ABB STOTZ-KONTAKT GmbH
ABB i-bus® KNX
Blind/Roller Shutter Actuator JRA/S
Blind/Roller Shutter Actuator JRA/S
New Generation

- 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.
Blind/Roller Shutter Actuator JRA/S Documentation

- Product Manual
- Product Information
- Application Manual “Shutter Control”
- Technical datasheet
Blind/Roller Shutter Actuator JRA/S
Product range overview

<table>
<thead>
<tr>
<th>„Premium“</th>
<th>„ Standard“</th>
<th>„Basic“</th>
</tr>
</thead>
<tbody>
<tr>
<td>JRA/S X.230.5.1</td>
<td>JRA/S X.230.2.1</td>
<td>JRA/S X.230.1.1</td>
</tr>
<tr>
<td>2-fold</td>
<td>2-fold</td>
<td>2-fold</td>
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<tr>
<td>4-fold</td>
<td>4-fold</td>
<td>4-fold</td>
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<tr>
<td>8-fold</td>
<td>8-fold</td>
<td>8-fold</td>
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<tr>
<td>JRA/S X.24.5.1</td>
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<td></td>
</tr>
<tr>
<td>4-fold</td>
<td></td>
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</tbody>
</table>

The right device for every application.
Universal range for many sun protection technology applications.
2, 4, 8-fold Blind/Roller Shutter Actuators (230 V AC) with and without manual operation.
Device for 24 V DC now also with manual operation and automatic travel detection.
Blind/Roller Shutter Actuator JRA/S
Device Overview „Premium“ JRA/S X.230.5.1, 4.24.5.1

JRA/S 2-, 4-, 8-fold 230 V and 4-fold 24 V DC
- With Travel Detection
- With Manual Operation and status LEDs
- The devices do not require an auxiliary voltage (only KNX)
- Universal head screw terminals
Blind/Roller Shutter Actuator JRA/S
Device Overview „Standard“ JRA/S X.230.2.1

JRA/S 2-, 4-, 8-fold 230 V

- With Manual Operation and status LEDs
- Same application programm like „Premium“-devices but without the functions of „Travel Detection“
- The devices do not require an auxiliary voltage (only KNX)
- Universal head screw terminals
Blind/Roller Shutter Actuator JRA/S
Device Overview „Basic“ JRA/S X.230.1.1

JRA/S 2-, 4-, 8-fold 230 V

- Without manual Operation and status LEDs
- Same application programm like „Premium“-devices but without the functions of „Travel Detection“
- The devices do not require an auxiliary voltage (only KNX)
- Universal head screw terminals
## Blind/Roller Shutter Actuator JRA/S

### Type designation

<table>
<thead>
<tr>
<th>JRA/S</th>
<th>w</th>
<th>x</th>
<th>y</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of outputs</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>230</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardware - properties</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Version</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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
Blind/Roller Shutter Actuator JRA/S
New software innovations

- For 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.

- Example Conversion
Blind/Roller Shutter Actuator JRA/S
New software innovations

Simplified commissioning: copy and exchange

- Copy one channel to one or more channels
- Exchange two channels
- Copy / exchange with or without group addresses
Time-delayed switching of drives

- 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 time delay applies for all outputs or connected drives of the actuator.
- The central travel telegrams are executed with a delay:
  - Move to height for sun 0..255, Adjust slat for sun 0..255
  - Block, Forced operation
  - Wind alarm, Rain alarm, Frost alarm
  - ...
Reaction on bus voltage failure (per output)

- **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
Blind/Roller Shutter Actuator JRA/S
New software innovations

Forced operation 1 bit or 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
  - activated (1 bit)
    - Position height in % [0...100]
    - Position slat in % [0...100]
  - activated (2 bit)
    - The communication object Forced operation 2 bit is enabled
Blind/Roller Shutter Actuator JRA/S
New software innovations

Detect travel times (only x.y.5.1)

- Determine the travel times via current detection

- The travel times are automatically and permanently determined during ongoing operation and/or via object "Trigger travel detection"

- Advantage
  - Compensation for changes in the length of the blind/shutter due to external influences (frost, UV rays or the use of heavier blind/shutter types)
  - Malfunction drive fault (no current flow or invalid travel times)
Limit travelling range

- For certain applications, the travelling range of the blinds/shutters can be limited for the user
  - via object "Blinds/shutters up-down limited"
  - via object "Enable limitation"

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

<table>
<thead>
<tr>
<th>Settings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B: Blinds/Shutters</td>
<td>Determine times for slat</td>
</tr>
<tr>
<td></td>
<td>Duration of slat adjustment (step) in ms [50...1000]</td>
</tr>
<tr>
<td></td>
<td>Number of slat adjustments (from 0% = open to 100% = closed)</td>
</tr>
<tr>
<td></td>
<td>Position of slat after arriving on lower end position (100% = disabled)</td>
</tr>
<tr>
<td></td>
<td>Limit travelling range</td>
</tr>
<tr>
<td></td>
<td>Upper limit in % [0...100] (0% = top; 100% = bottom)</td>
</tr>
<tr>
<td></td>
<td>Upper limit valid for automatic commands</td>
</tr>
<tr>
<td></td>
<td>Upper limit valid for direct commands</td>
</tr>
<tr>
<td></td>
<td>Lower limit in % [0...100] (0% = top; 100% = bottom)</td>
</tr>
<tr>
<td></td>
<td>Lower limit valid for automatic commands</td>
</tr>
<tr>
<td></td>
<td>Lower limit valid for direct commands</td>
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Blind/Roller Shutter Actuator JRA/S
New software innovations

Set dead times

- 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.
  - Dead time blinds/shutters from bottom until moving up
  - Dead time of slat from 100% closed until slat turn
  - Slippage of blinds/shutters on change of direction
Blind/Roller Shutter Actuator JRA/S
New software innovations

Tensioning blinds/shutters or slot positioning

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

- 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:
  - After each down command
  - Only after reaching lower end position

<table>
<thead>
<tr>
<th>Weather clients</th>
<th>Limit traveling range</th>
<th>Slot dead times</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. General</td>
<td>no</td>
<td>standard</td>
</tr>
<tr>
<td>A. Safety/Weather</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Drive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Blinds/Shutter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Functions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Status Messages</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tensioning blinds/shutter or slot positioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time for tensioning/ slot positioning in ms [0..5,000]</td>
</tr>
</tbody>
</table>

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<tr>
<td>Time for tensioning/ slot positioning in ms [0..5,000]</td>
</tr>
</tbody>
</table>

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Enhanced parameter for position on wind-, rain- and frost alarm

- No reaction: It will remain unchanged in its position
- Up: The blind/shutter moves UP after a weather alarm is received
- Down: The blind/shutter moves DOWN after a weather alarm is received
- Stop: If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged
- Position 1…4: If one of these positions is selected, the blind/shutter(s) move to a preset position
- Individual position: Movement to one of the individual positions is possible (position height in [% 0...100] and position slat in [% 0...100])
- deactivated: No reaction occurs in the event of a weather alarm
Enhanced status messages

- Height and slat (0...255, two separate com. objects)
- Upper and lower end position (two separate com. objects)
- Operability (to indicate to the user via an LED that the blinds/shutters can not be moved at the current time e.g. weather alarm)
- Automatic Sun Protection
- Information (16 bit)
  - Drive fault (no current flow with controlled drive, only available on devices of type JRA/S x.y.5.1)
  - Wind alarm
  - Drive in motion
  - …
8-bit scene

- Each blind/shutter output can be integrated in up to 18 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 (call a scene), or the current position will be saved as a new scene position (store a scene)
  - Position height in % [0...100]
  - Position slat in % [0...100]
Enhanced automatic sun protection: Overheat control

- Heat up of the unoccupied room is avoided using overheat control

- If the temperature threshold here is reached or exceeded, the blinds/shutters will move to a parameterizable position, e.g. DOWN
# Blind/Roller Shutter Actuator JRA/S

The Blind/Roller Shutter Actuator JRA/S is a tool designed for managing and controlling roller shutters and blinds. It offers various features and functionalities to ensure smooth and safe operation. Here are some key aspects of the tool:

## Status of Output

<table>
<thead>
<tr>
<th>Operating mode</th>
<th>Control with slat adjustment (Blinds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weather/safety alarm</td>
<td></td>
</tr>
<tr>
<td>Status manual operation</td>
<td></td>
</tr>
<tr>
<td>Automatic sun protection</td>
<td></td>
</tr>
<tr>
<td>Heating/cooling automatic</td>
<td></td>
</tr>
<tr>
<td>Motor In Motion</td>
<td></td>
</tr>
<tr>
<td>Motor error</td>
<td></td>
</tr>
</tbody>
</table>

## Weather / Safety Alarms

- Wind alarm No.1
- Wind alarm No.2
- Wind alarm No.3
- Rain alarm
- Frost alarm
- Forced operation
- Block

## Positions 1-4 / Scene

- Move to position 1
- Set current position as position 1
- Move to position 2
- Set current position as position 2
- Move to position 3
- Set current position as position 3
- Move to position 4
- Set current position as position 4

## Recall scene no.

- 1

## Store current position as scene no.

- 1

## Position / Control Handling

- Current Position: 0.4% (1)
- Position Valid
- Move To Position

## Automatic Control

- Activate automatic control
- Direct control blocked
- Automatic control disabled
- Sun
- Current position height for sun
- Position height for sun
- Current position slat for sun
- Position slat for sun
- Presence
- Heating
- Cooling
- Current room temperature
- Room temperature

## General Weather Alarms for all Channels

- Wind alarm No.1
- Wind alarm No.2
- Wind alarm No.3
- Rain alarm
- Frost alarm
- Deactivate
Blind/Roller Shutter Actuator JRA/S X.230.5.1
Connection to the blind and roller shutter drives

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)
Blind/Roller Shutter Actuator JRA/S X.230.5.1
Connection to ventilation flaps

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)
Blind/Roller Shutter Actuator JRA/S 4.24.5.1
Connection to 24V-DC drives

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)
Blind/Roller Shutter Actuator JRA/S
Operating controls

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

- Button 🔄 "Manual operation"
  - Switch to "Manual operation“ and "KNX mode“
- Button 🔽 🔺 „Output A…X UP/DOWN“
  - KNX mode: No reaction
  - Manual operation:
    - Long operation: UP/DOWN or opening/closing of the contact
    - Short operation: Slat adjustment /STOP
Blind/Roller Shutter Actuator JRA/S
Manual operation

Function

- As standard button “manual operation” 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
Blind/Roller Shutter Actuator JRA/S
Display elements

Indicator LEDs are located on the front of the device

- LED 🎨 „Manual operation“
  - Off: The device is in KNX mode
  - On: The device is in manual mode

- LED ⬆️ A ⬇️ „Output A…X UP/DOW “
  - On ⬆️ : Upper limit position
  - On ⬇️ : Lower limit position
  - Both LED On: Safety function active, e.g. wind alarm
  - Flashes ⬆️ : Blind/shutter moving upwards
  - Flashes ⬇️ : Blind/shutter moving downwards
  - Both LEDs flash alternately (only JRA/S x.y.5.1): Malfunction drive fault (no current flow or invalid travel times)
  - Off: Intermediate position