Values (I/O Tags)

Values of I/O tags

An object of the **I/O tag** type may acquire values, which are described in the following tables for individual types (only the types, listed below, are described in the tables).

- Ai - Analog input
- Ao - Analog output
- Ci - Cardinal input
- Co - Cardinal output
- Di - Logical input
- Dout - Logical output
- TxtI - Text input
- TxtO - Text output
- TiA - Absolute time - input
- ToA - Absolute time - output
- TiR - Time interval - input
- ToR - Time interval - output
- Qi - Quaternary input

I/O tags of *Di* type - *Logical input*

Object value	Cause
D_False	*FALSE value
D_True	*TRUE value
D_Oscillate	Oscillating value (TRUE <-> FALSE). The system sets a value as oscillating according to defined parameters of filtering - Oscillation limits

*Valid for the normal polarity. In the case of the inverse polarity, then opposite values are valid.

I/O tags of *Dout* type - *Logical output*

Object value	Cause
D_False	*FALSE value
D_True	*TRUE value
D_Oscillate	Oscillating value (TRUE <-> FALSE). The system sets a value as oscillating according to defined parameters of filtering - Oscillation limits

*Valid for the normal polarity. In the case of the inverse polarity, then opposite values are valid.

I/O tags of *Qi* type - *Quaternary input*

Quaternary inputs are used e.g. in power engineering. Example of use: opening a valve with logical sensors of the end positions **closed** and **open** - can be in the following states:

- the value of the sensor **open** is True, the value of the sensor **closed** is False, the value of the quaternary input is open - **On**
- the value of the sensor **open** is False, the value of the sensor **closed** is True, the value of the quaternary input is closed - **Off**
- the values of both sensors are False (the pump valve is between end positions), the value of the quaternary input is a transition - **Trans**
- the values of both sensors are True (it can be caused by e.g. a communication error or physical sensor damage), the value of the quaternary input is error - **Err**

Object value	Cause
Q_Off	OFF value

Q_On	ON value
Q_Trans	TRANS value (transition from ON to OFF or vice versa is in progress)
Q_Err	ERR value (error state)
Q_Oscillate	Oscillating value (On <-> Off). The system sets a value as oscillating according to defined parameters of filtering - Oscillation limits.

Initial values of I/O tags after starting the D2000 system and after restarting the D2000 KOM process

If no control object and no default value are defined for an I/O tag, its value will be invalid after starting the D2000 system.
After the D2000 KOM process is (re)started, it internally invalidates the values of all I/O tags. This could be undesirable behavior (e.g. the values of output I/O tags in server protocols), therefore starting to process **D2000 KOM** with the parameter /KI allows enabling reading the initial values of I/O tags (input as well as output ones) from the D2000 Server process after starting the D2000 KOM process.

Related pages:

I/O tags
I/O tag - configuration dialog box