

WAGO I/O SYSTEM 750

Libraries for Building Automation

**Module Descriptions for the
WINSTA[®] Sunblind Box
770-629/130-000**

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WAGO I/O PRO CAA Library for the WINSTA Sunblind Box 770-629/130-000

Contents

<u>Important Notes</u>	4
Copyright	4
Personnel Qualification.....	4
Intended Use	4
Scope of Validity	5
<u>Communication:</u>	6
Winsta Blind Control Master (FbWinsta_BC_Master)	6
<u>Sunblind Function Block</u>	8
Sunblind control (FbWinsta_BC_Box).....	8
Group Activation (FbWinsta_BC_Group).....	10
Sun Protection (FbWinsta_BC_Position)	11

Important Notes

To ensure quick installation and start-up of the units, please carefully read and adhere to the following information and explanations.

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Intended Use

For each individual application, the components are supplied from the factory with a dedicated hardware and software configuration. Modifications are only admitted within the framework of the possibilities documented in this document. All other changes to the hardware and/or software and the non-conforming use of the components entail the exclusion of liability on part of WAGO Kontakttechnik GmbH & Co. KG.

Please send your requests for modified and new hardware or software configurations directly to WAGO Kontakttechnik GmbH & Co. KG.

Scope of Validity

This application note is based on the stated hardware and software from the specific manufacturer, as well as the associated documentation. This application note is therefore only valid for the described installation.

New hardware and software versions may need to be handled differently.

Please note the detailed description in the specific manuals.

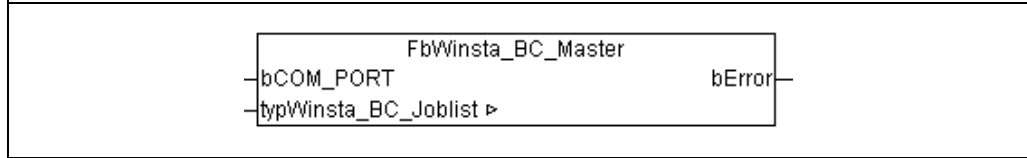
Communication:

Winsta Blind Control Master (FbWinsta_BC_Master)

WAGO-I/O-PRO CAA Library Elements		
Category:	Building automation	
Name:	FbWinsta_BC_Master	
Type:	Function <input type="checkbox"/>	Function block <input checked="" type="checkbox"/> Program <input type="checkbox"/>
Name of library:	Winsta_BC_01.lib	
Applicable to:	See release note	
Libraries used:	Standart.lib Serial_Interface_01.lib SerComm.lib	
Input parameter:	Data type:	Comment:
bCOM_PORT	BYTE	No. of the serial interface used 1 -> Internal service interface 2 ->1nd connected serial module 3 ->2nd connected serial module, etc.
Input/output parameter:	Data type:	Comment:
typWinsta_BC_Joblist	typWinsta_BC_Joblist	Winsta_BC send and receive data
Output parameters:	Data type:	Comment:
bError	BYTE	0x00: No error. 0x01: This library is not supported by the firmware. 0x02: COM port outside of the valid area. 0x03: This function block instance has not yet been assigned a COM port. 0x04: This function block instance has already been assigned a different COM port. 0x05: COM port is already opened. 0x06: COM port is already closed. 0x07: COM port is not opened. 0x08: A write operation is still active (COM1). 0x09: These transfer parameters are not supported by the COM port. 0x0A: The current settings of the bus module could not be read. 0x0B: This library version does not yet support the temporary setting of communication parameters. 0x0C: Bus module could not be initialized.

		0x0D: Error when writing data into the FIFO memory of the bus module. 0x0E: The contents of the FIFO memory were not sent (continuous sending). 0x0F: Internal error
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Graphical illustration:



Function description:

The function module **FbWinsta_BC_Master** can be used to connect the *WINSTA*[®] sunblind box 770-629/130-000 to the WAGO-I/O-SYSTEM. This module records all upcoming commands of the other *WINSTA*[®] modules in the program and ensures their execution. The commands are made available as a data table via the variable **"typWinsta_BC_Joblist"**. For identification of an error, the current error code is indicated on the **"bError"** output. The number of the serial port used is set on the input **"bCOM_PORT"**.

Example:

- 1 -> Internal service interface
- 2 -> 1st connected serial module 750-653/003-000
- 3 -> 2nd connected serial module 750-653/003-000

The communication between the WAGO *WINSTA*[®] boxes and the WAGO-I/O-SYSTEM takes place via a RS-485 connection. The serial module 750-653/003-000 is used as interface. The required setting parameters for the module are shown in the following figure:

Parameter	
Baudrate	9600 Baud *
Data frame	8 Databits, No-Parity *
Stopbits	1 *
Output format	Standard
Data bytes (BK)	5
Duplex Mode	Halfduplex
Copy State Byte	Normal *
XON/XOFF (Send)	OFF *
XON/XOFF (Receive)	OFF *
Module Type	RS485 *
Continuous Send	OFF *

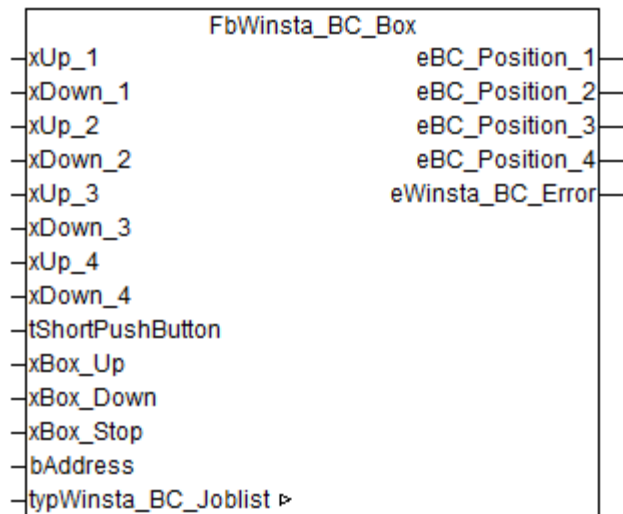
Note

- The program cycle time in which the *WINSTA*[®] function blocks are retrieved should not be longer than approx. 30 ms if at all possible. This ensures that the reaction rate of the control commands is sufficient.
- All *WINSTA*[®] function blocks that are linked with the **"typWinsta_BC_Joblist"** variable should be called up in cycles within the same program task.

Sunblind Function Block

Sunblind control (FbWinsta_BC_Box)

WAGO-I/O-PRO CAA Library Elements		
Category:	Building automation	
Name:	FbWinsta_BC_Box	
Type:	Function <input type="checkbox"/>	Function block <input checked="" type="checkbox"/> Program <input type="checkbox"/>
Name of library:	Winsta_BC_01.lib	
Applicable to:	See release note	
Input parameter:		
Data type:	Comment:	
xUp_n	BOOL	Switch command Sunblind/Lamella UP
xDown_n	BOOL	Switch command Sunblind/Lamella DOWN
tShortPushButton	TIME	Time for a brief button push Default = t#500ms
xBox_Up	BOOL	All blinds of the box UP
xBox_Down	BOOL	All blinds of the box DOWN
xBox_Stop	BOOL	All blinds of the box STOP
bAddress	BYTE	Slave address of the box
Input/output parameter:		
Data type:	Comment:	
typWinsta_BC_Joblist	typWinsta_BC_Joblist	Winsta_BC send and receive data
Return value:		
Data type:	Comment:	
eWinsta_BC_Position_n	eWinsta_BC_Position	Display position of sunblind: BC_UNDEFINED BC_DRIVE BC_UP BC_DOWN
eWinsta_BC_Error	eWinsta_BC_Error	Indication of communication errors: BC_Not_active BC_OK BC_No_device BC_Telegram_too_long BC_Wrong_Address_received

Graphical illustration:**Function description:**

The **FbWinsta_BC_Box** function module activates *WINSTA*[®] sunblind boxes. The module provides the following control functions:

- UP/DOWN operating command and lamella shift
- Adjustable time for a brief button push
- Group move command for all drives connected to a box
- Acknowledgement of the sunblind position
- Acknowledgement of a communication failure

This module may only be used with the *WINSTA*[®]-BC-Master module (FbWinsta_BC_Master). The two modules are synchronized by means of the "**typWinsta_BC_Joblist**" variable structure, which must be made available to both modules.

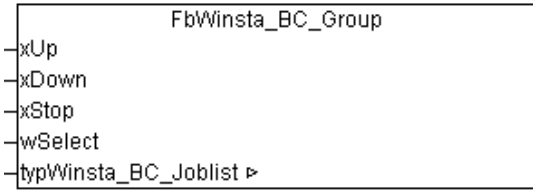
The drives are controlled by two button inputs "**XUp_n**" and "**xDown_n**." An extended button press on one of these inputs (longer than the configured time "**tShortPushButton**") causes the motor to move to the upper or lower end position. If the input signal is shorter than the configured time, a telegram indicating lamella shift is sent. With a moving drive, this can be stopped with a brief button push, a long button push causes a reversing of the drive.

The central control of the four drives occurs via the button inputs "**xBox_Up**," "**xBox_Down**," and "**xBox_Stop**." The drives move to the selected end position or they stop. This function is not suitable for moving security positions. The moving of security positions must be realized through the module "FvWinsta_VC_Group."


The output "**eWinsta_BC_Position_n**" delivers the state of the respective sunblind drive as an acknowledgement.

The output "**eWinsta_BC_Error**" delivers information about the correct communication with the sunblind box. This information can be used, e.g. for central error messages.

Group Activation (FbWinsta_BC_Group)

WAGO-I/O-PRO CAA Library Elements		
Category:	Building automation	
Name:	FbWinsta_BC_Group	
Type:	Function <input type="checkbox"/>	Function block <input checked="" type="checkbox"/> Program <input type="checkbox"/>
Name of library:	Winsta_BC_01.lib	
Applicable to:	See release note	
Input parameter:	Data type:	Comment:
xUp	BOOL	Command sunblind UP
xDown	BOOL	Command sunblind DOWN
xStop	BOOL	Command sunblind STOP
wSelect	WORD	Selection of the boxes to be addressed
Input/output parameter:	Data type:	Comment:
typWinsta_BC_Joblist	typWinsta_BC_Joblist	Winsta_BC send and receive data
Graphical illustration:		
		
Function description:		
<p>The FbWinsta_BC_Group function module activates several <i>WINSTA</i>[®] sunblind boxes. The module provides the following control functions:</p> <ul style="list-style-type: none"> • Move command UP / DOWN / STOP • Selection of the boxes to be addressed <p>This module may only be used with the <i>WINSTA</i>[®]-BC-Master module (FbWinsta_BC_Master). The two modules are synchronized by means of the "typWinsta_BC_Joblist" variable structure, which must be made available to both modules.</p> <p>A signal to the inputs "xUp" and "xDown" causes the drives to move into the respectively-selected end position. A permanent signal causes an activation of the boxes by the module "FbWinsta_BC_Box" or by the local button inputs on the box to be suppressed. This function can be used to move from a security position. With a signal on the input "xStop," the sunblinds can be stopped prematurely.</p> <p>The input "wSelect" enables the selection of the boxes to be addressed.</p> <p>Example:</p> <p>2#0000_0000_0000_0001 The box with the address 1 is addressed.</p> <p>2#0000_0000_0011_1001 The boxes with the addresses 1, 4, 5, and 5 are addressed.</p>		

Sun Protection (FbWinsta_BC_Position)

WAGO-I/O-PRO CAA Library Elements		
Category:	Building Automation	
Name:	FbWinsta_BC_Position	
Type:	Function <input type="checkbox"/>	Function block <input checked="" type="checkbox"/> Program <input type="checkbox"/>
Name of library:	Winsta_BC_02.lib	
Applicable to:	See release note	
Input parameter:		
Data type:	Comment:	
xMoveToShadowPosition	BOOL	Command to move sunblind to shadow position
wSelect	WORD	Selection of the boxes to be addressed
typWinsta_BC_Position	typWinsta_BC_Position	Sun protection and position settings
-----	-----	-----
.xAutoMoveUp	BOOL	Automatically move to UP position after completion of sun protection function Default setting = TRUE
.xBlindFromTop	BOOL	Performs a reference motion to the top prior to positioning Default setting = FALSE
.tMoveUp	TIME	Time for reference motion to the top Default setting = t#4m
.tMoveDown	TIME	Time for moving to shadow position Default setting = t#2m
.tTurnUp	TIME	Time for turning slats up Default = t#500ms
Input/output parameter:		
Data type:	Comment:	
typWinsta_BC_Joblist	typWinsta_BC_Joblist	Winsta_BC send and receive data
Return value:		
Data type:	Comment:	
xReady	BOOL	Sun protection positioning is complete.
Graphical illustration:		
		

Function description:

The **FbWinsta_BC_Position** function block centrally controls several **WINSTA[®]** sunblind boxes in an adjustable shadow position.

The function block may only be used together with the **WINSTA[®]-BC-Master** function block (FbWinsta_BC_Master). The two function blocks are synchronized via "**typWinsta_BC_Joblist**" variable structure, which must be made available to both function blocks.

The "**xMoveToShadowPosition**" input is primarily used to bring the sunblind into a shadow position. A TRUE signal on this input causes the drives to move to the configured shadow position and then adjust the slats for the time configured. A configuration can also be made to determine whether the motor should move to the upper end position in the case of a falling edge at the "**xMoveToShadowPosition**" input.

The input "**wSelect**" enables the selection of the boxes to be addressed.

Example:

2#0000_0000_0000_0001 The box with the address 1 is addressed.

2#0000_0000_0011_1001 The boxes with the addresses 1, 4, 5, and 5 are addressed.

The "**typWinsta_BC_Position**" input variable contains all required configuration parameters for the shadow position:

- "**typWinsta_BC_Position.xAutoMoveUp**" determines whether the sun protection should be moved to the UP position in the case of a falling edge at the "**xMoveToShadowPosition**" input, or whether the shadow position should remain unchanged.
- "**typWinsta_BC_Position.xBlindFromTop**" determines whether all drives should be moved up from a position for the "**typWinsta_BC_Position.tMoveUp**" time.
- "**typWinsta_BC_Position.tMoveDown**" determines the time for the drives to move to the required shadow position.
- "**typWinsta_BC_Position.tTurnUp**" determines how long the slats should be turned up after the position has been reached.

The "**xReady**" output shows when the position has been reached, and when the slats are turned up.

Notes:

- Moving to the shadow position is only possible within the parameterized times, without current position polling. Therefore, the position reached by the drives via local switches prior to positioning is lower than the target position. To achieve uniform positions, the drives should be moved to the upper final position prior to positioning (**xBlindFromTop = TRUE**).
- The "**typWinsta_BC_Position**" structure should be declared **RETAIN PERISISTENT**, so that set parameters are retained after a controller reset or a program download.



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