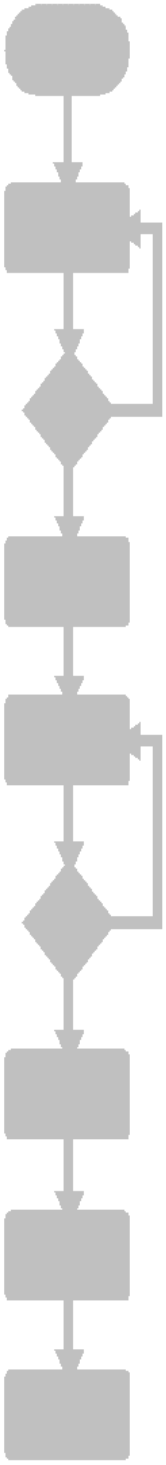

JX2-IO16

Version Update

from V. 2.00 to V. 2.01

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Version Updates - Survey			
Version	**Function**	**upgraded**	**corrected**
V 2.01	Reading the input status incorrectly		✓
	Register interface	✓	
	Output driver - error message	✓	
	Initializing the outputs	✓	
	Manual pulse stretching	✓	
V 2.00	Register interface	✓	
	Pulse stretching	✓	
	Counter function	✓	
	Diagnostics and adminstration	✓	

1.1 System Requirements

Software Versions of the Controllers and the JX6-SB(-I) Submodule	
Control	**Minimum Software Version**
JC-241, JC-243, JC-246	3.20
NANO-B, NANO-C, NANO-D	3.53
JX6-SB(-I) (for JC-647, DELTA, JC-800)	2.12

2 Expansions

2.1 Register Interface

As of software version 2.01, there is a new register available:

Register 3xx3: Actual Input Status	
Function	**Description**
Read	Actual status of the inputs on the JX2-IO16
Write	Illegal
Value range	Bit-coded, 8 bits
Value after reset	0b 00000000

Meaning of the values:

0 : The input is not active (0 V condition)

1 : The input is active (24 V condition)

Meaning of the individual bits:

Bit 0:	Input 1
Bit 1:	Input 2
Bit 2:	Input 3
Bit 3:	Input 4
Bit 4:	Input 5
Bit 5:	Input 6
Bit 6:	Input 7
Bit 7:	Input 8

Normally, the input status of the JX2-IO16 is read via the input numbers of the controller.

For reading the input status when manual pulse stretching is applied to the JX2-IO16, register 3xx3 must be used, see chapter 2.4 "Manual Pulse Stretching", page 7.

2.2 Output Driver - Error Message

The error message regarding the output driver error, displayed either via bit 15 of register 3xx0 "Status / Control", or via bit 1 in register array element 2 "Error", or by the ERR-LED, will automatically be acknowledged by the module, as soon as the output driver control reports error-free operation again. The error event is stored to the error history in remanent mode as usual.

2.3 Initializing the Outputs

As of software version 2.01, initialization of the outputs after a warm restart is set via control bit 9 of register 3xx0 "Status / Control". A warm restart is the re-initialization of the module by means of the controller without having switched off the module.

In case of an error caused by timeout of the system bus communication, this bit is automatically set by the module itself. The set bit can only be reset either by switching off the module or by explicitely resetting it in register 3xx0.

Register 3xx0: Status / Control	
Function	**Description**
Read	Actual module status
Write	Setting a new mode for the module, only for bits 8 through 11
Value range	Bit-coded, 24 bits
Value after reset	0b 00000000 00000001 00000000

Meaning of the individual controller bits:

Bit 8:	**Reaction to a Communication Error (this only refers to setup)**
Bit 9:	**Output Initialization**
	0 = Outputs are initialized by 0
	1 = Outputs keep the latest status
	Value after reset: 0

2.4 Manual Pulse Stretching

After enabling, respectively disabling manual pulse stretching, the busy bit, which is bit 13 in register 3xx0 "Status / Control", need not be queried again.
Instead, the new register 3xx3 "Actual Input Status" is made use of for reading the actual input status of the module immediately after enabling, respectively disabling, manual pulse stretching.

If the input status changes by enabling manual pulse stretching, for example, it is possible that after this the input status turns out to have not been updated yet if it is to be read via the input numbers.

Example: Enabling manual pulse stretching for input 1 on I/O module number 2.

```
...
//   Enabling manual pulse stretching for input 1
BIT_SET (3001, 0)
//   Querying input 1 for 24 V condition
IF BIT_SET (3003, 0) THEN
...
```

The input status cannot be read via the input numbers before it is of the same value as the status displayed in register 3xx3 "Actual Input Status".

3 Eliminated Software Bugs

3.1 Reading the Input Status Incorrectly

Version 2.00 of JX2-IO16 might sporadically receive an incorrect status report of the JX2-IO16 inputs. This mainly occurs, if fast controllers are applied, such as JC-647 together with JX6-SB (I), JC-24x, or NANO-D, combined with a high system bus load, e.g. in axis modules running in follower mode.

As of software version 2.01, the software bug has been fixed again.