

# Server Protocols - General Implementation Rules

## Server protocols - general implementation rules

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### Introduction

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Since the version V7.0, D2000 system also supports some protocols, in which the process [D2000 KOM](#) implements the server (slave) side. It is concerning the following protocols:

- [IEC 60870-6 ICCP/TASE.2](#)
- [IEC 870-5-101](#) (balanced, unbalanced Slave)
- [IEC 870-5-104 Server](#)
- [IEC 870-5-104](#)
- [IEC 870-5-104 Sinaut](#) (for balanced mode support)
- [MODBUS Server](#)
- [OMV24](#)
- SHMU Data
- [Transcon DAP 128TC](#)

This document describes the general rules which are valid for output [I/O tags](#) (output tags for D2000 system, input ones for client). There are also "mixed" client-server protocols ([IEC 870-5-104 Server](#), [IEC 870-5-104](#), [IEC 870-5-104 Sinaut](#)), which have two types of output [I/O tags](#):

- 'client' output [I/O tags](#) - the same as for the other protocols,
- 'server' output [I/O tags](#) - their specifications are described in the document.

### Operation rules of server protocols

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- The values of 'server' output [I/O tags](#) are written also while the communication [line / station](#) fails, does not communicate or is down. They are to be send to the client after reconnecting the client.
- When communication is interrupted, the values of 'server' output [I/O tags](#) are not invalidated.
- Writing a 'server' output [I/O tag](#) is as follows:
  - During write, the output [I/O tag](#) does not pass through the status *Transient*. From this point of view, it is the same as setting the parameter [Output mode](#) in the tab **Output control** to the value **Command** in the [I/O tag configuration](#).
  - If the communication with client is interrupted at the time of write, the write is marked as unsuccessful (it can be detected e.g. in ESL script using the actions [ON ERROR](#), [WAIT](#)) but its value is valid, currently adjusted (in order to give new and valid value to the client after establishing the communication)
  - If the communication with client is OK at the time of write, the write is marked as successful
- Configuration of the parameter [Output mode](#) for output [I/O tag](#) for 'server' and 'mixed' protocols is as follows:
  - If the the parameter [Output mode](#) is set to **Value**, the particular 'server' output [I/O tag](#) will not pass through the status *Transient* (see the previous point). The only difference between **Value** and **Command** is shown in control windows in the process [D2000 HI. Command](#) allows to repeat writing any value consecutively (e.g. for output [I/O tag](#) of *Dout* type, there are enabled the buttons ON and OFF at the same time - for value outputs, there is enabled just the opposite button to the current one).
  - For 'client' output [I/O tags](#) in the protocols of the series IEC104, transition through the status *Transient* depends on the ASDU type, which is set in the configuration of corresponding output [I/O tag](#). ASDUs of the value type (1-40) are not being confirmed and therefore they do not pass through the status *Transient*. ASDUs of command type (45-64) are being confirmed and therefore these output [I/O tags](#) pass through the status *Transient* (confirmation/not conformation of value/command [I/O tags](#) is defined by contrast to D2000 system). For 'client' output [I/O tags](#) in 'mixed' protocols, which will be implemented in the future, the behavior will depends on the particular protocol.

### Changes and modifications

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### Document revisions

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- Ver. 1.0 – December 15th 2004



Related pages:

[Communication protocols](#)