



ABB i-bus[®] KNX Blind/Roller Shutter Actuators JRA/S Product Information

Blind/Roller Shutter Actuators Innovations

Automatic travel detection

Travel times for the connected drives can be easily determined during operation with the automatic travel detection feature. It saves time during commissioning. Furthermore, compensation of age and weather-related length changes to blinds or roller shutters is assured. It facilitates precise positioning of the blinds/shutter when using sun position-dependent control.

Diagnostics

Enhanced diagnostic messages can be issued with the new Blind/Roller Shutter Actuators. They are particularly useful during commissioning or in the event of faults. It is possible, for example, to detect and signal if the power supply to a drive is interrupted.

Copy and exchange

This function allows parameter settings of an output to be copied or exchanged with other freely selectable outputs. This is possible within a device or in conjunction with several devices. Copy and exchange is useful particularly on projects, where all drives of a facade are controlled identically. It shortens the commissioning process and reduces the possible sources of error with parameterization.

Integration in the room temperature control

The intelligent and networked blind and roller shutter control plays an important role in the energy efficient usage of a building. The level of sunlight in the room and heating up due to the sun's energy can be controlled in conjunction with the room climate control. The new software function "overheat control" prevents unintentional overheating of a room. The blinds are closed in good time. The shutter control can be actively involved in the room temperature control – a requirement for implementing high-efficient buildings compliant to EN 15232.



Blind/Roller Shutter Actuators For Sun Protection and Temperature Control

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 commissioning as well as achieve cost benefits during operation.

Modern sun protection devices have a significant role, as they must fulfil many 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.

With the new Blind/Roller Shutter Actuators JRA/S, the complex requirements on a sustainable and energy efficient automatic sun protection control can be implemented in offices, residential and functional buildings via ABB i-bus® KNX.

The Blind/Roller Shutter Actuators are ideal for the control of drives in the area of sun protection:

- Blinds, exterior blinds, slat blinds and panel curtains
- Roller shutters, roller blinds, screens, vertical blinds
- Awnings, pleated blinds, pleated curtains, etc.



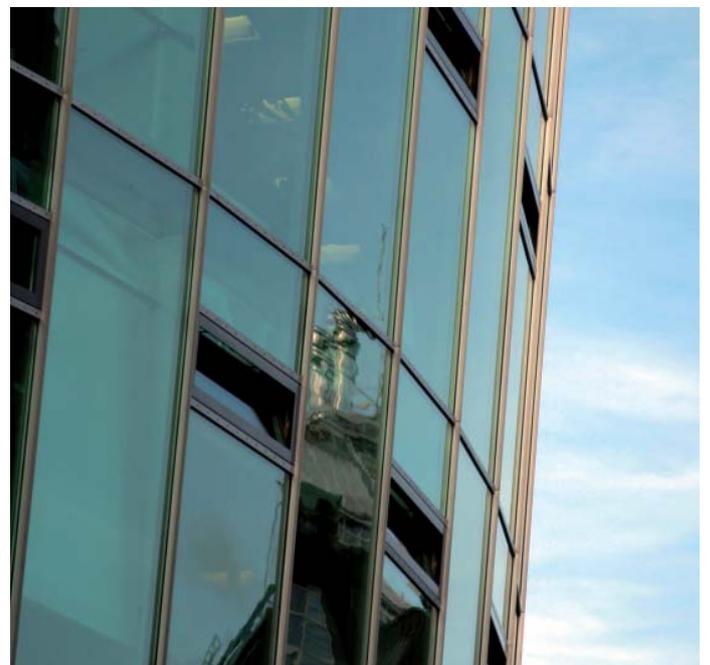
Optimum room air quality via automatic ventilation

The demands for the reduction of energy consumption often results in poor ventilation in today's heavily insulated buildings. The quality of the room air does not comply with the desired and required level.

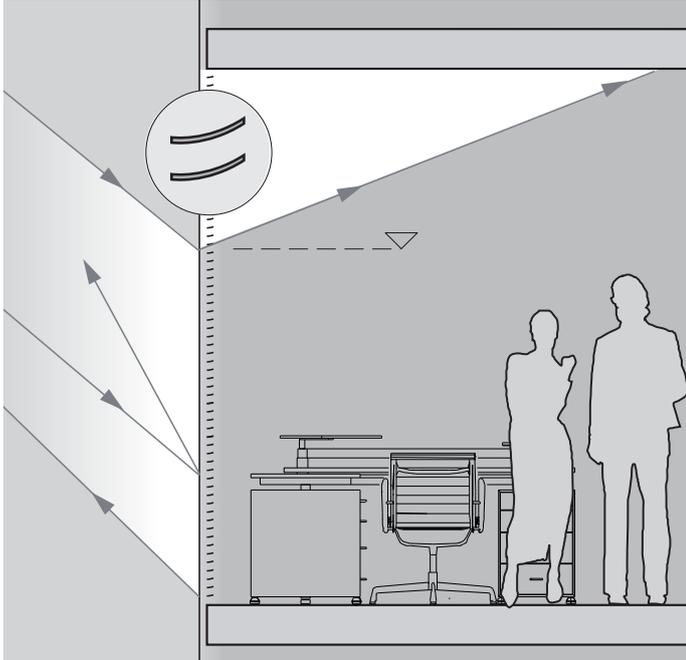
Natural ventilation is often an effective and efficient method for exchanging the "used" room air and improving the air quality in the room. If the air quality in the room is monitored with sensors (temperature, humidity, CO₂ concentration), the ventilation flaps can be opened automatically and in good time ensuring that the air quality is kept in a comfortable range.

Blind/Roller Shutter Actuators are ideal for control of ventilation elements such as

- Ventilation flaps
- Roof hatches, skylights
- Windows, doors and gates



Networked Blind Control



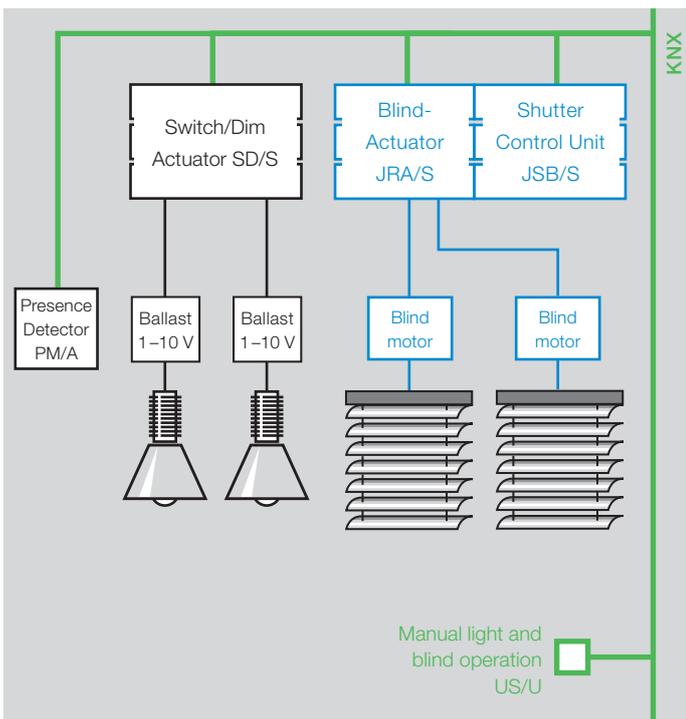
Blind control for optimised daylight usage

Blind systems are used in functional buildings primarily for shade and sun protection. They prevent the incidence of direct sunlight into the working area. Through blind control it is possible to influence the incidence of external light into the room. Therefore there is a direct interdependence of lighting control and blind control. If it becomes too dark in an office because a blind is closed, for example, the lighting will be switched on to compensate for the lack of brightness. As a result, electrical energy is consumed by the lighting at a time when there is actually enough daylight available. A more efficient solution is the automatic control of the angle of the slats to take account of the position of the sun.

The slats are opened just enough to ensure that sufficient daylight enters the room and direct glare is prevented. Using special light-guiding slats the incidence of light is improved. In conjunction with a constant lighting control, which ensures that the minimum of lighting is used to maintain the required brightness, a large share of the electrical energy can be conserved. An automatic blind control can be implemented in conjunction with a presence dependant constant light control providing potential savings up to 40 % compared to manual operation of the lighting system.

Blind control with Shutter Control Unit:

An optimum incidence of external light with minimum glare results from the sun position-dependent control and the opening angle of the slats.



Blind control for optimised climate control

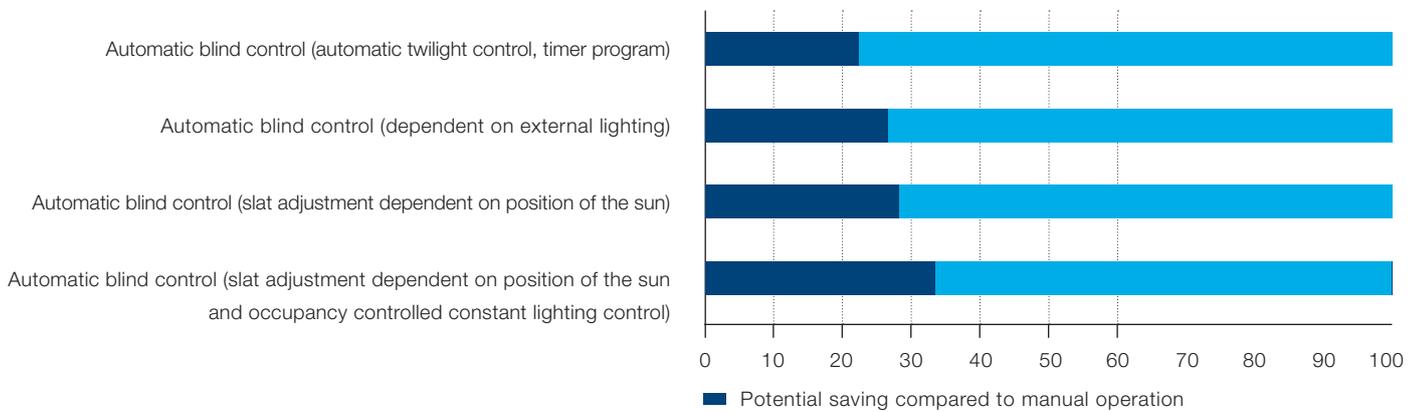
Closing the blinds on the facades of the building on which the sun is shining in summer, can prevent the rooms from heating up – saving energy that would be needed to cool the working areas. In winter the opposite is true. Here it is useful to capture as much solar heat as possible in the rooms – this saves energy when heating rooms. In both cases it is necessary to balance the “climate control” of the blinds with the presence of people in a room. As long as someone is working in a room, the light-dependent blind control should have priority, particularly with PC workstations, but also in schools or conference rooms. All ABB i-bus® KNX blind actuators feature a heating/cooling automatic as standard for climate control of the blinds. For optimisation of the usage of daylight, an additional Shutter Control Unit JSB/S can be used.

Reduced Energy Consumption and Costs

Concerning the question of energy efficiency in buildings, blind control also plays an important role with regard to climate control. An intelligent blind control system has an optimising effect on building climate control and supports the user in a conservative and cost-optimised energy usage.

As is evident in studies from the Biberach University of Applied Sciences, a climate control involving the blinds reduces the electrical energy required by the air conditioning system by up to 30 %.

Potential savings for cooling using automatic blind control*



*Determined by the Biberach University of Applied Sciences with ABB i-bus® 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.

Improving the Tried and Tested



Operating modes

Blinds/shutter control with slat adjustment (blinds, etc.).
Blinds/shutter control without slat adjustment (roller shutters, awnings, etc.).
Ventilation flaps, switch mode.

Safety

Electro-mechanically interlocked outputs prevent possible destruction of the drives.
On a bus voltage failure, the default position of the bistable relay will be set even without an additional supply voltage.

Engineering

Comprehensive diagnostic messages.
Simple commissioning via automatic travel detection. Advanced settings for drives and blinds/shutters (tightening of the material of awnings, slit positioning with roller shutters).

Comfort

Tracking of sun position (e.g. for workplace lighting) in conjunction with Shutter Control Unit JSB/S.
Precise control via automatic travel detection.

Energy efficiency

No 230 V auxiliary voltage supply required.
Heating/cooling automatic with overheat control.

Commissioning

Common application program for all devices.
Copy, exchange and convert.
Universal head screw terminals.
Manual operation and display.

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.

Device Overview



JRA/S 8.230.5.1



JRA/S 4.24.5.1



JRA/S 2.230.2.1



JRA/S 2.230.1.1

Type	Designation	MW **	Order code
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JRA/S X.230.5.1 Blind/Roller Shutter Actuator with Travel Detection and Manual Operation x-fold, 230 VAC, MDRC

JRA/S 2.230.5.1	2-fold, 230 V	4	2CDG 110 124 R0011
JRA/S 4.230.5.1	4-fold, 230 V	4	2CDG 110 125 R0011
JRA/S 8.230.5.1	8-fold, 230 V	8	2CDG 110 126 R0011

JRA/S 4.24.5.1 Blind/Roller Shutter Actuator with Travel Detection and Manual Operation 4-fold, 24 VDC, MDRC

JRA/S 4.24.5.1	4-fold, 24 V DC	4	2CDG 110 128 R0011
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JRA/S X.230.2.1 Blind/Roller Shutter Actuator with Manual Operation x-fold, 230 VAC, MDRC

JRA/S 2.230.2.1	2-fold, 230 V	4	2CDG 110 120 R0011
JRA/S 4.230.2.1	4-fold, 230 V	4	2CDG 110 121 R0011
JRA/S 8.230.2.1	8-fold, 230 V	8	2CDG 110 122 R0011

JRA/S X.230.1.1 Blind/Roller Shutter Actuator x-fold, 230 VAC, MDRC

JRA/S 2.230.1.1	2-fold, 230 V	4	2CDG 110 129 R0011
JRA/S 4.230.1.1	4-fold, 230 V	4	2CDG 110 130 R0011
JRA/S 8.230.1.1	8-fold, 230 V	8	2CDG 110 131 R0011

** module width in space units 18 mm

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