



## YJKP - Hardware Configuration and system settings

Configuration instructions for hardware and system settings of a YJKP system.

YJKP

Title ..... YJKP - Hardware Configuration and system settings  
Version ..... 1.10  
Document no. .... 100265  
Original .....en  
Author .....Festo  
  
Last saved ..... 05.09.2019

## Copyright Notice

This documentation is the intellectual property of Festo AG & Co. KG, which also has the exclusive copyright. Any modification of the content, duplication or reprinting of this documentation as well as distribution to third parties can only be made with the express consent of Festo AG & Co. KG.

Festo AG & Co KG reserves the right to make modifications to this document in whole or in part. All brand and product names are trademarks or registered trademarks of their respective owners.

## Legal Notice

Hardware, software, operating systems and drivers may only be used for the applications described and only in conjunction with components recommended by Festo AG & Co. KG.

Festo AG & Co. KG does not accept any liability for damages arising from the use of any incorrect or incomplete information contained in this documentation or any information missing therefrom.

Defects resulting from the improper handling of devices and modules are excluded from the warranty.

The data and information specified in this document should not be used for the implementation of safety functions relating to the protection of personnel and machinery.

No liability is accepted for claims for damages arising from a failure or functional defect. In other respects, the regulations with regard to liability from the terms and conditions of delivery, payment and use of software of Festo AG & Co. KG, which can be found at [www.festo.com](http://www.festo.com) and can be supplied on request, shall apply.

All data contained in this document do not represent guaranteed specifications, particularly with regard to functionality, condition or quality, in the legal sense.

The information in this document serves only as basic information for the implementation of a specific, hypothetical application and is in no way intended as a substitute for the operating instructions of the respective manufacturers and the design and testing of the respective application by the user.

The operating instructions for Festo products can be found at [www.festo.com/sp](http://www.festo.com/sp).

Users of this document (application note) must verify that all functions described here also work correctly in the application. By reading this document and adhering to the specifications contained therein, users are also solely responsible for their own application.

# Table of contents

- 1 COMPONENTS/SOFTWARE USED ..... 5
- 2 APPLICATION DESCRIPTION..... 6
- 3 PREREQUISITES ..... 7
- 4 HARDWARE CONFIGURATION ..... 8
  - 4.1 VIA WEBVISU.....8
  - 4.2 VIA HOST CONTROL .....12
- 5 SYSTEM SETTINGS..... 14



## 1 Components/Software used

Type/Name	Version Software/Firmware	Date of manufacture
Servo press kit YJKP	general	--
Application software YJKP (GSAY-A4-F0-Z4-1.3.5)	V1.3.5	--
Firmware controller (CECC-X)	V3.4.6	--
Firmware motor controller (CMMP-AS)	V4.0.1501.2.4	--

Table 1.1: Components/Software used

## 2 Application description

This application note describes how to configure the hardware of a YJKP system

- Servo press size
- Motor controller
- Motor
- Electric cylinder
- Engine mounting

and the system settings

- Control highness
- Fieldbus
- Program selection
- System time
- User administration

### 3 Prerequisites

Open a browser and start the WebVisu of the YJKP.

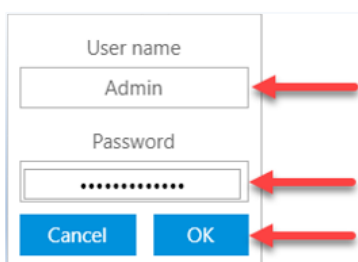
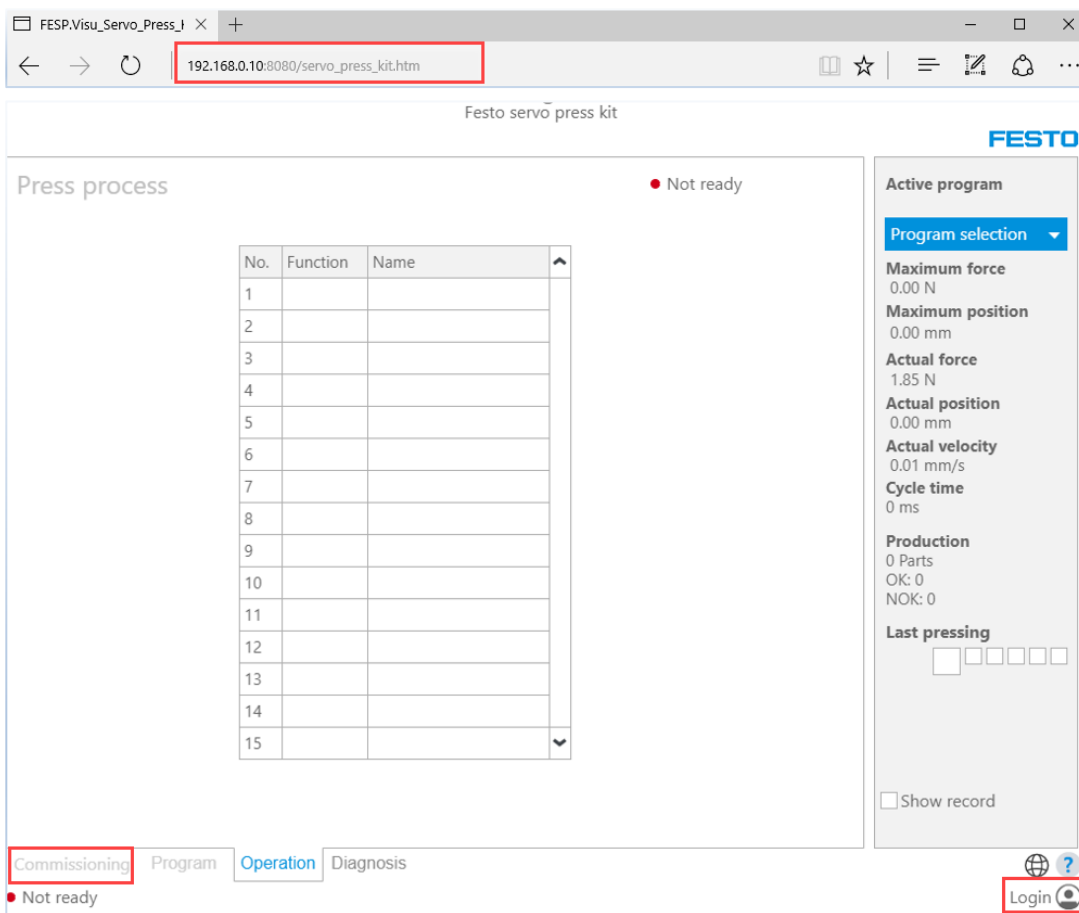
**In Browser:** <IP of the CECC-X>:8080/servo\_press\_kit.htm

The visualization of the servo-press kit is opened with 4 tabs :

- Commissioning , Program : Not active
- Operation , Diagnosis: Active

Click on **Login** to activate the commissioning and program tabs. A new pop-up window appears and a password must be entered to login.

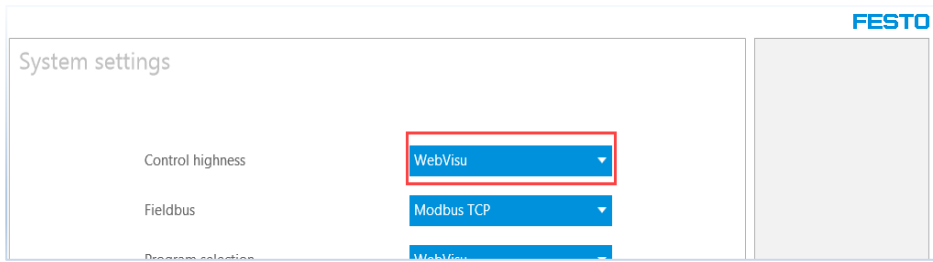
Default password:            User name:        Admin  
    Password:        ServoPressKit



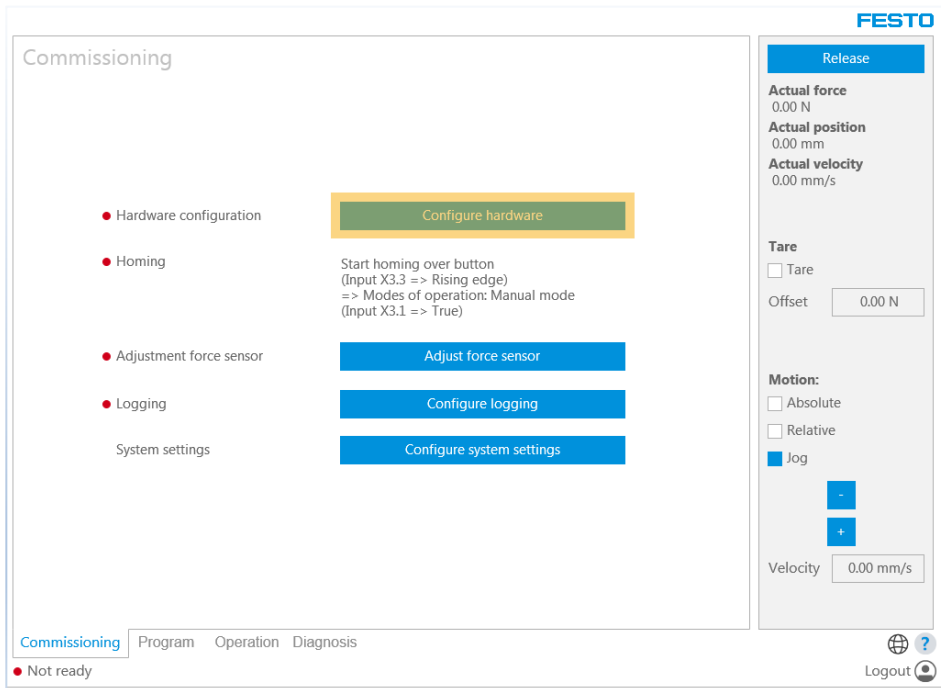
## 4 Hardware Configuration

### 4.1 Via WebVisu

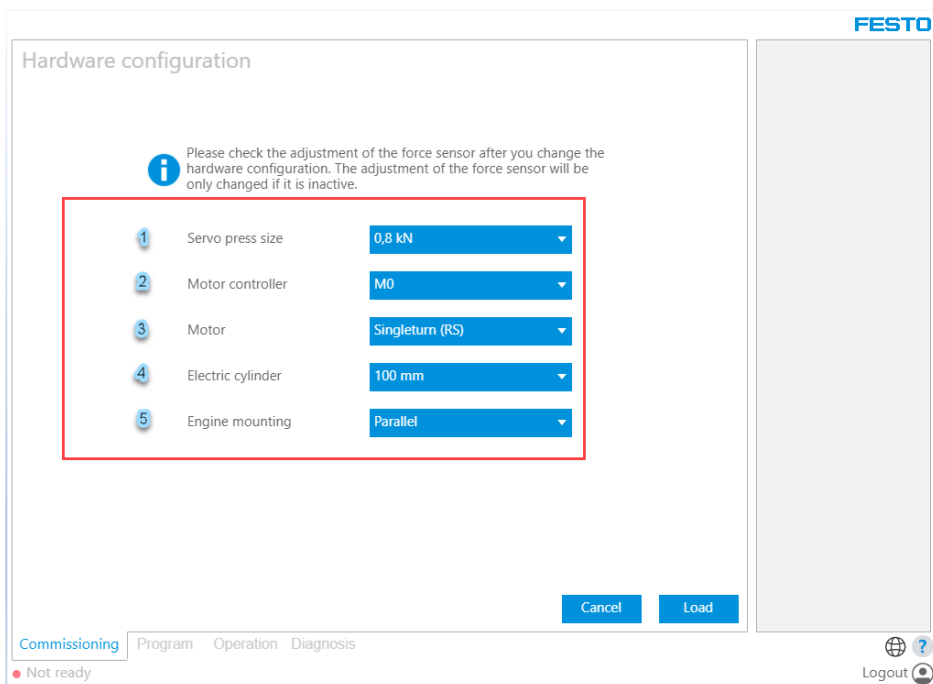
1. Go to the commissioning tab -> system settings and set the control to WebVisu.



2. Click on **Configure hardware** in the commissioning tab.



You will see this screen:





### 3. Start configuring the hardware :

#### 1. **Servo press size** : Select the force range of your system (the force unit is in kilonewton).

These forces are available in the servo-press system:

- 0,8 kN
- 1,5 kN
- 4 kN
- 7 kN
- 12 kN
- 17 kN

#### 2. **Motor controller**: Select the motor controller used in your system.



##### Note

This software version has only one type of motor controller: M0.

#### 3. **Motor**: Select the motor according to the encoder type and availability of a brake

- (RM): motor with a multiturn encoder.



##### Note

Multiturn is an encoder that preserves the last number of motor shaft revolutions and thus the position of the electric cylinder, even when the system is switched off.

There is no need to home the system every time the system is switched on.

- (RMB): motor with a multiturn encoder and brake.
- (RS): motor with a single-turn encoder.



##### Note

Single-turn is an encoder that preserves the last number of motor shaft revolutions and thus the position of the electric cylinder, as long as the system **is not** switched off.

You have to home the system after each power cycle.

- (RSB): motor with a single-turn encoder and brake.

#### 4. **Electric cylinder**: Select the stroke of the cylinder in **mm**.

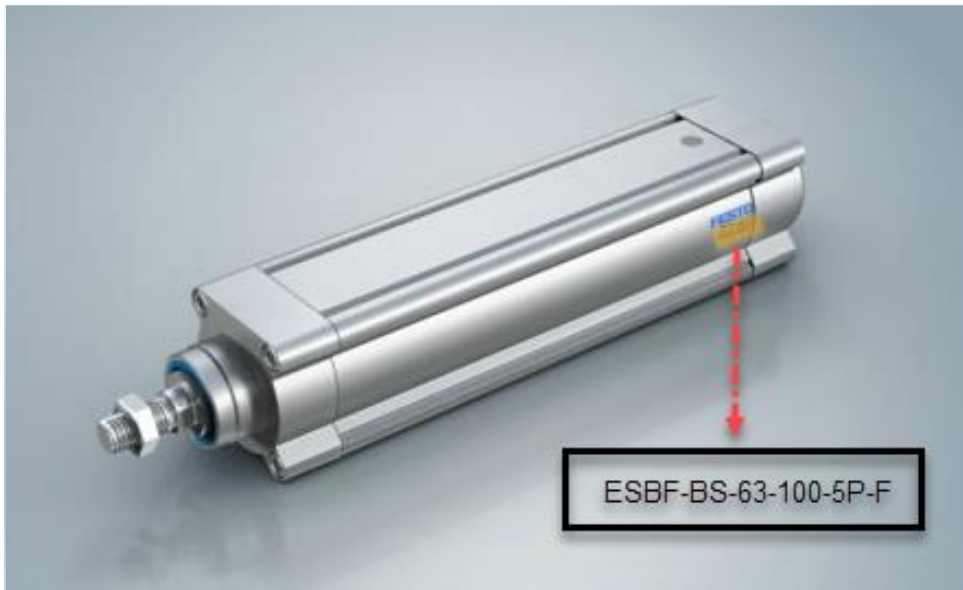
available lengths:

- 100 mm
- 200 mm
- 300 mm
- 400 mm

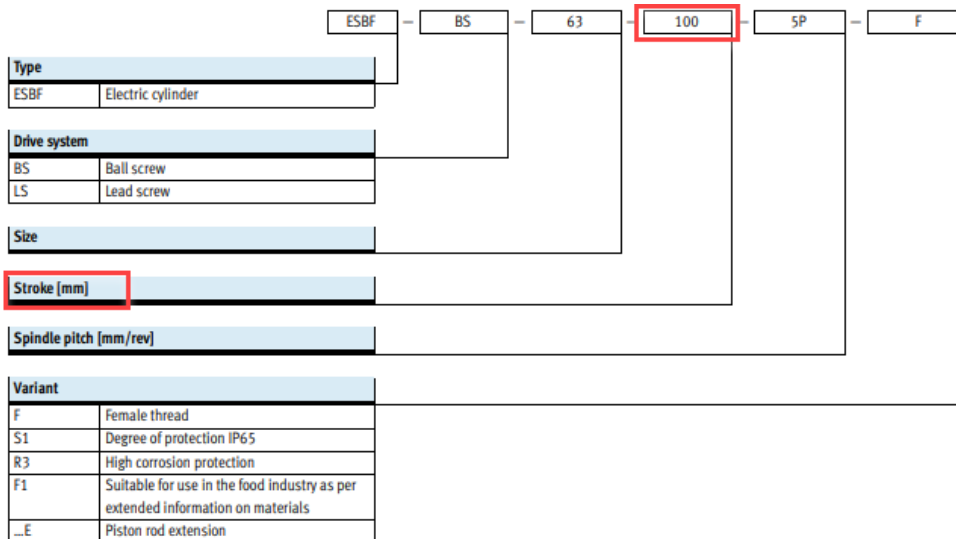


##### Note

You can find the stroke length in the **technical data** or on the **cylinder profile** (please see the following figure).

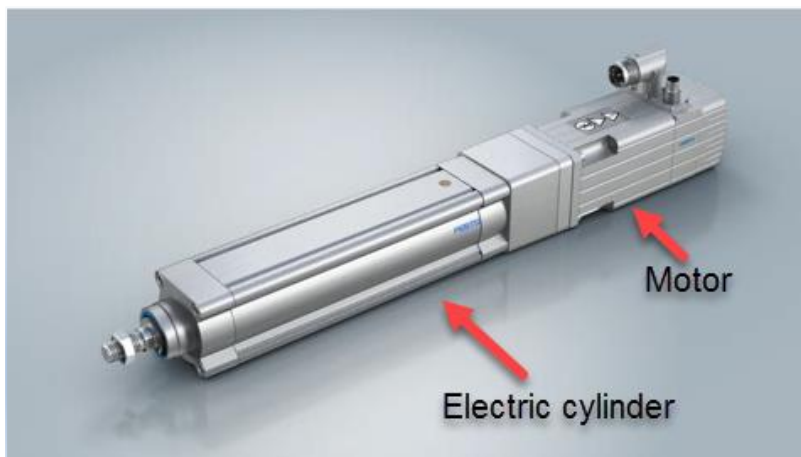


The type code on the profile contains the stroke length. In this figure the length is **100 mm**:

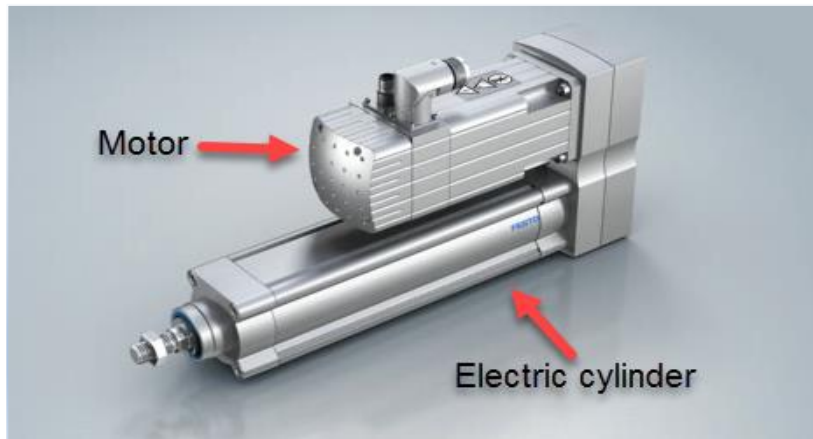


**5. Engine mounting:** select how the cylinder and motor are mounted together.

- Axial: select this option if the cylinder and the motor are mounted sequentially (as shown in the figure below).

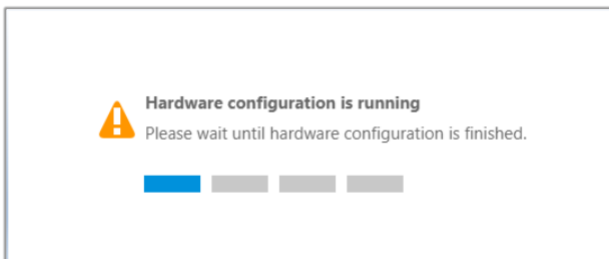


- **Parallel:** select this option if the cylinder and the motor are mounted in parallel (as shown in the figure below).



4. Click on **load** to finish the configuration of the system.

If the configuration is finished successfully, the hardware configuration status will change to **green**. Otherwise please check the device diagnosis for any errors.



FESTO

### Commissioning

- Hardware configuration Configure hardware
- Homing Start homing over button (Input X3.3 => Rising edge)  
=> Modes of operation: Manual mode (Input X3.1 => True)
- Adjustment force sensor Adjust force sensor
- Logging Configure logging
- System settings Configure system settings

Released

**Actual force**  
18.45 N

**Actual position**  
-2.85 mm

**Actual velocity**  
0.00 mm/s

**Tare**  
 Tare

Offset

**Motion:**  
 Absolute  
 Relative  
 Jog

-

+

Velocity

Commissioning
Program
Operation
Diagnosis

⊕ ?

Application Note – YJKP - Hardware Configuration and system settings – 1.10

Page 11 of 17

## 4.2 Via Host Control

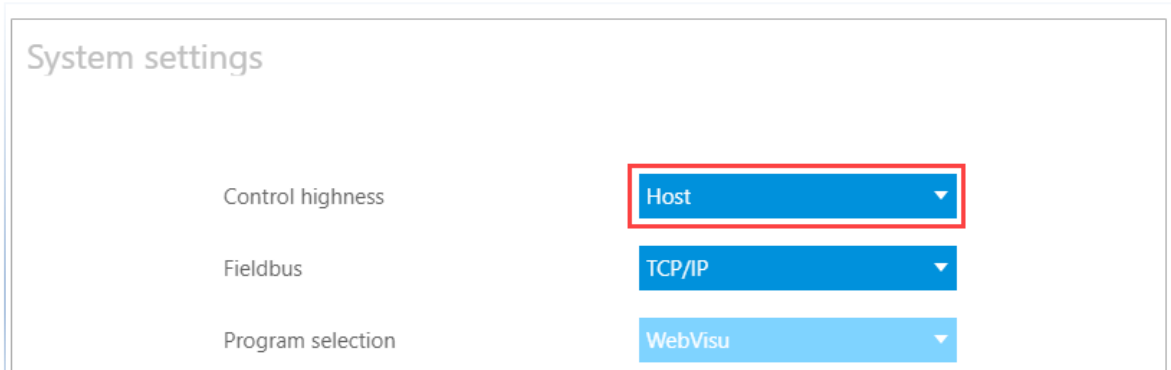
If you use a host PLC to control the press process, two function blocks are required: FB\_Control and FB\_SystemSettings.



**Note**

The function blocks are used only to load the configuration. The hardware must be configured by using the WebVisu

1. Go to the commissioning tab >- system settings and set the control to **Host**.



2. Configure the hardware by using the WebVisu as described in the previous chapter.
3. Set the values of the function blocks:

1. FB\_Connect

Required inputs:

- xEnable := true;
- enTargetComMode := 1;

Required outputs:

- xActive := true;
- enActualComMode := 1;
- xConnected := true;

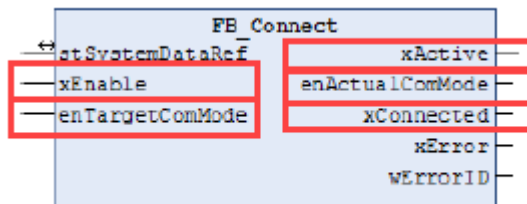


Figure 3-7: FB\_Connect

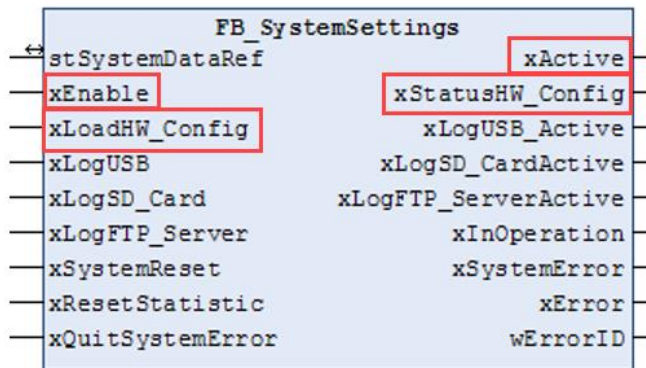
## 2. FB\_SystemSettings

Required inputs:

- xEnable := true;
- xLoadHW\_Config := True;

Required outputs:

- xActive := true;
- xStatusHW\_Config:=True;



## 5 System Settings

1. Go to **commissioning** tab and click on **Configure system settings**

The screenshot shows the 'Commissioning' tab with several configuration options:

- Hardware configuration: **Configure hardware**
- Homing: Start homing over button (Input X3.3 => Rising edge) => Modes of operation: Manual mode (Input X3.1 => True)
- Adjustment force sensor: **Adjust force sensor**
- Logging: **Configure logging**
- System settings: **Configure system settings** (highlighted with a red box)

On the right sidebar, the status is 'Released'. Parameters shown include:

- Actual force: 18.89 N
- Actual position: 2.15 mm
- Actual velocity: 0.01 mm/s
- Tare:  Tare
- Offset: 0.00 N
- Motion:  Absolute,  Relative,  Jog
- Velocity: 0.00 mm/s

At the bottom, the 'Commissioning' tab is highlighted in the navigation bar.

You will see this screen:

The 'System settings' screen displays the following configuration items:

Control highness	WebVisu	1
Fieldbus	TCP/IP	2
Program selection	WebVisu	3
System reset	System reset	4
System time	Update system time	5
User administration	Change password	6
Software version	1.3.5	7
Controller version	3.4.6	8
Motor controller version	4.0.1501.2.2	9

Buttons for 'Cancel' and 'Save' are located at the bottom right. The 'Commissioning' tab is active in the bottom navigation bar.

The system settings screen consist of:

### 1. Control highness :

Select how you want to control the system. Two methods are available:

- WebVisu : control the YJKP system by using the WebVisu and digital inputs and outputs
- Host : control the YJKP system by using a host PLC. Some settings/function will still need a parallel usage of the WebVisu (e.g. Configuring the system , creating a press program and configuring evaluation method).

### 2. Fieldbus:

Select the communication protocol used between the host PLC and YJKP.

This selection is only active, if control highness is set to Host.

The available communication protocols:

- TCP/IP
- Modbus TCP
- Ethernet/IP
- Profinet IO
- OPC-UA



#### Note

Further information about the fieldbus, please read application note 'Servo Press Kit YJKP-Host interface'.

### 3. Program selection:

Determine how to select the press program.

This selection is only active, if control highness is set to WebVisu.

- WebVisu: select the press program by using the WebVisu (Operation screen).
- Digital I/O: select the press program by using the following digital inputs:
  - X17.0.2
  - X17.1.2
  - X17.2.2
  - X17.3.2



#### Note

When using the Digital I/O method, the program numbers are binary coded, so you are able to select up to 15 press programs (1 to 15).

If you are using more than 15 programs, use the WebVisu to select the programs.

### 4. System reset:

Restart the YJKP controller.



#### Note

- If you restart the system, you have to home your system again in case you have a single-turn encoder. (Further information about the single-turn encoder, please read AppNote Servo Press Kit YJKP- Hardware configuration).
- If you use a host control to control the press process , two function blocks are required to reset the system.

I. FB\_Connect

Required inputs:

- xEnable := true;
- enTargetComMode := 1;

Required outputs:

- xActive = true;
- enActualComMode = 1;
- xConnected = true;

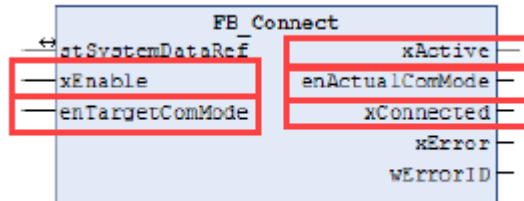


Figure 3-7: FB\_Connect

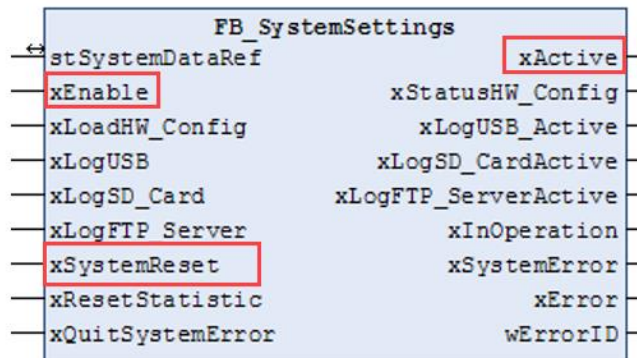
II. FB\_SystemSettings

Required inputs:

- xEnable := true;
- xSystemReset

Required outputs:

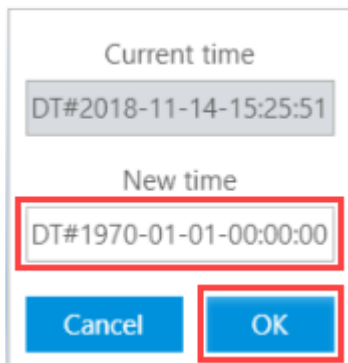
- xActive := True;



5. **System time:**

Update the current time.

Click on **Update system time** and a new window appears. Update the time in the **New time** field (DT#yyyy-mm-dd-hh:mm:ss) and then click **ok**.





**6. User administration:**

Change the login password.

Click on **change password** and a new window appears. Please insert the old password, the new one and repeat the new password. Confirm it with **ok**.

**Note**

The default password ” **ServoPressKit** ”.

User name  
Admin

Old password  
\*\*\*\*\*

New password  
\*\*\*\*\*

Repeat new password  
\*\*\*\*\*

Cancel OK

**7. Software version:**

Version of the application software (YJKP).

**8. Controller version:**

Version of the controller firmware (YJKP controller).

**9. Motor controller version:**

Version of the motor controller firmware (CMMP-AS).