



ABB i-bus[®] KNX Blind/Roller Shutter Actuator JRA/S Product Manual

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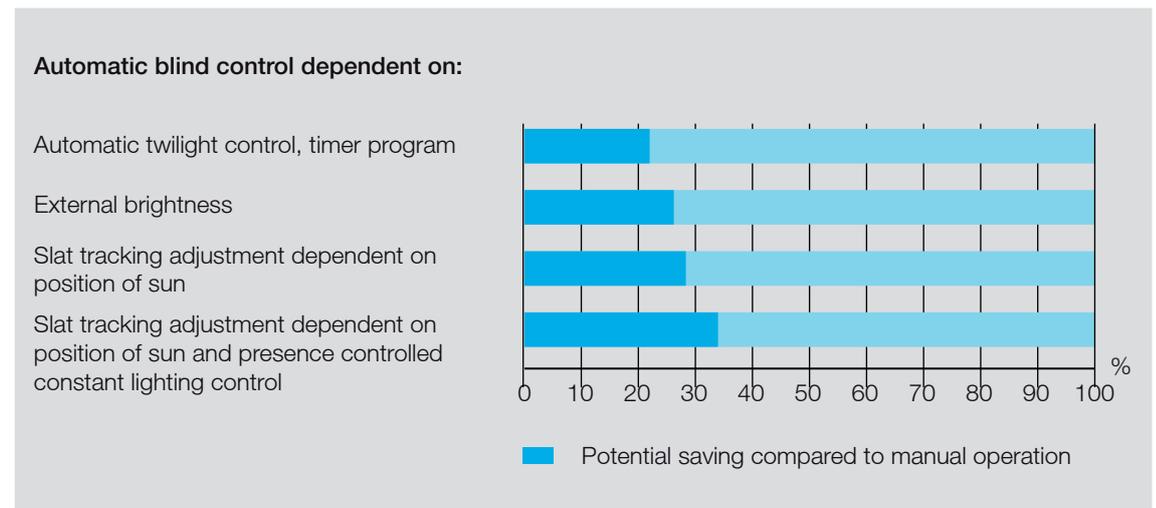
1 General

Modern building installation enables a high degree of functionality and simultaneously complies with increased security requirements. Due to the structured installation of the electrical components, it is possible to carry out rapid planning, installation and set-up as well as achieve cost benefits during operation.

Sun protection devices are subjected to a whole range of demands:

- Anti-glare protection, e.g. PC workstations
- Utilization of daylight by tracking the sun's position and directing available daylight
- Protecting furniture and carpets from fading,
- Regulating the room temperature (overheating protection in summer; harvesting the available energy on cold days)
- Providing protection from people looking in from the outside
- Protection against intruders.

The role of protection against the sun in buildings is increasing in significance due to increasing energy costs and statutory regulations. With intelligent and automated control via ABB i-bus[®] KNX, the Blind/Roller Shutter Actuators JRA/S play a significant role in the energy efficiency of all kinds of buildings. The potential savings for cooling using automatic blind control were presented in a study by the Biberach University of Applied Sciences:



* Determined by the Biberach University of Applied Sciences with ABB[®] KNX components for usage profile open-plan office (usage profile 3 [DIN V 18599-10:2005-07]) in an example building (classical office building) with the 5S IBP:18599 program. The potential savings relate to the energy consumption. The research results are included in the study Energy saving and efficiency potential through the use of bus technology as well as room and building automation, which was undertaken in 2008 for ABB STOTZ-KONTAKT GmbH and Busch-Jaeger Elektro GmbH.

Ventilation of rooms or buildings is becoming increasingly important due to the increased density of building shells. Fresh air provides a pleasant climate in rooms. Ventilation exchanges the stale air with oxygen-rich air and removes unpleasant odours from the room. The control of devices and equipment for supplying fresh air using motors is particularly advantageous where the ventilation openings are not manually accessible (e.g. fanlights on the ceiling, ventilation flaps in the upper corner of the room or vertical windows in rooms with high ceilings). Automatic control is beneficial in rooms that are not used continuously but still need to be ventilated regularly.

The Blind/Roller Shutter Actuators JRA/S facilitate complex demands on modern sun protection and ventilation control systems, without sacrificing comfort, cost-effectiveness and safety.

1.1 Using the product manual

This manual provides you with detailed technical information relating to the function, installation and programming of the ABB i-bus[®] KNX Blind/Roller Shutter Actuators. The application of the device is explained using examples.

This manual is divided into the following sections:

Chapter 1	General
Chapter 2	Device technology
Chapter 3	Commissioning
Chapter 4	Planning and application
Chapter A	Appendix

1.1.1 Structure of the product manual

All parameters are initially described in chapter 3. Directly following the parameter descriptions, you can find descriptions for the communication objects.

The functions of the Blind/Roller Shutter Actuators JRA/S x.y.5.1 with travel detection and manual operation are explained using the operation mode *control with slat adjustment*. On device types JRA/S x.y.2.1 and JRA/S x.y.1.1, there are fewer parameters as well as the corresponding communication objects.

- JRA/S x.y.2.1 does not feature a travel detection function.
- JRA/S x.y.1.1 does not feature manual operation and does not feature a travel detection function.

Parameters or communication objects, which are not available or only available in operation mode *control without slat adjustment*, are indicated accordingly.

Note

The device features several outputs. However, as the functions for all outputs are identical, only the functions of output A will be described.

1.1.2

Notes

Notes and safety instructions are represented as follows in this manual:

Note
Tips for usage and operation

Examples
Application examples, installation examples, programming examples

Important
These safety instructions are used as soon as there is danger of a malfunction without risk of damage or injury.

Caution
These safety instructions are used if there is a danger of damage with inappropriate use.

 Danger
These safety instructions are used if there is a danger for life and limb with inappropriate use.

 Danger
These safety instructions are used if there is a danger to life with inappropriate use.

1.2 Product and functional overview

The ABB i-bus[®] Blind/Roller Shutter Actuators are modular installation devices in Pro *M* design for installation in a distribution board.

The devices are used for control of motors (230 V AC / 24 V DC) with sun protection products, such as blinds, roller shutters, Venetian blinds, awnings, roller blinds, curtains, vertical blinds, etc. The control of blinds/shutters via electrical drives saves the user not just manual raising and lowering of the blinds/shutters, but also enables fully automatic control. This type of control takes into consideration the time of day, the strength of the sunlight, the temperature conditions, the wind force etc. The shutter/blind is positioned in accordance with these factors. The user can also adjust this position manually to match individual requirements more precisely.

The devices are also ideal for the control of ventilation flaps, skylights, doors, gates and other products that can be controlled via a drive.

The Blind/Roller Shutter Actuators are powered via the ABB i-bus[®] KNX and do not require an additional power supply. The connection to the KNX is implemented using the bus connection terminal.

The device variants with manual operation JRA/S X.230.2.1 also feature push buttons on the device front. The connected drive manually adjusts the blinds/shutters connected to the drive, e.g. move UP/DOWN, STOP and slat adjustment UP/DOWN in steps. The front mounted LEDs indicate the current direction of movement or the current end position and status.

The device variants JRA/S X.230.5.1 and JRA/S 4.24.5.1 also feature manual operation via automatic travel detection via current detection.

The output contacts for the UP and DOWN directions of motion are electro-mechanically mutually interlocked on all 230 V AC Blind/Roller Shutter Actuators. Simultaneous application of voltage would lead to destruction of the drives. The electro-mechanical interlocking feature ensures that both contacts can never have an applied voltage at the same time. The reversing delay when the direction changes can be set using parameters.

The reaction on bus voltage failure and recovery as well as programming can be set individually.

Type designation

Example JRA/S 4.230.5.1

JRA/S	w	x	y	z
Number of outputs	4			
Nominal voltage		230		
Hardware properties			5	
Version				1

w: Number of outputs (2, 4 or 8)

x: Rated voltage (24 V or 230 V)

y: Hardware properties

1 = standard

2 = with manual operation

5 = with automatic travel detection and manual operation

z: Hardware version

2 Device Technology

2.1 JRA/S X.230.5.1 Blind/Roller Shutter Actuators with travel detection and manual operation x-fold, 230 V, MDRC



JRA/S 8.230.5.1

2CDC 071 018 S0011

The 2-fold, 4-fold and 8-fold Blind/Roller Shutter Actuators are used to automatically control independent 230 V AC drives, for positioning blinds, roller shutters, awnings and other shading products via ABB i-bus® KNX. The devices are also used, for example, to control doors, windows and ventilation flaps. The travel times of the drives are automatically determined via end position detection and stored.

The output contacts are mechanically interlocked, so that voltage cannot be applied to both contacts at the same time.

The outputs can be directly controlled on the device using the manual push buttons. The LEDs on the front of the device signal the status of the outputs. The devices do not require an auxiliary voltage.

Individual outputs can be copied or exchanged to reduce the programming effort.

The Blind/Roller Shutter Actuator is a modular installation device for installation in the distribution board on 35 mm mounting rails. The connection to the ABB i-bus® is implemented via bus connection terminals.

2.1.1 Technical data

Supply	Operating voltage	21...30 V DC, via KNX		
	Current consumption KNX	< 12 mA		
	Power consumption KNX	maximum 250 mW		
Outputs	JRA/S Type	2.230.5.1	4.230.5.1	8.230.5.1
	Number of outputs UP/DOWN	2*	4	8
		(mutually mechanically interlocked)		
		* independent outputs, each with up to 2 drives operating in parallel.		
	U _N rated voltage	maximum 230 V AC, 45 ... 65 Hz		
	I _N rated current	6 A		
	Current detection for travel detection	> 300 mA		
	Maximum switching current	6 A (AC1/AC3) at 230 V AC or 6 A (AC1/AC3) at 400 V AC		
	Minimum switching current	100 mA at 5 V or 10 mA at 10 V or 1 mA at 24 V		
	Leakage loss per device at max. load	< 2 W	< 2 W	< 4 W
Connections	Drives (terminals output A...X)	2 universal head screw terminals per output (UP/DOWN)		
	Phase L1...L3 (terminal U _N)	2 or 4 universal head screw terminals single-core 0.2...6 mm ² , stranded 0.2...4 mm ²		
	Screw terminal conductor cross-section	Flexible with ferrules without/with plastic sleeves 0.25...4 mm ²		
	Tightening torque	maximum 0.6 Nm		
	ABB i-bus® KNX	Bus connection terminal (black/red), 0.8 mm Ø, single-core		

ABB i-bus[®] KNX Device Technology

Operating and display elements	Button/LED 	For assignment of the physical address		
	Button  and LED 	For toggling between manual operation/operation via ABB i-bus [®] and displays		
	Buttons   and LEDs  	For control (move UP/DOWN, slat OPEN/CLOSE) of the output and status display		
Enclosure	IP 20	To EN 60 529		
Safety class	II, in the installed state	To EN 61 140		
Isolation category	Overvoltage category	III to EN 60 664-1		
	Pollution degree	2 to EN 60 664-1		
KNX safety extra low voltage	SELV 24 V DC			
Temperature range	Operation	-20 °C...+45 °C		
	Storage	-25 °C...+55 °C		
	Transport	-25 °C...+70 °C		
Ambient conditions	Maximum air humidity	93 %, no condensation allowed		
Design	Modular installation device (MDRC)	Modular installation device, Pro <i>M</i>		
	Dimensions (H x W x D) in mm; JRA/S Type	2.230.5.1	4.230.5.1	8.230.5.1
	- Height	90	90	90
	- Width	72	72	144
	- Depth	64.5	64.5	64.5
	Mounting width in space units (modules at 18 mm)	4	4	8
	Mounting depth	64.5	64.5	64.5
Weight without packaging	JRA/S Type	2.230.5.1	4.230.5.1	8.230.5.1
	Weight in kg	0.2	0.25	0.45
Installation	On 35 mm mounting rail	To EN 60 715		
Mounting position	As required			
Housing/colour	Plastic housing, grey	Halogen free		
Approvals	KNX to EN 50 090-1, -2	Certification		
CE mark	In accordance with the EMC guideline and low voltage guideline			

ABB i-bus[®] KNX Device Technology

Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum number of associations
JRA/S 2.230.5.1	Blind/Roller Shutter 2f 230V Travel Detection M/...*	69	255	255
JRA/S 4.230.5.1	Blind/Roller Shutter 4f 230V Travel Detection M/...*	129	255	255
JRA/S 8.230.5.1	Blind/Roller Shutter 8f 230V Travel Detection M/...*	249	255	255

* ... = current version number of the application program. **Please observe the software information on our homepage for this purpose.**

Note

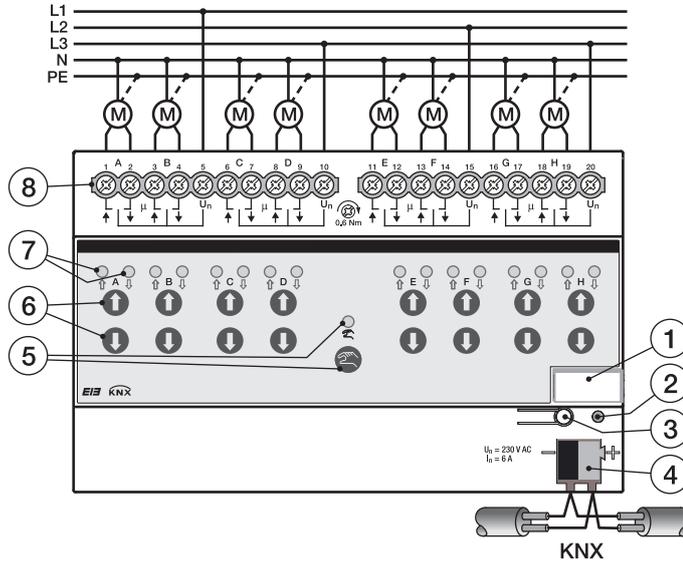
The ETS and the current version of the device application program are required for programming. The current version of the application program is available for download on the internet at www.abb.com/knx. After import in the ETS, it is available in the ETS under *ABB/Shutter/Switch*. The device does not support the closing function of a KNX device in the ETS. If you inhibit access to all devices of the project with a *BCU code*, it has no effect on this device. Reading out data and programming is still possible.

Important

When electronic drives are used, the closed circuit current may not exceed 150 mA, as otherwise the automatic travel detection function may not function correctly. In this case, the travel times for the drives must be determined manually and entered into the ETS parameter.

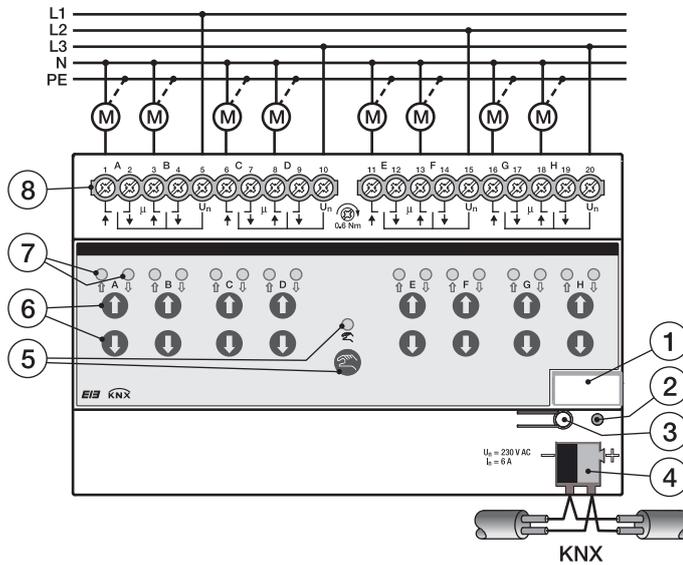
2.1.2 Connection schematics JRA/S X.230.5.1

Connection to the blind and roller shutter drives



2CDC 072 036 F0010

Connection to ventilation flaps

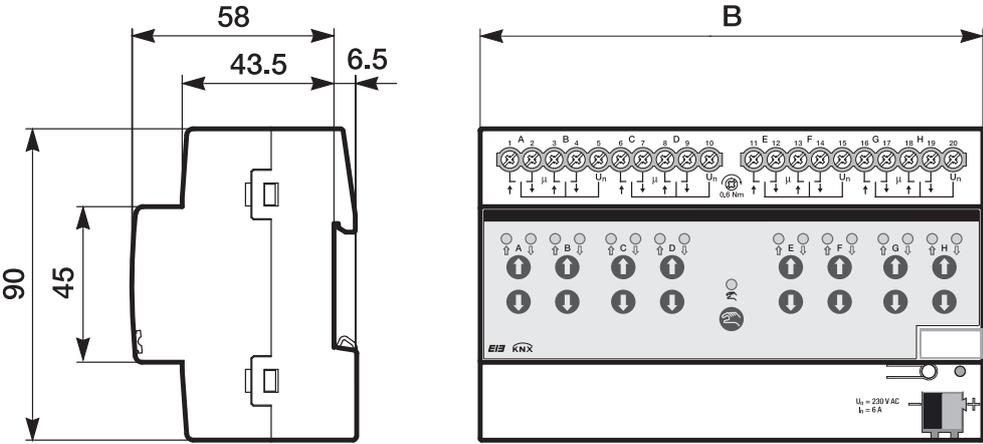


2CDC 072 034 F0010

- 1 Label carrier
- 2 LED ●
- 3 Button
- 4 Bus connection terminal ABB i-bus[®] KNX
- 5 Button and LED
- 6 Button (2 per output)
- 7 LEDs (2 per output)
- 8 Screw terminals (UP/DOWN, Phase L)

ABB i-bus[®] KNX Device Technology

2.1.3 Dimension drawing JRA/S X.230.5.1



	JRA/S 2.230.5.1	JRA/S 4.230.5.1	JRA/S 8.230.5.1
B	72	72	144

2.2 JRA/S 4.24.5.1 Blind/Roller Shutter Actuators with travel detection and manual operation 4-fold, 24 V DC, MDRC



2CDC 071 019 S0011

The 4-fold Blind/Roller Shutter Actuator is used to automatically control independent 24 V DC drives, for positioning blinds, roller shutters, awnings and other shading products via ABB i-bus® KNX. The devices are also used, for example, to control doors, windows and ventilation flaps. The travel times of the drives are automatically determined via end position detection and stored.

The devices do not require an auxiliary voltage.

The outputs can be directly controlled on the device using the manual push buttons. The LEDs on the front of the device signal the status of the outputs.

Individual outputs can be copied or exchanged to reduce the programming effort.

The Blind/Roller Shutter Actuator is a modular installation device for installation in the distribution board on 35 mm mounting rails. The connection to the ABB i-bus® is implemented via bus connection terminals.

JRA/S 4.24.5.1

2.2.1 Technical data

Supply	Operating voltage	21...30 V DC, via KNX
	Current consumption KNX	< 12 mA
	Power consumption KNX	maximum 250 mW
Outputs	Number of outputs (UP/DOWN or +/-)	4
	Potential distribution with UP/DOWN telegram:	
	Output	A B C D
	Terminal No.	1 2 3 4 6 7 8 9
	Potential at DOWN telegram	- + - + - + - +
	Potential at UP telegram	+ - + - + - + -
	U_N rated voltage	maximum 24 V DC
	I_N rated current	6 A
	Current detection for travel detection	> 300 mA
	Maximum switching current	6 A (AC1/AC3) at 230 V AC or 6 A (AC1/AC3) at 400 V AC
Minimum switching current	100 mA at 5 V or 10 mA at 10 V or 1 mA at 24 V	
Leakage loss per device at max. load	< 4 W	
Connections	Drives (terminals output A...X)	2 universal head screw terminals per output (UP/DOWN)
	Load circuit (+/-)	2 universal head screw terminals single-core 0.2...6 mm ² , stranded 0.2...4 mm ²
	Screw terminal conductor cross-section	Flexible with ferrules without/with plastic sleeves 0.25...4 mm ²
	Tightening torque	maximum 0.6 Nm
ABB i-bus® KNX	Bus connection terminal (black/red), 0.8 mm Ø, single-core	

ABB i-bus[®] KNX Device Technology

Operating and display elements	<p>Button/LED </p> <p>Button  and LED </p> <p>Buttons   and LEDs  </p> <p>Two buttons and LEDs per output</p>	<p>For assignment of the physical address</p> <p>For toggling between manual operation/operation via ABB i-bus[®] and displays</p> <p>For control (move UP/DOWN, slat OPEN/CLOSE) of the output and status display</p>
Enclosure	IP 20	To EN 60 529
Safety class	II, in the installed state	To EN 61 140
Isolation category	Overvoltage category	III to EN 60 664-1
	Pollution degree	2 to EN 60 664-1
KNX safety extra low voltage	SELV 24 V DC	
Temperature range	Operation	-20 °C...+45 °C
	Storage	-25 °C...+55 °C
	Transport	-25 °C...+70 °C
Ambient conditions	Maximum air humidity	93 %, no condensation allowed
Design	Modular installation device (MDRC)	Modular installation device, Pro <i>M</i>
	Dimensions (H x W x D) in mm	90 x 72 x 64.5
	Mounting width in space units (modules at 18 mm)	4
	Mounting depth	64.5
Weight without packaging	in kg	0.25
Installation	On 35 mm mounting rail	To EN 60 715
Mounting position	As required	
Housing/colour	Plastic housing, grey	Halogen free
Approvals	KNX to EN 50 090-1, -2	Certification
CE mark	In accordance with the EMC guideline and low voltage guideline	

Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum number of associations
JRA/S 4.24.5.1	Blind/Roller Shutter 4f 24V Travel Detection M/...*	129	255	255

* ... = current version number of the application program. **Please observe the software information on our homepage for this purpose.**

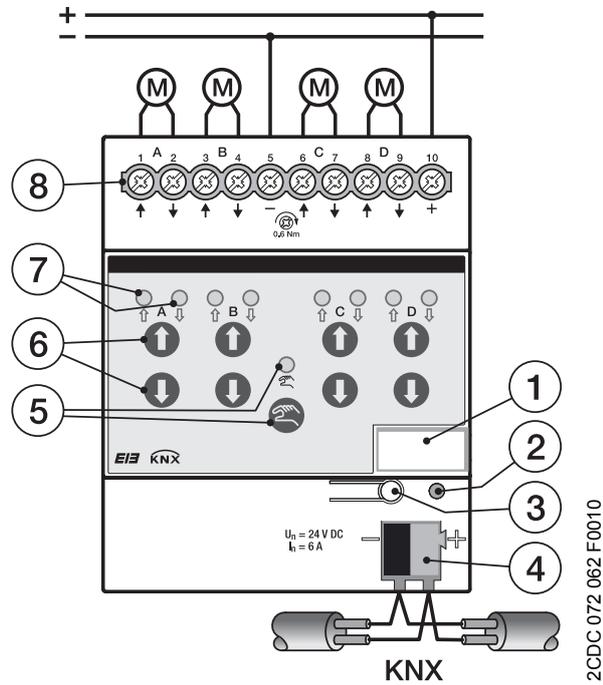
Note

The ETS and the current version of the device application program are required for programming. The current version of the application program is available for download on the internet at www.abb.com/knx. After import in the ETS, it is available in the ETS under *ABB/Shutter/Switch*. The device does not support the closing function of a KNX device in the ETS. If you inhibit access to all devices of the project with a *BCU code*, it has no effect on this device. Reading out data and programming is still possible.

Important

When electronic drives are used, the closed circuit current may not exceed 150 mA, as otherwise the automatic travel detection function may not function correctly. In this case, the travel times for the drives must be determined manually and entered into the ETS parameters.

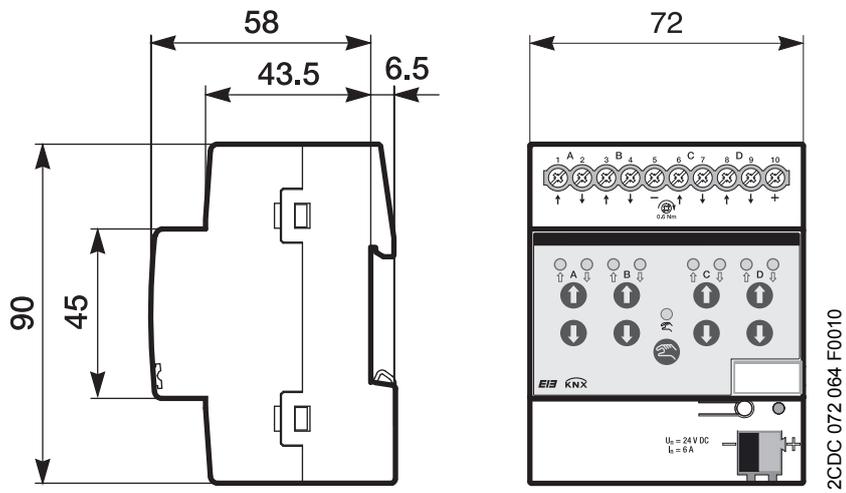
2.2.2 Circuit diagram JRA/S 4.24.5.1



2CDC 072 062 F0010

- 1 Label carrier
- 2 LED ●
- 3 Button 
- 4 Bus connection terminal ABB i-bus® KNX
- 5 Button  and LED 
- 6 Button   (2 per output)
- 7 LEDs   (2 per output)
- 8 Screw terminals (UP/DOWN, U_N)

2.2.3 Dimension drawing JRA/S 4.24.5.1



2.3 JRA/S X.230.2.1 Blind/Roller Shutter Actuators with manual operation x-fold, 230 V, MDRC



2CDC 071 015 S0011

JRA/S 8.230.2.1

The 2-fold, 4-fold and 8-fold Blind/Roller Shutter Actuators with manual operation are used to control independent 230 V AC drives, for positioning blinds, roller shutters, awnings and other shading products via ABB i-bus® KNX. The devices are also used, for example, to control doors, windows and ventilation flaps.

The output contacts are mechanically interlocked, so that voltage cannot be applied to both contacts at the same time.

The devices do not require an auxiliary voltage.

The outputs can be directly controlled on the device using the manual push buttons. The LEDs on the front of the device signal the status of the outputs.

Individual outputs can be copied or exchanged to reduce the programming effort.

The Blind/Roller Shutter Actuator is a modular installation device for installation in the distribution board on 35 mm mounting rails. The connection to the ABB i-bus® is implemented via bus connection terminals.

2.3.1 Technical data

Supply	Operating voltage	21...30 V DC, via KNX		
	Current consumption KNX	< 12 mA		
	Power consumption KNX	maximum 250 mW		
Outputs	JRA/S Type	2.230.2.1	4.230.2.1	8.230.2.1
	Number of outputs UP/DOWN	2*	4	8
		(mutually mechanically interlocked)		
		* independent outputs, each with up to 2 drives operating in parallel.		
	U _N rated voltage	maximum 230 V AC, 45 ... 65 Hz		
	I _N rated current	6 A		
	Maximum switching current	6 A (AC1/AC3) at 230 V AC or 6 A (AC1/AC3) at 400 V AC		
	Minimum switching current	100 mA at 5 V or 10 mA at 10 V or 1 mA at 24 V		
	Leakage loss per device at max. load	< 2 W	< 2 W	< 4 W
	Connections	Drives (terminals output A...X)	2 universal head screw terminals per output (UP/DOWN)	
Phase L1...L3 (terminal U _N)		2 or 4 universal head screw terminals single-core 0.2...6 mm ² , stranded 0.2...4 mm ²		
Screw terminal conductor cross-section		Flexible with ferrules without/with plastic sleeves 0.25...4 mm ²		
Tightening torque		maximum 0.6 Nm		
ABB i-bus® KNX		Bus connection terminal (black/red), 0.8 mm Ø, single-core		

ABB i-bus® KNX Device Technology

Operating and display elements	Button/LED 	For assignment of the physical address		
	Button  and LED 	For toggling between manual operation/operation via ABB i-bus® and displays		
	Buttons   and LEDs  A 	For control (move UP/DOWN, slat OPEN/CLOSE) of the output and status display		
Enclosure	IP 20	To EN 60 529		
Safety class	II, in the installed state	To EN 61 140		
Isolation category	Overvoltage category	III to EN 60 664-1		
	Pollution degree	2 to EN 60 664-1		
KNX safety extra low voltage	SELV 24 V DC			
Temperature range	Operation	-20 °C...+45 °C		
	Storage	-25 °C...+55 °C		
	Transport	-25 °C...+70 °C		
Ambient conditions	Maximum air humidity	93 %, no condensation allowed		
Design	Modular installation device (MDRC)	Modular installation device, Pro M		
	Dimensions (H x W x D) in mm; JRA/S Type	2.230.2.1	4.230.2.1	8.230.2.1
	- Height	90	90	90
	- Width	72	72	144
	- Depth	64.5	64.5	64.5
	Mounting width in space units (modules at 18 mm)	4	4	8
	Mounting depth	64.5	64.5	64.5
Weight without packaging	JRA/S Type	2.230.2.1	4.230.2.1	8.230.2.1
	Weight in kg	0.2	0.25	0.45
Installation	On 35 mm mounting rail	To EN 60 715		
Mounting position	As required			
Housing/colour	Plastic housing, grey	Halogen free		
Approvals	KNX to EN 50 090-1, -2	Certification		
CE mark	In accordance with the EMC guideline and low voltage guideline			

ABB i-bus[®] KNX Device Technology

Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum number of associations
JRA/S 2.230.2.1	Blind/Roller Shutter 2f 230V M/...*	69	255	255
JRA/S 4.230.2.1	Blind/Roller Shutter 4f 230V M/...*	129	255	255
JRA/S 8.230.2.1	Blind/Roller Shutter 8f 230V M/...*	249	255	255

* ... = current version number of the application program. **Please observe the software information on our homepage for this purpose.**

Note

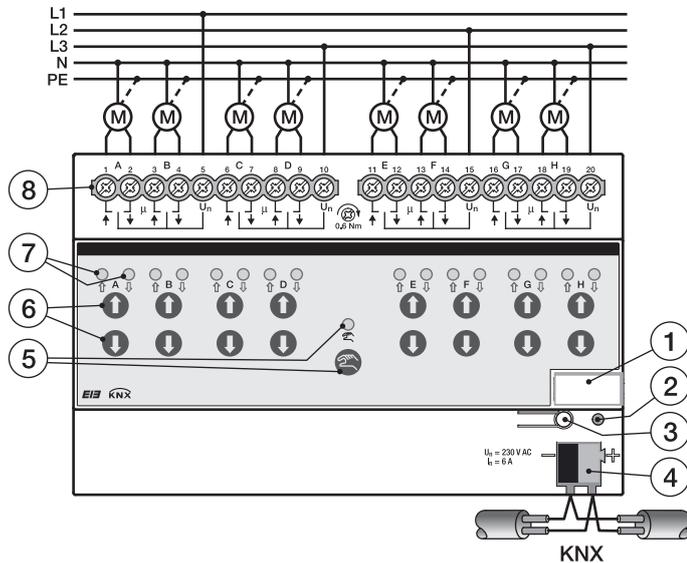
The ETS and the current version of the device application program are required for programming. The current version of the application program is available for download on the internet at www.abb.com/knx. After import in the ETS, it is available in the ETS under *ABB/Shutter/Switch*. The device does not support the closing function of a KNX device in the ETS. If you inhibit access to all devices of the project with a *BCU code*, it has no effect on this device. Reading out data and programming is still possible.

Important

When electronic drives are used, the closed circuit current may not exceed 150 mA, as otherwise the automatic travel detection function may not function correctly. In this case, the travel times for the drives must be determined manually and entered into the ETS parameters.

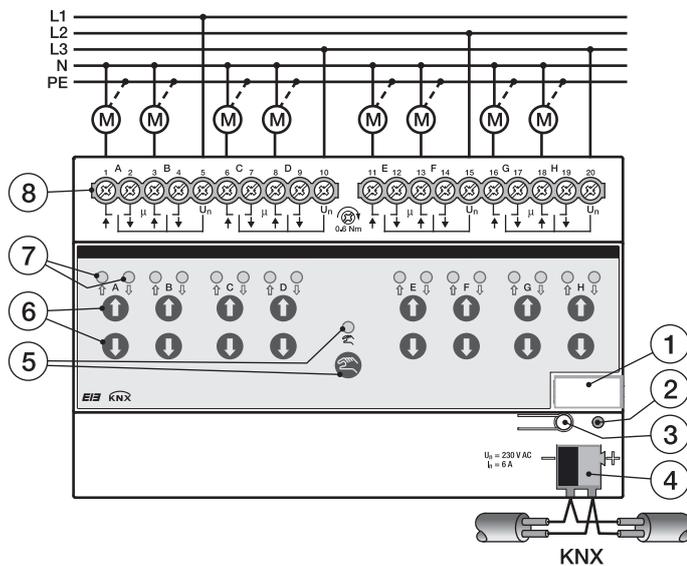
2.3.2 Connection schematic JRA/S X.230.2.1

Connection to the blind and roller shutter drives



2CDC 072 048 F0010

Connection to ventilation flaps

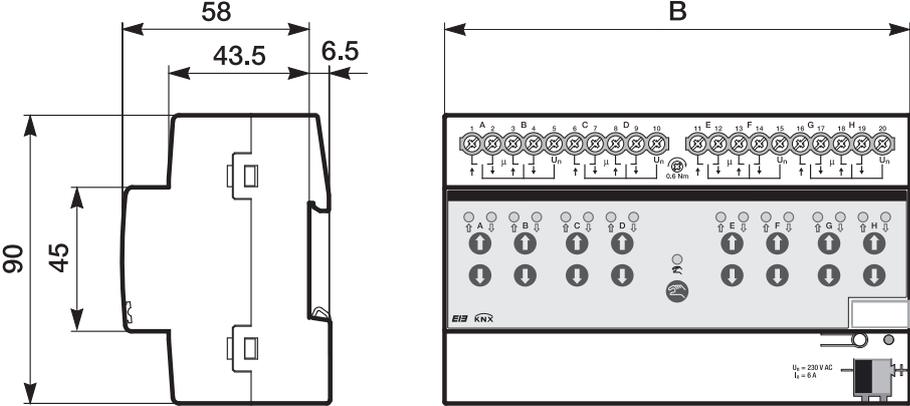


2CDC 072 046 F0010

- 1 Label carrier
- 2 LED ●
- 3 Button
- 4 Bus connection terminal ABB i-bus® KNX
- 5 Button and LED
- 6 Button (2 per output)
- 7 LEDs (2 per output)
- 8 Screw terminals (UP/DOWN, Phase L)

ABB i-bus® KNX Device Technology

2.3.3 Dimension drawing JRA/S X.230.2.1



2CDC 072 068 F0010

	JRA/S 2.230.2.1	JRA/S 4.230.2.1	JRA/S 8.230.2.1
B	72	72	144

2.4 JRA/S X.230.1.1 Blind/Roller Shutter Actuators x-fold, 230 V, MDRC



JRA/S 8.230.1.1

2CDC 071 012 S0011

The 2-fold, 4-fold and 8-fold Blind/Roller Shutter Actuators are used to control independent 230 V AC drives, for positioning blinds, roller shutters, awnings and other shading products via ABB i-bus® KNX. The devices are also used, for example, to control doors, windows and ventilation flaps.

The output contacts are mechanically interlocked, so that voltage cannot be applied to both contacts at the same time.

The devices do not require an auxiliary voltage.

Individual outputs can be copied or exchanged to reduce the programming effort.

The Blind/Roller Shutter Actuator is a modular installation device for installation in the distribution board on 35 mm mounting rails. The connection to the ABB i-bus® is implemented via bus connection terminals.

2.4.1 Technical data

Supply	Operating voltage	21...30 V DC, via KNX		
	Current consumption KNX	< 12 mA		
	Power consumption KNX	maximum 250 mW		
Outputs	JRA/S Type	2.230.1.1	4.230.1.1	8.230.1.1
	Number of outputs UP/DOWN	2*	4	8
		(mutually mechanically interlocked)		
		* independent outputs, each with up to 2 drives operating in parallel.		
	U _N rated voltage	maximum 230 V AC, 45 ... 65 Hz		
	I _N rated current	6 A		
	Maximum switching current	6 A (AC1/AC3) at 230 V AC or 6 A (AC1/AC3) at 400 V AC		
	Minimum switching current	100 mA at 5 V or 10 mA at 10 V or 1 mA at 24 V		
	Leakage loss per device at max. load	< 2 W	< 2 W	< 4 W
	Connections	Drives (terminals output A...X)	2 universal head screw terminals per output (UP/DOWN)	
Phase L1...L3 (terminal U _N)		2 or 4 universal head screw terminals single-core 0.2...6 mm ² , stranded 0.2...4 mm ²		
Screw terminal conductor cross-section		Flexible with ferrules without/with plastic sleeves 0.25...4 mm ²		
Tightening torque		maximum 0.6 Nm		
	ABB i-bus® KNX	Bus connection terminal (black/red), 0.8 mm Ø, single-core		

ABB i-bus[®] KNX Device Technology

Operating and display elements	Button/LED  •	For assignment of the physical address		
Enclosure	IP 20	To EN 60 529		
Safety class	II, in the installed state	To EN 61 140		
Isolation category	Overvoltage category Pollution degree	III to EN 60 664-1 2 to EN 60 664-1		
KNX safety extra low voltage	SELV 24 V DC			
Temperature range	Operation Storage Transport	-20 °C...+45 °C -25 °C...+55 °C -25 °C...+70 °C		
Ambient conditions	Maximum air humidity	93 %, no condensation allowed		
Design	Modular installation device (MDRC)	Modular installation device, Pro <i>M</i>		
	Dimensions (H x W x D) in mm; JRA/S Type	2.230.1.1	4.230.1.1	8.230.1.1
	- Height	90	90	90
	- Width	72	72	144
	- Depth	64.5	64.5	64.5
	Mounting width in space units (modules at 18 mm)	4	4	8
	Mounting depth	64.5	64.5	64.5
Weight without packaging	JRA/S Type	2.230.1.1	4.230.1.1	8.230.1.1
	Weight in kg	0.2	0.25	0.45
Installation	On 35 mm mounting rail	To EN 60 715		
Mounting position	As required			
Housing/colour	Plastic housing, grey	Halogen free		
Approvals	KNX to EN 50 090-1, -2	Certification		
CE mark	In accordance with the EMC guideline and low voltage guideline			

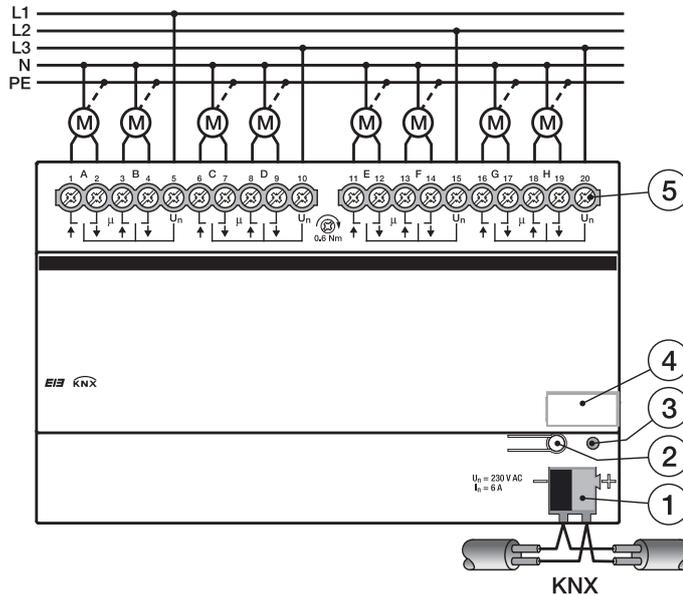
Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum number of associations
JRA/S 2.230.1.1	Blind/Roller Shutter 2f 230V	67	255	255
JRA/S 4.230.1.1	Blind/Roller Shutter 4f 230V...*	127	255	255
JRA/S 8.230.1.1	Blind/Roller Shutter 8f 230V...*	247	255	255

* ... = current version number of the application program. **Please observe the software information on our homepage for this purpose.**

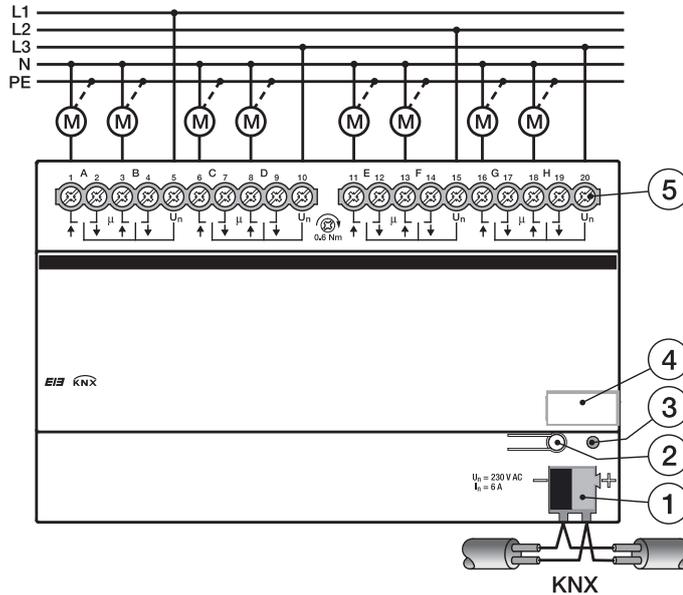
Note
<p>The ETS and the current version of the device application program are required for programming. The current version of the application program is available for download on the internet at www.abb.com/knx. After import in the ETS, it is available in the ETS under <i>ABB/Shutter/Switch</i>. The device does not support the closing function of a KNX device in the ETS. If you inhibit access to all devices of the project with a <i>BCU code</i>, it has no effect on this device. Reading out data and programming is still possible.</p>

2.4.2 Connection schematic JRA/S X.230.1.1

Connection to the blind and roller shutter drives

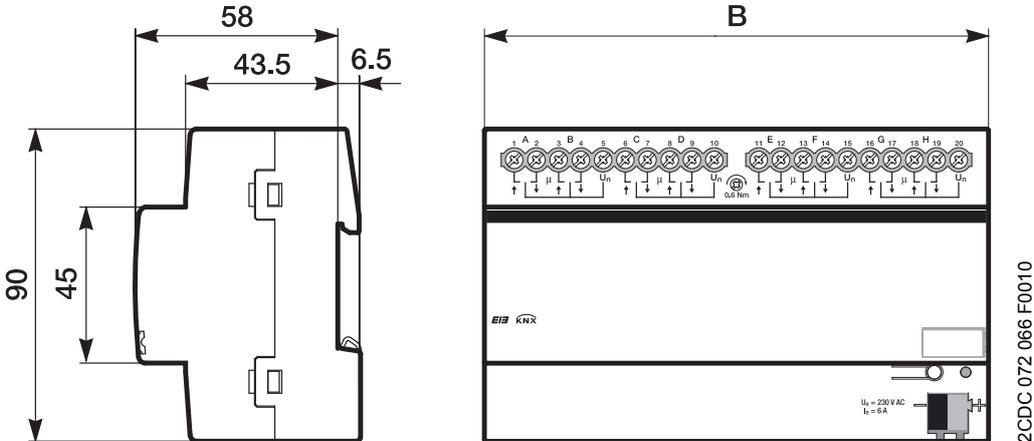


Connection to ventilation flaps



- 1 Bus connection terminal ABB i-bus[®] KNX
- 2 Button 
- 3 LED 
- 4 Label carrier
- 5 Screw terminal

2.4.3 Dimension drawing JRA/S X.230.1.1



	JRA/S 2.230.1.1	JRA/S 4.230.1.1	JRA/S 8.230.1.1
B	72	72	144

2.5 Assembly and installation

The ABB i-bus[®] Blind/Roller Shutter Actuator JRA/S is a modular installation device for quick installation in the distribution board on 35 mm mounting rails to EN 60 715.

The mounting position can be selected as required.

The connection to the bus is implemented using the supplied bus connection terminal.

The electrical connection is implemented using screw terminals. The connection to the bus is implemented using the supplied bus connection terminal. The terminal assignment is located on the housing.

The device is ready for operation after connection to the bus voltage. If bus voltage is not yet available at the time of commissioning, the devices with manual buttons can be supplied with power for manual operation using the Power Supply NTI/Z.

Accessibility to the device for the purpose of operation, testing, visual inspection, maintenance and repair must be provided compliant to VDE 0100-520.

Commissioning requirements

In order to commission the device, a PC with ETS and a KNX interface, e.g. USB or IP, are required. The device is ready for operation after connection to the bus voltage.

The installation and commissioning may only be carried out by qualified electrical specialists. The appropriate norms, guidelines, regulations and specifications for your country should be observed when planning and setting up electrical installations and security systems for intrusion and fire detection.

Protect the device from damp, dirt and damage during transport, storage and operation.

Only operate the device within the specified technical data limits!

The device should only be operated in an enclosed housing (distribution board)!

The voltage supply to the device must be switched off, before mounting work is performed.



Danger

In order to avoid dangerous touch voltages, which originate through feedback from differing phase conductors, all-pole disconnection must be observed when extending or modifying the electrical connections.

Manual operation

The device incorporates manual operating features. Special device functions can be undertaken using the operating keys on the foil keypad.

The foil keypad may not be operated with pointed or sharp-edged objects, e.g. screwdrivers or pens. This may damage the keypad.

Supplied state

The device is supplied with the physical address 15.15.255. The application program is preloaded. It is therefore only necessary to load group addresses and parameters during commissioning.

However, the complete application program can be reloaded if required. A longer downtime may result if the application program is changed or after a discharge.

Assignment of the physical address

The assignment and programming of the physical address is carried out in the ETS.

The device features a *Programming* button for assignment of the physical device address. The red *Programming* LED lights up, after the button has been pushed. It switches off, as soon as the ETS has assigned the physical address or the *Programming* button is pressed again.

Cleaning

If devices become dirty, they can be cleaned using a dry cloth or a cloth dampened with a soapy solution. Corrosive agents or solutions should never be used.

Download behaviour

Depending on the PC, which is used, the progress bar for the download may take up to one and a half minutes, before it appears, due to the complexity of the device.

Maintenance

The device is maintenance-free. No repairs should be carried out by unauthorised personnel if damage occurs, e.g. during transport and/or storage.

2.6 Manual operation

General

The outputs can be directly controlled using the push buttons in manual operation.

Accordingly, the wiring of the drives connected to the outputs can be verified during commissioning. You can, for example, ensure that the connected blind drives moves up and down correctly. If bus voltage is not yet available at the time of commissioning, the device can be supplied with power for manual operation using the Power Supply NTI/Z.

Function of manual operation

Manual operation facilitates on-location operation of the device. As standard button  is enabled, and switch on and off is possible using it.

Switch on of manual operation:

Press button  until the yellow LED  lights continuously.

Switch off of manual operation:

Press button  until the yellow LED  switches off.

The yellow LED  flashes during the switchover process.

After connection to the KNX, an ETS download or ETS reset the device is in *KNX operation*. The LED  is off. All LEDs indicate their current state.

Note

If the *Manual operation* is generally enabled/disabled via communication object *Disable/enable man. operation*, the LED  flashes during a button push.

Switchover from *KNX operation* to operation mode *Manual operation* does not occur.

Important

Safety telegrams such as weather alarms, blocking and forced operation have the highest priority and block manual operation. This is carried out if manual operation is activated and a safety telegram is received. The reaction after bus voltage recovery, programming or ETS reset can be set using the ETS parameters.

Supplied state

Manual operation is enabled by default in the supplied state. The device is in KNX mode after connection to the bus. The yellow LED  is off. All LEDs for the outputs indicate the actual state. The buttons for the outputs are non-functional.

Telegram processing with active manual operation

Incoming safety telegrams such as weather alarms, blocking and forced operation have the highest priority and are implemented. All other telegrams are received and stored. The device will update, after manual operation is deactivated.

If a telegram with the value 1 is received via *Disable/enable man. operation*, an active manual operation is deactivated and then blocked. Manual operation can no longer be activated by the manual push buttons.

Electro-mechanically interlocked contacts

The output contacts (UP/DOWN) are mechanically interlocked. This feature ensures that both contacts can never have voltage applied at the same time. Simultaneous application of voltage to both contacts could lead to destruction of the drives.

Reversing time, pause between two movement actions

To ensure that the blind drive is not damaged by a sudden change in direction, the output contacts are electrically disconnected for the duration of the programmed reversing time. Only then the output contacts are switched for the required direction of movement.

Important
The technical data of the respective drive manufacturer must be observed when programming the reversing time!

2.6.1 Display elements

Indicator LEDs are located on the front of the device.

All LEDs for *Output X* indicate the actual state. In *KNX operation* the LED  is off.

The behaviour of the display elements is described in the following table:

LED	KNX operation	Manual operation
 Manual operation	<i>Off</i> : The device is in KNX mode <i>Flashes (about 3 seconds)</i> : Changeover to manual mode. <i>Flashes continuously</i> : The LED flashes until button  is pressed. The LED  switches off when released.	<i>On</i> : The device is in manual mode <i>Flashes (about 3 seconds)</i> : Changeover to KNX mode.
 Output A...X UP/DOWN	<i>On  ↑</i> : Upper limit position <i>On  ↓</i> : Lower limit position <i>Both LEDs ON</i> : Safety function active, e.g. wind alarm <i>Flashes  ↑</i> : blind/shutter moving upwards <i>Flashes  ↓</i> : blind/shutter moving downwards <i>Both LEDs flash alternately*</i> : Malfunction drive fault (no current flow or invalid travel times) <i>Off</i> : Intermediate position	

* only on devices of type JRA/S x.y.5.1

2.6.2 Operating controls

Push buttons are located on the front of the device for manual operation.

The behaviour of the operating elements dependent on the operating states *KNX operation* and *Manual operation* is described in the following table:

Button	KNX operation	Manual operation
 Manual operation	<i>Long button operation (about 3 sec.)</i> : Switch to <i>Manual operation</i> provided that <i>Manual operation</i> is not blocked by a parameter setting. <i>Short button push</i> : LED  <i>Manual operation</i> flashes and switches off again. The device is still in <i>KNX operation</i> .	<i>Long button operation (about 3 sec.)</i> : Changeover to the <i>KNX operation</i> . The inputs are scanned again, and the input states are updated accordingly. Reset of <i>Manual operation</i> to <i>KNX operation</i> can occur within a programmed time depending on the parameterization.
 Output A...X UP/DOWN	No reaction	<i>Long operation</i> : UP/DOWN or opening/closing of the contact <i>Short operation</i> : Slat adjustment /STOP

3 Commissioning

The central functions of the Blind/Roller Shutter Actuator are described in this section. The parameterization of the Blind/Roller Shutter Actuator is undertaken with the application program and the Engineering Tool Software ETS. Using the application program, a comprehensive and flexible range of functions are available to the device. The standard settings allow simple commissioning. The functions can be extended if required.

The application program can be found at *ABB/Shutter/Switch*.

For parameterization purposes, a PC or Laptop with ETS and a connection to the KNX, e.g. via RS232, USB or IP interface, is required.

3.1 Overview

Overview of the functions in a table

JRA/S properties	X.230.5.1	4.24.5.1	X.230.2.1	X.230.1.1
Hardware				
Number of outputs	X = 2, 4, 8	4	X = 2, 4, 8	X = 2, 4, 8
Nominal voltage	230 V AC	24 V DC	230 V AC	230 V AC
Type of installation	MDRC	MDRC	MDRC	MDRC
Module width in space units	2-fold, 4-fold 4 space units 8-fold: 8 space units	4	2-fold, 4-fold 4 space units 8- fold: 8 space units	2-fold, 4-fold 4 space units 8- fold: 8 space units

■ = property applies

General parameterization options	X.230.5.1	4.24.5.1	X.230.2.1	X.230.1.1
Manual functions				
Disable/enable man. operation	■	■	■	-
Manual operating status	■	■	■	-
Operating modes				
Control with slat adjustment (blinds, etc.)	■	■	■	■
Control without slat adjustment (roller shutters, awnings, etc.)	■	■	■	■
Ventilation flaps, switch mode	■	■	■	■
General device functions				
Automatic travel detection	■	■	-	-
Time-delayed switching of drives	■	■	■	■
Rate of telegrams	■	■	■	■
Sending and switching delay time	■	■	■	■
In operation function	■	■	■	■
Request status values	■	■	■	■
Extended setting options for drives and blind/shutter	■	■	■	■
Continued overleaf				

ABB i-bus® KNX Commissioning

General parameterization options	X.230.5.1	4.24.5.1	X.230.2.1	X.230.1.1
Direct functions				
UP/DOWN	■	■	■	■
STOP/Slat adjustment	■	■	■	■
Position height/slat 0...255	■	■	■	■
Preset Move to position/Set position	■	■	■	■
UP/DOWN limited	■	■	■	■
Enable limitation	■	■	■	■
Trigger travel detection	■	■	-	-
Trigger reference movement	■	■	■	■
8 bit scene	■	■	■	■
Safety functions				
Wind alarm	■	■	■	■
Rain alarm	■	■	■	■
Frost alarm	■	■	■	■
Block	■	■	■	■
Forced operation	■	■	■	■
Reaction after bus voltage failure, recovery and programming	■	■	■	■
Automatic functions				
Activation of autom. control	■	■	■	■
Position height/slat on sun	■	■	■	■
Presence	■	■	■	■
Heating/Cooling	■	■	■	■
Overheat control	■	■	■	■
Enable/block automatic	■	■	■	■
Enable/block direct control	■	■	■	■
Status messages				
Status height/slat 0...255	■	■	■	■
Status upper/lower end position	■	■	■	■
Status of operation	■	■	■	■
Status automatic control	■	■	■	■
Status information (2 byte)	■	■	■	■

■ = property applies

ABB i-bus[®] KNX Commissioning

3.1.1

Conversion

For ABB i-bus[®] KNX devices from ETS3 or higher, it is possible to assume the parameter settings and group addresses from earlier application program versions.

Furthermore, conversion can be applied to transfer the existing parameterization of a device to another device.

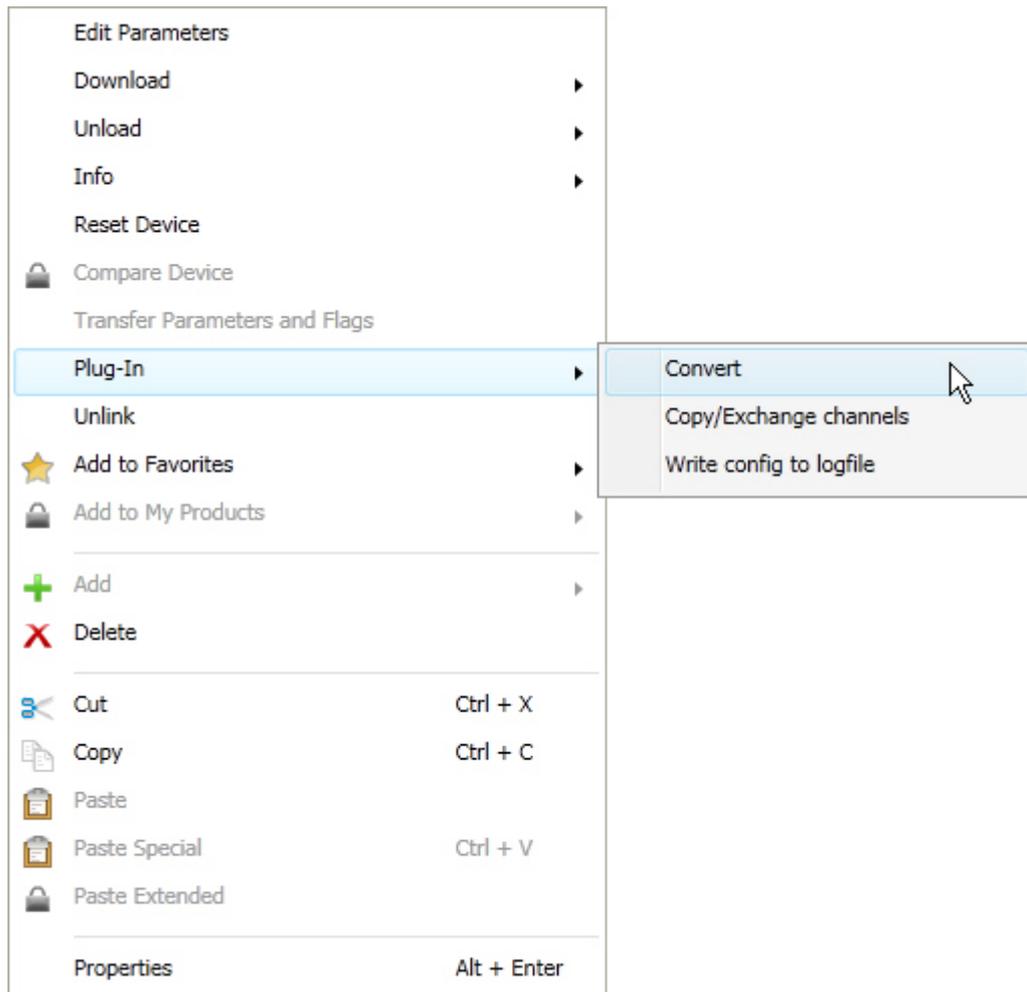
Note
When the term channels is used in the ETS, inputs and/or outputs are meant. In order to ensure that the ETS language generally applies for as many ABB i-bus [®] devices as possible, the word channels is used here.

Note
If the number of channels of the target device is larger than the number of inputs/outputs of the source device, only the first inputs/outputs of the target device are written with the converted data of the source device. The remaining inputs/outputs retain the default values or are reset to the default values. Default values are set for newly added parameters after conversion.

3.1.1.1

Procedure

- Insert the required device into the project.
- Import the current application program into the ETS.
- Perform parameterization and program the device.
- After you have parameterized a device, you can transfer the settings to a second device.
- Right click on the product and select *Plug-in* > *Convert* in the context menu for this purpose.



- Thereafter undertake the required settings in the *Convert* dialog.
- Finally, exchange the physical address and delete the old device.

Should you wish to only copy individual channels within a device, use the function [Copy and exchange](#), page 35.

3.1.2 Copying and exchanging parameter settings

Parameterization of devices can take a lot of time depending on the complexity of the application and the number of device inputs/outputs. To keep the commissioning work to the minimum possible, using the function *Copy/exchange channels*, parameter settings of an input/output can be copied or exchanged with freely selectable inputs/outputs. Optionally, the group addresses can be retained, copied or deleted in the target input/output.

Note
When the term channels is used in the ETS, inputs and/or outputs are meant. In order to ensure that the ETS language generally applies for as many ABB i-bus [®] devices as possible, the word channels is used here.

The copy function for inputs/outputs is particularly useful with devices having the same parameter settings for several outputs, inputs or groups. For example, lighting in a room is frequently controlled in an identical manner. In this case, the parameter settings from input/output X can be copied to all other inputs/outputs or to a special input/output of the device. Thus the parameters for this input/output must not be set separately, which significantly shortens the commissioning time.

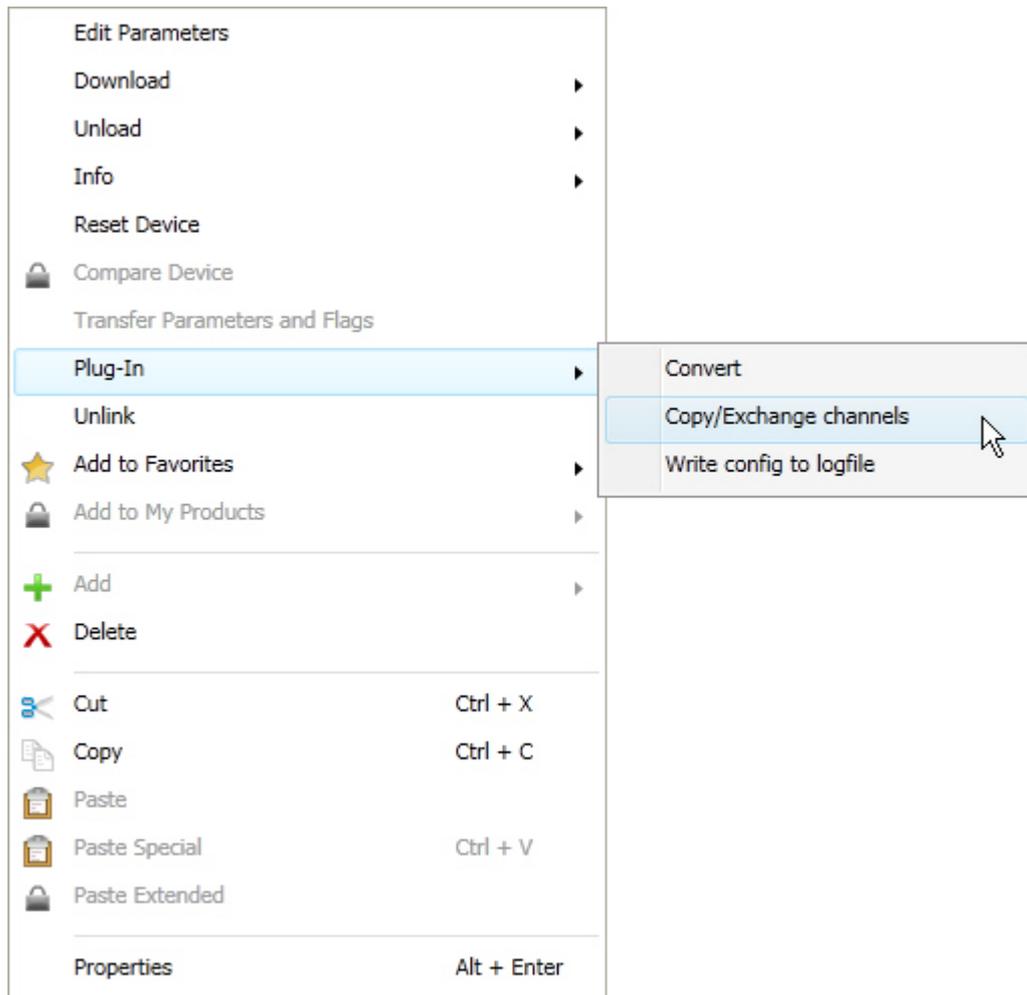
The exchange of parameter settings is useful, e.g. should the inputs/outputs be swapped when wiring the terminals. The parameter settings of the incorrectly wired inputs/outputs can be simply exchanged saving the requirement for time-consuming rewiring.

ABB i-bus[®] KNX Commissioning

3.1.2.1

Procedure

- Insert the required device into the project
- Import the current application program into the ETS.
- Click with the right mouse button on the product, whose outputs you wish to copy or exchange, and select the context menu *Plug-in > Copy/exchange channels*.



Thereafter undertake the required settings in the *Copy/exchange channels* dialog.

3.1.2.2

Copy/exchange channels dialog

Source channel

Destination channels

A: General
B: General
C: General
D: General

A: General
B: General
C: General
D: General

All None

Keep group addresses in the destination channel unchanged (if possible)
 Copy group addresses
 Delete group addresses in the destination channel

Copy

Exchange without group addresses
 Exchange with group addresses
 Delete group addresses

Exchange

OK Cancel

At the top left, you will see the source channel selection window for marking the source channel. The selection window for the target channel or channels for marking the target channel or channels is located beside it.

Source channel

With the selection of the source channel, you define which parameter settings should be copied or exchanged. Only one source channel can be selected at a time.

Target channels

With the selection of the target channels, you define which channel/channels are to assume the parameter settings of the source channel.

- For the function *Exchange*, only one target output can be selected at a time.
- For the function *Copy*, different target channels can be selected simultaneously. For this purpose, press the Ctrl key and mark the required channels with the mouse cursor, e.g. channels B and C.

All

With this button, you select **all** available target channels, e.g. A...C.

None

Reset the selection of the target channel with this button.

Copy

The following options can be selected before copying the parameter settings:

- Leave the group addresses unchanged (if possible) in the target channel
- Copy group addresses
- Delete group addresses in the target channel

Copy

With this button, copy the settings of the source channel into the target channel or channels.

Exchange

The following options can be selected before exchanging the parameter settings:

- Retain group addresses
- Exchange of group addresses
- Deletion of group addresses

Exchange

With this button, exchange the settings of the source channel with the target channel.

OK

Confirm your selection with this button, and the window closes.

Cancel

Using this button, the window closes without accepting the changes.

3.2 Parameters

The parameterization of the device is implemented using the Engineering Tool Software ETS.

The application program is available in the product catalog of the ETS under *ABB/Shutter/Switch*.

The default values of the parameters are underlined,

e.g.

Options: yes
 no

And any possible notes, e.g.:

Note
The device features several outputs. However, as the functions for all outputs are identical, only the functions of output A will be described.

3.2.1 Parameter window *General*

Higher level parameters can be set in this parameter window.

General	Time-delayed switching of drives	deactivated
Manual operation		
Weather alarms		
A: General	Sending and switching delay after bus voltage recovery in s [2...255]	2
A: Safety/Weather		
A: Drive	During sending and switching delay outputs remain unchanged.	<-- Note
A: Blinds/Shutter		
A: Functions	Send object "in operation"	no
A: Status Messages		
B: General	Limit number of telegrams	no
B: Safety/Weather		
B: Drive	Enable communication object "Request status values" 1 bit	no

Time-delayed switching of drives

Options: deactivated
 activated

In large KNX systems, a large starting current peak is generated if all drives start simultaneously due to central telegrams. The current peak can be limited by time delayed switching of the outputs. The central travel telegrams are executed with a delay. The time delay when implementing a travel movement applies for the following communication objects or states (even for activated automatic control)

- *Move to height for sun 0..255, Adjust slat for sun 0..255*
- *Block, Forced operation*
- *Wind alarm, Rain alarm, Frost alarm*
- *Move to position height 0..255*
- *Move slats 0..255*
- *Programming, Reset*
- *Bus voltage failure*
- *Bus voltage recovery*
- *Position on reset of weather alarm, blocking and forced operation*

The time delay when undertaking a movement is not considered for the following communication objects:

- *Move blinds/shutters up-down, Blinds/shutters up-down limited*
- *Slat adjustm./stop up-down, Stop*
- *Move to position 1, 2, Move to position 3, 4*

Thus it is ensured that the direct operation function, e.g. via a push button, is not time delayed.

- *activated*: The parameter *Time delay in s* appears.

Time delay in s [1...15]

Options: 1...15

This parameter determines the time delay used by the outputs, when they switch successively. The set time delay applies for all outputs or connected drives of the actuator.

Caution

The parameterized time delay also applies for automatic control, weather alarms and forced operations. Therefore, the time delay should only be used in large systems if a main power failure is to be expected, should all the drives start-up simultaneously.

Sending and switching delay after bus voltage recovery in s [2...255]

Options: 2...255

Telegrams are only received during the sending and switching delay. The telegrams are not processed however, and the outputs remain unchanged. No telegrams are sent on the bus.

After the sending and switching delay, telegrams are sent, and the state of the outputs is set to correspond to the parameterization or the communication object values.

If communication objects are read during the sending and switching delay (e.g. by a visualisation system), these read requests are stored, and a response is sent, after the sending and switching delay has been completed.

An initialisation time of about two seconds is included in the delay time. The initialisation time is the time that the processor requires to be functional.

How does the device behave with bus voltage recovery?

After bus voltage recovery, the device always waits for the send delay time to elapse before sending telegrams on the bus. The parameterized positions are immediately travelled to at bus voltage recovery. Incoming telegrams are updated during the switching delay time. The last telegram received is implemented with the highest priority. Manual operations can be carried out immediately.

Send object "In operation"

Options: no
yes

The communication object *In operation* indicates the presence of the device on the bus. This cyclic telegram can be monitored by an external device. If a telegram is not received, the device may be defective or the bus cable to the transmitting device may be interrupted.

- *no*: The communication object *In operation* is not enabled.
- *yes*: The communication object *In operation* and the following parameters are enabled:

Sending cycle time in s [1...65,535]

Options: 1...60...65,535

Here the time interval, at which the *In operation* (No. 0) communication object cyclically sends a telegram, is set.

Object value

Options: $\frac{1}{0}$

The polarity of the object value is set here.

Note

After bus voltage recovery, the communication object sends its value after the set sending and switching delay.

Limit number of telegrams

Options: no
yes

The load on the bus generated by the device is limited with the limitation on the number of telegrams sent. This limit relates to all telegrams sent by the device.

- yes: The following parameters appear:

Max. number of sent telegrams in s [1...255]

Options: 1...255

in period

Options: 50 ms/100 ms...1 s...30 s/1 min

This parameter defines the number of telegrams sent by the device within a period. The telegrams are sent as quickly as possible at the start of a period.

Note

The device counts the number of telegrams sent within a parameterized period. As soon as the maximum number of sent telegrams is reached, no further telegrams are sent on the KNX until the end of the period. A new period commences at the end of the previous period. The telegram counter is reset to zero and sending of telegrams is allowed again. The current communication object value is always sent at the time of transmission.

The first period (break time) is not predefined exactly. The period can be between zero seconds and the parameterized time. The subsequent sending times correspond with the parameterized time.

Example:

Maximum number of sent telegrams = 5, in period = 5 s. 20 telegrams are ready to be sent. The device immediately sends 5 telegrams. The next 5 telegrams are sent after maximum 5 seconds. From this point, a further 5 telegrams are sent on the KNX every 5 seconds.

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Enable communication object "Request status values" 1 bit

Options: no
 yes

- yes: The 1 bit communication object *Request status values* is enabled.

Via this communication object all status messages can be requested, provided that they have been parameterized with the option *after a change* or *request*.

With option *yes* the following parameter appears:

Request with object value

Options: 0
 1
 0 or 1

- 0: Sending status messages is requested with the value 0.
- 1: Sending status messages is requested with the value 1.
- 0 or 1: Sending of the status messages is requested with the values 0 or 1.

3.2.2 Parameter window *Manual operation*

All the settings for manual operation can be made in this parameter window. Manual operation as well as the ETS parameter and communication objects are only available on devices of type JRA/S x.y.5.1 and JRA/S x.y.2.1.

General	Manual operation	enabled
Manual operation	Reset manual operation to KNX operation	automatically and via push button
Weather alarms	Time for automatic reset in s [10...6,000]	300
A: General	Enable communication object "Status man. operation" 1 bit	no
A: Safety/Weather	Safety commands such as weather alarms blocking and forced operation have priority and disable the manual operation!	<-- Note
A: Drive		
A: Blinds/Shutter		
A: Functions		
A: Status Messages		
B: General		
B: Safety/Weather		
B: Drive		

Manual operation

Options: enabled
disabled
disable/enable via object

This parameter defines if the switch over between the operating states *manual operation* and *KNX operation* is enabled or disabled via the button  on the device.

- *enabled*: With this selection, the outputs can be directly controlled using the manual push buttons.
- *disabled*: With this selection, manual operation is disabled. The outputs can no longer be controlled via the manual push buttons.
- *disable/enable via object*: The communication object *Disable/enable man. operation* appears. Manual operation can be enabled or disabled via the bus with this communication object.

Telegram value 0 = button  enabled
1 = button  disabled

For further information see: [Manual operation](#), page 28

Reset manual operation to KNX operation

Options: via push button
 automatically and via push button

This parameter determines how long manual operation remains activated or after how long switch over to KNX operation occurs. It appears with the selection of the parameter option using *disable/enable via object* or *enabled*.

- *via push button*: Manual operation remains activated until it is deactivated again using the manual operation button  or via the communication object.
- *automatically and via push button*: Manual operation remains activated after the last operation of the button until the parameterized time has timed out or it is deactivated again using the manual operation push button . The following parameter appears:

Time for automatic reset in s [10...6,000]

Options: 10...300...6,000

Manual operation remains activated until the parameterized time has timed out or it is deactivated using the manual operation push button .

Enable communication object "Status man. operation" 1 bit

Options: no
 yes

- *yes*: The parameter *Send object value* and the communication object *Status manual operation* appear.

Send object value

Options: no, update only
 after a change
 after a request
 after a change or request

- *no, update only*: The status is updated but not sent (the status can be read via the communication object).
- *after a change*: The status is sent after a change.
- *after request*: The status is sent after a request.
- *after a change or request*: The status is sent after a change or a request.

Note

Safety telegrams such as weather alarms, blocking and forced operation have the highest priority and block manual operation. If a safety telegram is active during manual operation, the drive moves to the parameterized safety position. Manual operation of the output concerned is blocked, as long as the safety function is active.

3.2.3 Parameter window *Weather alarms*

In this parameter window, all higher level settings affecting the weather alarms are undertaken.

General	Parameter settings	standard
Manual operation	Order of priority for weather alarm functions	1.Wind alarm - 2.Rain alarm - 3.Frost alarm
Weather alarms	Communication object no. 1 for wind alarm	activated
A: General	Communication object no. 2 for wind alarm	deactivated
A: Safety/Weather	Communication object no. 3 for wind alarm	deactivated
A: Drive	Monitoring period for wind alarm in s [0...1,000] (0 = monitoring deact.)	0
A: Blinds/Shutter	Communication object for rain alarm	deactivated
A: Functions	Communication object for frost alarm	deactivated
A: Status Messages	Wind, rain, and frost alarm are active only if a position is set on page "X: Safety/Weather"	<-- Note
B: General	Read activated weather alarm objects after bus voltage recovery	no
B: Safety/Weather		
B: Drive		
B: Blinds/Shutter		
B: Functions		
B: Status Messages		
C: General		
C: Safety/Weather		
C: Drive		
C: Blinds/Shutter		
C: Functions		

Parameter settings

Options: standard
user defined

The settings involved in the parameter settings can be undertaken here.

- *standard*: In this setting, it is possible to allocate the output to a communication object for a wind alarm. The communication object *Wind alarm no. 1* as well as the parameter *Monitoring period for wind alarm in s* appear.
- *user defined*: In this setting, the complete parameter access for complex applications is possible. Further parameters for processing appear.

Order of priority for weather alarm functions

Options: 1.Wind alarm – 2.Rain alarm – 3.Frost alarm
1.Wind alarm – 2.Frost alarm – 3.Rain alarm
1.Rain alarm – 2.Wind alarm – 3.Frost alarm
1.Rain alarm – 2.Frost alarm – 3.Wind alarm
1.Frost alarm – 2.Rain alarm – 3.Wind alarm
1.Frost alarm – 2.Wind alarm – 3.Rain alarm

This parameter defines the priority between the weather alarm functions. If more than one weather alarm occurs simultaneously, then only one weather alarm with the highest priority is carried out.

**Communication object no. 1 for
wind alarm**

**Communication object no. 2 for
wind alarm**

**Communication object no. 3 for
wind alarm**

Communication object for rain alarm

Communication object for frost alarm

Options: deactivated
 activated

This parameter activates the weather alarm functions and the corresponding communication objects:

- *activated*: The parameters for the monitoring times of the weather alarms appear.

Note
Wind, rain and frost alarms are only activated when in parameter window <i>A: Safety/Weather</i> a position has been activated with the weather alarm: Example: Position on wind alarm Option: activated – up

Monitoring period for wind alarm in s

Monitoring period for rain alarm in s

Monitoring period for frost alarm in s

[0...1,000] (0 = monitoring deact.)

Options: 0...1,000

These parameters determine the cyclical monitoring time for wind, rain and frost alarms in seconds.

The weather sensors are cyclically monitored by the JRA/S.

Should the weather sensors send the telegram value 0, no weather alarm is present. The JRA/S expects this signal. If the signal is not received within the parameterized monitoring period, it can be assumed that the sensor is defective or the bus line has been interrupted. The blind/shutter is moved to the parameterized alarm position. The operation is disabled.

If the weather sensors send the telegram value 1 (weather alarm), the blinds/shutters move immediately to the parameterized alarm position. The parameter *Monitoring period for rain alarm in s* or *Monitoring period for frost alarm in s* is displayed, as soon as the parameters *Communication object for rain alarm* or *Communication object for frost alarm* have been set with the option *activated*.

- 0: Cyclical monitoring is deactivated.

Note
The monitoring period in the JRA/S should be selected to be at least three to four times as large as the cyclical transmission time of the sensor. In this way, the immediate absence of a signal, e.g. due to a high bus load, does not immediately result in the blinds/shutters being moved to the alarm position.

Read activated weather alarm objects after bus voltage recovery

Options: yes
 no

- yes: The values of communication objects *Wind alarm no. 1...3*, *Rain alarm* and *Frost alarm* are immediately read after bus voltage recovery, if the setting is activated. If a weather alarm is present, the position at weather alarm is approached.

Note
Read flags must be set in the sending device!

3.2.4 Parameter window A: General

In this parameter window, all the general settings for output A are undertaken.

General	Operation mode	control with slat adjustment
Manual operation		
Weather alarms	To control venetian- or vertical blinds and other shading systems with slats	<-- Note
A: General	Reaction on bus voltage failure/recovery programming and reset	
A: Safety/Weather		
A: Drive	Reaction on bus voltage failure	stop
A: Blinds/Shutter		
A: Functions	Reaction after bus voltage recovery	stop
A: Status Messages		
B: General	Reaction after programming or after ETS reset	stop
B: Safety/Weather		
B: Drive		

Operation mode

Options: control with slat adjustment
control without slat adjustment
ventilation flaps, switch mode

This parameter defines the operation mode of the output. The communication objects and the parameters for the respective outputs differ depending on the operation mode. The operation modes *control with slat adjustment* and *control without slat adjustment* only differ slightly due to the functions for the slat adjustment. For this reason, they are only described using operation mode *control with slat adjustment*. Parameters or communication objects, which are not available or only available in operation mode *control without slat adjustment*, are indicated accordingly.

The description of the parameters for the operation mode *ventilation flaps, switch mode* can be found from page 84.

3.2.5 Operation mode parameters *control with and without slat adjustment*

The functions of the Blind/Roller Shutter Actuator JRA/S x.y.5.1 with travel detection and manual operation are explained using the *operation mode control with slat adjustment*. On device types JRA/S x.y.2.1 and JRA/S x.y.1.1, there are fewer parameters as well as the corresponding communication objects.

- JRA/S x.y.2.1 does not feature a travel detection function.
- JRA/S x.y.1.1 does not feature manual operation and does not feature a travel detection function.

Parameters or communication objects, which are not available or only available in operation mode *control without slat adjustment*, are indicated accordingly.

General	Operation mode	control with slat adjustment
Manual operation		
Weather alarms		
A: General	To control venetian- or vertical blinds and other shading systems with slats	<-- Note
A: Safety/Weather	Reaction on bus voltage failure/recovery programming and reset	
A: Drive	Reaction on bus voltage failure	stop
A: Blinds/Shutter	Reaction after bus voltage recovery	stop
A: Functions	Reaction after programming or after ETS reset	stop
A: Status Messages		
B: General		
B: Safety/Weather		
B: Drive		

Reaction on bus voltage failure

Options: no reaction
 up
 down
 stop

Using this parameter, the reaction of the output at bus voltage failure is set.

- *no reaction*: The output contacts remain in their current state.
- *up/down*: The blind/shutter (s) move up or down.
- *stop*: If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged in its position.

Reaction after bus voltage recovery

Reaction after programming or after ETS reset

Options: no reaction
 up
 down
 stop
 position 1...4
 individual position
 enable automatic sun protection

This parameter defines the reaction of the output at bus voltage recovery or download and ETS reset.

- *no reaction*: The output contacts remain in their current state.
- *up/down*: The blind/shutter(s) move up or down.
- *stop*: If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged in its position.
- *position 1...4*: If one of these positions is selected, the blind/shutter (s) move to a preset position. The blind/shutter height and slat adjustment of the respective position are set in parameter window A: *Positions/Presets*, page 70.
- *individual position*: Movement to one of the individual positions occurs. The following parameters appear:

Position height in % [0...100]
(0% = top; 100% = bottom)

Position slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

Options: 0...100

This parameter defines the height or the slat setting of the blind/shutter.

- *enable automatic sun protection*: The automatic sun protection is switched on after bus voltage recovery or after a download and ETS reset.

3.2.5.1 Parameter window A: Safety/Weather

In this parameter window, all higher level settings affecting the function *Safety/Weather* are undertaken.

General	Parameter settings	standard
Manual operation		
Weather alarms		
A: General	Output reacts on communication object for wind alarm no.	1
A: Safety/Weather	Position on wind alarm	activated - up
A: Drive	Position on rain alarm	deactivated
A: Blinds/Shutter	Position on frost alarm	deactivated
A: Functions	Block	deactivated
A: Status Messages	Forced operation (1 bit/2 bit)	deactivated
B: General	Position on reset of weather alarm, blocking and forced operation	no reaction
B: Safety/Weather	Position will only be carried out with inactive autom. sun protection	<-- Note
B: Drive	Disable automatic sun protection on reset of safety function	no
B: Blinds/Shutter	Order of priority for safety alarm functions	1.Weather alarm - 2.Block - 3.Forced operation
B: Functions	Wind, rain, and frost alarm are active if objects on page "Weather alarms"	<-- Note
B: Status Messages	are enabled and linked with group addresses	
C: General		
C: Safety/Weather		
C: Drive		
C: Blinds/Shutter		
C: Functions		
C: Status Messages		
D: General		
D: Safety/Weather		

Parameter settings

Options: standard
user defined

This parameter defines the range and scope of parameter settings.

- *standard*: In the event of a wind alarm, this blind/shutter moves via parameter *Position on wind alarm* to a preset position. This setting is usually sufficient in smaller projects. The output only reacts with this setting to the communication object *Wind alarm no. 1*.
- *user defined*: Complete parameter access for complex applications or safety settings of the output are possible. Other parameters appear.

Output reacts on communication object for wind alarm no.

Options: output does not react on wind alarm
1/ 2/ 3/ 1+2/ 1+3/ 2+3/ 1+2+3

This parameter determines the wind alarm communication objects, to which the output reacts. The values of the assigned communication objects are linked by a logic OR.

Position on wind alarm

Position on rain alarm

Position on frost alarm

Options: activated - no reaction
 activated – up
 activated – down
 activated – stop
 activated - position 1...4
 activated - individual position
 deactivated

This parameter defines the position of the blind/shutter when a weather alarm (wind, rain, frost) is received. The blind/shutter can no longer be operated via other communication objects or even by manual operation until the weather alarm has been rescinded. Limitations to the scope of travel range are not considered with weather alarms.

- *activated - no reaction*: If the blind/shutter is performing a movement, this movement action to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- *activated – up*: The blind/shutter moves UP after a weather alarm is received.
- *activated – down*: The blind/shutter moves DOWN after a weather alarm is received.
- *activated – stop*: If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged in its position.
- *activated - position 1...4*: If one of these positions is selected, the blind/shutter (s) move to a preset position. The blind/shutter height and slat adjustment of the respective position are set in parameter window A: *Positions/Presets*, page 70).
- *activated - individual position*: Movement to one of the individual positions is possible. The following parameters appear:

Position height in % [0...100]
(0% = top; 100% = bottom)

Position slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

Options: 0...100

This parameter defines the height or the slat setting of the blind/shutter.

- *deactivated*: No reaction occurs in the event of a weather alarm.

Block

Options: deactivated
 activated

This parameter enables function *Block*. The blind/shutter moves, e.g. to a parameterized position, or the operation is blocked. Example: The operation of an internal blind or roller blind is inhibited if the window is open.

- *activated*: The communication object *Block* is enabled. The following parameter appears.

Position during blocking

Options: no reaction
 up
 down
 stop
 position 1...4
 individual position

This parameter determines the position to be moved to for the function *Block*.

- *no reaction*: If the blind/shutter is performing a movement, this movement action to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- *up or down*: The blind/shutter moves UP or DOWN.
- *stop*: If the blind/shutter is performing a movement, this movement stops immediately. The outputs are disconnected from the voltage supply. If the blind/shutter is at rest, it will remain unchanged in its position.
- *position 1...4*: If one of these positions is selected, the blind/shutter (s) move to a preset position. The blind/shutter height and slat adjustment of the respective position are set in parameter window *A: Positions/Presets*, page 70).
- *individual position*: Movement occurs to an individual position. The following parameters appear:

Position height in % [0...100]
(0% = top; 100% = bottom)

Position slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

Options: 0...100

This parameter defines the height or the slat setting of the blind/shutter.

- *deactivated*: No reaction occurs in the event of a weather alarm.

Forced operation (1 bit/2 bit)

Options: deactivated
 activated (1 bit)
 activated (2 bit)

With the function *Forced operation*, the blind/shutter can move via a 1 bit telegram to a determined position or it can move up or down via 2 bit telegrams and operation can be blocked. The function *Forced operation* is used, for example, to move blinds upwards when cleaning the windows or downwards when cleaning the slats. At the same time, the operation of the blind/shutter is blocked to ensure that the cleaning personnel are not endangered by an unexpected movement.

- *activated (1 bit)*: The communication object *Forced operation 1 bit* is enabled. The following parameters appear:

Position height in % [0...100]
(0% = top; 100% = bottom)

Position slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

Options: 0...100

This parameter defines the height or the slat setting of the blind/shutter.

With this parameter, the position (position and slat position), to which the blind/shutter is moved as soon as forced operation (1 bit) has been activated, is set. The operation is disabled. The operation is re-enabled, as soon as a telegram with the value 0 is received on the communication object.

- *activated (2 bit)*: The communication object *Forced operation 2 bit* is enabled.

Position on reset of weather alarm, blocking and forced operation

Options: no reaction
 up
 down
 stop
 position 1...4
 individual position
 according to object value

This parameter determines the blind/shutter position when resetting a weather alarm, blocking or a forced operation.

- *no reaction*: If the blind/shutter is performing a movement, this movement action to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- *up*: The blind/shutter moves UP after a safety function is reset.
- *down*: The blind/shutter moves DOWN after a safety function is reset.
- *stop*: If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged in its position.

- *position 1...4*: If one of these positions is selected, the blind/shutter(s) move to a preset position. The blind/shutter height and slat adjustment of the respective position are set in parameter window *A: Positions/Presets*, page 70).
- *individual position*: Movement occurs to an individual position. The following parameters appear:

Position height in % [0...100]
(0% = top; 100% = bottom)

Position slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

Both these parameters define the height or the slat setting of the blind/shutter.

Options: 0...100

- *according to object value*: During a safety alarm, the incoming KNX telegrams are saved on direct communications objects. The status of the output is updated to correspond to the current values of the communication objects, e.g. automatic control is activated after a safety alarm is reset. If no new telegrams have been received in the meantime, then the shutter/blind is moved to the position, in which it was, when the safety alarm occurred.

With this parameter setting, incoming telegrams are saved on the following objects:

- *Move blinds/shutters up-down*
- *Blinds/shutters up-down limited*
- *Move to position height 0..255*
- *Move slats 0..255*
- *Move to position 1, 2*
- *Move to position 3, 4*

Note
The set position at reset of a safety function is only carried out with inactive automatic sun protection.

Disable automatic sun protection on reset of safety function

Options: yes
 no

- *no*: After reset of a safety function (e.g. wind alarm), automatic sun protection is activated.
- *yes*: After reset of a safety function (e.g. wind alarm), automatic sun protection is deactivated.

Order of priority for safety alarm functions

- Options:
- 1. Weather alarm - 2.Block - 3.Forced operation
 - 1. Weather alarm - 2.Forced operation - 3.Block
 - 1. Block - 2.Weather alarm - 3.Forced operation
 - 1. Block - 2.Forced operation - 3.Weather alarm
 - 1. Forced operation - 2.Block - 3.Weather alarm
 - 1. Forced operation - 2.Weather alarm - 3.Block

This parameter determines the sequence of priorities for the safety functions weather alarms (wind, rain, frost), block and forced operation. These functions have a higher priority than all other functions. If one of these functions is activated, the operation of the blind/shutter is inhibited. This also applies during manual operation.

A priority must also be defined for safety priorities among one another. In this way, the blind/shutter is correctly controlled if more than one security function is activated simultaneously. Forced operation, for example, has priority over a wind alarm when cleaning the windows, so that the cleaning personnel are not hindered by an UP telegram resulting from a wind alarm.

Note
Wind, rain and frost alarm are only activated if in parameter window <i>Weather alarms</i> the communication objects are enabled and linked to the group addresses!

3.2.5.2 Parameter window A: Drive

General	Detect travel times (Up/Down)	yes - via detection of end positions
Manual operation	Enable travel detection	automatically
Weather alarms	Delete saved travel times after Download	no
A: General	Pause on change in direction in ms (see technical data of drive!) 50...10,000	500
A: Safety/Weather	Delay times for drive	standard
A: Drive	Difference between coasting delay and start-up delay in ms [-128..127]	0
A: Blinds/Shutter	Minimum run time for drive in ms [10...255]	50
A: Functions		
A: Status Messages		
B: General		
B: Safety/Weather		
B: Drive		
B: Blinds/Shutter		
B: Functions		

Detect travel times (Up/Down)

Options: yes - via detection of end positions
no - set travel times

- *yes - via detection of end positions*: The parameters for setting and triggering automatic travel detection appear.

Note

Automatic travel detection is only possible on JRA/S x.y.5.1 type devices. For all other types, the parameters for the UP and DOWN travel time are shown in the ETS.

Note

When electronic drives with a permanently connected electronic power supply are used, automatic travel detection is not possible, as the current consumption is not connected via the UP and DOWN contact. If electronic drives of this type are used, the travel times must be determined manually and then entered.

Enable travel detection

Options: automatically
autom. or via object "Trigger travel detection"
via object "Trigger travel detection"

- *automatically*: The travel times are automatically and permanently determined during ongoing operation. Here each complete movement from end position to end position is used to determine the travel times via current detection and the values are then saved. In this way, compensation for changes in the length of the blind/shutter due to external influences, e.g. frost, UV rays or the use of heavier blind/shutter types is possible during ongoing operation. This ensures exact positioning of the blind/shutter. The commissioning time is reduced, as a manual measurement of the travel time is not required. Furthermore, the travel detection is more precise than the specification of the travel times based on manually measured values.

- *autom. or via object "Trigger travel detection"*: In addition to the automatic travel detection (as described above), the communication object *Trigger travel detection* appears. The travel detection can be triggered at any time using this communication object. A further parameter appears.
- *via object "Trigger travel detection"*: The communication object *Trigger travel detection* appears. The travel detection can be triggered at any time using this communication object. A further parameter appears:

Position after travel detection

Options: no reaction, remain in upper end position
 move to position before travel detection

This parameter determines the behaviour of the output after completed travel detection.

- *no reaction, remain in upper end position*: The blind/shutter remains in the upper end position, after travel detection is completed.
- *move to position before travel detection*: The blind/shutter moves to the position that it had before the travel detection commenced.

Note

Travel detection can also be undertaken during active automatic control. It only interrupts it for the duration of travel detection.

After completion of the travel detection, the parameterized *Position after travel detection* is initially undertaken. If a new automatic telegram is received, the blinds/shutters will move to the automatic position.

Delete saved travel times after download

Options: yes
 no

This parameter determines whether the stored travel times of the output are deleted during the download and if they are overwritten with the factory default travel times. The travel times for UP and DOWN are each set to 60 seconds. Should the travel times have to be deleted after a download, the travel times will have to be redetermined. This can be undertaken via the communication object *Trigger travel detection* or automatically in ongoing operation during a travel operation from the lower to the upper end position and vice versa.

- *no - set travel times*: The following parameters appear:

Travel time UP in s [0...6,000]

Travel time DOWN in s [0...6,000]

Options: 0...60...6,000 s

Using these parameters, the times measured manually beforehand are entered, which the blind/shutter requires for a complete travel movement from the lower to the upper end position (Travel time UP) and from the upper to the lower end position (Travel time DOWN). Due to physical and weather-related circumstances (frost, UV rays, extended usage or the use of heavy blinds/shutters), differing total travel times may result for a complete travel from the lower to the upper end position (UP) and from the upper to the lower end position (DOWN). The total travel times (UP/DOWN) can be set separately, so that exact positioning of the blind/shutter is possible.

Disconnect output from power after

Options: end position, no overflow
 end position + 2 % overflow
 end position + 5 % overflow
 end position + 10 % overflow
 end position + 20 % overflow
 total travel time + 10 % Overflow

After the end position has been reached (as the very top or bottom), the drive will switch off independently. A so-called overflow time can be set to ensure that the output safely reaches the end position. The voltage still remains applied for a short time to move the drive to a defined end position in a controlled manner, after the drive has been switched off. The basis for the determination of the end position is the internally calculated position in the drive.

Enable communication object "Trigger reference movement" 1 bit

Options: yes
 no

The reference travel times are triggered via this communication object.

- *yes*: The communication object *Trigger reference movement* is enabled. Slight inaccuracies can occur over extended periods in the determination of the position due to temperature fluctuations and ageing. For this reason, the upper and lower end positions are used for unique determination of the current position. Every time when the blind/shutter is in the upper end position, the position is updated in the memory of the device. If the end positions are not reached in normal operation, a reference movement, which is fully upwards or fully downwards, can be performed via a telegram. After a reference movement, the blinds/shutters remain in the reference position or move back to the position before the reference movement. The following parameter appears:

Position after reference movement

Options: no reaction, remain in reference position
 move to position before reference movement

This parameter defines how the output should respond after a reference movement.

- *no reaction, remain in reference position*: The blind/shutter remains either up or down in the reference position after the reference movement.
- *move to position before reference movement*: The blind/shutter moves to the position that it had before the reference movement commenced. Incoming STOP or step telegrams during reference movement are ignored and are not undertaken, after the reference position is reached. If automatic control was activated for the blind/shutter before the reference movement, it will be reactivated automatically after the reference position is reached.

Note

A reference movement is also carried out during active automatic control and interrupts it for the duration of reference movement.

After completion of the reference movement, the parameterized *Position after reference movement* is initially undertaken. If a new automatic telegram is received, the blinds/shutters will move to the automatic position.

Pause on change in direction in ms (see technical data of drive!) 50...10,000

Options: 50...500...10,000

This parameter defines the pause for the drive in milliseconds when the direction is reversed.

Caution

The technical data of the drive manufacturer must be observed!

Delay times for drive

Options: standard
user defined

Some drives do not deliver full power immediately. It is delivered after a starting delay of a few milliseconds. Other drives continue to run for a few milliseconds after switching off (stopping delay). For some drives it may be necessary to compensate delay times during run out and start up of the drive, e.g. blinds/shutters should be positioned precisely.

Note

These parameters must only be entered if you require even more exact positioning of the blinds/shutters. Generally, the basic parameters are adequate to ensure correct operation.

- *standard*: In this setting, the delay time (0 ms) cannot be changed.
- *user defined*: The following parameters appear:

Difference between coasting delay and start-up delay in ms [-128...127]

Options: -128...0...127

This parameter defines the minimum coasting and start-up delay for the drive. The difference can be calculated if the values for the coasting and start-up delays of the drive are known or have been determined. The difference is calculated as follows:

Difference = stopping delay - starting delay

Caution

The technical data of the drive manufacturer must be observed!

Minimum run time for drive in ms [10...255]

Options: 10...50...255

This parameter defines the minimum operating time of the drive.

Caution

The technical data of the drive manufacturer must be observed!

3.2.5.3 Parameter window A: Blinds/Shutters

In this parameter window, all the specific settings for blinds/shutters to be controlled are undertaken.

Note

All functions and parameters that relate to settings for slats in the following section are only available in the operation mode *control with slat adjustment*.

<ul style="list-style-type: none"> General Manual operation Weather alarms A: General A: Safety/Weather A: Drive A: Blinds/Shutter A: Functions A: Status Messages B: General B: Safety/Weather B: Drive B: Blinds/Shutter B: Functions B: Status Messages C: General C: Safety/Weather C: Drive 	<p>Determine times for slat</p> <p style="text-align: right;">via duration of slat adjustment (step) ▼</p> <p>Duration of slat adjustment (step) in ms [50...1,000] <input type="text" value="200"/></p> <p>Number of slat adjustments (from 0% = open to 100% = closed) <input type="text" value="7"/></p> <p>Position of slat after arriving on lower end position (100% = disabled) <input type="text" value="100"/></p> <p>Limit travelling range <input type="text" value="no"/></p> <p>Set dead times <input type="text" value="standard"/></p> <p>Dead time blinds/shutter from bottom until moving up in ms [0...5,000] <input type="text" value="0"/></p> <p>Dead time of slat from 100% closed until slat turn in ms [0...5,000] <input type="text" value="0"/></p> <p>Slippage of slat on change of direction in ms [0...5,000] <input type="text" value="0"/></p>
---	---

Determine times for slat

Options: via duration of slat adjustment (step)
via total duration for slat turning

- *via duration of slat adjustment (step)*: The following parameters appear:

Duration of slat adjustment (step) in ms [50...1,000]

Options: 50...200...1,000 ms

This parameter determines the time duration that the slats of the blinds/shutters, e.g. blind, use for every opening or closing slat adjustment.

Number of slat adjustments (from 0% = open to 100% = closed)

Options: 1...7...60

This parameter determines the number of slat adjustments (steps) that are required to turn the slats from fully closed to fully opened. The respective adjustment angle per slat adjustment is calculated from the switch on duration, the slat adjustment and the number of slat adjustments.

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- *via total duration for slat turning*: This process for determination of the slat adjustment times is particularly suitable when high precision is required with control of the blinds/shutters, e.g. slat tracking adjustment. First of all the time must be determined that the slat requires to turn from fully closed (100 %) to fully opened (0 %). If the total slat turning time is determined, only the number of required slat adjustments for a complete turning of the slat from closed to open must be entered. The device automatically calculates the duration for a slat adjustment.

Example	
Total turning time:	1500 ms
Number of slat adjustments	7
Time for a slat adjustment (stepwise) =	1500 ms / 7 steps ~ <u>214 ms</u>

Note
As times under 50 ms cannot be processed, the calculated time (ratio of total turning time and number of slat adjustments) must always be larger than 50 ms.

The following parameters appear:

**Duration to turn slat from 0% - 100%
in ms [50...60,000]**

Options: 50...1500...60000

The measured total turning time of the slats is entered here. The time must be determined precisely to achieve the best possible result for the positioning of the slats.

**Number of slat adjustments
(from 0% = open to 100% = closed)**

Options: 1...7...60

This parameter determines the number of slat adjustments that are required to turn the slats from fully closed to fully opened. The corresponding switch on duration for a slat adjustment is calculated from the switch on duration for the complete slat turning action and the required number of slat adjustments.

**Position of slat after arriving on
lower end position (100% = disabled)**

Options: 100 %

...
0 %

This parameter determines the slat position that the blinds/shutters should assume after reaching the lower end position.

The slats are normally closed after the blinds/shutters have reached the end positions.

- 100 %: The slats are CLOSED.
- ... %: The slats are moved to the corresponding end position.
- 0 %: The slats are completely OPEN.

Limit travelling range

Options: no
via object "Blinds/shutters up-down limited"
via object "Enable limitation"

For certain applications, the travelling range of the blinds/shutters can be limited for the user.

Note

The limitation only acts with a telegram to the communication object *Blinds/shutters up-down limited* and a scene telegram.

The limit does not apply for:

- Reaction on bus voltage failure, recovery, download and ETS reset
- Service functions (weather alarms, blocks and forced operation)
- Manual operation
- Automatic telegrams
- Parameter setting *Move to position over lower/upper end position*
- Reference movement or travel detection

- *via object "Blinds/shutters up-down limited"*: The communication object *Blinds/shutters up-down limited* is enabled. The following parameters appear:

Upper limit in % [0...100]
(0% = top; 100% = bottom)

Lower limit in % [0...100]
(0% = top; 100% = bottom)

Options: 0...100

This parameter defines the upper and lower limit of the travel range.

- *...via object "Enable limitation"*: The communication object *Enable limitation* is enabled. If the limitation has been activated via the communication object, the blind/shutter moves to the predefined limits. The following parameters appear:

Upper limit in % [0...100]
(0% = top; 100% = bottom)

Options: 0...100 %

This parameter determines the upper limit of the travelling range.

Upper limit valid for automatic commands

Options: yes
 no

- *yes*: The entered upper limit of the blind/shutter is considered and also executed with automatic telegrams.
- *no*: The upper limit of the blind/shutter is not considered with automatic telegrams. The blind/shutter moves to the calculated position.

Upper limit valid for direct commands

Options: yes
 no

- *yes*: The entered upper limit of the blind/shutter is considered and also executed with direct telegrams.
- *no*: The upper limit of the blind/shutter is not considered with direct telegrams.

Lower limit in % [0...100] (0% = top; 100% = bottom)

Options: 0...100

The lower limit of the travelling range is set here.

Lower limit valid for automatic commands

Options: yes
 no

- *yes*: The entered lower limit of the blind/shutter is considered and also executed with automatic telegrams.
- *no*: The lower limit of the blind/shutter is not considered with automatic telegrams. The blind/shutter moves to the calculated position.

Lower limit valid for direct commands

Options: yes
 no

- *yes*: The entered lower limit of the blind/shutter is considered and also executed with direct telegrams.
- *no*: The lower limit of the blind/shutter is not considered with direct telegrams.

Set dead times

Options: standard
 user defined

- *standard*: The dead times are deactivated.
- *user defined*: The sun protection system dead times of the blind/shutter mechanisms can occur individually. They can be caused by ageing of the blind/shutter, e.g. mechanical loading. It may occur that precision positioning of the blind/shutter may no longer be possible. The following parameters appear for compensation of various dead times with the blinds/shutters.

Dead time blinds/shutters from bottom until moving up in ms [0...5,000]

Options: 0...5,000

This parameter determines the compensation time that the blind/shutter requires after a movement telegram until the first upward motion occurs.

Examples

The roller shutter is in the lower end position (= 100 % down). The movement telegram *UP* is received. The motor shaft starts to turn. The roller shutter remains unchanged in its end position, until time X (= dead time), when the roller shutter commences its UP movement.

Dead time of slat from 100% closed until slat turn in ms [0...5,000]

Note

These parameters for slat adjustment are available exclusively in operation mode *control with slat adjustment*.

Options: 0...5,000

This parameter determines the compensation time that is required after a telegram for a slat adjustment from completely closed (= 100 %) until the first turn/adjustment of the slat.

Examples

The slats are completely closed (= 100 %). The telegram *Slat adjustment UP* is received. The motor shaft starts to turn. However, the slat remains unchanged in the closed position until the slat turns/adjusts after a time X (= dead time).

Slippage of slat on change of direction in ms [0...5,000]

Options: 0...5,000 ms

This parameter determines the duration that is required for the slat slippage on a change of direction to ensure that the slat can be precisely positioned.

Note

These parameters for slat adjustment are available exclusively in operation mode *control with slat adjustment*.

Examples

The slats are in the horizontal position (50 %). The telegram *Slat adjustment DOWN* is received. The slat closes to position 60 %. Hereafter, a *Slat adjustment UP* telegram (= change of direction) follows. The slat positioning to position 55 % must now be exactly in the horizontal position (50 %) again. Compensation of the slat slippage during a change of direction in order to precisely position the slat is undertaken by adjusting the parameter.

Slippage of blinds/shutters on change of direction in ms [0...5,000]

Note

These parameters for slat adjustment are available exclusively in operation mode *control without slat adjustment*.

Options: 0...5,000

This parameter determines the duration that is necessary for the slippage of the blind/shutter after a change of direction.

Tensioning blinds/shutters or slot positioning

Note

These parameters for slat adjustment are available exclusively in operation mode *control without slat adjustment*.

Options: no
after each down command
only after reaching lower end position

This function is used for tensioning or tightening textile blinds/shutters (e.g. the cloth of an awning with articulated arms) or for setting slot positioning (e.g. light or ventilation slots) on roller shutters. In this way, the blind/shutter is stopped at the end of a DOWN motion and moved in the opposite direction for a parameterizable time.

- *no*: The function is deactivated.
- *after each down command*: Tensioning or slot positioning is undertaken after each downward motion, even with positioning movements. A further parameter appears.

- *only after reaching lower end position:* Tensioning or slot positioning is only undertaken when the blind/shutter is in the lower end position. The following parameters appear:

**Time for tensioning/slot positioning
in ms [0...5,000]**

Options: 0...5,000

Using this parameter, the time that is used to move the blind/shutter in the opposite direction of travel after a DOWN movement is set.

Note

Tensioning is undertaken after a DOWN telegram. When it is activated, the tensioning/slot positioning is triggered by the following kinds of movement telegrams:

- Direct telegrams (DOWN, position, scene...)
- Automatic telegrams
- Manual telegrams from the manual push buttons
- Safety telegrams, e.g. weather alarm, forced operation

The above mentioned motion telegrams must take longer than the set period for the tensioning/slot positioning.

The duration of tensioning/slot positioning must be less than the determined or parameterized total motion time for the DOWN travel.

The duration of tensioning/slot positioning influences the position calculation and the status communication objects. The value for the current position, after tensioning/slot positioning has been performed, is fed back. During a movement telegram with active awning tensioning/slot positioning, a position value minus the duration of the tensioning is fed back.

Example:

Total travel time DOWN in s	60 s \triangleq 100 %
Position telegram in %	50% \triangleq 30 s
Duration for tensioning/slot positioning in s	0.5 s \triangleq [(100 % x 0.5 s / 60 s)] = 0.8 %
Position feedback in %	= 50 % - 0.8 = <u>49.2 %</u>

3.2.5.4 Parameter window **A: Functions**

In this parameter window, the functions *Positions/Presets*, *Automatic Sun Protection* and *8 bit Scene* are enabled for each output. A separate parameter window then appears for every function.



Enable positions/presets

Options: yes
 no

- yes: The parameter window *A: Positions/Presets*, page 70, is enabled.

Enable automatic sun protection

Options: yes
 no

- yes: The parameter window *A: Automatic Sun Protection*, page 73, and the following communication objects are enabled:
 - *Activation of autom. control*
 - *Sun*
 - *Move to height for sun 0..255*
 - *Adjust slat for sun 0..255*

Enable 8 bit scene

Options: yes
 no

- yes: The parameter window *A: Scene*, page 79, and the communication object *8 bit scene* are enabled.

3.2.5.4.1 Parameter window A: Positions/Presets

In this parameter window, the preset positions are set. Furthermore, you set how the positions are to be approached here.

The screenshot shows a software interface with a left-hand navigation menu and a main parameter area. The navigation menu includes: General, Manual operation, Weather alarms, A: General, A: Safety/Weather, A: Drive, A: Blinds/Shutter, A: Functions, **A: Positions/Presets** (highlighted), and A: Status Messages. The main area contains three rows of settings, each with a label and a dropdown menu:

Enable communication objects "Move to pos. height/Move slat 0..255"	no
Enable communication objects "Move to/set position 1-4" 1 bit	no
Move to position	directly

Enable communication objects "Move to pos. height/Move slat 0...255"

Options: yes
 no

The blind/shutter can be moved to any desired position, and the slats can be positioned at any desired angle via two separate communication objects. Both communication objects are 1 byte communication objects [0...255].

The following applies for the position of the blinds/shutters: The value 0 corresponds to the upper position (0 %). The value 255 corresponds to the lower position (100 %).

The following applies for the position of the slats: The value 0 corresponds to the slat position opened (0 %). The value 255 corresponds to the slat position closed (100 %).

These positions are partly dependent on the respective setting of the drive.

The switch on duration and the number of steps are the basis for the calculation of the slat positioning.

The total travel time (via manual measurement and entry or via automatic travel detection) is the basis for the calculation of the height of the blind/shutter.

- yes: The communication objects *Move to position height 0..255* and *Move slats 0..255* are enabled.

Enable communication objects "Move to/set position 1-4" 1 bit

Options: yes
 no

Up to 4 preset positions can be set for every output. A group address with the value 0 or 1 is approached for every 2 preset positions (1, 2 or 3, 4).

This function is particularly suitable for repeated movement to preferred blind/shutter positions in conjunction with 1 bit telegrams.

The saved preset positions can be very easily changed without programming of the device via the KNX. The blind/shutter must simply be brought to the new required target position. The new position is accepted into the device memory via the communication objects *Set position 1, 2* or *Set position 3, 4* with the values 0 or 1.

Recall and saving of a preset position can be implemented using just a single push button. For example, a position is recalled with a short button push, and with a long button push the current position is saved as a new preset position.

- *yes*: The communication objects *Move to position 1, 2*, *Move to position 3, 4*, *Set position 1, 2* and *Set position 3, 4* are enabled. In addition, the following parameters appear:

Overwrite position values (presets) during download

Options: yes
 no

- *yes*: The preset positions are overwritten during the download with the settings in the application.
- *no*: The preset positions already saved by the user (see above) are retained during a renewed download of the application and are not overwritten with the preset values.

Note

If individual preset values have been set during current operation by a user, the parameter should then be set to *no* to ensure that the individual positions are retained.

Position 1: Height in % [0...100]
(0% = top; 100% = bottom)

Position 2: Height in % [0...100]
(0% = top; 100% = bottom)

Position 3: Height in % [0...100]
(0% = top; 100% = bottom)

Position 4: Height in % [0...100]
(0% = top; 100% = bottom)

Options: 0...20...40...60...80...100

This parameter determines the blind/shutter height when moving to a preset position.

Position 1: Slat in % [0...100]
(0% = open; 100% = closed)

Position 2: Slat in % [0...100]
(0% = open; 100% = closed)

Position 3: Slat in % [0...100]
(0% = open; 100% = closed)

Position 4: Slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

Options: 0...20...40...60...80...100

This parameter determines the slat positions when moving to a preset position.

Move to position

Options: directly
indirectly via upper end position
indirectly via lower end position
indirectly via shortest way

- *directly*: The blind/shutter moves from the current position directly to the new target position.
- *indirectly via lower end position*: The blind/shutter will initially move fully up or down and then move to the target position.
- *indirectly via shortest way*: The blind/shutter first of all moves fully upwards or fully downwards, depending on which of the paths is the shortest from the current position to the target position, and then moves to the target position.

3.2.5.4.2

Parameter window A: Automatic Sun Protection

In this parameter window, all settings for the function automatic sun protection are undertaken.

General	Deactivation of automatic control	via object "Activation" and move command
Manual operation		
Weather alarms	Automatic reactivation of automatic control	deactivated
A: General		
A: Safety/Weather	Toggling to automatic control	enabled
A: Drive		
A: Blinds/Shutter	Toggling to direct control	enabled
A: Functions		
A: Automatic Sun Protection	Position for sun = 1 (sun)	down
A: Status Messages	Position for sun = 0 (no sun)	up
B: General	Delay for sun = 1 in s [0...6,000]	0
B: Safety/Weather		
B: Drive	Delay for sun = 0 in s [0...6,000]	0
B: Blinds/Shutter		
B: Functions	Read activated automatic objects after bus voltage recovery	no
B: Status Messages		
C: General	Enable heating/cooling automatic	no
C: Safety/Weather		
C: Drive		

Together with other KNX components (particularly with the Shutter Control Unit JSB/S), a comfortable automatic sun protection control system can be established with the Blind/Roller Shutter Actuator. Automatic can be individually activated for each output.

For further information about the automatic sun protection see: Application Manual [Shutter Control](#)

Note

There are direct communication objects:

- Move blinds/shutters up-down
- Slat adjustment/ Stop Up-Down
- Blinds/shutters up-down limited
- Move to position 0..255
- Move slat 0..255
- Move to position 1, 2
- Move to position 3, 4
- Scene

If travel detection or a reference movement is triggered during active automatic control, it will be undertaken.

Deactivation of automatic control

Options: via object "Act. of automatic control"
 via object "Activation" and move command

- *via object "Act. of automatic control"*: The automatic control is activated = 1 and deactivated = 0, exclusively by a telegram to the communication object *Activation of aut. control*. If automatic control is activated, the incoming telegrams to the direct communication objects are not carried out. After deactivation of automatic control, the blind/shutter remains in its current position and can be controlled again via direct communication objects.
- *via object "Activation" and move command*: Incoming telegrams to direct communication objects additionally lead to a deactivation of automatic control. The following parameter appears:

Automatic reactivation of automatic control

Options: deactivated
 activated

If the automatic control is deactivated via one of the direct communication objects, it is possible to reactivate automatic control automatically after a parameterized time.

- *activated*: The following parameter appears.

Time to reset automatic operation automatically in min. [10...6,000]

Options: 10...300...6,000

Note

A change of the parameter value will only become active after the next deactivation of automatic control by a direct communication object.

Toggle to automatic control

Toggle to direct control

Options: enabled
 disable/enable via object

This parameter determines how the toggling to automatic control and/or enabling on direct control or whether enable/disable via an additional communication object is undertaken.

- *disable/enable via object*: The communication objects *Disable/enable autom. control* and *Disable/enable direct control* are enabled.

Position for sun = 1 (sun)

Position for sun = 0 (no sun)

Options: no reaction
 up
 down
 stop
 position 1...4
 individual position
 receive position via object
 receive position and slat via object¹
 receive only slat via object¹
 receive height via object²
 deactivated

¹ Only in operation mode control with slat adjustment

² Only in operation mode control without slat adjustment

This parameter is used to set the response with communication object sun = 1 (sun) and with communication object sun = 0 (no sun) in automatic operation.

- *no reaction*: Any movement currently underway is completed.
- *up or down*: The blind/shutter(s) move up or down when the sun shines.
- *stop*: Any movement currently underway is stopped immediately. The outputs are disconnected from the voltage supply.
- *position 1...4*: If one of these positions is selected, the blind/shutter(s) move to a preset position. The blind/shutter height and slat adjustment of the respective position are set in parameter window A: *Positions/Presets*, page 70.
- *individual position*: An individual position (freely defined) at sun = 1 or 0 is set. The following parameters appear:

Position height in % [0...100]
(0% = top; 100% = bottom)

Position slat in % [0...100]
(0% = open; 100% = closed)

Note
The parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

The parameters for slat adjustment are available exclusively in operation mode *control with slat adjustment*.

This parameter defines the height or the slat setting of the blind/shutter.

Options: 0...100

- *receive position and slat via object*: This option is suitable particularly in conjunction with the Shutter Control Unit JSB/S.

Note
These parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

These parameters for slat adjustment are available exclusively in operation mode *control with slat adjustment*.

- *receive only slat via object*: With activated automatic function and sun = 1, only the value on the communication object *Sun: Adjust slat for sun 0..255* is evaluated.

Note
These parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

These parameters for slat adjustment are available exclusively in operation mode *control with slat adjustment*.

Note
A slat adjustment is not carried out if the blind/shutter is in its upper end position.

A slat adjustment is not carried out if the blind/shutter is in its upper end position.

- *receive position via object*: The position of the blind/shutter is received via the communication object *Sun: Adjust slat for sun 0..255*.

Note
These parameters for slat adjustment are available exclusively in operation mode <i>control without slat adjustment</i> .

These parameters for slat adjustment are available exclusively in operation mode *control without slat adjustment*.

- *deactivated*: No movement is performed at sun = 1 or 0.

Delay for sun = 1 in s [0...6,000]

Delay for sun = 0 in s [0...6,000]

Options: 0...6,000

This parameter defines the delayed reaction to the communication object *Sun*.

Note

If in parameter window *General*, a time has been entered in the parameter *Time-delayed switching of drives*, this time must be added to the delay times at sun = 1 or 0.

The delay times can also be set in the brightness sensor and in the shutter control unit. It must be noted that the delay times can add up in this way.

Read activated automatic objects after bus voltage recovery

Options: yes
 no

- **yes:** After bus voltage recovery, the values necessary for automatic control can be read via the KNX. The values of the communication objects are also updated in this way.

Note

The read flags must be set with the communication objects to be read.

Enable heating/cooling automatic

Options: yes
 no

This parameter activates the HEATING/COOLING automatic control.

- **yes:** The communication objects *Heating*, *Cooling*, *Presence* and *Receive room temperature* are enabled. The following parameters appear:

**Delay for presence = 1
in s [0...6,000]**

**Delay for presence = 0
in s [0...6,000]**

Options: 0...6,000

The heating/cooling automatic is an extension of the sun protection control and can only be activated together with automatic control. With communication object *Presence*, you can toggle between sun protection and heating/cooling automatic, e.g. via a presence detector.

In order to avoid that the blinds/shutters continuously move up and down as soon as a person enters or leaves the room, the reaction to the communication object *Presence* can be delayed. In this way, for example, the blind/shutter goes to the sun protection position as soon as a person enters the room, and when the person leaves the room Enable HEATING/COOLING automatic is activated after a delay.

Position for heating = 1 and sun = 1

Position for heating = 1 and sun = 0

Position for cooling = 1 and sun = 1

Position for cooling = 1 and sun = 0

Options: no reaction
 up
 down
 stop
 position 1...4
 individual position

This parameter sets the response with sun = 1 (sun) or with sun = 0 (no sun) during the heating/cooling phase.

The phases HEATING = 1 or COOLING 1 can, for example, be triggered preferably by an external temperature sensor, room thermostat or by a yearly clock timer.

If both the HEATING and COOLING operations are activated simultaneously or none of both operation modes are activated, this is an undefined state. The blinds/shutters will be automatically controlled using automatic sun protection until this condition is remedied.

Note

If the system should only use HEATING/COOLING automatic, the communication object *Presence* may only be linked with a group address. Accordingly, the communication object automatically has the default value 0. Thus heating/cooling automatic is immediately activated via the communication object *Activation of autom. control*, which is automatically activated.

- *no reaction*: If the blind/shutter is performing a movement, this movement action to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- *up*: The blind/shutter(s) move up.
- *down*: The blind/shutter(s) move down.
- *stop*: Any movement currently underway is stopped immediately. The outputs are disconnected from the voltage supply.
- *position 1...4*: If one of these positions are selected, the blind/shutter(s) move to a preset position. The blind/shutter height and slat adjustment of the respective position are set in parameter window A: *Positions/Presets*, page 70).
- *individual position*: An individual position (freely defined) at sun = 1 is set. The following parameters appear:

Position height in % [0...100]
(0% = top; 100% = bottom)

Position slat in % [0...100]
(0% = open; 100% = closed)

Note

The parameters for slat adjustment are available exclusively in operation mode *control with slat adjustment*.

Options: 0...100

This parameter defines the height or the slat setting of the blind/shutter.

Use overheat control

Options: yes
 no

Heat up of the occupied room is avoided using overheat control. During the heating period, rooms with large glass fronts can heat up very quickly in strong sunshine, even if the external temperature is low. Overheat control is used in order to avoid the need for any cooling energy.

- **yes:** The communication object *Receive room temperature* as well as the following parameters appear:

Upper threshold value room temperature in °C [21...50]

Options: 21...24...50

If the temperature threshold here is reached or exceeded, the blinds/shutters will move to a parameterizable position, e.g. DOWN. If the temperature value drops by more than 3 degrees Kelvin, overheat control is ended. The blinds/shutters are then moved to the parameterized position as set by the values of communication objects *Heating* and *Sun*.

Position at upper threshold value and sun = 1

Options: down
 position 1...4
 individual position

The position of the blinds/shutters entered here is approached, as soon as the predefined threshold has been exceeded.

- *down:* The blinds/shutters move down, when the upper threshold for room temperature is exceeded and at sun = 1.
- *position 1...4:* The blinds/shutters move when the upper threshold for room temperature is exceeded and at sun = 1, as set in the parameter window A: *Positions/Presets*, page 70, to adjustable position X.
- *individual position:* A freely definable individual position can be set, which is used when the room temperature threshold is exceeded and for sun = 1. The following parameters appear:

Position height in % [0...100]

(0% = top; 100% = bottom)

Position slat in % [0...100]

(0% = open; 100% = closed)

Options: 0...100

This parameter defines the height or the slat setting of the blind/shutter.

Important

At HEATING/COOLING = 1 or HEATING/COOLING = 0 (undefined operation state), the output is only controlled by automatic sun protection.

3.2.5.4.3 Parameter window A: Scene

In this parameter window, all settings for the 8 bit scene are undertaken. Each output can be allocated up to 18 different scenes.

General	Overwrite scenes on download	no
Manual operation		
Weather alarms		
A: General	Use 1st assignment	no
A: Safety/Weather		
A: Drive	Use 2nd assignment	no
A: Blinds/Shutter		
A: Functions	Use 3rd assignment	no
A: Scene	Use 4th assignment	no
A: Status Messages		

Overwrite scenes on download

Options: yes
 no

With this parameter, the reaction of the set scenes at a download is determined.

- *yes*: The scenes are overwritten during the download with the parameterized scene values.
- *no*: The parameterized scene values are not accepted at a download.

Use 1st assignment

...

Use 18th assignment

Options: yes
 no

With the scene function, up to 64 different scenes are managed via a single group address. With this group address, all slaves, which are integrated into a scene, are linked via a 1 byte communication object. The following information is contained in a telegram:

- Number of the scene (1...64)
- Telegram: *Recall scene* or *Save scene*.

Each blind/shutter can be integrated in up to 18 scenes. Thus, for example, all roller blinds can be opened in the morning via a scene and closed in the evenings, or blinds/shutters can be integrated into light scenes.

If a telegram is received on the communication object *Scene*, all outputs assigned to the sent scene number will then move to the saved scene position, or the current position will be saved as a new scene position.

- yes: The following parameters appear:

Assignment to scene number 1...64

Options: Scene no. 1...Scene no. 64

In this parameter, the output is assigned to a scene number (1...64). As soon as the device receives a telegram with this scene number on the communication object *8 bit scene* (No. x), it will recall the corresponding scene.

- *Scene no. A*: In this parameter, the output is assigned to a scene number.

**Position height in % [0...100]
(0% = top; 100% = bottom)**

**Position slat in % [0...100]
(0% = open; 100% = closed)**

Note
The parameters for slat adjustment are available exclusively in operation mode <i>control with slat adjustment</i> .

Options: 0...100

These parameters determine the height and/or the slat position that the blinds/shutters should assume when the respective scene is recalled.

3.2.5.5 Parameter window A: Status messages

The settings for the status messages and their sending reaction are made in this parameter window.

General	Enable communication object	no
Manual operation	"Status height/slat 0...255" 1 byte	
Weather alarms	Enable communication object	no
A: General	"Status upper/lower end pos." 1 bit	
A: Safety/Weather	Enable communication object	no
A: Drive	"Status operability" 1 bit	
A: Blinds/Shutter	Enable communication object	no
A: Functions	"Status information" 16 bit	
A: Status Messages		

Enable communication object "Status height 0...255" 1 byte

Options: yes
 no

The output sends the relative position of the blinds/shutters and the position of the slats to two separate communication objects each as a 1 byte value (0...255). The following applies for the position of the blinds/shutters: The value 0 corresponds to the position upper (0 %). The value 255 corresponds to the position lower (100 %).

The following applies for the position of the slats: The value 0 corresponds to the slat position opened (0 %). The value 255 corresponds to the slat position closed (100 %).

- **yes:** The communication objects *Status height 0...255* and *Status slat 0...255* (only in operation mode *control with slat adjustment*) are enabled. The following *parameter appears:*

Send object value

Options: no, update only
 after a change
 after request
 after a change or request

- *no, update only:* The status is updated but not sent (the status can be read via the communication object).
- *after a change:* The status is sent after a change.
- *after request:* The status is sent after a request.
- *after a change or request:* The status is sent after a change or a request.

Enable communication object "Status upper/lower end pos." 1 bit

Options: yes
 no

The output sends the information if the blinds/shutters are in the upper or lower end position to two separate communication objects. If the information is sent to both communication objects stating that the respective end position is not reached, the blinds/shutters are in an intermediate position.

This function is particularly suitable for further logic of individual outputs in order to mutually interlock the outputs to one another. Awnings may not move, for example, if the window is opened, and the window may also not be opened by a drive if the awning is extended.

- *yes*: The communication objects *Status upper end position* and *Status lower end position* are enabled. The following parameter appears:

Send object value

Options: no, update only
 after a change
 after request
 after a change or request

- *no, update only*: The status is updated but not sent (the status can be read via the communication object).
- *after a change*: The status is sent after a change.
- *after request*: The status is sent after a request.
- *after a change or request*: The status is sent after a change or a request.

Enable communication object "Status operability" 1 bit

Options: yes
 no

This function is particularly suitable to indicate to the user via an LED that the blinds/shutters can not be moved at the current time via the direct communication objects (e.g. UP, DOWN...) and that the automatic control cannot be activated.

Operation is blocked if

- a safety function has been activated, e.g. weather alarm, block or forced operation.
 - the manual operation is activated.
 - communication objects simultaneously block the direct and automatic operation.
- *yes*: The communication object *Status operability* is enabled. The following parameter appears:

Send object value

Options: no, update only
 after a change
 after request
 after a change or request

- *no, update only*: The status is updated but not sent (the status can be read via the communication object).
- *after a change*: The status is sent after a change.
- *after request*: The status is sent after a request.
- *after a change or request*: The status is sent after a change or a request.

Enable communication object "Status automatic" 1 bit

Options: yes
 no

The output sends information indicating whether the automatic control is activated or deactivated (1 bit).

This function is particularly suitable to indicate to the user via an LED if the automatic control has been activated.

- *yes*: The communication object *Status automatic control* is enabled. The following parameter appears:

Send object value

Options: no, update only
 after a change
 after request
 after a change or request

- *no, update only*: The status is updated but not sent (the status can be read via the communication object).
- *after a change*: The status is sent after a change.
- *after request*: The status is sent after a request.
- *after a change or request*: The status is sent after a change or a request.

Enable communication object "Status information" 16 bit

Options: yes
 no

This parameter enables a 16 bit communication object, which can be used to read, send or query further status information.

- *yes*: The communication object *Status information* is enabled. The following parameter appears:

Send object value

Options: no, update only
 after a change
 after request
 after a change or request

- *no, update only*: The status is updated but not sent (the status can be read via the communication object).
- *after a change*: The status is sent after a change.
- *after request*: The status is sent after a request.
- *after a change or request*: The status is sent after a change or a request.

3.2.6 Parameter *Operation mode ventilation flaps, switch mode*

General	Operation mode	ventilation flaps, switch mode
Manual operation		
Weather alarms		
A: General	Reaction on bus voltage failure/recovery programming and reset	
A: Safety/Weather		
A: Status Messages	Reaction on bus voltage failure	open/on
B: General		
B: Safety/Weather	Reaction after bus voltage recovery	open/on
B: Drive		
B: Blinds/Shutter	Reaction after programming or after ETS reset	open/on
B: Functions		
B: Status Messages	Invert output	no
C: General		
C: Safety/Weather	Staircase lighting function	deactivated

Operation mode

Options: control with slat adjustment
 control without slat adjustment
 ventilation flaps, switch mode

This parameter defines the operating mode of the output. The communication objects and the parameters for the respective outputs differ, depending on the operation mode. The description of the operation modes *control with slat adjustment* and *control without slat adjustment* can be found from page 50.

- *ventilation flaps, switch mode*: The following parameters appear:

Reaction on bus voltage failure

Reaction after bus voltage recovery

Reaction after programming or after ETS reset

Options: no reaction
 open/on
 close/off

This parameter defines the reaction on bus voltage failure, bus voltage recovery and after a download and ETS reset.

- *no reaction*: The output contacts remain in their current position.
- *open/on*: The output contact (terminal 1, 3, 6, 8 or 11, 13, 16, 18) closes. The ventilation flap is opened, or the connected loads are switched on.

Note

At bus voltage failure, the output remains permanently switched on, even when the *Staircase lighting function* is activated.

After bus voltage recovery and with active staircase lighting function, the output switches off, after the parameterized switch on duration or opening time has timed out.

- *close/off*: The output contact (terminal 1, 3, 6, 8 or 11, 13, 16, 18) opens (neutral middle position). The ventilation flap is closed or the connected loads are switched off.

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Invert output

Options: yes
 no

This parameter inverts the reaction of the output.

- **yes:** If a telegram with the value 1 is received on the communication object *Flaps open-closed/on-off*, the ventilation flap closes, or the load is switched off. If a telegram with the value 0 is received, the ventilation flap opens, or the load is switched on. Just as all *settings that have been made for the output, e.g. OPEN/ON or CLOSE/OFF on weather alarms, bus voltage recovery etc., are inverted.*

Staircase lighting function

Options: deactivated
 activated

This parameter enables the function *Staircase lighting*.

- **activated:** The following parameter appears.

Duration/opening time for staircase lighting function in s [0...30,000]

Options: 0...60...30,000

This parameter defines the switch on duration or the opening time for the staircase lighting.

3.2.6.1

Parameter window A: Safety/Weather

In this parameter window, all settings affecting the function *Safety/Weather* are undertaken.

General	Parameter settings	standard
Manual operation	Output reacts on communication object for wind alarm no.	1
Weather alarms	Position on wind alarm	activated - open/on
A: General	Position on rain alarm	deactivated
A: Safety/Weather	Position for frost alarm	deactivated
A: Status Messages	Block	deactivated
B: General	Forced operation (1 bit/2 bit)	deactivated
B: Safety/Weather	Position on reset of weather alarm, blocking and forced operation	open/on
B: Drive	Order of priority for safety alarm functions	1.Weather alarm - 2.Block - 3.Forced operation
B: Blinds/Shutter	Wind, rain, and frost alarm are active if objects on page "Weather alarms" are enabled and linked with group addresses	<-- Note
B: Functions		
B: Status Messages		
C: General		
C: Safety/Weather		
C: Drive		
C: Blinds/Shutter		
C: Functions		
C: Status Messages		
D: General		

Parameter settings

Options: standard
user defined

This parameter defines the range and scope of parameter settings.

- *standard*: In the event of a wind alarm, this blind/shutter moves via parameter *Position on wind alarm* to a preset position. This setting is usually sufficient in smaller projects. The output only reacts with this setting to the communication object *Wind alarm no. 1*.
- *user defined*: Complete parameter access for complex applications or safety settings of the output are possible. Other parameters appear.

Output reacts on communication object for wind alarm no.

Options: output does not react on wind alarm
1/ 2/ 3/ 1+2/ 1+3/ 2+3/ 1+2+3

This parameter determines the wind alarm communication objects, to which the output reacts. The values of the assigned communication objects are linked by a logic OR.

Position on wind alarm

Position on rain alarm

Position on frost alarm

Options: activated - no reaction
 activated - open/on
 activated - close/off
 deactivated

This parameter defines the position of the output when a weather alarm (wind, rain, frost) is received. The output can no longer be operated via other communication objects or even by manual operation, until the weather alarm has been rescinded.

- *activated - no reaction*: If the output is performing a movement, this ends. If the output is at rest, it will remain unchanged in its position.
- *activated - open/on*: The output contact is activated. The ventilation flap opens, or the load is switched on.
- *activated - close/off*: The output contact is disconnected from the voltage supply. The ventilation flap closes, or the load is switched off.
- *deactivated*: The output does not react to an alarm and the monitoring time. No setting can be made in the event of a weather alarm.

Block

Options: deactivated
 activated

This parameter enables function *Block*. The output moves, e.g. to a parameterized position, or the operation is blocked.

- *activated*: The communication object *Block* is enabled. The following parameter appears.

Position during blocking

Options: no reaction
 open/on
 close/off

This parameter determines the reaction of the output for the function *Block*.

- *no reaction*: If the output is performing a movement, this movement action to the target position is carried out. If the blind/shutter is at rest, it will remain unchanged in its position.
- *open/on*: The output contact is activated. The ventilation flap opens or the load is switched on.
- *close/off*: The output contact is disconnected from the voltage supply. The ventilation flap closes, or the load is switched off.

Forced operation (1 bit/2 bit)

Options: deactivated
 activated (1 bit)
 activated (2 bit)

With the function forced operation, the output can move via a 1 bit telegram to a determined position or to open/closed or on/off via 2 bit telegrams, and operation is blocked.

- *activated (1 bit)*: The communication object *Forced operation 1 bit* is enabled. The following parameter appears:

Position during forced operation

Options: no reaction
 open/on
 close/off

The reaction on forced operation is determined here.

- *no reaction*: If the output is performing a movement telegram, this ends. If the output is at rest, it will remain unchanged in its position.
 - *open/on*: The output contact is switched on. The ventilation flap opens, or the load is switched on.
 - *close/off*: The output contact is disconnected from the voltage supply. The ventilation flap closes or the load is switched off.
- *activated (2 bit)*: The communication object *Forced operation 2 bit* is enabled.

Position on reset of weather alarm, blocking and forced operation

Options: no reaction
 open/on
 close/off

This parameter determines the reaction on reset of weather alarm, blocking or forced operation.

- *no reaction*: If the output is performing a movement telegram, this ends. If the output is at rest, it will remain unchanged in its position. If during a weather alarm, block or forced operation the output has been parameterized with open/on or switched, then after reset of a safety telegram (e.g. wind alarm), the staircase lighting time is restarted.
- *open/on*: The output contact is switched on. The ventilation flap opens or the load is switched on.
- *close/off*: The output contact is disconnected from the voltage supply. The ventilation flap closes or the load is switched off.

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Order of priority for safety alarm functions

Options: Use 1st Weather alarm - 2. Block - 3. Forced operation
 Use 1st Weather alarm - 2. Forced operation - 3. Block
 Use 1st Block - 2. Weather alarm - 3. Forced operation
 Use 1st Block - 2. Forced operation - 3. Weather alarm
 Use 1st Forced operation - 2. Block - 3. Weather alarm
 Use 1st Forced operation - 2. Weather alarm - 3. Block

This parameter determines the sequence of priorities for the safety functions weather alarms (wind, rain, frost), block and forced operation. These functions have a higher priority than all other functions. If one of these functions is activated, the operation of the output is inhibited. This also applies during manual operation.

A priority must also be defined for safety priorities among one another. In this way, the output is correctly controlled if more than one security function is activated simultaneously.

Note
Wind, rain and frost alarm are only activated if on parameter page <i>Weather alarms</i> , the communication objects are enabled and linked to the group addresses!

3.2.6.2 Parameter window A: Status Messages

The settings for the status messages and their sending reaction are made in this parameter window.

General	Enable communication object "Status open-closed/on-off" 1 bit	no
Manual operation		
Weather alarms		
A: General	Enable communication object "Status operability" 1 bit	no
A: Safety/Weather		
A: Status Messages	Enable communication object "Status information" 16 bit	no
B: General		

Enable communication object "Status open-closed/on-off" 1 bit

Options: yes
 no

- *yes*: The communication object *Status open-closed/on-off* is enabled. The following parameter appears:

Send object value

Options: no, update only
 after a change
 after request
 after a change or request

- *no, update only*: The status is updated but not sent (the status can be read via the communication object).
- *after a change*: The status is sent after a change.
- *after request*: The status is sent after a request.
- *after a change or request*: The status is sent after a change or a request.

Enable communication object "Status operability" 1 bit

Options: yes
 no

This function is particularly suitable to indicate to the user via an LED that the output can not be operated at the current time via the direct communication objects (e.g. UP, DOWN...).

Operation is blocked if

- a safety function has been activated, e.g. weather alarm, block or forced operation.
- the manual operation is activated.
- *yes*: The communication object *Status operability* is enabled. The following parameter appears:

Send object value

Options: no, update only
 after a change
 after request
 after a change or request

- *no, update only*: The status is updated but not sent (the status can be read via the communication object).
- *after a change*: The status is sent after a change.
- *after request*: The status is sent after a request.
- *after a change or request*: The status is sent after a change or a request.

Enable communication object "Status information" 16 bit

Options: yes
 no

This parameter enables a 16 bit communication object, which can be used to read, send or query further status information.

- *yes*: The communication object *Status information* is enabled. The following parameter appears:

Send object value

Options: no, update only
 after a change
 after request
 after a change or request

- *no, update only*: The status is updated but not sent (the status can be read via the communication object).
- *after a change*: The status is sent after a change.
- *after request*: The status is sent after a request.
- *after a change or request*: The status is sent after a change or a request.

3.3 Communication objects

The functions of the Blind/Roller Shutter Actuators JRA/S x.y.5.1 with travel detection and manual operation are explained using the operation mode *control with slat adjustment*. On device types JRA/S x.y.2.1 and JRA/S x.y.1.1, there are fewer parameters as well as the corresponding communication objects.

- JRA/S x.y.2.1 does not feature a travel detection function.
- JRA/S x.y.1.1 does not feature manual operation and does not feature a travel detection function.

Parameters or communication objects, which are not available or only available in operation mode *control without slat adjustment*, are indicated accordingly.

Note

The device features several outputs. However, as the functions for all outputs are identical, only the functions of output A will be described.

3.3.1 Brief overview of the communication objects

CO No.	Function	Name	Data Point Type (DPT)	Length	Flags				
					C	R	W	T	U
0	In operation	General	DPT 1.002	1 bit	x	x		x	
1	Request status values	General	DPT 1.017	1 bit	x		x		
2	Disable/enable man. operation	General	DPT 1.003	1 bit	x		x		
3	Status manual operation	General	DPT 1.002	1 bit	x	x		x	
4	Wind alarm No. 1	Output A-X	DPT 1.005	1 bit	x		x	x	x
5	Wind alarm No. 2	Output A-X	DPT 1.005	1 bit	x		x	x	x
6	Wind alarm No. 3	Output A-X	DPT 1.005	1 bit	x		x	x	x
7	Rain alarm	Output A-X	DPT 1.005	1 bit	x		x	x	x
8	Frost alarm	Output A-X	DPT 1.005	1 bit	x		x	x	x
9	Not assigned								
10	Move blinds/shutters up-down	Output A	DPT 1.008	1 bit	x		x		
11	Slat adjustm./stop up-down	Output A	DPT 1.007	1 bit	x		x		
12	Blinds/shutters up-down limited Enable limitation	Output A	DPT 1.008 DPT 1.003	1 bit	x		x		
13	Move to position height 0..255	Output A	DPT 5.001	1 byte	x		x		
14	Move slats 0..255	Output A	DPT 5.001	1 byte	x		x		
15	Move to position 1, 2	Output A	DPT 1.022	1 bit	x		x		
16	Move to position 3, 4	Output A	DPT 1.022	1 bit	x		x		
17	Set position 1, 2	Output A	DPT 1.022	1 bit	x		x		
18	Set position 3, 4	Output A	DPT 1.022	1 bit	x		x		
19	Trigger travel detection Trigger reference movement	Output A	DPT 1.003 DPT 1.008	1 bit	x		x		

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CO No.	Function	Name	Data Point Type (DPT)	Length	Flags				
					C	R	W	T	U
20	8 bit scene	Output A	DPT 18.001	1 byte	x		x		
21	Activation of autom. control	Output A	DPT 1.003	1 bit	x		x	x	x
22	Sun	Output A	DPT 1.002	1 bit	x		x	x	x
23	Move to height for sun 0..255	Output A	DPT 5.001	1 byte	x		x	x	x
24	Adjust slat for sun 0..255	Output A	DPT 5.001	1 byte	x		x	x	x
25	Presence	Output A	DPT 1.002	1 bit	x		x	x	x
26	Heating	Output A	DPT 1.002	1 bit	x		x	x	x
27	Cooling	Output A	DPT 1.002	1 bit	x		x	x	x
28	Receive room temperature	Output A	DPT 9.001	2 byte	x		x	x	x
29	Disable/enable autom. control	Output A	DPT 1.003	1 bit	x		x	x	x
30	Disable/enable direct control	Output A	DPT 1.003	1 bit	x		x	x	X
31	Block	Output A	DPT 1.003	1 bit	x		x	x	x
32	Forced operation 1 bit Forced operation 2 bit	Output A	DPT 1.003	1 bit	x		x	x	x
			DPT 2.002	2 bit	x		x		
33	Status height 0...255	Output A	DPT 5.001	1 byte	x	x		x	
34	Status slat 0...255	Output A	DPT 5.001	1 byte	x	x		x	
35	Status upper end position	Output A	DPT 1.011	1 bit	x	x		x	
36	Status lower end position	Output A	DPT 1.011	1 bit	x	x		x	
37	Status operability	Output A	DPT 1.011	1 bit	x	x		x	
38	Status automatic control	Output A	DPT 1.011	1 bit	x	x		x	
39	Status information	Output A	Non DPT	2 byte	x	x		x	

* CO = communication object

3.3.2 Communication objects *General*

These communication objects are only available once per device for all operation modes and are used for interoperable device functions.

No.	Function	Object name	Data type	Flags
0	In operation	General	1 bit DPT 1.002	C, R, T
<p>This communication object is enabled if in parameter window <i>General</i> the parameter <i>Send object "in operation"</i> has been selected with option <i>yes</i>.</p> <p>In order to regularly monitor the operation of the Blind/Roller Shutter Actuator, an <i>In operation</i> telegram can be sent cyclically on the bus.</p> <p>As long as the communication object is activated, it sends a programmable in operation telegram.</p>				
1	Request status values	General	1 bit DPT 1.017	C, W
<p>If a telegram with the value x (x = 0/1/0 or 1) is received in the communication object, all status objects are sent on the bus, as long as these have not been programmed with the option <i>after a change or request</i>.</p> <p>The following function results for the option x = 1:</p> <p>Telegram value: 1 = all status messages, provided they are programmed with the option <i>after a change or request</i> are sent. 0 = no reaction</p>				
2	Disable/enable man. operation	General	1 bit DPT 1.003	C, W
<p>The <i>Manual operation</i> can be enabled or disabled via this communication object.</p> <p>The push button  on the device is enabled with the value 0. If the device is in <i>Manual operation</i>, it switches immediately to <i>KNX operation</i>.</p> <p>The push button  on the device is disabled with the value 1.</p> <p>Telegram value: 0 = enable  button 1 = button  disabled</p>				
3	Status manual Operation	General	1 byte DPT 1.011	C, R, T
<p>This communication object indicates whether manual operation is activated.</p> <p>Telegram value: 0 = manual operation not active 1 = manual operation active</p> <p>The <i>Status of manual operation</i> is sent <i>after a change</i>, <i>after request</i> or <i>after a change and request</i> depending on the parameterization.</p>				

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No.	Function	Object name	Data type	Flags
4	Wind alarm No. 1	Output A...X	1 bit DPT 1.005	C, R, T, U
5	Wind alarm No. 2			
6	Wind alarm No. 3			
7	Rain alarm			
8	Frost alarm			
<p>These communication objects can be cyclically monitored. The interval is determined by the monitoring time. If a telegram with the value 0 is received within the monitoring time, the operation of the blinds/shutters is enabled.</p> <p>If a telegram with the value 1 is received or no telegram is received during the monitoring period, the blinds/shutters are moved to the parameterized <i>Position on wind alarm</i> (or with a <i>Rain alarm</i> or <i>Frost alarm</i>). Operation via direct telegrams and automatic telegrams is disabled.</p> <p>If a telegram with the value 0 is received for the first time after a weather alarm or after the monitoring period has been exceeded, the blind/shutter is moved to the parameterized <i>Position on reset of weather alarm</i>, and the operation is re-enabled.</p> <p>The monitoring period is restarted after each telegram is received as well as after programming of the actuator and with bus voltage recovery. The three wind alarm communication objects are logically connected via an OR gate, i.e. if a wind alarm is present for one of the three communication objects or a telegram is not received within the monitoring period, the blind/shutter moves to the parameterized <i>Position on wind alarm</i>.</p> <p>Telegram value: 0 = no alarm 1 = alarm (operation disabled)</p>				
9	Not assigned			

3.3.3 Communication objects Output A...X control with and without slat adjustment

These communication objects are available for every output and are used for channel-specific functions. In the following, the communication objects for the operation modes *control with slat adjustment* and *control without slat adjustment* are described.

No.	Function	Object name	Data type	Flags
10	Move blinds/shutters up-down	Output	1 bit DPT 1.008	C, W
<p>If a telegram with the value 0 is received on this communication object, the blind/shutter is moved upwards to the rest position or to the end position. If a telegram with the value 1 is received, the blind/shutter is moved downwards.</p> <p>Telegram value: 0 = UP 1 = DOWN</p>				
11	Slat adjustm./stop up-down ¹ Stop Up-Down ²	Output A	1 bit DPT 1.007	C, W
<p>When a telegram is received (irrespective of whether the value is 0 or 1) on this communication object, the movement is stopped.</p> <p>¹Operation mode <i>control with slat adjustment</i>: When the blind/shutter is at rest and a telegram is received on this communication object, a slat adjustment upwards (0 = OPEN) or downwards (1 = CLOSE) is carried out.</p> <p>²Operation mode <i>control without slat adjustment</i>: When the blind/shutter is at rest and a telegram is received, no action is undertaken.</p> <p>Telegram value: 0 = STOP/slat adjustment open 1 = STOP/slat adjustment close</p>				
12	Blinds/shutters up-down limited	Output A	1 bit DPT 1.008	C, W
<p>This communication object is enabled if in parameter window <i>Blinds/Shutters</i>, page 62, under the parameter <i>Limit travelling range</i>, the option <i>via object "Blinds/shutters up-down limited"</i> has been selected. If a telegram with the value 0 is received on this communication object, the blind/shutter will move upwards to the parameterized limit. If a telegram with the value 1 is received, the blind/shutter will move downwards to the parameterized limit. The blind/shutter stops automatically if the parameterized upper or lower limit is reached.</p> <p>Telegram value: 0 = limited UP 1 = limited DOWN</p>				
12	Enable limitation	Output A	1 bit DPT 1.003	C, W
<p>This communication object is enabled if in parameter window <i>Blinds/Shutters</i>, page 62, under the parameter <i>Limit travelling range</i>, the option <i>via object "Enable limitation"</i> has been selected. Using parameters, it is possible to set whether the limitation is to be executed with a direct telegram or an automatic telegram.</p> <p>Telegram value: 0 = limitation inactive 1 = limitation active</p>				

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No.	Function	Object name	Data type	Flags
13	Move to position height 0..255	Output A	1 byte DPT 5.001	C, W
<p>This communication object is enabled if in parameter window <i>A: Positions/Presets</i>, page 70, the parameter <i>Enable communication objects "Move to pos. height/Move slats 0..255"</i> has been selected with the option <i>yes</i>.</p> <p>If a telegram is received on this communication object, the blind/shutter is moved to the height corresponding to the received value.</p> <p>After the target position is reached, the slats will assume the same position which they had before the movement started. If a telegram is received during movement on the communication object <i>Move slats 0..255</i>, then the slats are set to the corresponding received value, after the target position has been reached.</p> <p>Telegram value: 0 = upper ... = intermediate position 255 = lower</p>				
14	Move slats 0..255	Output A	1 byte DPT 5.001	C, W
<p>This communication object is enabled if in parameter window <i>A: Positions/Presets</i>, page 70, the parameter <i>Enable communication objects "Move to pos. height/Move slats 0..255"</i> has been selected with the option <i>yes</i>.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Note</p> <p>This communication object is only available in the <i>control with slat adjustment</i> operation mode.</p> </div> <p>If a telegram is received on this communications object, the slats are then positioned in accordance with the received value. If the blind/shutter is currently moving, the movement will continue to the target position, and positioning of the slats is then undertaken.</p> <p>Telegram value: 0 = slat OPEN ... = intermediate position 255 = slat CLOSE</p>				
15	Move to position 1, 2	Output A	1 bit DPT 1.022	C, W
16	Move to position 3, 4			
<p>This communication object is enabled if in parameter window <i>A: Positions/Presets</i>, page 70, the parameter <i>Enable communication objects "Move to/set position 1-4" 1 bit</i> has been selected with the option <i>yes</i>.</p> <p>If a telegram is received on this communication object, the blind/shutter is moved to the saved preset position. In the operation mode <i>control with slat adjustment</i>, the slat positioning is undertaken according to the saved preset value, after the position has been reached. If a telegram with the value 0 is received, the blind/shutter will move to the parameterized position 1 (or position 3). If a telegram with the value 1 is received, the blind/shutter will move to the parameterized position 2 (or position 4).</p> <p>Telegram value: 0 = move to position 1 or position 3 1 = move to position 2 or position 4</p>				
17	Set position 1, 2	Output A	1 bit DPT 1.022	C, W
18	Set position 3, 4			
<p>This communication object is enabled if in parameter window <i>A: Positions/Presets</i>, page 70, the parameter <i>Enable communication objects "Move to/set position 1-4" 1 bit</i> has been selected with the option <i>yes</i>.</p> <p>If a telegram is received on this communication object, the current position of the blind/shutter is accepted as the new preset value. If telegram value 0 is received, the current position is stored as the new preset value for position 1 (or position 3). If telegram value 1 is received, the current position is stored as a new preset value for position 2 (or position 4).</p> <p>The changed preset values are retained with a bus voltage failure. When programming the device for the first time, it is possible to set via a parameter if the saved values should be overwritten by the pre-parameterized values.</p> <p>Telegram value: 0 = set position 1 and position 3 1 = set position 2 and position 4</p>				

No.	Function	Object name	Data type	Flags		
19	Trigger travel detection	Output A	1 bit DPT 1.003	C, W		
<p>This communication object is enabled if in parameter window <i>A: Drive</i>, page 62, the parameter <i>Detect travel times (Up/Down)</i> has been selected with the option <i>yes - via detection of end positions</i>.</p> <table border="1"> <thead> <tr> <th>Note</th> </tr> </thead> <tbody> <tr> <td>This communication object is only available on devices of type JRA/S x.y.5.1 and automatically triggers the automatic travel detection via current detection.</td> </tr> </tbody> </table> <p>The blind/shutter is initially moved to the upper end position. The blind/shutter subsequently moves to the lower end position and then returns again to the upper end position. The determined total travel times for the up and down movements are stored, and the blind/shutter is moved to the parameterized position after travel detection.</p> <p>Travel detection that is currently active is interrupted by</p> <ul style="list-style-type: none"> ▪ Safety telegrams, e.g. weather alarm, forced operation, etc. ▪ Activation of the manual operation (only on JRA/S x.y.5.1 and JRA/S x.y.2.1) ▪ Direct movement of position telegrams, e.g. UP, DOWN, etc. <p>If automatic sun protection is activated, it is then interrupted for the duration of the travel detection.</p> <p>Travel detection can also be undertaken when the direct operation is disabled.</p> <p>Telegram value: 0 = no reaction 1 = trigger travel detection (UP > DOWN > UP)</p>					Note	This communication object is only available on devices of type JRA/S x.y.5.1 and automatically triggers the automatic travel detection via current detection.
Note						
This communication object is only available on devices of type JRA/S x.y.5.1 and automatically triggers the automatic travel detection via current detection.						
19	Trigger reference movement	Output A	1 bit DPT 1.008	C, W		
<p>This communication object is enabled if in parameter window <i>A: Drive</i>, page 62, the parameter <i>Enable communication object "Trigger reference movement" 1 bit</i> has been selected with the option <i>yes</i>.</p> <table border="1"> <thead> <tr> <th>Note</th> </tr> </thead> <tbody> <tr> <td>This communication object is only available in the <i>control with slat adjustment</i> and <i>control without slat adjustment</i> operation mode.</td> </tr> </tbody> </table> <p>The reference movement is triggered using this communication object. The blind/shutter is moved fully upwards or fully downwards after a telegram is received. The saved position is updated and the blinds then move to the parameterized position after the reference movement.</p> <p>With active automatic control, the reference movement interrupts automatic control until the reference position is reached. However, it is not deactivated and continues to receive automatic telegrams. They are implemented after a completed reference movement.</p> <p>If during a reference movement a direct or automatic movement or position telegram is received, the reference movement is performed first, and the received target position is approached afterwards.</p> <p>STOP and step telegrams are ignored during a reference movement. If a safety function is activated, a reference movement is carried out. A reference movement that is currently active is interrupted by</p> <ul style="list-style-type: none"> ▪ Safety telegrams, e.g. weather alarm, forced operation, etc. ▪ Activation of the manual operation (only on JRA/S x.y.5.1 and JRA/S x.y.2.1) <p>A reference movement can also be undertaken when the direct operation is disabled.</p> <p>Telegram value: 0 = reference movement fully upwards 1 = reference movement fully downwards</p>					Note	This communication object is only available in the <i>control with slat adjustment</i> and <i>control without slat adjustment</i> operation mode.
Note						
This communication object is only available in the <i>control with slat adjustment</i> and <i>control without slat adjustment</i> operation mode.						
20	8 bit scene	Output A	1 byte DPT 18.001	C, W		
<p>This communication object is enabled if in parameter window <i>A: Functions</i>, the parameter <i>Enable 8 bit scene</i> has been selected with the option <i>yes</i>.</p> <p>With this communication object, each output can be integrated in up to 18 scenes with pre-parameterized positions.</p> <p>At a bus voltage failure, the saved scene values are retained, just as when the option <i>no</i> in the parameter <i>Overwrite scenes on download</i> has been selected.</p> <p>An 8 bit scene code table with all possible combinations can be found in the appendix.</p>						

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No.	Function	Object name	Data type	Flags
21	Activation of autom. control	Output A	1 bit DPT 1.003	C, R, T, U
<p>If a telegram with the value 1 is received on this communication object, the automatic control is reactivated again for the corresponding output. The output can thus be controlled via the automatic communication objects <i>Sun</i>, <i>Presence</i>, <i>Heating</i>, <i>Cooling</i>, <i>Receive room temperature</i> as well as <i>Move to height for sun [0...255]</i> and <i>Adjust slat for sun 0..255</i>.</p> <p>If a telegram with the value 0 is received, the output no longer reacts to incoming telegrams on the automatic communication objects. If the output currently undertakes an automatic movement telegram, the movement is continued to completion.</p> <p>If automatic control is activated, the update will update based on the saved values of the communication objects in the automatic communication objects.</p> <p>An active automatic control is interrupted in the event of a reference movement, until the reference position is achieved. However, it is not deactivated and continues to receive automatic telegrams. They are implemented after a completed reference movement.</p> <p>Telegram value: 0 = automatic control deactivated 1 = automatic control activated</p>				
22	Sun	Output A	1 bit DPT 1.002	C, R, T, U
<p>Incoming telegrams on this communication object are only considered if automatic control is activated. If a telegram with the value 1 is received on the communications object <i>Sun</i>, the blind/shutter will move to the parameterized position <i>Position for sun = 1 (sun)</i>. If a telegram with the value 0 is received, the blind/shutter will move to the parameterized position <i>Position for sun = 0 (no sun)</i>.</p> <p>The reaction to incoming telegrams can be delayed in its execution via the parameter <i>Delay for sun= X</i>, in order to avoid that the blinds/shutters continuously move up and down in changeable weather. If a telegram with the opposite set value is received within the delay, the <i>Position for sun = 1</i> is not executed. The blind/shutter remains in the <i>Position for sun = 0 (no sun)</i> or vice versa.</p> <p>If at <i>Position for sun = X</i> the option <i>Receive position via 8 bit value</i> has been set, the output will move to the position, after the delay has timed out, which was last received on the communication objects <i>Move to height for sun 0..255</i> (operation mode <i>control with slat adjustment</i> and operation mode <i>control without slat adjustment</i>) as well as <i>Adjust slat for sun [0...255]</i> (only for operation mode <i>control with slat adjustment</i>).</p> <p>Telegram value: 0 = no sun 1 = sun</p>				
23	Move to height for sun 0..255	Output A	1 byte DPT 5.001	C, R, T, U
<p>Incoming telegrams on this communication object are only executed if automatic control is activated and if a telegram with the value 1 has been received on the <i>Sun</i> communications object. The blind/shutter is then positioned to correspond with the received value.</p> <p>Telegram value: 0 = upper end position ... = intermediate position 255 = lower end position</p> <p>After the target position is reached, the slats will assume the same position which they had before the movement started. If during movement a telegram is received on the communication object <i>Move to height for sun [0...255]</i>, the slats are set according to the received value after reaching the target position.</p>				

No.	Function	Object name	Data type	Flags
24	Adjust slat for sun 0..255	Output A	1 byte DPT 5.001	C, R, T, U
<p>Incoming telegrams on this communication object are only executed if automatic control is activated and if a telegram with the value 1 has been received on the communication object <i>Sun</i>. The slats are then positioned to correspond with the received value.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Note</p> <p>This communication object is only available in the <i>control with slat adjustment</i> operation mode.</p> </div> <p>Telegram value: 0 = slat OPEN ... = intermediate position 255 = slat CLOSE</p> <p>If the blind/shutter is currently moving, the movement will continue to the target position, and positioning of the slats is subsequently undertaken.</p>				
25	Presence	Output A	1 bit DPT 1.002	C, R, T, U
<p>Incoming telegrams on this communication object are only considered if automatic control is activated. If a telegram with the value 1 is received on this communication object, the sun automatic control is activated, and the blinds/shutters are controlled in accordance with the parameterized <i>Position for sun = X</i>.</p> <p>If a telegram with the value 0 is received on this communication object, then heating/cooling automatic is activated, and the blind/shutter is controlled in accordance with the parameterized <i>Position for heating = 1 and sun = X</i> or <i>Position for cooling = "1" and sun = X</i>.</p> <p>The reaction to incoming telegrams can be delayed in its execution via the parameter Delay for presence = X, in order to avoid that the blinds/shutters continuously move up and down when people enter and leave the room frequently. If a telegram with the opposing value is received within the delay time, the heating/cooling target position is not moved, and the blind/shutter remains in the sun automatic control target position or vice versa.</p> <p>Telegram value: 0 = e.g. no one present (>heating/cooling automatic active) 1 = e.g. persons present (>automatic sun protection active)</p> <p>Pay attention to the telegram values with communication objects 26/27 and if applicable 28 (heating/cooling)!</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Note</p> <p>If heating/cooling automatic is to be programmed but no automatic sun protection is to be programmed, the communication object <i>Presence</i> has to remain without logical linking. Accordingly, the value 0 is automatically present in this communication object. Thus heating/cooling automatic control is immediately activated, as soon as automatic has been activated via the communication object <i>Activation of autom. control</i>.</p> </div>				
26 27	Heating Cooling	Output A	1 bit DPT 1.002	C, R, T, U
<p>Incoming telegrams on these communication objects are only executed if automatic control is activated and if a 0 has been received on the <i>Presence</i> communication object.</p> <p>If a telegram with the value 1 is received on the communication object <i>Heating</i>, then the output will move to the parameterized <i>Position for heating = 1 and sun = 1</i> or <i>Position for heating = 1 and sun = 0</i>.</p> <p>If a telegram with the value 1 is received on the communication object <i>Cooling</i>, then the output will move to the parameterized <i>Position for cooling = 1 and sun = 1</i> or <i>Position for cooling = 1 and sun = 0</i>.</p> <p>If both communication objects have last received a 0 or if both have received a 1, then the heating/cooling automatic is deactivated, and the output is controlled via automatic sun protection.</p> <p>Telegram value: 0 = do not HEAT/do not COOL 1 = HEATING/COOLING</p>				

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No.	Function	Object name	Data type	Flags
28	Receive room temperature	Output A	2 byte DPT 9.001	C, R, T, U
<p>Incoming telegrams on this communication object are only executed if automatic control is activated and if a 0 has been received on the communication object <i>Presence</i> and overheat control has been activated.</p> <p>Using this communication object, the room temperature can, for example, be received from a room thermostat. The blind/shutter moves to the parameterized position, as soon as the parameterized threshold value is exceeded and the value 1 has been received on the communication objects <i>Heating</i> and <i>Sun</i>. Thus, for example, overheating of the room is avoided during the heating period (in winter) with presence and simultaneous sunshine.</p>				
29	Disable/enable autom. control	Output A	1 bit DPT 1.001	C, R, T, U
<p>This communication object is enabled when the automatic control is active and in parameter window <i>A: Automatic Sun Protection</i>, page 73, in the parameter <i>Toggling to automatic control</i> the option <i>disable/enable via object</i> has been selected.</p> <p>If a telegram with the value 1 is received on this communication object, the automatic control is automatically deactivated, and the output can only be controlled directly via communication objects. The automatic control can no longer be activated via the <i>Activation of autom. control</i> communication object.</p> <p>If a telegram with the value 0 is received on this communication object, the automatic control can be reactivated again for the corresponding output.</p> <p>Telegram value: 0 = automatic control enabled 1 = automatic control disabled</p>				
30	Disable /enable direct control	Output A	1 bit DPT 1.003	C, R, T, U
<p>This communication object is enabled when the automatic control is active and in parameter window <i>A: Automatic Sun Protection</i>, page 73, in the parameter <i>Toggling to direct control</i> the option <i>disable/enable via object</i> has been selected.</p> <p>If a telegram with the value 1 is received on this communication object, the incoming telegrams will not be executed on the direct communication objects (with the exception of <i>travel detection/Trigger reference movement</i>).</p> <p>If a telegram with the value 0 is received on this communication object, the direct operation is enabled. Direct telegrams (UP, DOWN, etc.) are only activated, however, if automatic control is deactivated. Otherwise, the automatic control has a higher priority, and direct telegrams are not considered.</p> <p>Telegram value: 0 = direct operation enabled 1 = direct operation disabled</p>				
31	Block	Output A	1 bit DPT 1.003	C, R, T, U
<p>If a telegram with the value 1 is received, the output can be moved to a parameterized position. The operation of the output is disabled via direct and automatic control communication objects. After the block has been removed, the flap moves to the parameterized position when wind alarms, blocks and forced operations are reset. Operation can be re-enabled via direct and automatic communication objects.</p> <p>Telegram value: 0 = operation enabled 1 = operation disabled</p>				
32	Forced operation 1 bit	Output A	1 bit DPT 1.003	C, R, T, U
<p>If a telegram with the value 1 is received, the output can be moved to a parameterized position. The operation of the output is disabled via direct and automatic control communication objects. After the block has been removed, the flaps move to the parameterized position when wind alarms, blocks and forced operations are reset. Operation can be re-enabled via direct and automatic communication objects.</p> <p>Telegram value: 0 = operation enabled 1 = operation disabled/forced operation active</p>				

No.	Function	Object name	Data type	Flags
32	Forced operation 2 bit	Output A	2 bit DPT 2.002	C, R, T, U
<p>If a telegram with the value 2 (binary 10) is received on this communication object, the blinds/shutters are moved up. Operation can be disabled via direct and automatic communication objects.</p> <p>If a telegram with the value 3 (binary 11) is received, the blinds/shutters are moved down. Operation can be disabled via direct and automatic communication objects.</p> <p>Forced operation is rescinded with the values 0 (binary 00) or 1 (binary 01). The blinds/shutters then move to the position for reset of wind alarms, blocks and forced operation. Operation can be re-enabled via direct and automatic communication objects.</p> <p>Telegram value: 0 (binary 00) = operation enabled 1 (binary 01) = operation enabled 2 (binary 10) = UP/operation disabled 3 (binary 11) = DOWN/operation disabled</p>				
33	Status height 0...255	Output A	1 byte DPT 5.001	C, R, T
<p>The output sends the current position height of the blind/shutter on this communication object. The current position is sent after completion of a movement.</p> <p>Telegram value: 0 = upper ... = intermediate position 255 = lower</p>				
34	Status slat 0...255	Output A	1 byte DPT 5.001	C, R, T
<p>The output sends the current position of the slats on this communication object. The current position is sent after completion of a movement.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Note</p> <p>This communication object is only available in the <i>control with slat adjustment</i> operation mode.</p> </div> <p>Telegram value: 0 = slat OPEN ... = intermediate position 255 = slat CLOSE</p>				
35 36	Status upper end position Status lower end position	Output A	1 bit DPT 1.008	C, R, T
<p>The output sends information to this communication object regarding if the blind/shutter is or is not in the upper or lower end limit position.</p> <p>Telegram value: 0 = blind/shutter not in upper or lower end position 1 = blind/shutter in upper or lower end position</p> <p>The status upper/lower end position is sent after the upper/lower end position is achieved or exited.</p>				
37	Status operability	Output A	1 bit DPT 1.002	C, R, T
<p>On this communication object, the output sends information if the blind/shutter operation is enabled or blocked. The operation is blocked if either a safety function has been activated, e.g. wind alarm, or the device is in manual operation mode.</p> <p>For example: The user can be shown via an LED on the push button that the operation of the blind/shutter via push button is not possible and that automatic control can also not be activated.</p> <p>Telegram value: 0 = operation enabled 1 = operation disabled</p>				

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No.	Function	Object name	Data type	Flags
38	Status automatic control	Output A	1 bit DPT 1.002	C, R, T
<p>On this communication object, the device sends information whether automatic control has been activated or deactivated.</p> <p>Telegram value: 0 = automatic deactivated 1 = automatic activated</p>				
39	Status information	Output A	2 byte non DPT	C, R, T
<p>Using this communication object, the device sends the status information to every output. The information about the current operation state can be found in the low byte (bit no. 0...7). However, only one status can be active at a time. The high byte (bit no. 8...15) is not used in the operation mode <i>ventilation flaps, switch mode</i>. The current status or communication object value is sent after a change or request by the communication object <i>Request status values</i>. For further information see: Code tables in the appendix</p> <p>Low byte</p> <p>Bit 0: Manual operation Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 1: Blocking active Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 2: Forced operation Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 3: Frost alarm Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 4: Rain alarm Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 5: Wind alarm Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 6: Automatic Sun Protection Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 7: Heating/cooling automatic Telegram value 0: inactive Telegram value 1: active</p> <p>High byte</p> <p>Bit 8: Drive fault (no current flow with controlled drive, only available on devices of type JRA/S x.y.5.1) Telegram value 0: no fault Telegram value 1: Fault</p> <p>Bit 9: Drive in motion or relays control drive Telegram value 0: no Telegram value 1: yes</p> <p>Bit 10: Drive turns DOWN or relays control drive in DOWN direction Telegram value 0: no Telegram value 1: yes</p> <p>Bit 11: Drive turns UP or relays control drive in UP direction Telegram value 0: no Telegram value 1: yes</p> <p>Bit 12: Send and receive delay active Telegram value 0: no Telegram value 1: yes</p> <p>Bit 13...15 not used</p>				

3.3.4 Communications objects Output A...X operation mode *Ventilation flaps, switch mode*

No.	Function	Object name	Data type	Flags
10	Flaps open-closed/on-off	Output	1 bit DPT 1.009	C, W
<p>If a telegram with the value 1 is received on this communication object, the output contact closes. The connected ventilation flaps are opened as a result or the connected loads are switched on. If a telegram with the value 0 is received, the ventilation flap closes or the load is switched off. The output contact returns to the neutral middle position. The polarity of the communication object can be modified via the parameter <i>Invert output</i>.</p> <p>Telegram value: 0 = CLOSED/OFF 1 = OPEN/ON</p>				
31	Block	Output A	1 bit DPT 1.003	C, R, T, U
<p>If a telegram with the value 1 is received, the output will move to a parameterized position. The operation of the output is disabled via direct and automatic control communication objects. After the block has been removed, the blinds/shutters move to the parameterized position, when wind alarms, blocks and forced operations are reset. Operation can be re-enabled via direct and automatic communication objects.</p> <p>Telegram value: 0 = operation enabled 1 = operation disabled</p>				
32	Forced operation 1 bit	Output A	1 bit DPT 1.003	C, R, T, U
<p>If a telegram with the value 1 is received, the output will move to a parameterized position. The operation of the output is disabled via direct and automatic control communication objects. After the block has been removed, the blinds/shutters move to the parameterized position, when wind alarms, blocks and forced operations are reset. Operation can be re-enabled via direct and automatic communication objects.</p> <p>Telegram value: 0 = operation enabled 1 = operation disabled/forced operation active</p>				
32	Forced operation 2 bit	Output A	2 bit DPT 2.001	C, R, T, U
<p>If a telegram with the value 2 (binary 10) is received on this communication object, the output contact closes. The connected ventilation flaps are opened as a result or the connected loads are switched on. Operation is disabled via direct communication objects.</p> <p>If a telegram with the value 3 (binary 11) is received, the ventilation flaps close or the load is switched off. Operation is disabled via direct communication objects.</p> <p>Forced operation is rescinded with the values 0 (binary 00) or 1 (binary 01). The output then controls the position at reset of wind alarms, blocks and forced operation. Operation can be re-enabled via direct communication objects.</p> <p>Telegram value: 0 (binary 00) = operation enabled 1 (binary 01) = operation enabled 2 (binary 10) = OPEN/ON - operation disabled 3 (binary 11) = CLOSE/OFF - operation disabled</p>				
33	Status open-closed/on-off	Output A	1 bit DPT 1.011	C, R, T
<p>On this communication object, the output sends the information indication whether the ventilation flap is opened or closed or whether connected loads are switched on or off. The current status is sent after a telegram is executed. If in the meantime a new telegram is received, the current status is only sent after the last telegram has been carried out.</p> <p>Telegram value: 0 = Ventilation flap CLOSED or switch contact OFF 1 = Ventilation flap OPEN or switch contact ON</p>				

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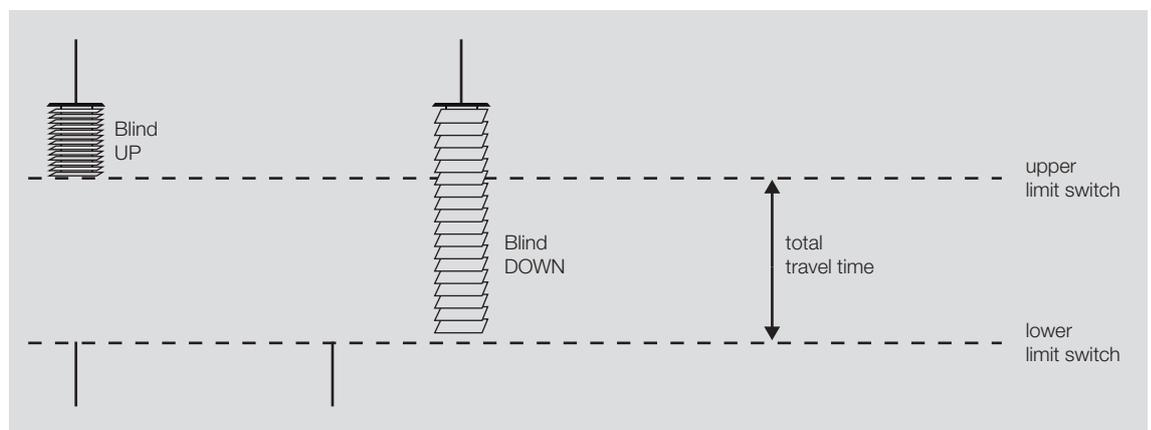
No.	Function	Object name	Data type	Flags
37	Status operability	Output A	1 bit DPT 1.002	C, R, T
<p>On this communication object, the output sends information if the output operation is enabled or blocked. The operation is blocked if either a safety function has been activated, e.g. wind alarm, or the device is in manual operation mode.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Example</p> <p>The user can be shown via an LED on the push button that the operation of the blind/shutter via push button is not possible.</p> </div> <p>Telegram value: 0 = operation enabled 1 = operation disabled</p>				
39	Status information	Output A	2 byte non DPT	C, R, T
<p>Using this communication object, the device sends the status information to every output. The information about current operation state can be found in the low byte (bit no. 0...7). However, only one status can be active at a time. Further information about current operation state, particularly concerning the drive, can be found in the high byte (bit no. 8...15). The current status or communication object value is sent after a change or request by the communication object <i>Request status values</i>. For further information see: Code tables in the appendix</p> <p>Low byte</p> <p>Bit 0: Manual operation Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 1: Blocking active Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 2: Forced operation Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 3: Frost alarm Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 4: Rain alarm Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 5: Wind alarm Telegram value 0: inactive Telegram value 1: active</p> <p>Bit 6: Not assigned</p> <p>Bit 7: Not assigned</p> <p>High byte</p> <p>Bit 8...15: Not assigned</p>				

4 Planning and Application

In this section, you will find useful instructions concerning the planning and application of the Blind/Roller Shutter Actuators. Further information concerning planning and application can be found in the application manual *Shutter Control* at www.abb.de/knx.

4.1 Travel times (blinds, roller shutters, etc.)

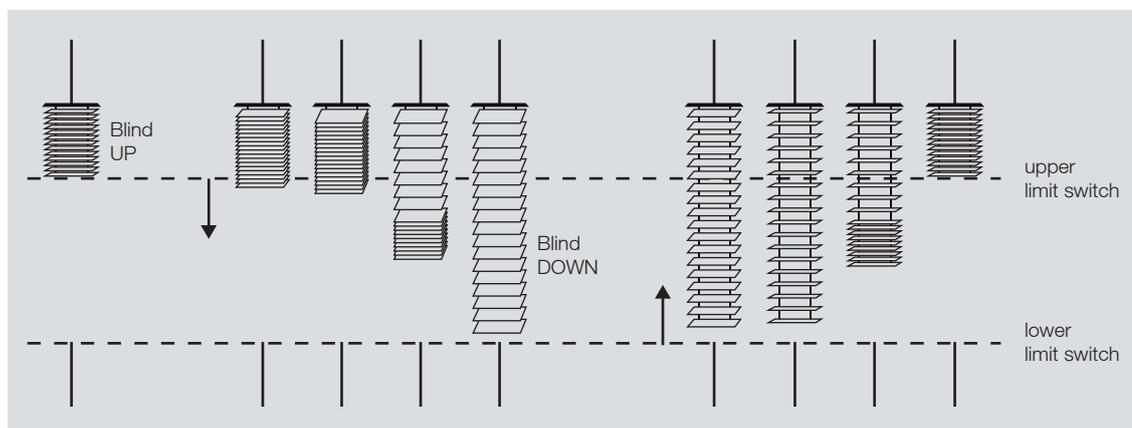
The travel time is the time that the blind/shutter requires for a movement from fully upwards to fully downwards and vice versa. The movement times UP or DOWN can be separately determined and entered. If the JRA/S receives a movement telegram for upwards or downwards movement, the corresponding output is switched, and the blind/shutter is moved in the required direction.



The blind/shutter is moved in this direction until the output receives a STOP telegram or the upper or lower limit positions are reached and the drive is switched off by the end limit switch. If the drive is switched off via the limit switch, the corresponding output contact remains closed, until the set total travel time has elapsed. Furthermore, the travel time can be extended by a parameterized overflow time, see parameter *Disconnect output from power after*. Only then there is no longer voltage on the output. The overflow time will not be taken into consideration, if for the parameter *Position of slat after arriving on lower end position* (100% = disabled) a value not equal to 100 % is set. In this case, the output will set the slat according to the parameterized value, after the end position is reached.

Control with slat adjustment (blinds, vertical blinds, etc.)

After the UP movement of the blind, the slats are generally open (horizontal slat position). If the blind is moved downwards, the slats are initially closed (slat position vertical), and the blind moves downwards. If the blind is now once again moved upwards, the slats will once again be opened (slat position horizontal) and will then be moved upwards (see Fig.).



Short movements can be undertaken in order to purposely adjust the slat angle. Thus, the blind is moved for a brief programmed time – the so-called duration of slat adjustment – in steps in the required direction and in this way it undertakes a slat adjustment. The smaller the duration of slat adjustment selected, the more accurate the adjustment of the slat angle.

4.1.1 Automatic travel detection

Note

Automatic travel detection is only possible on devices of type JRA/S x.y.5.1.

The movement times of the drives are determined via the automatic travel detection. The duration of the current flow that the drive uses for the movement from the lower to the upper end position and vice versa is measured via current detection. This has the advantage that the ageing process and temperature related influences on the blind/shutter, e.g. expansion of the belts and cords on the blinds, are compensated. It facilitates exact positioning of the blind/shutter. Furthermore, the travel detection simplifies and accelerates commissioning and sends an error message, if the current flow is interrupted on the connected drive.

Travel detection occurs automatically in ongoing operation or optionally via the communication object [Trigger travel detection](#), p.98. The determined travel times serve as the basis for the calculation and control of positions or for the position feedbacks.

Important

In the default factory settings device internal movement times of 60 seconds are preset for UP and DOWN movements. The following must be observed if a device is being programmed for the first time or is being reprogrammed with automatically detected and stored travel times or is being installed in another system:

If the parameter *Delete saved travel times after Download* is programmed with *yes*, the travel times saved in the device up to now are overwritten with the factory default settings. The travel times for UP and DOWN are each set to 60 seconds. If the new travel times vary by more than 5 % from the default factory setting or the previously stored travel times, the output will switch off. The blind/shutter stops, and an error message occurs on the output concerned:

Bit no. 8 *Drive fault* is set the communication object *Status information*.

The LEDs of the output concerned flash alternately.

The new travel times only become valid and are saved when

- Continuous travel from the lower to the upper end position and vice versa has been performed.
- The travel times have been determined via the communication object *Trigger travel detection*.

4.1.2 Set travel times

As an alternative to automatic travel detection, the devices of type JRA/S x.y.5.1 can use the manual method of travel detection via the application program. In this way, the travel times for the lower to the upper end position and vice versa are measured, e.g. via a stop watch. The measured values are then entered into the corresponding ETS parameter. This method must be used on devices without travel detection (JRA/S x.230.2.1 and JRA/S x.230.1.1).

Important

Using travel times, the current position of the blind/shutter is determined during ongoing operation. For this reason, the travel times should be measured as precisely as possible and parameterized or determined via automatic travel detection (only with type JRA/S x.y.5.1). Precise travel times are the basis for an exact calculation or positioning of the blind/shutter, in particular during positioning movements, automatic control or status messages.

4.1.3 Starting delay, coasting delay and minimum run time

Some drives do not deliver full power immediately. It is delivered after a starting delay of a few milliseconds. Other drives continue to run for a few milliseconds after switch off (stopping delay) or have a minimum run time. These parameters must only be entered should you require even more exact positioning of the blinds/shutters.

Important

Generally, the standard settings for these parameters are adequate to ensure correct operation. If changes are to be made in the user-defined settings on these parameters, the technical data of the respective drive manufacturer should be observed!

4.2 Blind/shutter settings

Control with slat adjustment

Two methods are available for control of the slats and calculation of the slat turning times.

1. Slat turning time via duration of slat adjustment (step)

With this method, the number and duration of slat adjustments that are required to turn the slats from fully closed to fully opened are set. Using the maximum number of slat adjustments, the current position of the slats is determined during ongoing operation. The max. number of slat adjustments must be counted by the operator and entered as a parameter.

2. Slat turning time via total duration for slat turning

With this method, the time required by the slat to toggle from fully closed to fully opened is initially determined. Thereafter, the required number of slat adjustments (steps) that the slats will require from fully closed to fully opened is entered. The JRA/S then calculates the time required for a slat adjustment.

Limitation of the travel range

For certain applications, the travelling range can be limited for the user.

Example

Opening and closing of the windows, doors or skylights can be limited to a certain group of users to a range of 0 to 20% opening, whereas the building caretaker may operate the complete range of movement.

In addition to limitation of the travelling range, you can determine whether the upper and lower limit should be used for direct telegrams and/or for automatic telegrams.

Dead times

In a few rare cases, compensation for the mechanically present dead times of the blinds/shutters or slats is required. Parameters are available to compensate for the dead times and enable exact positioning.

Important

Generally, the standard settings for these parameters are adequate to ensure correct operation. If changes are to be made in the user-defined settings on these parameters, the technical data of the respective blind/shutter manufacturer should be observed!

Tensioning of the awning/slot positioning

This function is used for tensioning or tightening textile blinds/shutters or for setting so-called slot positioning on roller shutters. In this way, the blind/shutter is stopped at the end of a DOWN motion and moved in the opposite direction for a parameterizable time. In this way, for example, the awning cloth is tightened or light or ventilation slots are set on roller shutter.

4.3

Safety functions

Wind alarm

The JRA/S can receive wind alarm telegrams (1 bit) to protect the blind/shutter in the event of wind and storms. If a wind alarm occurs, the blind/shutter is moved to the set *Position on wind alarm* and can no longer be moved, until the wind alarm has been deactivated again.

The JRA/S can be controlled by up to 3 anemometers. It can be freely selected for each output, which of the three anemometers it should react to and whether the function *Wind alarm* should or should not be activated for this output. The *Position on wind alarm* can also be set separately for each output. The anemometers, which are assigned to an output, are linked by an OR function, i.e. if an alarm has been triggered by at least one of the associated anemometers, the blind/shutter is moved to the alarm position.

Rain alarm and frost alarm

For protection against rain and freezing from frost, e.g. for awnings, the JRA/S can receive 1 bit rain alarm and frost alarm telegrams. In the event of an alarm, the blind/shutter is moved into the parameterized position and cannot be moved again, until the alarm is reset. The *Position on rain alarm* and *Position for frost alarm* can be set separately for each output.

Note for wind, rain alarm and frost alarm

The anemometer as well as rain sensor and the frost sensor are monitored cyclically by the JRA/S, i.e. the sensors send the alarm status cyclically and the JRA/S expects this signal. If the signal is not received, the JRA/S assumes that the sensor is defective or the bus line has been interrupted. All blinds/shutters that are influenced by the sensor are moved to the set alarm position, and operation is blocked. The monitoring period of the JRA/S should be twice as long as the cyclical sending time of the anemometer or rain/frost sensor, so that the blind/shutter does not move immediately to the rain or frost alarm position when a signal is not received, e.g. due to a high bus load.

When the wind, rain or frost alarm is reset, the blind/shutter is moved to the set *Position on reset of weather alarm, blocking and forced operation*, and operation is enabled.

Block

With the help of the function *Block*, an output of the JRA/S can be moved into a parameterized position via a 1 bit telegram, and the operation is disabled. When the function *Block* is recalled, the blind/shutter is moved to the set *Position during blocking*, and operation is blocked. After a reset, the blind/shutter is moved to the parameterized *Position on reset of weather alarm, blocking and forced operation*, and operation is enabled.

Example

It is possible to monitor a window with the corresponding parameterization using this function. If the window is opened, the operation of an interior shutter or blind is disabled.

Forced operation

Each blind/shutter can also be moved individually into a forced position via a telegram (1 bit or 2 bit), and operation is disabled. On activation of the function forced operation function, the output is simultaneously informed about the position to which the blind/shutter should be moved. Operation of the blind/shutter is disabled. After a reset of forced operation, the blind/shutter is moved to the parameterized *Position on reset of weather alarm, blocking and forced operation* and operation is enabled.

The function *Forced operation* is ideal, for example, to move shutters and blinds up and down, when windows have to be cleaned. At the same time, the operation of the blind/shutter is blocked to ensure that the cleaning personnel are not endangered by an unexpected movement.

Priority for safety functions

The safety functions *Wind alarm*, *Rain alarm*, *Frost alarm*, *Block* and *Forced operation* have priority over all other functions. If one of these functions has been activated for an output, the operation of the output is disabled for other movements. A priority can also be defined for the safety functions among one another in order to precisely control the blinds/shutters, if more than one safety function is activated simultaneously.

Example

A parameter is used to determine that the forced operation has priority when cleaning a window over a wind alarm, so that the cleaning personnel are not hindered by an upward movement due to a wind alarm when cleaning the slats.

4.4 Positions

Reference movement

Every output permanently determines the current position of the blind/shutter as well as the position of the slat angle based on the duration of the individual movement actions. Slight inaccuracies can occur over extended periods in the determination of the position due to temperature fluctuations and ageing. For this reason, the JRA/S uses the upper and lower end positions for unique determination of the current position of the blinds/shutters. Every time when the blind/shutter is in the upper end position, the position is updated in the memory of the device.

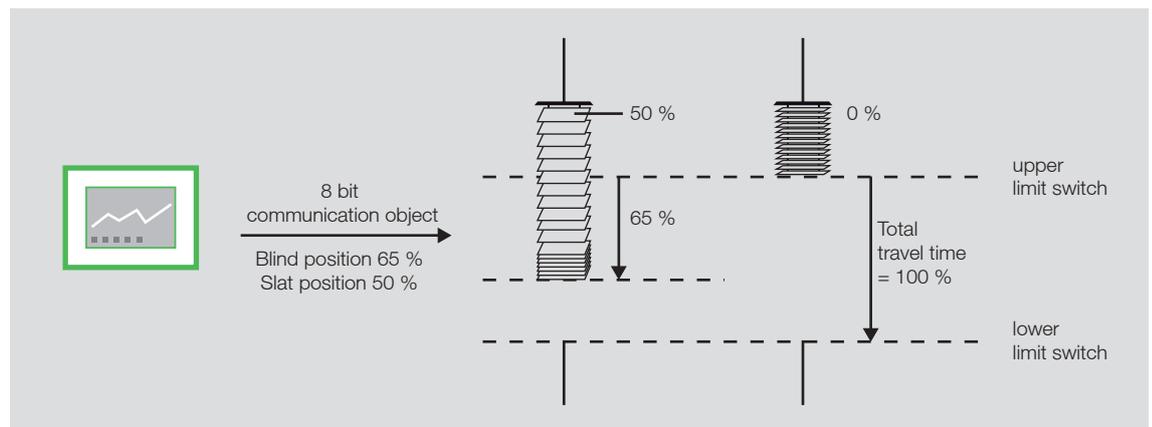
If the end positions are not reached in normal operation, a reference movement, which is fully upwards or fully downwards, can be performed via a telegram. After a reference movement, the blind/shutter remains in the reference position or moves back to the stored position as specified in the programming.

Direct and indirect movement to the position

Via the parameter *Move to position*, you can set if the blind/shutter moves with telegram *Move to position* from its current position either directly to the target position, or if with each telegram *Move to position*, a reference movement is performed indirectly via the upper end position or indirectly via the lower end position.

Move to position 0 % ... 100 %

The blinds/shutters can be moved into any position via an 8 bit value. In the *control with slat adjustment* operation mode, the slats can also be positioned into any angle via an 8 bit value. In this way, it can be decided for each movement telegram which position the blind/shutter should move to, and it is possible to set the position from a display or a visualisation terminal.



Move to preset position

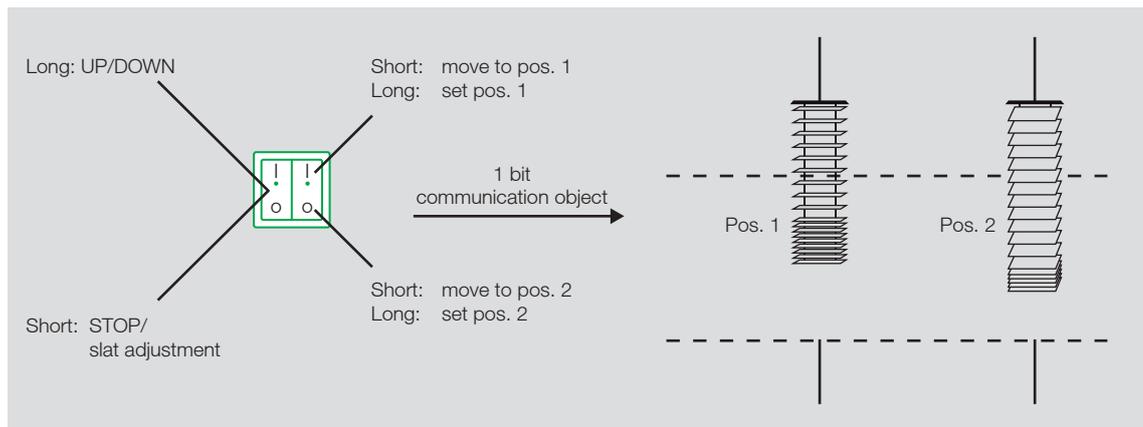
For each output, it is possible to parameterize up to 4 preset positions individually, which are then recalled via a 1 bit telegram. When moving into one of these preset positions, the target position must first be set, either via the parameters during programming or via the function *Set preset position*. This preset target position can then, for example, be recalled as often as required by pressing a push button.

Set preset position

The preset position can be changed very easily via a 1 bit telegram. To do so, the blinds are moved into the required new preset position via UP/DOWN telegrams as well as STOP/slat adjustment UP/DOWN telegrams. The new position is adopted via a 1 bit telegram as a new preset position into the memory of the device.

Example

The shutters are moved into a preset position after a short push button action, and the current position is adopted as the new preset position after a long push button action.



The saved preset values are retained with a bus voltage failure. With the programming it is possible to set via a parameter if the saved values should be overwritten by the parameterized values.

8 bit scene

With the 8 bit scene, up to 64 scenes are managed via a single group address. An 8 bit scene telegram contains the following information:

- Number of the scene (1...64) as well as
- Store/recall scene

The JRS/A receives the telegram. All the outputs, which are assigned to the received scene number via a parameter, move to the recalled scene position or store their current position as a new default value for this scene number.

A code table for the communication object *Scene* with all possible combinations can be found in the appendix.

Each individual output of the device can be integrated into up to eighteen 8 bit scenes. The settings for the height and slat position of the blind/shutter can be undertaken directly using the ETS parameter for each assignment.

Example

The first three outputs of the device are assigned to the following scenes. The preset values have been saved with the last corresponding setting of the scenes.

Output	Scene No.	Specified position	Specified slat
A	5	20 %	50 %
A	9	47 %	30 %
A	45	70 %	80 %
B	5	20 %	50 %
B	37	82 %	65 %
B	45	75 %	31 %
B	58	65 %	77 %
C	10	80 %	-

If scene no. 5 is now recalled, the blinds/shutters on outputs A and B will move to the saved preset positions and align the slats in accordance with the saved preset value. The blind/shutter on output C is not assigned to scene No. 5 and will therefore not move.

If, however, scene 10 is recalled, only the blind/shutter on output C will move to the saved preset position. As output C in this example is operated in the *control without slat adjustment* (roller shutter) mode, the subsequent alignment of the slats is not undertaken.

If via the telegram *recall scene no. 5* the position 20 % / 50 % has been undertaken last on output A and the user now wishes to use this position as the new preset value for scene no. 45, then the request *Save scene* as well as the no. 45 are sent at the push of a button via the KNX. The blind/shutter does not move. The current position is now saved as the new preset value for scene no. 45 (see the table below), and is used the next time the scene is recalled.

Output	Scene No.	Specified position	Specified slat
A	5	20 %	50 %
A	9	47 %	30 %
A	45	20 %	50 %

The 8 bit scene offers a few advantages in comparison to conventional scene programming.

When calling a scene, a single telegram is sent on the bus and is received by all participants in the scene and implemented accordingly. The target position is saved in the device and does not need to be transferred via the KNX with each recall. Only one group address is required for up to 64 scenes. This simplifies the engineering involved and reduces the bus load.

Reaction on bus voltage failure and programming

The saved scene values are retained with the bus voltage failure, as is the case if only the parameters are loaded when programming. The scene value is reset to the position *fully up*, to the set position = 0 % and set slat = 0 %, at

- Discharge and renewed programming of the device
- Version change of the application.

4.5 Reaction on bus voltage failure

The reaction of each individual output at bus voltage failure can be parameterized in parameter window *A: General* via the parameter *Reaction on bus voltage failure*. This parameterization acts directly on the output contacts and has the highest priority.

If a bus voltage failure occurs during the movement, the blind/shutter can also move in the opposite direction of motion.

After the contact positions are set with bus voltage recovery, the JRA/S remains non-functional, until the bus voltage recovers.

4.6 Reaction at bus voltage recovery, download and ETS reset

The reaction after bus voltage recovery can be parameterized for each output. The device is ready for operation after an initialization time of a few seconds, when the bus voltage is applied. Depending on the time set in the parameter window *General* for *Time-delayed switching of drives* and the *Sending and switching delay after bus voltage recovery*, the individual outputs assume the parameterized position after the initialization time.

After programming or after an ETS reset, all communication objects assume the value 0 (exception: end positions = 1)

All positions are invalid or deleted after programming. After bus voltage recovery, programming or an ETS reset, the blind/shutter is moved to the parameterized position or automatic sun protection is enabled. If the position after programming is set with the option *Position X* or *individual position*, the blind/shutter is moved over the shortest possible way to the target position in order to determine the current position. After completion of the movement, the status communication objects are updated, and they send their values.

What is an ETS reset?

Generally, an ETS reset is defined as a reset of the device via the ETS. The ETS reset is initiated in the ETS under the menu item *Commissioning* with the function *Reset device*. The application program stops, and it is then restarted.

ABB i-bus[®] KNX

Planning and Application

Function	Reaction at		
	Bus voltage recovery	Download	ETS reset
Output/contact position	Depending of the setting of the parameter <i>Reaction after bus voltage recovery</i>	Depending on the setting of the parameter <i>Reaction after download and/or ETS reset</i>	
Travel times (via travel detection)	Values are retained	Communication object values are retained depending on the setting of the parameter <i>Delete stored travel times after download</i> or are overwritten with the factory default settings (60 s for UP or DOWN)	Travel times are overwritten with the factory default settings (60 s for UP or DOWN).
Weather alarms	Communication object values are reset. Monitoring times will be restarted		
Positions 1...4 (presets)	Values are retained	Positions are saved or overwritten with the parameterized values depending on the setting of the parameter <i>Overwrite position values (presets) during download</i>	Values of the communication objects are reset.
Scene	Scene settings are retained. Communication object value is reset.	Scene settings are saved or overwritten with the parameterized values depending on the setting of the parameter <i>Overwrite scenes on download</i>	Scene settings and value of the communication object are reset.
Automatic sun protection	Depending of the setting of the parameter <i>Reaction after bus voltage recovery</i>	Depending on the setting of the parameter <i>Reaction after programming or after ETS reset</i>	
Status messages	Sent after update of the output if parameterized		
Manual operation	Depending on the setting of the parameter <i>Manual operation after bus voltage recovery, programming and reset</i>		

A **Appendix**

A.1 **Scope of delivery**

The ABB i-bus[®] KNX Blind/Roller Shutter Actuator JRA/S is supplied together with the following components.

Please check the items received using the following list.

- 1 x JRA/S x.y.z.1, MDRC
- 1 x label carrier
- 1 x installation and operating instructions
- 1 x bus connection terminal (red/black)

A.2 Code table Scene (8 bit), DPT 18.001

The following table indicates the telegram code for an 8 bit scene in hexadecimal and binary code with the first 64 scenes. Normally when retrieving or storing a scene, an 8 bit value must be sent.

Bit no.	8 bit value	Hexadecimal	Recall 0	Recall 1	Not defined	Binary code	Scene-number	Recall A	Save S	No reaction –					
0	00	0										1	A		
1	01	0										2	A		
2	02	0										3	A		
3	03	0										4	A		
4	04	0										5	A		
5	05	0										6	A		
6	06	0										7	A		
7	07	0										8	A		
8	08	0										9	A		
9	09	0										10	A		
10	0A	0										11	A		
11	0B	0										12	A		
12	0C	0										13	A		
13	0D	0										14	A		
14	0E	0										15	A		
15	0F	0										16	A		
16	10	0										17	A		
17	11	0										18	A		
18	12	0										19	A		
19	13	0										20	A		
20	14	0										21	A		
21	15	0										22	A		
22	16	0										23	A		
23	17	0										24	A		
24	18	0										25	A		
25	19	0										26	A		
26	1A	0										27	A		
27	1B	0										28	A		
28	1C	0										29	A		
29	1D	0										30	A		
30	1E	0										31	A		
31	1F	0										32	A		
32	20	0										33	A		
33	21	0										34	A		
34	22	0										35	A		
35	23	0										36	A		
36	24	0										37	A		
37	25	0										38	A		
38	26	0										39	A		
39	27	0										40	A		
40	28	0										41	A		
41	29	0										42	A		
42	2A	0										43	A		
43	2B	0										44	A		
44	2C	0										45	A		
45	2D	0										46	A		
46	2E	0										47	A		
47	2F	0										48	A		
48	30	0										49	A		
49	31	0										50	A		
50	32	0										51	A		
51	33	0										52	A		
52	34	0										53	A		
53	35	0										54	A		
54	36	0										55	A		
55	37	0										56	A		
56	38	0										57	A		
57	39	0										58	A		
58	3A	0										59	A		
59	3B	0										60	A		
60	3C	0										61	A		
61	3D	0										62	A		
62	3E	0										63	A		
63	3F	0										64	A		

Bit no.	8 bit value	Hexadecimal	Recall 0	Recall 1	Not defined	Binary code	Scene-number	Recall A	Save S	No reaction –					
128	80	1										1	S		
129	81	1										2	S		
130	82	1										3	S		
131	83	1										4	S		
132	84	1										5	S		
133	85	1										6	S		
134	86	1										7	S		
135	87	1										8	S		
136	88	1										9	S		
137	89	1										10	S		
138	8A	1										11	S		
139	8B	1										12	S		
140	8C	1										13	S		
141	8D	1										14	S		
142	8E	1										15	S		
143	8F	1										16	S		
144	90	1										17	S		
145	91	1										18	S		
146	92	1										19	S		
147	93	1										20	S		
148	94	1										21	S		
149	95	1										22	S		
150	96	1										23	S		
151	97	1										24	S		
152	98	1										25	S		
153	99	1										26	S		
154	9A	1										27	S		
155	9B	1										28	S		
156	9C	1										29	S		
157	9D	1										30	S		
158	9E	1										31	S		
159	9F	1										32	S		
160	A0	1										33	S		
161	A1	1										34	S		
162	A2	1										35	S		
163	A3	1										36	S		
164	A4	1										37	S		
165	A5	1										38	S		
166	A6	1										39	S		
167	A7	1										40	S		
168	A8	1										41	S		
169	A9	1										42	S		
170	AA	1										43	S		
171	AB	1										44	S		
172	AC	1										45	S		
173	AD	1										46	S		
174	AE	1										47	S		
175	AF	1										48	S		
176	B0	1										49	S		
177	B1	1										50	S		
178	B2	1										51	S		
179	B3	1										52	S		
180	B4	1										53	S		
181	B5	1										54	S		
182	B6	1										55	S		
183	B7	1										56	S		
184	B8	1										57	S		
185	B9	1										58	S		
186	BA	1										59	S		
187	BB	1										60	S		
188	BC	1										61	S		
189	BD	1										62	S		
190	BE	1										63	S		
191	BF	1										64	S		

empty = value 0
■ = value 1, applies

A.3 Code table for communication object *Status information (bit 0...7)*

With the 2 byte communication object *Status information*, the information for the operation state of the output or for the connected drives is provided. The communication object *Status information* can be sent on the KNX via the interoperable communication object *Request status values*.

For further information see: Communication objects no. 39 ff. and no. 1.

The communication object *Status information* is subdivided into two 1 byte values:

Bit 0...7 = low byte

Bit 8...15 = high byte

The operating states of the output are shown in the low byte. However, only one operation state can be active at a time (1 n).

Further status information for the output is provided in the high byte. Several pieces of information can be active simultaneously.

Code table Low byte; operation mode *control with/without slat adjustment*

Bit no.	7	6	5	4	3	2	1	0			
Status byte value (Decimal)	Status byte value (Hexadecimal)	Heating / cooling automatic	Automatic Sun Protection	Wind alarm	Rain alarm	Frost alarm	Forced operation	Block	Manual operation	Current status	Operation
0	00									Direct positioning	Via CO - Up/down - Stop/slat adjust - Move in position - Scene
1	01								■	Manual operation	Via push buttons up/down
2	02								■	Block	Disabled
4	04								■	Forced operation	Disabled
8	08								■	Frost alarm	Disabled
16	10								■	Rain alarm	Disabled
32	20								■	Wind alarm	Disabled
64	40								■	Automatic sun protection	Via communication objects: - Sun - Sun - position - Sun - slat
128	80								■	Heating / cooling automatic	Via communication objects: - Heating - Cooling
Other	Other	-	-	-	-	-	-	-	-	Not defined	

empty = value 0

■ = value 1, applies

A.4 Ordering Information

Device type	Product name	Order code	bbn 40 16779 EAN	Price group	Weight 1 pcs [kg]	Pack unit [Pcs]
JRA/S 2.230.5.1	Blind/Roller Shutter Actuator with travel detection and manual operation, 2-fold, 230 V AC, MDRC	2CDG 110 124 R0011	698436	P2	0.2	1
JRA/S 4.230.5.1	Blind/Roller Shutter Actuator with travel detection and manual operation, 4-fold, 230 V AC, MDRC	2CDG 110 125 R0011	698443	P2	0.25	1
JRA/S 8.230.5.1	Blind/Roller Shutter Actuator with travel detection and manual operation, 8-fold, 230 V AC, MDRC	2CDG 110 126 R0011	698450	P2	0.45	1
JRA/S 4.24.5.1	Blind/Roller Shutter Actuator with travel detection and manual operation, 4-fold, 24 V DC, MDRC	2CDG 110 128 R0011	698474	P2	0.25	1
JRA/S 2.230.2.1	Blind/Roller Shutter Actuator with manual operation, 2-fold, 230 V AC, MDRC	2CDG 110 120 R0011	698399	P2	0.2	1
JRA/S 4.230.2.1	Blind/Roller Shutter Actuator with manual operation, 4-fold, 230 V AC, MDRC	2CDG 110 121 R0011	698405	P2	0.25	1
JRA/S 8.230.2.1	Blind/Roller Shutter Actuator with manual operation, 8-fold, 230 V AC, MDRC	2CDG 110 122 R0011	698412	P2	0.45	1
JRA/S 2.230.1.1	Blind/Roller Shutter Actuator, 2-fold 230 V AC, MDRC	2CDG 110 129 R0011	698481	P2	0.2	1
JRA/S 4.230.1.1	Blind/Roller Shutter Actuator, 4-fold 230 V AC, MDRC	2CDG 110 130 R0011	698498	P2	0.25	1
JRA/S 8.230.1.1	Blind/Roller Shutter Actuator, 8-fold 230 V AC, MDRC	2CDG 110 131 R0011	698504	P2	0.45	1

Contact

ABB STOTZ-KONTAKT GmbH

Eppelheimer Straße 82

69123 Heidelberg, Germany

Telefon: +49 (0)6221 701 607

Telefax: +49 (0)6221 701 724

E-Mail: knx.marketing@de.abb.com

Further information and local contacts:

www.abb.com/knx

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