

Festo_Positioning_Basic library – Change, save, load settings

Commissioning of a selected system with the Festo_Positioning_Basic library is explained step by step, so that it's successfully integrated into the user program.

FPosB

Festo_Positioning_Basic library – Change, save, load settings

Title Festo_Positioning_Basic library – Change, save, load setting
Version 1.30
Document no. 100102
Originalen
AuthorFesto

Last saved 09.06.2021

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1 Settings in configuration mode

1.1 Login

In „Configuration Mode“ it's possible to change settings, which are done in the GVL_Config.

Festo_Positioning_Basic_3

Operation Mode

No Mode

Configuration Mode

Homing Mode

Jogging Mode

Stepping Mode

PTP Mode

Internal CNC Mode

External CNC Mode

Enable System

Reset System

Ack Error

Select Coordinate System

MCS

UCS

WPCS

Override

SETTINGS

SETTINGS
KINEMATIC
DRIVES
DYNAMIC
HOMING

Login to Change Parameters

Login PW : *****

Login Login Confirmed

Logout Login Failed

Save Load Parameter File

Save ParameterSavedToFile

Load ParameterLoadedFromFile

Delete NoParameterFileFound

Change Password

Change Password

GVL_CONFIG x		
CPX_CEC.Application.GVL_CONFIG		
Expression	Type	Value
gstGantryDataRef	FPosB.KINEMATIC_DATA_REF	
gstConfigControl	FPosB.CONFIG_PARAMETER_CONTROL	
xSaveConfigToPlc	BOOL	FALSE
xAutoLoadParameter	BOOL	FALSE
xLoadConfigFromPlc	BOOL	FALSE
xDeleteConfigFromPlc	BOOL	FALSE
xChangePW	BOOL	FALSE
xLogin	BOOL	FALSE
xLogout	BOOL	FALSE
sPWStringOld	STRING	"
sPWStringNew	STRING	"
sPWStringConfirm	STRING	"
gstConfigStatus	FPosB.CONFIG_PARAMETER_STATUS	
xParameterLoadedFromFile	BOOL	FALSE
xNoParameterFileFounded	BOOL	FALSE
xParameterSavedToFile	BOOL	FALSE
xPasswordChangeConfirmed	BOOL	FALSE
xPasswordChangeFailed	BOOL	FALSE
xPasswordLoginConfirmed	BOOL	FALSE
xPasswordLoginFailed	BOOL	FALSE
g_stDrive	FPosB.DRIVE_CONFIG	
g_stDynLimits	FPosB.DYNAMIC_CONFIG	
g_stHoming	FPosB.HOMING_CONFIG	
g_stKinematic	FPosB.KINEMATIC_CONFIG	

Settings in configuration mode

To get access to these settings, you need to login.
Default password is “Festo”, which can be changed afterwards.

Enter the password and set the Login button.
If the login is successful, you get a “Login Confirmed” back.
The inputs in the different tabs are active and editable.

Operation Mode

No Mode

Configuration Mode

Homing Mode

Jogging Mode

Stepping Mode

PTP Mode

Internal CNC Mode

External CNC Mode

Enable System

Reset System

Ack Error

Select Coordinate System

MCS

UCS

WPCS

Override 100

SETTINGS

KINEMATIC

DRIVES

DYNAMIC

HOMING

Login to Change Parameters

Login PW : *****

Login

Login Confirmed

Logout

Login Failed

Save Load Parameter File

Save

Load

Delete

ParameterSavedToFile

ParameterLoadedFromFile

NoParameterFileFound

Change Password

Change Password

GVL_CONFIG x		
CPX_CEC.Application.GVL_CONFIG		
Expression	Type	Value
gstGantryDataRef	FPosB.KINEMATIC_DATA_REF	
gstConfigControl	FPosB.CONFIG_PARAMETER_CONTROL	
xSaveConfigToPlc	BOOL	FALSE
xAutoLoadParameter	BOOL	FALSE
xLoadConfigFromPlc	BOOL	FALSE
xDeleteConfigFromPlc	BOOL	FALSE
xChangePW	BOOL	FALSE
xLogin	BOOL	TRUE
xLogout	BOOL	FALSE
sPWStringOld	STRING	'Festo'
sPWStringNew	STRING	'
sPWStringConfirm	STRING	'
gstConfigStatus	FPosB.CONFIG_PARAMETER_STATUS	
xParameterLoadedFromFile	BOOL	FALSE
xNoParameterFileFound	BOOL	FALSE
xParameterSavedToFile	BOOL	FALSE
xPasswordChangeConfirmed	BOOL	FALSE
xPasswordChangeFailed	BOOL	FALSE
xPasswordLoginConfirmed	BOOL	TRUE
xPasswordLoginFailed	BOOL	FALSE
g_stDrive	FPosB.DRIVE_CONFIG	
g_stDynLimits	FPosB.DYNAMIC_CONFIG	
g_stHoming	FPosB.HOMING_CONFIG	
g_stKinematic	FPosB.KINEMATIC_CONFIG	

The settings in the visualization KINEMATIC, DRIVES, DYNAMIC and HOMING can be found in the GVL_CONFIG:

Festo_Positioning_Basic_3

Operation Mode
No Mode
Configuration Mode
Homing Mode
Jogging Mode
Stepping Mode
PTP Mode
Internal CNC Mode
External CNC Mode

Enable System
Reset System
Ack Error

Select Coordinate System
MCS
UCS
WPCS

Override 100

SETTINGS

SETTINGS
KINEMATIC
DRIVES
DYNAMIC
HOMING

Login to Change Parameters

Login PW : *****
Login Login Confirmed
Logout Login Failed

Save Load Parameter File

Save ParameterSavedToFile
Load ParameterLoadedFromFile
Delete NoParameterFileFound

Change Password

Change Password

GVL_CONFIG x		
CPX_CEC.Application.GVL_CONFIG		
Expression	Type	Value
gstGantryDataRef	FPosB.KINEMATIC_DATA_REF	
gstConfigControl	FPosB.CONFIG_PARAMETER_CONTROL	
xSaveConfigToPlc	BOOL	FALSE
xAutoLoadParameter	BOOL	FALSE
xLoadConfigFromPlc	BOOL	FALSE
xDeleteConfigFromPlc	BOOL	FALSE
xChangePW	BOOL	FALSE
xLogin	BOOL	FALSE
xLogout	BOOL	TRUE
sPWStringOld	STRING	"
sPWStringNew	STRING	"
sPWStringConfirm	STRING	"
gstConfigStatus	FPosB.CONFIG_PARAMETER_STATUS	
xParameterLoadedFromFile	BOOL	FALSE
xNoParameterFileFounded	BOOL	FALSE
xParameterSavedToFile	BOOL	FALSE
xPasswordChangeConfirmed	BOOL	FALSE
xPasswordChangeFailed	BOOL	FALSE
xPasswordLoginConfirmed	BOOL	FALSE
xPasswordLoginFailed	BOOL	FALSE
* g_stDrive	FPosB.DRIVE_CONFIG	
* g_stDynLimits	FPosB.DYNAMIC_CONFIG	
* g_stHoming	FPosB.HOMING_CONFIG	
* g_stKinematic	FPosB.KINEMATIC_CONFIG	

1.2 Save, load and delete parameter file

Parameter files can be saved, loaded and deleted from the PLC.

So it's possible to multiply a setting to different PLCs or to load a saved, working setting.

Corresponding inputs and outputs can be also found in `gstConfigControl` and `gstConfigStatus`

Festo_Positioning_Basic_3

SETTINGS	
SETTINGS	KINEMATIC DRIVES DYNAMIC HOMING
Operation Mode No Mode Configuration Mode Homing Mode Jogging Mode Stepping Mode PTP Mode Internal CNC Mode External CNC Mode Enable System Reset System Ack Error Select Coordinate System MCS UCS WPCS Override 100 	Login to Change Parameters Login PW : ***** Login Login Confirmed Logout Login Failed Save Load Parameter File Save ParameterSavedToFile Load ParameterLoadedFromFile Delete NoParameterFileFound Change Password Change Password

GVL_CONFIG x		
CPX_CEC.Application.GVL_CONFIG		
Expression	Type	Value
gstGantryDataRef	FPosB.KINEMATIC_DATA_REF	
gstConfigControl	FPosB.CONFIG_PARAMETER_CONTROL	
xSaveConfigToPlc	BOOL	FALSE
xAutoLoadParameter	BOOL	FALSE
xLoadConfigFromPlc	BOOL	FALSE
xDeleteConfigFromPlc	BOOL	FALSE
xChangePW	BOOL	FALSE
xLogin	BOOL	TRUE
xLogout	BOOL	FALSE
sPWStringOld	STRING	'Festo'
sPWStringNew	STRING	'
sPWStringConfirm	STRING	'
gstConfigStatus	FPosB.CONFIG_PARAMETER_STATUS	
xParameterLoadedFromFile	BOOL	FALSE
xNoParameterFileFound	BOOL	FALSE
xParameterSavedToFile	BOOL	FALSE
xPasswordChangeConfirmed	BOOL	FALSE
xPasswordChangeFailed	BOOL	FALSE
xPasswordLoginConfirmed	BOOL	TRUE
xPasswordLoginFailed	BOOL	FALSE
g_stDrive	FPosB.DRIVE_CONFIG	
g_stDynLimits	FPosB.DYNAMIC_CONFIG	
g_stHoming	FPosB.HOMING_CONFIG	
g_stKinematic	FPosB.KINEMATIC_CONFIG	

The file itself is saved on the PLC.

Runtime Location: prj/FPosB		
Name	Size	Modified
..		
FPosBConfig	1,49 KB (1.528 bytes)	25.08.2017 09:49

Important:

If there is no Config-file loaded or available, the PLC will work with the default values from the GVL_Config.

1.3 Change password

In the Webvisu click on the button “Change Password” and a new window will open.

Festo_Positioning_Basic_3

Operation Mode

No Mode

Configuration Mode

Homing Mode

Jogging Mode

Stepping Mode

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External CNC Mode

Enable System

Reset System

Ack Error

Select Coordinate System

MCS

UCS

WPCS

Override

100

SETTINGS

SETTINGS

KINEMATIC

DRIVES

DYNAMIC

HOMING

Login to Change Parameters

Login PW : *****

Change Password

Old PW : *****

New PW : *****

Confirm New PW: *****

OK

Abort

Save Load

Change Password

Settings in configuration mode

Enter the old password, a new password and confirm the password.
To confirm the settings with “OK”.

Festo_Positioning_Basic_3

Operation Mode

No Mode

Configuration Mode

Homing Mode

Jogging Mode

Stepping Mode

PTP Mode

Internal CNC Mode

External CNC Mode

Enable System

Reset System

Ack Error

Select Coordinate System

MCS

UCS

WPCS

Override

100

SETTINGS

SETTINGS

KINEMATIC

DRIVES

DYNAMIC

HOMING

Login to Change Parameters

Login PW : *****

Change Password

Old PW : *****

New PW : *****

Confirm New PW: *****

OK

Password Change Confirmed

Password Change Failed

Abort

Change password

Change Password

GVL_CONFIG x				
CPX_CEC.Application.GVL_CONFIG				
Expression	Type	Value	Prepared value	
gstGantryDataRef	FPosB.KINEMATIC_DATA_REF			
gstConfigControl	FPosB.CONFIG_PARAMETER_CONTROL			
xSaveConfigToPlc	BOOL	FALSE		
xAutoLoadParameter	BOOL	TRUE		
xLoadConfigFromPlc	BOOL	FALSE		
xDeleteConfigFromPlc	BOOL	FALSE		
xChangePW	BOOL	TRUE		
xLogin	BOOL	FALSE		
xLogout	BOOL	FALSE		
sPWStringOld	STRING	'Festo'	'Festo'	
sPWStringNew	STRING	'NewPassword'	'NewPassword'	
sPWStringConfirm	STRING	'NewPassword'	'NewPassword'	
gstConfigStatus	FPosB.CONFIG_PARAMETER_STATUS			
xParameterLoadedFromFile	BOOL	FALSE		
xNoParameterFileFounded	BOOL	FALSE		
xParameterSavedToFile	BOOL	FALSE		
xPasswordChangeConfirmed	BOOL	TRUE		
xPasswordChangeFailed	BOOL	FALSE		
xPasswordLoginConfirmed	BOOL	TRUE		
xPasswordLoginFailed	BOOL	FALSE		

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The default password is hardcoded in the library.

The new password is saved to the parameter file. To use the new password, you must enable the xAutoLoadParameter in your gstConfigControl. Only with this setting, the new password will be available after a restart.

```

1  | VAR_GLOBAL
2  |   : FPosB.KINEMATIC_DATA_REF;
3  |   : FPosB.CONFIG_PARAMETER_CONTROL := (
4  |     xSaveConfigToPlc := FALSE, xAutoLoadParameter := TRUE, xLoadConfigFromPlc := FALSE, xDeleteConfigFromPlc := FALSE,
5  |     xChangePW := FALSE, xLogin := FALSE, xLogout := FALSE,
6  |     sFWStringOld := '', sFWStringNew := '', sFWStringConfirm := '');
7  |   : FPosB.CONFIG_PARAMETER_STATUS; (* := ( xParameterLoadedFromFile:= , xNoParameterFileFounded:= ,
8  |     xParameterSavedToFile:= , xPasswordChangeConfirmed:= ,
9  |     xPasswordChangeFailed:= , xPasswordLoginConfirmed:= ,
10 |     xPasswordLoginFailed:= ); *)

```

1.4 AutoLoadParameter

Beside the usage for the password, this input must be true, if parameters should be loaded automatically on start up.

If this one is deactivated, parameters must be loaded everytime separately, if they are different to the default ones (from the Codesys code).

1.5 Logout

To logout the settings, just activate “Logout button”.

Festo_Positioning_Basic_3

Operation Mode

No Mode

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Stepping Mode

PTP Mode

Internal CNC Mode

External CNC Mode

Enable System

Reset System

Ack Error

Select Coordinate System

MCS

UCS

WPCS

Override

SETTINGS

SETTINGS

KINEMATIC

DRIVES

DYNAMIC

HOMING

Login to Change Parameters

Login PW : *****

Login

Login Confirmed

Logout

Login Failed

Save Load Parameter File

Save

ParameterSavedToFile

Load

ParameterLoadedFromFile

Delete

NoParameterFileFound

Change Password

Change Password

GVL_CONFIG x		
CPX_CEC.Application.GVL_CONFIG		
Expression	Type	Value
g_stGantryDataRef	FPosB.KINEMATIC_DATA_REF	
g_stConfigControl	FPosB.CONFIG_PARAMETER_CONTROL	
xSaveConfigToPlc	BOOL	FALSE
xAutoLoadParameter	BOOL	FALSE
xLoadConfigFromPlc	BOOL	FALSE
xDeleteConfigFromPlc	BOOL	FALSE
xChangePW	BOOL	FALSE
xLogin	BOOL	FALSE
xLogout	BOOL	TRUE
sPWStringOld	STRING	"
sPWStringNew	STRING	"
sPWStringConfirm	STRING	"
g_stConfigStatus	FPosB.CONFIG_PARAMETER_STATUS	
xParameterLoadedFromFile	BOOL	FALSE
xNoParameterFileFounded	BOOL	FALSE
xParameterSavedToFile	BOOL	FALSE
xPasswordChangeConfirmed	BOOL	FALSE
xPasswordChangeFailed	BOOL	FALSE
xPasswordLoginConfirmed	BOOL	FALSE
xPasswordLoginFailed	BOOL	FALSE
g_stDrive	FPosB.DRIVE_CONFIG	
g_stDynLimits	FPosB.DYNAMIC_CONFIG	
g_stHoming	FPosB.HOMING_CONFIG	
g_stKinematic	FPosB.KINEMATIC_CONFIG	