

# Server Protocols - General Implementation Rules

## Server protocols - general implementation rules

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### Introduction

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

- [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 the 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 sent 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 the write, the output [I/O tag](#) does not pass through the *Transient* status. From this view, the output I/O tag behaves the same as if the [Output mode](#) parameter in the tab **Output control** was set to the value **Command** in the [I/O tag configuration](#).
  - If the communication with the 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 set (in order to provide a new and valid value to the client after establishing the communication)
  - If the communication with the 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 [Output mode](#) parameter 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 [D2000 HI](#) process. **Command** allows to repeat writing of any value consecutively (e.g. for output I/O tag of *Dout* type, the ON and OFF buttons are enabled at the same time - for value outputs, just the opposite button to the current value is enabled).
  - 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 the 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 *Transient* status (confirmation/not confirmation of value/command I/O tags is defined on the contrary compared to the D2000 system).  
For 'client' output [I/O tags](#) in 'mixed' protocols, which will be implemented in the future, the behavior will depend 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](#)