**
The UNIP SCAN protocol is a passive protocol that tracks the active communication of another UNIP master/slaves system. It doesn't send polls but decodes the tracked communication.

### Station protocol parameters

Communication station - configuration dialog box - **Protocol parameters** tab.
They influence some optional protocol parameters. The following station protocol parameters can be defined:

**Table 1**

| Parameter | Meaning | Unit | Default value |
|---|---|---|---|
| Retry Count | Maximum count of request retries. If no response returns after a request had been sent, the station's status will change to a communication error. | - | 3 |
| Retry Timeout | Timeout before resending a request if no response has been received. | ms | 2000 ms |
| Wait First Timeout | The delay after sending the request and before reading the response. | ms | 500 ms |
| Wait Timeout | The delay between the response readings till its finalization. | ms | 500 ms |
| Max Wait Retry | The maximum number of retries of the response reading. | - | 8 |
| Wait ACK Timeout | First waiting for a response after writing, the ACK acknowledge is expected. | ms | 700 ms |
| Wait First Get Stored | Waiting for a response after a request to read archive data. | s | 1 s |
| AI Back Compatible | In D2000 V5.00.017 Rel.A020430541, the interpretation of I/O tags of the AI and AO types of the forms of 3, 5, 6, and 7 has been modified to signed ones. The value of AIBC=YES enables backward compatibility and these I/O tags will be interpreted as unsigned. | - | NO |
| Max. Activity Wait | For the UNIP SCAN protocol only – time (in seconds) within which the response for a given station must be received, otherwise the station passes to a communication error. | s | 600 s |
| Use Daylight Saving Time in TS Req. | Setting the parameter to YES activates the use of daylight saving time in the timestamped requests. | - | NO |

A string containing the protocol parameters is being defined as follows:

```
Keyword=value;Keyword=value; ...
```

Example:

```
RC=1;RT=500;
```

If a keyword with an invalid value in the initialization string is used, a corresponding default value according to table 1 will be used.

## I/O tag configuration

Possible I/O tag types:

**Ai, Ci, Di** for the *UNIP Input Only* and *UNIP Input Only Time Synchro* protocols.
**Ai, Ao, Ci, Co, Di, Dout** for the UNIP, *UNIP Time Synchro,* and *UNIP SCAN* protocols.

Address: Decimal number within the range of 0...255.

## Literature

-

## Changes and modifications

- September 21st, 2000 – added UNIP SCAN protocol (for D2000 v4.50 and higher).

## Document revisions

- Ver. 1.0 – February 9th, 2000
- Ver. 1.1 – September 21st, 2000
- Ver. 1.2 - September 18th, 2002 - the protocol parameter AIBC added.
- Ver. 1.3 - November 21st, 2010 - document updated.

**Related pages:**

Communication protocols