Application Note

FESTO

YJKP - Hardware Configuration and system settings

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

YJKP

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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.

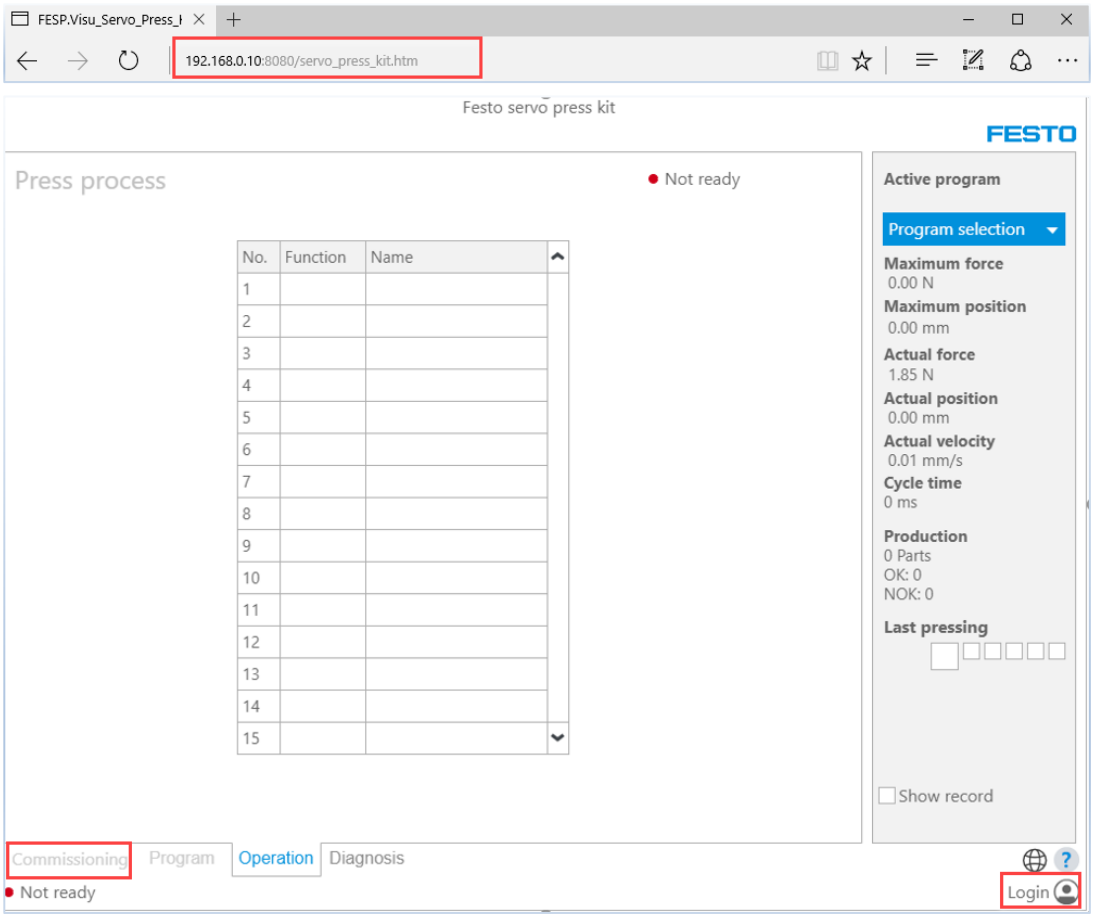
In Browser: ‹IP of the CECC-X›:8080/servo_press_kit.htm

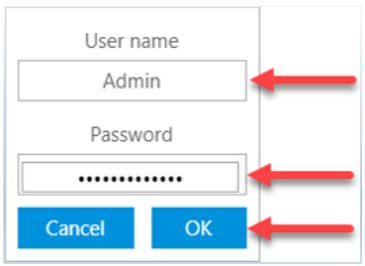
The visualization of the servo-press kit is opened with 4 tabs :

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

Click on **Login** to active 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

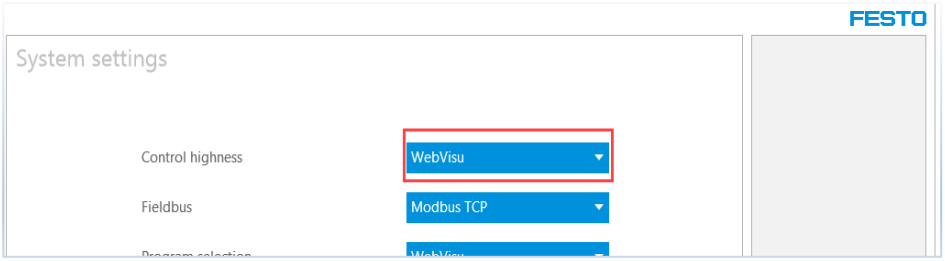




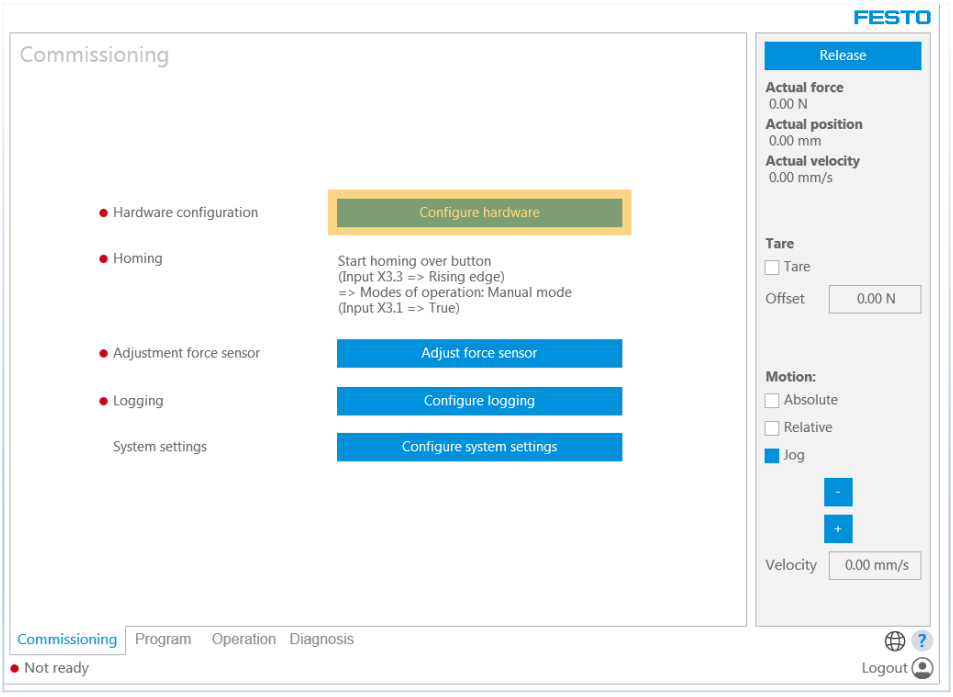
4 Hardware Configuration

4.1 Via WebVisu

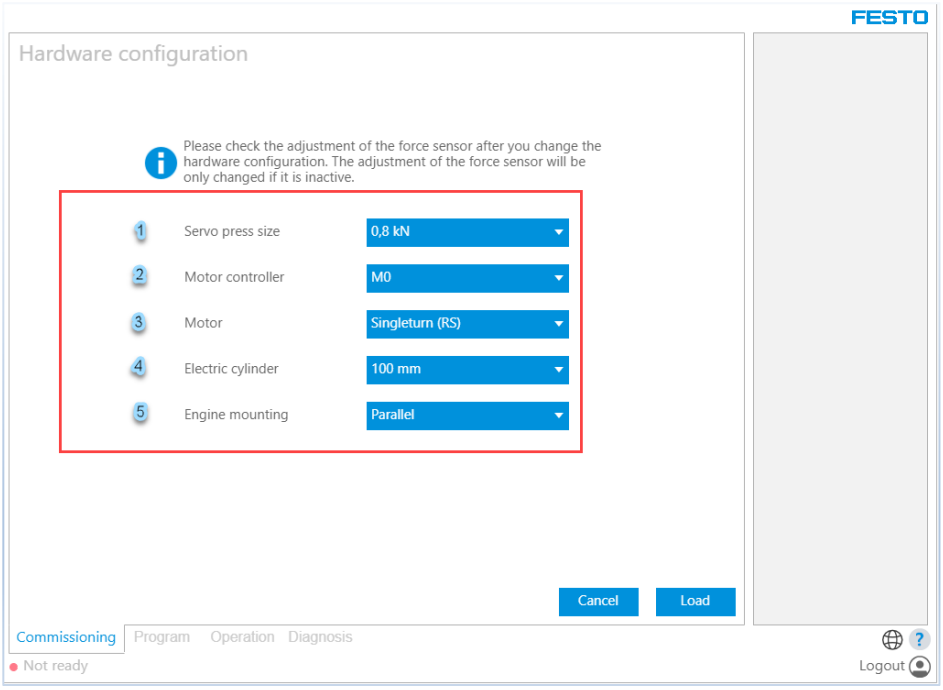
1. Go to the commissioning tab -› system settings and set the control to WebVisu.



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.

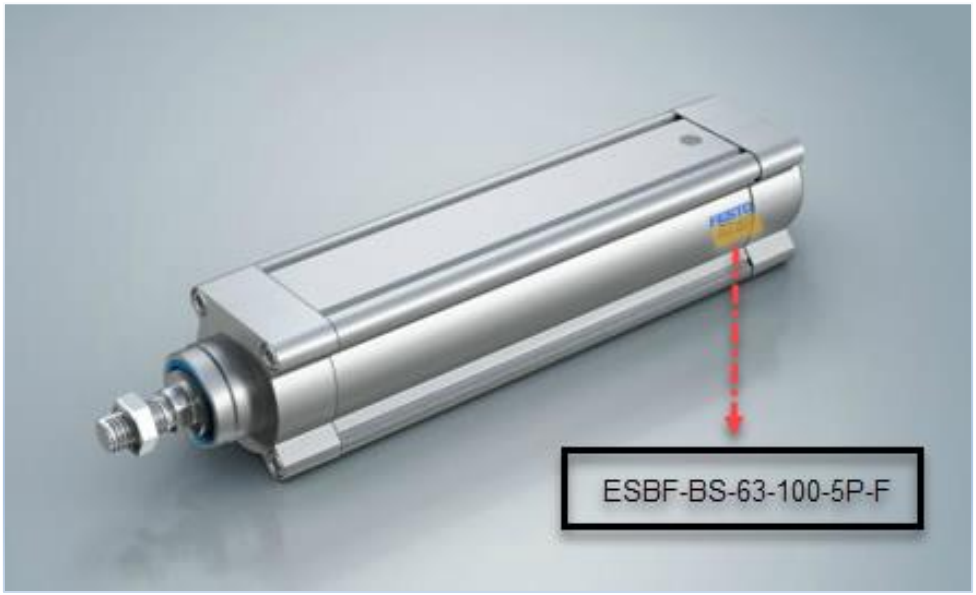
> **Note**
> Single-turn is an encoder that preserves the last number of motor shaft revolutions and thus the position of the electric cylinder, as long as the system **is not** switched off.
> You have to home the system after each power cycle.

      - (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**:

ESBF	–	BS	–	63	–	100	–	5P	–	F

Type	
ESBF	Electric cylinder

Drive system	
BS	Ball screw
LS	Lead screw

Size	

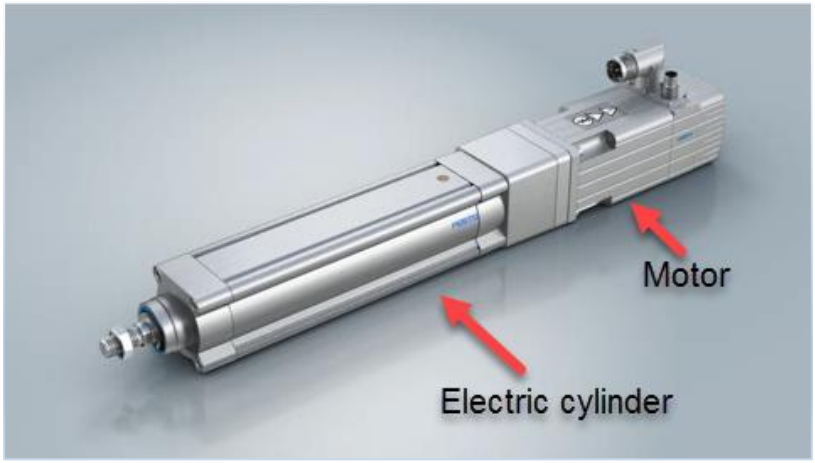
Stroke [mm]	

Spindle pitch [mm/rev]	

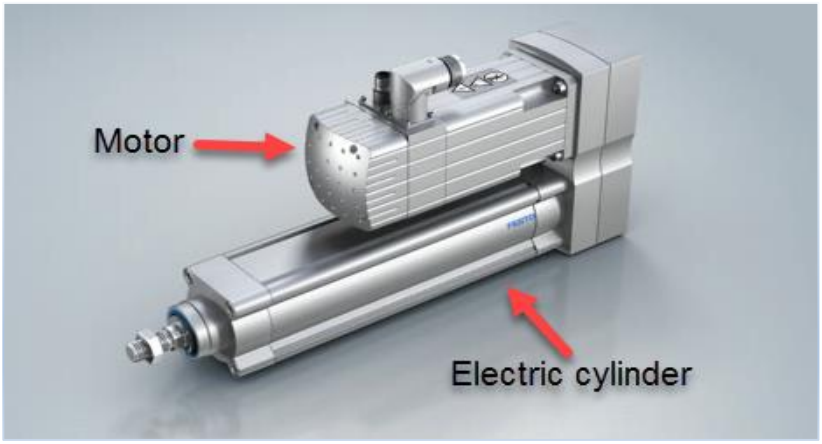
Variant	
F	Female thread
S1	Degree of protection IP65
R3	High corrosion protection
F1	Suitable for use in the food industry as per extended information on materials
…E	Piston rod extension

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).

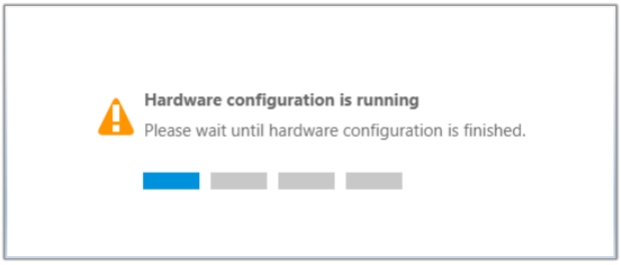


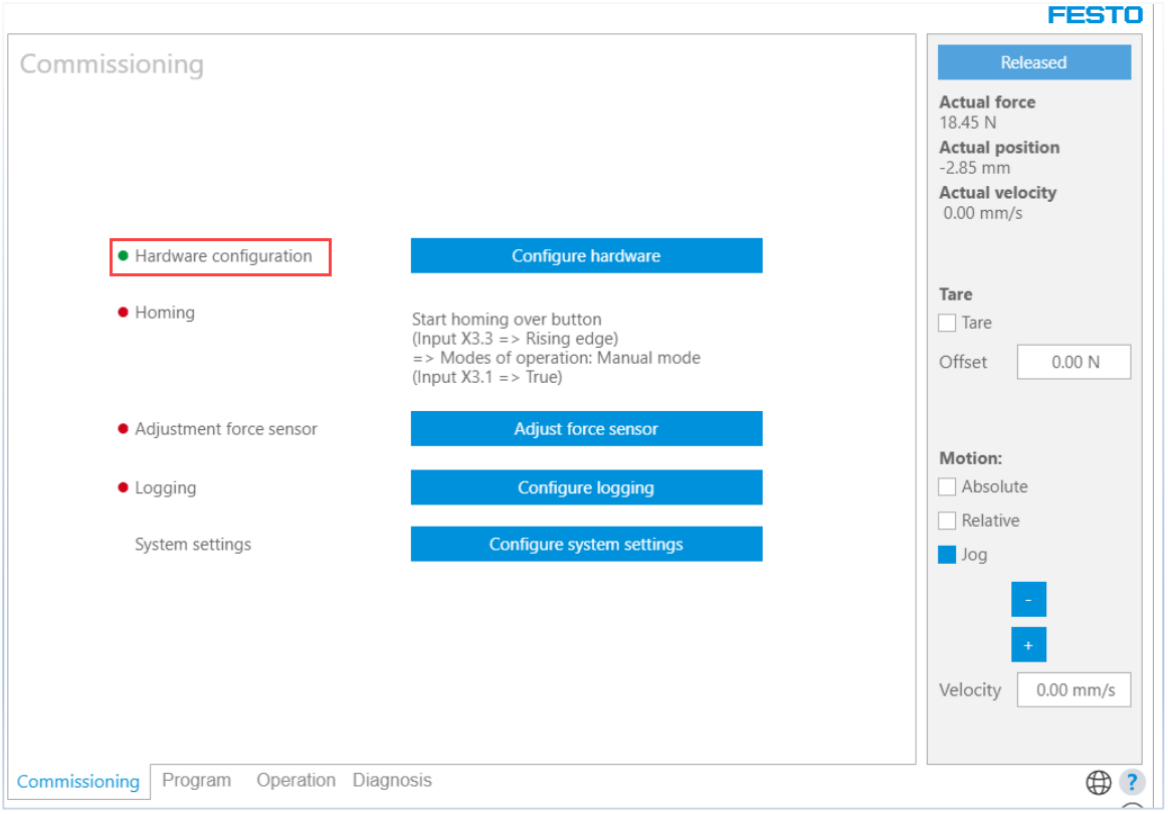
- Parallel: select this option if the cylinder and the motor are mounted in parallel (as shown in the figure below).



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.



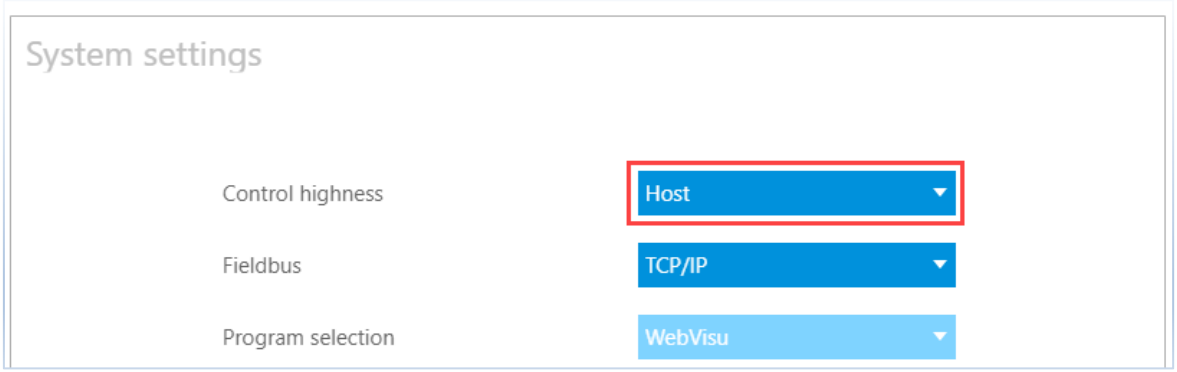


4.2 Via Host Control

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 sittings 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;

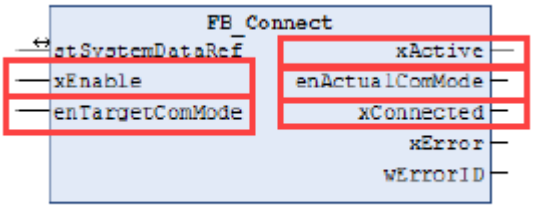


Figure 3-7: FB_Connect

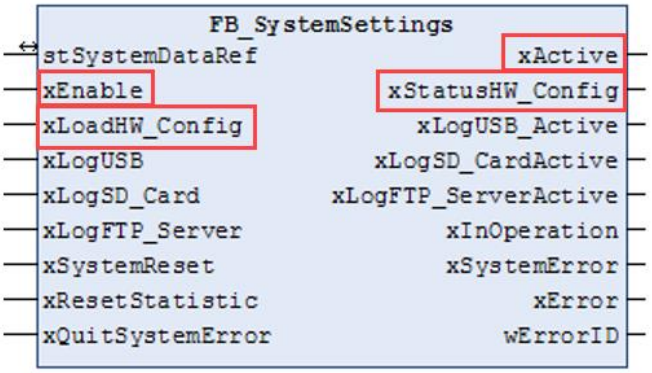
2. FB_SystemSettings

Required inputs:

- xEnable := true;
- xLoadHW_Config := True;

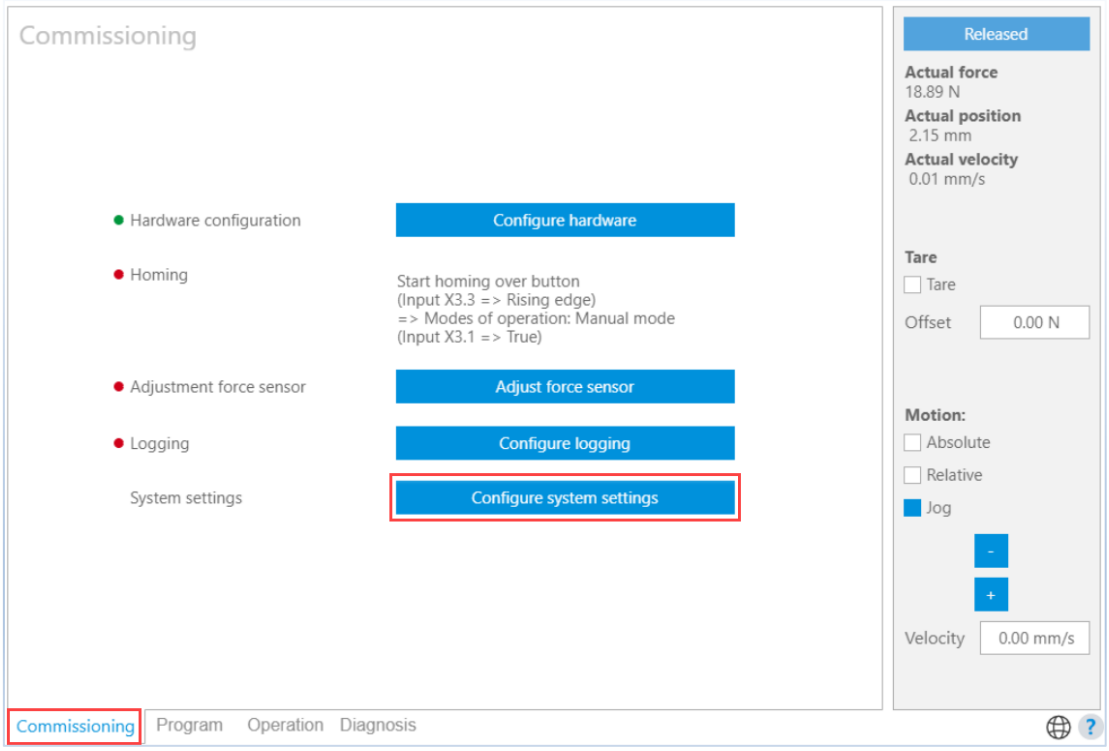
Required outputs:

- xActive := true;
- xStatusHW_Config:=True;

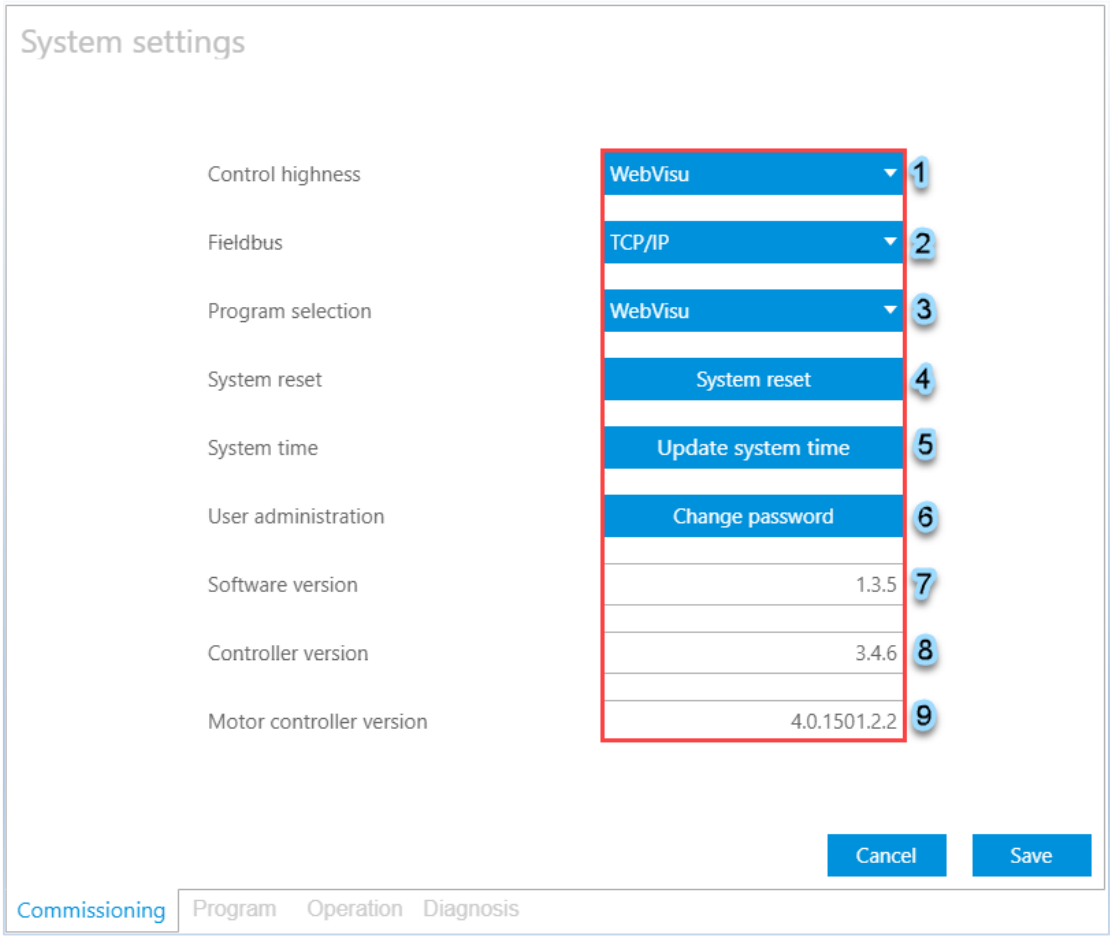


5 System Settings

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



You will see this screen:



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;

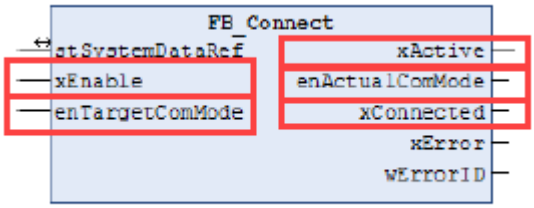


Figure 3-7: FB_Connect

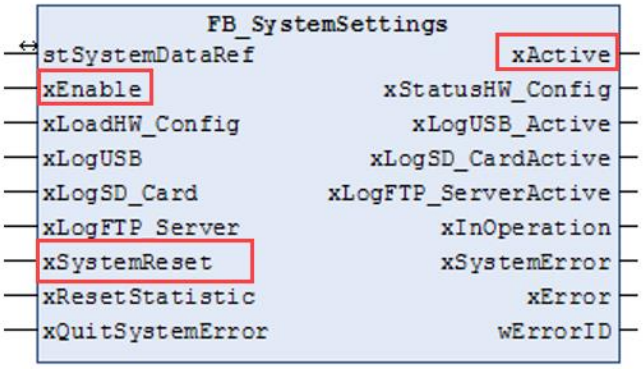
II. FB_SystemSettings

Required inputs:

- xEnable := true;
- xSystemReset

Required outputs:

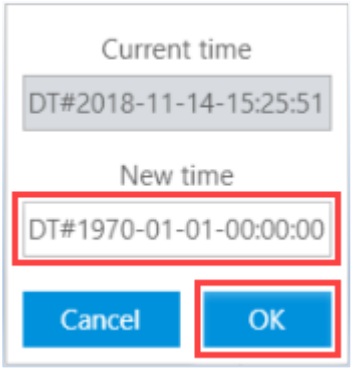
- xActive := True;



5. **System time:**

Update the current time.

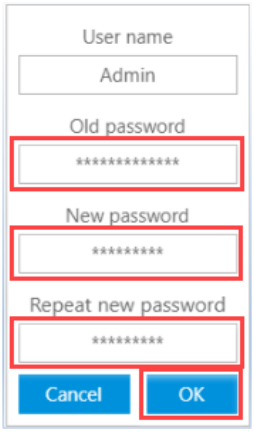
Click on **Update system time** and a new window appears. Update the time in the **New time** field **(DT#yyyy-mm-dd-hh:mm:ss)** and then click **ok.**



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 ".**



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).