

JX6-SB(-I)
Version Update
from V. 2.16 to V. 2.18



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1 Introduction

Overview of Version Updates			
Version	Function	Added	Fixed
V 2.18	<i>Special Register</i>		
	2000 : Software version	✓	
	2008 : Error messages	✓	
	2039 : Peripheral fault	✓	
	<i>Expansion Modules</i>		
	JX3 modules	✓	
	LioN-S modules	✓	
	Compactbox modules LJX7-CSL	✓	
	Milan Drive Advanced MDA	✓	
	JM-105	✓	
	BWU1821, AS interface CANopen gateway	✓	
	<i>Register Access</i>		
	WAGO 750, special terminal, > 7 byte		✓
JX-SIO analog values and error behavior		✓	
<i>Configuring the System Bus</i>			
Lenze FU, I/O total		✓	
maxon EPOS, node IDs		✓	
V 2.16	<i>Expansion Modules</i>	✓	
	WAGO I/O 750		
	<i>Intelligent JX2 Slave Modules</i>		✓
	Operating system update		
	<i>New Initialization of the System Bus</i>	✓	
	Resetting the digital I/O		
	<i>Configuring to JX6-CON-MOVE</i>		✓
	Compatible as of V. 3.023		
<i>Command 33</i>		✓	
Storing the default values			
	<i>Analog Value Registers 3m0 5x60, 3m0 6x60</i>		
	Displaying great values		
	<i>Reading the Busy Bit / Status Register</i>		✓

Overview of Version Updates			
Version	Function	Added	Fixed
	<p><i>Registers and Special Registers</i></p> <p>3m0 2765: Timeout time of the JX2 slave register</p> <p>3m0 2027: Resetting the error message</p> <p>11m 152: Switch-on delay JX6-CON-MOVE</p> <p>11m 158: On-delay of master-slave</p> <p>11m 161: Error #</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>✓</p> <p>✓</p>
V 2.15	<p><i>JC-800</i></p> <p>Internal interface</p> <p><i>Register 3m02073</i></p> <p>Initialization value</p>		<p>✓</p> <p>✓</p>
V 2.14	<p><i>Expansion modules JX6-SB-I</i></p> <p>maxon EPOS 24/1</p> <p><i>Festo-CP-FB</i></p> <p>System bus configurations only with Festo-CP modules</p> <p><i>Intelligent JX2 Slave Modules</i></p> <p>Eight JX2 slave modules are connected to the system bus</p> <p><i>MC Applications</i></p> <p>Operating system update to intelligent JX2-slave modules</p>	<p>✓</p>	<p>✓</p> <p>✓</p> <p>✓</p>
V 2.13	<i>Motion Setup</i>		✓
V 2.12	<p><i>Fast Inputs at JX2-ID8 / JX2-IO16</i></p> <p>The inputs of the expansion modules JX2-ID8 and JX2-IO16 can be configured as fast inputs</p>	<p>✓</p>	
	<p><i>Expansion Modules JX6-SB(-I)</i></p> <p>- EX250-SCA1 by SMC</p>	<p>✓</p>	
	<p><i>Expansion Modules JX6-SB-I</i></p> <p>- Vacon NX frequency converter</p>	<p>✓</p>	
	<p><i>Remanent Values</i></p> <p>Baud rate, dummy modules, etc., can also be stored on the JX6-SB(-I) module as remanent items. This is of special significance for JetControl 800.</p>	<p>✓</p>	

Overview of Version Updates			
Version	Function	Added	Fixed
	<p><i>Fault Acknowledging and Fault Recognition</i></p> <p>Error-LED reset and enquiry on the system bus statuses have been optimized.</p> <p><i>JX-SIO</i></p> <p>After starting the system bus, the values of the analog outputs will be read back.</p> <p>32-bit register overlay of the digital outputs</p>		<p>✓</p> <p>✓</p>
V 2.11	<p><i>Expansion Modules</i></p> <p>The JX6-SB(-I) submodule now supports the following expansions in the mode master-slave JX6-SB ...</p> <ul style="list-style-type: none"> - LJX7-CSL-108-ID16 - LJX7-CSL-109-ID16-NPN - LJX7-CSL-107-OD8-2A - LJX7-CSL-113-ID8-OD8 - LJX7-CSL-114-OD16 - Milan Drives 	✓	
	<p><i>Monitoring JX2-I/O Modules</i></p> <p>The behavior of the JX6-SB(-I) submodule can be configured</p>	✓	
	<p><i>JX2-Dummy-Slaves</i></p> <p>There is no timeout, if JX2-dummy-slaves are applied</p>	✓	
	<p><i>FESTO CP-FB Module</i></p> <p>Parallel mode with JX-SIO is possible</p>	✓	
V 2.10	<p><i>Operating Mode "Master-Slave JX6-SB"</i></p> <p>This has been newly added; it is a special feature of this mode that its I/O and register numbers match those of NANO, respectively JC-24X.</p>	✓	
	<p><i>Expansion Modules</i></p> <p>The JX6-SB(-I) submodule now supports the following expansions in the mode master-slave JX6-SB ...</p> <ul style="list-style-type: none"> - JX-SIO - Festo CPV-Direct - Festo CPX-Terminal Unit - SMC SI-Unit - Bürkert Valve Block - Lenze Frequency Converter 	✓	

Overview of Version Updates			
Version	Function	Added	Fixed
	<i>Operating Mode "Master-Master"</i> A register for direct input of the latest register data number has been added. Now, 32-bit registers can be transferred.	✓	

2 Enhancements

2.1 Special Register 2000: Software Version

Operating System Release	
Register(s)	JC-647: 3m0 2000 JC-800: 4CM0 2000
Description	The operating system release of the submodule in the "Major.Minor.Branch.Build" format
Access	read
Value range	32 bits
Value after reset	Up-to-date operating system release
Comment	A released operating system can be recognized by both Branch and Build having got value zero. For displaying the operating system release number in the setup window of JetSym, please select the format "IP address".

Besides the usual presentation of the version in register 11m109, further information is supplied in the special register. This information contains details on the branch and the beta version.

2.2 Special Register 2008: Error Messages

Bit 13 has additionally been added to error register 2008: Initialization error of the system bus Possible reasons: Over-configuration (too many modules have been connected) or faulty module setup.

Error Register	
Register(s)	JC-647: 3m0 2008 JC-800: 4CM0 2008
Description	The controller writes all error messages to the error register. Besides errors at the system bus, further errors are represented in this register.
Access	Read / write
Value range	32 bits, bit-coded
Value after reset	0
Comment	The controller indicates an error by setting the respective bit in the error register. Only the user is allowed to reset the error by writing zero to the error register.

Meaning of the Individual Bits in the Error Register:

- Bit 3: 1 = I/O-module timeout
- Bit 4: 1 = Slave module timeout
- Bit 9: 1 = Hardware error of an expansion module, e.g. short circuit at the output
- Bit 11: 1 = FESTO CP-FB module signals diagnose
- Bit 13: 1 = Setup error in the system bus, over-configuration

2.3 Special Register 2039: Peripheral Fault

Besides special register 2027 for indicating peripheral errors, a peripheral error can also be evaluated in special register 2039. The difference between the two registers is that in special register 2027 the I/O module number is entered directly, while in special register 2039, the modules are entered in the bit-coded way.

Modules with a Peripheral Error	
Register(s)	JC-647: 3m0 2039 JC-800: 4CM0 2039
Description	If the controller recognizes a peripheral error at a JX2-I/O respectively JX3 expansion module, the respective bit is set in register 2039.
Access	Read / write
Value range	32 bits, bit-coded
Value after reset	0
Comment	Only the user is allowed to reset the error by writing zero to the register.

The Meaning of the Individual Bits in the Peripheral Error Register:

- Bit 1: 1 = I/O module 2 reports a peripheral error
- Bit 2: 1 = I/O module 3 reports a peripheral error
- etc.

2.4 JX3 Modules

As of version 2.18, the JX6-SB(-I) module supports the modules of the JX3-I/O system. The functional range of the JX3 modules has been described in the respective user manuals.

The registers and I/Os are numbered the same way as the non-intelligent JX2-I/O modules.

JX3 Modules	
	
Supported modules	All modules of the JX3-I/O system
Module code	30, greater than 300
Amount of modules at the system bus	max. 31, and max. 31 JX3-BN-CAN

2.5 LioN-S Modules

As of version 2.18, the JX6-SB(-I) module supports LioN-S modules of protection class IP 67. The functional range of the modules has been described in the respective user manuals. The registers and I/Os are numbered the same way as the non-intelligent JX2-I/O modules.

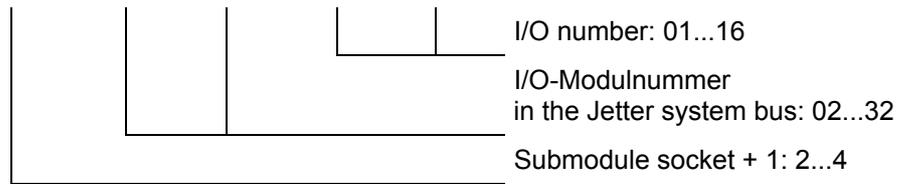
LioN-S Modules	
	
Supported modules	0930 CSL 650, 0930 CSL 651
Module code	50, 51
Amount of modules at the system bus	max. 31

2.6 Compactbox Modules LJX7-CSL

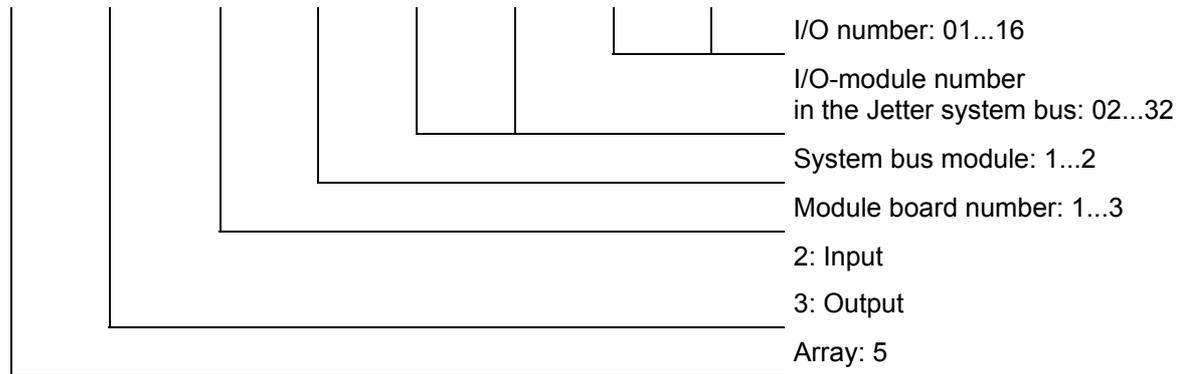
The addresses, respectively the module numbers 2 through 32 are now also supported within the Compactbox modules LJX7-CSL.

The I/O registers are numbered the same way as the I/O registers of the JX2-I/O modules.

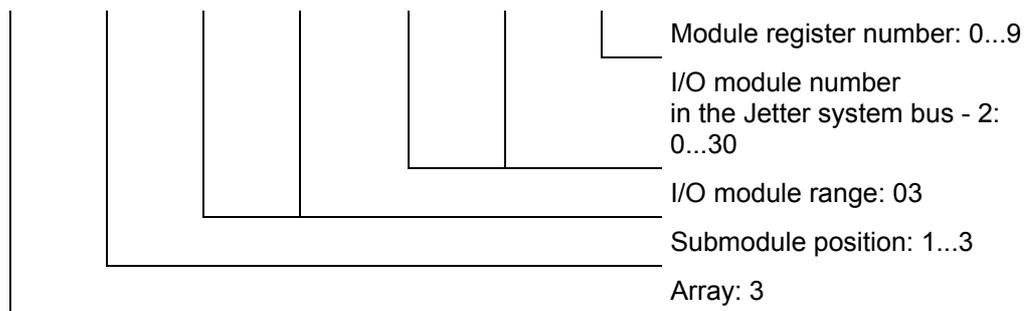
Numbering of the Digital Inputs/Outputs at JC-647



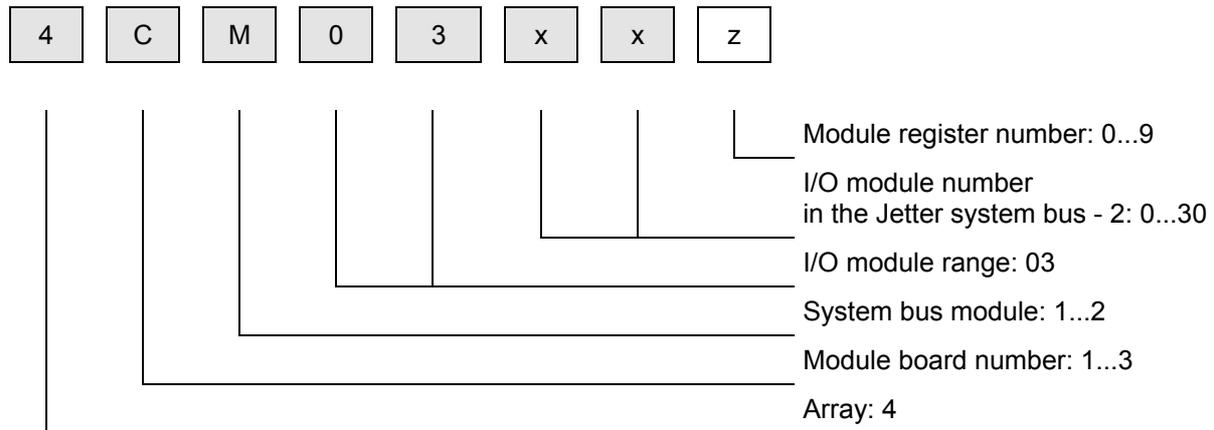
Numbering of the Digital Inputs/Outputs in JC-800



Numbering of the Registers in JC-647



Numbering of the Registers in JC-800



2.7 BWU1821 by Bihl+Wiedemann

CANopen / AS-Interface Gateway BWU1821	
	
Manufacturer	Bihl+Wiedemann GmbH
Supported modules	BWU1821, AS interface CANopen Gateway in stainless steel
Module code	79
Size of I/Os	Amount of connected AS-interface slaves * 2
Amount of modules at the system bus	max. 2

Both the functions and the connection of the BWU1821 have been described in the user information [BihlWiedemann_BI_xxx_Benutzerinformation.pdf](#) (so far in German).

Note

In the BWU 1821, the module registers can be read as of register 7x00, relating to commands 31 and 32.

2.8 Milan Drives

Starting from this operating system version, the "Advanced" configuration of the Milan Drives made by Werner Riester GmbH & Co KG is directly supported.

Milan Drives	
	
Manufacturer	GFC AntriebsSysteme GmbH
Supported modules	MI 1.5/075 MI 2/090 MI 4/110 MDA 35.1 MDA 56.1 MDA 63.1
Module code	103
Size of I/Os	1 JX2-slave module
Amount of modules at the system bus	max 8 (only JX6-SB-I)

The functions and the connection of the Milan Drives have been described (so far in German) in Auma_BI_xxxx_Benutzerinformation.

2.9 JM-105 at the JC-647 MC

From now on, the amplifier JM-105 is supported, if JC-647 MC is applied.

3 Fixed Software Bugs

3.1 JX-SIO Outputs

No more output data will get lost any more, if overlaying and immediate updating of registers is applied to the outputs of JX-SIO, respectively of third-party modules.

3.2 maxon EPOS

The node-IDs of maxon EPOS have changed. Up to now, the node-IDs ranged between 1 and 10; from now on, they have to be set to values 70 ... 79. The register numbers remain unchanged.

Note!

The modifications in the node-IDs are not downward compatible.

3.3 Register Access within WAGO 750

Now, reading the data of the input, respectively output bytes of special terminals of more than 7 byte render the correct result.

3.4 Lenze FU 82xx Vector

When calculating the total of the I/Os, the Lenze FU 82xx Vector would be counted by 32 I/O points. As of this operating system version, it correctly counts by 16 I/O points.

3.5 Error Behavior of the JX-SIO

The erratic behavior of the digital and analog outputs of JX-SIO and third-party modules is specified at starting the system bus by default values.

As of version 2.18, a checkup is made before writing, whether the default value is already available on the module.

3.6 Presentation of JX-SIO Analog Values

The analog values of the JX-SIO and of third-party modules are now also correctly rendered within the value range of 0 through 65535.

In earlier versions, numbers greater than +32767 would be rendered as negative values.