



JC-24x

Version Update

from V 3.26 to V 3.27



Revision 1.02

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1 Introduction

Introduction

This chapter shows the history of OS versions for the controller JC-24x.

Operating System Update - Why?

An OS update allows you to:

- add new functions to your controller
 - fix software bugs
 - make sure your controller is working with a definite OS version, for example, if a definite OS version has been released for a certain customer
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Operating System Update

OS File for Updating the Operating System

For updating the OS the following file is needed:

OS File	Description
JC-24x_3.27.0.0.os	OS file for JC-24x with version 3.27

Downloading the OS File

Jetter AG make operating system files available for download from their **homepage at** <http://www.jetter.de>. OS files can be found in the support area or on the page of the JC-24x controller via quicklink.

Operating System Update by means of JetSym

To update your OS proceed as follows:

Step	Action
1	Download the OS file from www.jetter.de
2	Establish a connection between PC and controller
3	In JetSym: Select menu item "Build -> Update OS" or Click on the button "OS Update" in the CPU window of the hardware manager
4	Select the OS File
5	Initiate the OS update by clicking OK
6	Result: Following Power OFF / Power ON the new OS is launched.

Minimum Requirements

For programming a JC-24x with version 3.27 JetSym 2.3.1 or higher is required.

Overview of Version Updates

V 3.26

The following table gives an overview of newly added features and fixed software bugs in OS version 3.26:

Description	New	Bug
Festo CPX Terminal:		
Support for CPX-CPI interface	✓	
N_COPY_TO/FROM(2)		
More than 64 registers in copy mode 2		✓
BWU1821:		
Communication via command interface		✓
Read and write access to analog IOs		✓
LioN-S:		
Commissioning		✓
Register access		✓

V 3.27

The following table gives an overview of newly added features and fixed software bugs in OS version 3.27:

Description	New	Bug
System:		
New controller model JetControl 248	✓	
New file system user "system"	✓	
JetIP/TCP Server:		
Enhanced connection management	✓	
JX2 System Bus:		
CANopen® monitoring		✓
Festo CPX-CP		✓
LioN-S / LJX7-CSL		✓
Modbus/TCP:		
Offset register in the server		✓

2 New Features

Introduction

This chapter describes the features which have been added or enhanced in the new software release.

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2.1 Various New Features and Modifications

Introduction

This chapter covers the new features and modifications

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JetControl 248

Introduction

Starting from this OS version the new controller type JetControl 248 belonging to the controller series JetControl 240 is supported.

Minimum Requirements

For programming this controller JetSym version 4.1.2 or higher is required.

Technical Data

As compared to JetControl 246, the JetControl 248 allows to connect a greater number of peripheral modules to the JX2 system bus. All other technical data are identical to that of JC-246.

Expansion options				
Type	JC-241	JC-243	JC-246	JC-248
Max. number of non-intelligent expansion modules (JX2-I/O)	7	15	23	31
Maximum number of intelligent expansion modules (JX2-Slave, JetMove 2x, JetMove 6xx)	1	3	6	8
Max. number of third-party peripheral modules (e.g. JX-SIO)	10	10	10	10
Max. I/O sum	136	264	392	520

File system user "system"

New Function

In the file system a second default user is available. This user cannot be deleted. Only his password can be changed by a user having administrator rights.

Reason for this Change

This modification allows to separate the system rights for OS update from system/user administration.

As delivered condition / predefined users and keys

Introduction

Two predefined users with set rights are included in the file system. It is not possible to delete these two users. In the user administration only the password can be changed for these two users.

Delivered Condition

In delivered condition the content of the configuration file included in the controller is as follows.

```
[USER1]
NAME=admin
PW=admin
READKEYS=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31
WRITEKEYS=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31
SYSKEYS=

[USER33]
NAME=system
PW=system
READKEYS=2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31
WRITEKEYS=2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31
SYSKEYS=
```

User "admin"

This user has available all keys and is, therefore, able to read all directories and files and to write to them.

User "system"

This user has also available all keys except for key "1".

Predefined Keys

Two out of the 31 keys have a predefined function:

Lock / Key	Description
1	<ul style="list-style-type: none"> ■ IP configuration ■ User administration
2	<ul style="list-style-type: none"> ■ Operating System Update of CPU ■ Operating System Update of JX2 and JX3 modules

2.2 JetIP/TCP Server - Connection Management

Introduction

This document covers the connection management enhancements of the JetIP/TCP server in a JetControl controller. So far, existing connections to clients could be terminated by the client only. If the client was not able to terminate the connection (for example, because of a disconnected/broken Ethernet cable), the connection remained established. The enhanced connection management allows connections to be terminated by the server according to criteria that can be set by the user.

Number of connections

The number of simultaneously established connections for the JetIP/TCP server in a JetControl is limited to the following value:

Property	Value
Maximum number of simultaneously opened connections	4

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Registers

Register Numbers

The register numbers that can be used is calculated by adding the module register (MR) number and the controller-dependent basic register number.

Controller	Basic Register Number	Register Numbers
JC-24x	2755	2755 ... 2757
JC-340, JC-350, JC-360	230000	230000 ... 230002

MR 0

Number of Connections

The number of currently established connections can be read from module register 0.

Module Register Properties

Values 0 ... 4

MR 1

Mode

Module registers 1 and 2 define how to proceed if the maximum number of connections has been established and an additional connection is to be established.

Module Register Properties

Values 0 ... 2

Value following a reset 1

MR 2

Activity: Total Time

Module registers 1 and 2 define how to proceed if the maximum number of connections has been established and an additional connection is to be established.

Module Register Properties

Values -1 ... 2,147,483,647 [ms]

Value following a reset -1

Automatic Termination of Connections

Introduction

If the maximum number of simultaneously established connections has been reached, any further connections cannot be established. The enhanced connection management allows the user to set the behavior of the JetIP/TCP server if it receives further connection requests.

- Reject new connections
- Terminate an existing connection and establish the new one.
- Terminate all existing connections and establish the new one.

Default setting

By default, the connection with the longest time of inactivity is terminated.

No Automatic Termination of Connections

If none of the existing connections is to be terminated automatically, proceed as follows:

Step	Action
1	Enter the value 0 into MR 1.

Terminating the Connection with the Longest Time of Inactivity

If the connection with the longest time of inactivity is to be terminated, proceed as follows:

Step	Action
1	Enter the value 2 into MR 2.
2	Enter the value 1 into MR 1.

Terminating the Connection with the Longest Time of Inactivity if its Minimum Duration is Exceeded

If the connection with the longest time of inactivity is to be terminated in case the time of inactivity exceeds a certain minimum value. Otherwise the new connection is to be rejected. To make these settings proceed as follows:

Step	Action
1	Enter the minimum time [ms] into MR 2.
2	Enter the value 1 into MR 1.

Terminating any Connection

If any of the existing connections is to be terminated, proceed as follows:

Step	Action
1	Enter the value 2 into MR 2.
2	Enter the value 2 into MR 1.

**Terminating all
Connections which
Exceed the Minimum
Time of Inactivity**

If all connections which exceed the minimum time of inactivity is to be terminated, proceed as follows:

Step	Action
1	Enter the minimum time [ms] into MR 2.
2	Enter the value 2 into MR 1.

3 Fixed Software Bugs

Introduction

This chapter describes the software bugs which have been fixed in the new operating system release.

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Offset Registers Do Not Work in the Case of Modbus/TCP Server

Effects of this Bug

When accessing registers, inputs and outputs from a Modbus/TCP client, the corresponding numbers within the controller cannot be changed through offset registers 2702, 2704 and 2705.

Affected Versions / Revisions

The following versions / revisions are affected by this bug:

OS version	< 3.27.0.00 / 10.05.0.0
Hardware revision	not applicable
Configuration or operating mode	not applicable

Remedy / Workaround

There is no remedy for affected versions / revisions.

Bug Fix

Starting from the following versions / revisions this bug has been fixed:

OS version	3.27.0.00 / 10.05.0.0
Hardware revision	not applicable
Configuration or operating mode	not applicable

Sending Monitoring Frames to CANopen® Modules

Effects of this Bug

The submodule or the controller does not send the monitoring frames to CANopen® modules within the configured time interval. The time interval is configured in register 2028 of the controller or register 3m02028 of JX6-SB(-I) modules.

If only one or a few CANopen® modules are connected to the JX2 system bus, the following effects may result:

- The CANopen® module is no longer ready for operation.
- The submodule or the controller is not able to read input data from the CANopen® module.
- The submodule or the controller is not able to write output data to the CANopen® module.

Affected Versions / Revisions

The following versions / revisions are affected by this bug:

OS version	JX6-SB(-I): 2.21.0.00 JC-24x: 3.26.0.00
Hardware revision	not applicable
Configuration or operating mode	not applicable
Note	760

Remedy / Workaround

Assign module number 79 to the CANopen® module. To do so, the node ID of the CANopen® module has to be changed.

Bug Fix

Starting from the following versions / revisions this bug has been fixed:

OS version	JX6-SB(-I): 2.22.0.00 JC-24x: 3.27.0.00
Hardware revision	not applicable
Configuration or operating mode	not applicable

Module Codes of Festo CPX with CP Interface

Effects of this Bug

When a CPX-CP interface is connected to a CPX terminal, the submodule or the controller creates a virtual CPX-FB14. The module codes of the CPX-FB14 and the virtual CPX-FB14 in the module array are interchanged. Registers 7xzz of the controller or registers 3m07xzz of the JX6-SB(-I) module cannot be accessed.

Affected Versions / Revisions

The following versions / revisions are affected by this bug:

OS version	JX6-SB(-I): 2.21.0.00 JC-24x: 3.26.0.00
Hardware revision	not applicable
Configuration or operating mode	not applicable
Note	894

Remedy / Workaround

There is no remedy for affected versions / revisions.

Bug Fix

Starting from the following versions / revisions this bug has been fixed:

OS version	JX6-SB(-I): 2.22.0.00 JC-24x: 3.27.0.00
Hardware revision	not applicable
Configuration or operating mode	not applicable

Initialization of the JX2 System Bus with LioN-S / LJX7-CSL Modules

Effects of this Bug

At baud rates other than 1 MBaud the controller or the submodule does not always detect all modules on the JX2 system bus if LioN-S or LJX7-CSL modules are connected.

Affected Versions / Revisions

The following versions / revisions are affected by this bug:

OS version	JX6-SB(-I): < 2.22.0.00 JC-24x: < 3.27
Hardware revision	not applicable
Configuration or operating mode	LioN-S modules or LJX7-CSL modules are connected to the JX2 system bus
Note	914

Remedy / Workaround

There is no remedy for affected versions / revisions.

Bug Fix

Starting from the following versions / revisions this bug has been fixed:

OS version	JX6-SB(-I): 2.22.0.00 JC-24x: 3.27
Hardware revision	not applicable
Configuration or operating mode	not applicable
