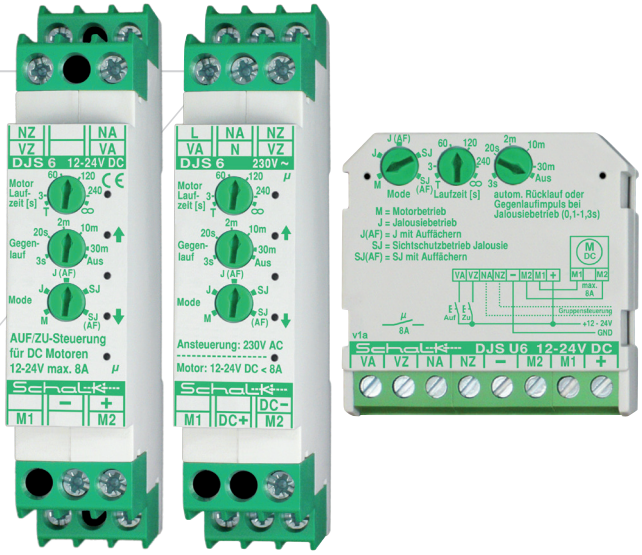
Blind control for 12-24V DC drives

DJS 6 (12-24V DC)
DJS 6 (230V AC)
DJS U6

With auxiliary inputs for group and central control
Convenient DC motor control with electronic push-button interlock and run-time limiting, suitable for DC-powered louver blinds, etc.



Special features

- One-button or two-button actuation
- Electronic button interlock enables use of normal push-buttons
- Specific louver blind modes: Easily adjustable louvre blades, privacy screen function, fan-out function
- Automatic closing with configurable closing time
- Run-time limiting for motor protection
- Available as rail mounting or flush mounting version
- DJS 6 (230V AC): particularly suitable for system conversion from AC motors to DC motors, as existing 230V control cables can still be used

General information

The DJS 6 / DJS U6 electronic controllers are general-purpose DC motor controllers for clockwise or anti-clockwise operation. Both an one-button and two-button motor control is supported.
The overriding auxiliary inputs allows several DJS units to be grouped together in group control or central control configurations.
The motor run time can be limited to prevent motor overload due to mechanical jamming or other causes. A convenient and configurable automatic closing function ensures that skylights or other fixtures are not inadvertently left open. In louvre blind mode the louvres can be adjusted precisely or automatically returned to a defined angle after switch-off.

Applications

Control of blinds with DC motors, e.g. window-integrated blinds, privacy blinds, outdoor blinds etc.

Operation

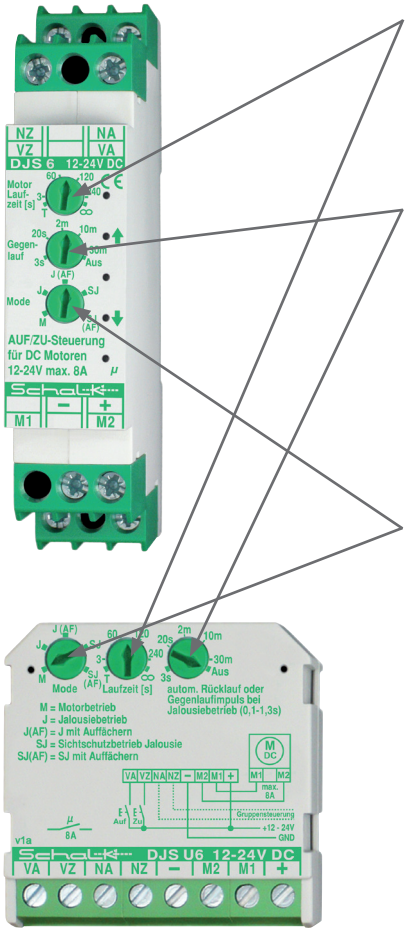
The DJS module is actuated by standard push-buttons with no need for mechanical interlocking.
The desired operation direction is selected by a short pulse (momentary-action signal) from a push-button connected to the VA (local input for Open) or VZ (local input for Close) input. The drive runs to its end stop and the configured time expires.
A subsequent pulse on the VA or VZ input while the drive is running stops the motor. For one-button motor control it is also possible to actuate both local inputs at the same time with just one push-button (not in SJ mode). With this actuation arrangement, each button pulse changes the direction (Open–Stop–Close–Stop).
The auxiliary inputs NA (Open) and NZ (Close) allow any desired number of drives to be operated simultaneously in the opening or closing direction, regardless of their current state. When actuated by the auxiliary inputs, the motor runs only as long as the actuation signal from the higher-level group controller is active. The NA input has priority when NA and NZ signals are active at the same time. The local inputs are blocked as long as NA or NZ is active.
A DMS 5 or DMS U5 is required as the group control unit, as this series has special group control modes. There is no time monitoring of the auxiliary inputs. This allows the lower-level controllers to be held in the desired position for an indefinite period (e.g. wind sensors).
In blind operating mode, the slat angle can be adjusted with a short push pulse (<1s). With a longer pulse the drive continues running to the end position. In one-button louver blind mode, the direction of motion is not altered by a sequence of short pulses. Here again, this makes it easy to adjust the slat angle.
If automatic closing is enabled, the drive starts moving in the closing direction after the set closing time delay. The time-out is started by the signal on the VA local input.
If the signal on the VA input is active longer than 2 seconds, the closing time is doubled. In louver blind mode a reverse

pulse is configured instead of the closing function, so that the blind slats are automatically reset after the motor stops.

In SJ mode (louvre blind privacy) a short push-button signal on the VA or VZ local input changes the angle of the blind slats, for example from vertical to horizontal (privacy on/off). The motor run time for this angle adjustment can be set from 0.1 to 1.8s. A triple button press initiates the full motor run time (setting range 3 to 240 s).

With the AF option (fan out), the blind slats are moved once OPEN and again CLOSED after a longer run time (>5s) (duration in each direction: 2s). This corrects any misalignment of individual slats that may occur with certain types of blinds. The individual functions can also be taken from the function diagrams.

Controls and indicators



Motor run time setting „Motor-Laufzeit“:
This sets the motor run time:

T	Push-button mode (motor only runs as long as the inputs are controlled)
3–240	Motor run time in seconds
∞	No run time limit

Automatic closing time setting „autom. Rücklauf“:
This sets the automatic closing time, reverse pulse time or louvre run time:
In "M" mode (motor control):
Time for automatic closing function **3s..30min**, or **Off** (function deactivated)

In"J" mode (blind control):
Duration of reverse pulse 0.1 to 1.3 s or Off (function disabled)

In "SJ" mode (louvre blind privacy mode):
Slat run time **0.1s to 1.8s**

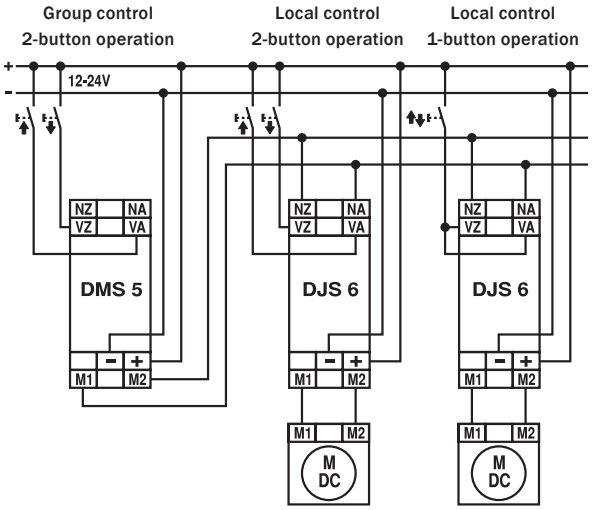
Mode setting "Mode”:
This sets the operating mode:

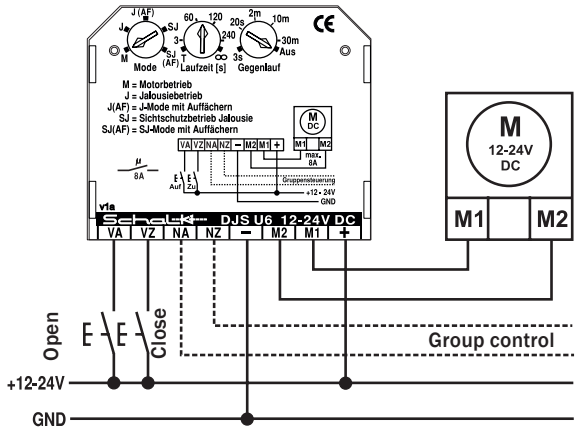
M	Motor control (short button press for Open, Close or Stop)
J	Louvre blind control (short button press for fine adjustment of louvre angle or STOP; long button press for open/close)
J (AF)	Blind control with fan-out function*
SJ	Louvre blind privacy (short button press sets privacy on or off; triple button press to adjust blind position) causes the blind to move)
SJ (AF)	Louvre blind privacy with fan-out function*

** At the end of a longer (>5s in CLOSE direction) operating time, the slats are briefly moved OPEN and then CLOSED again in order to achieve uniform slat alignment.*

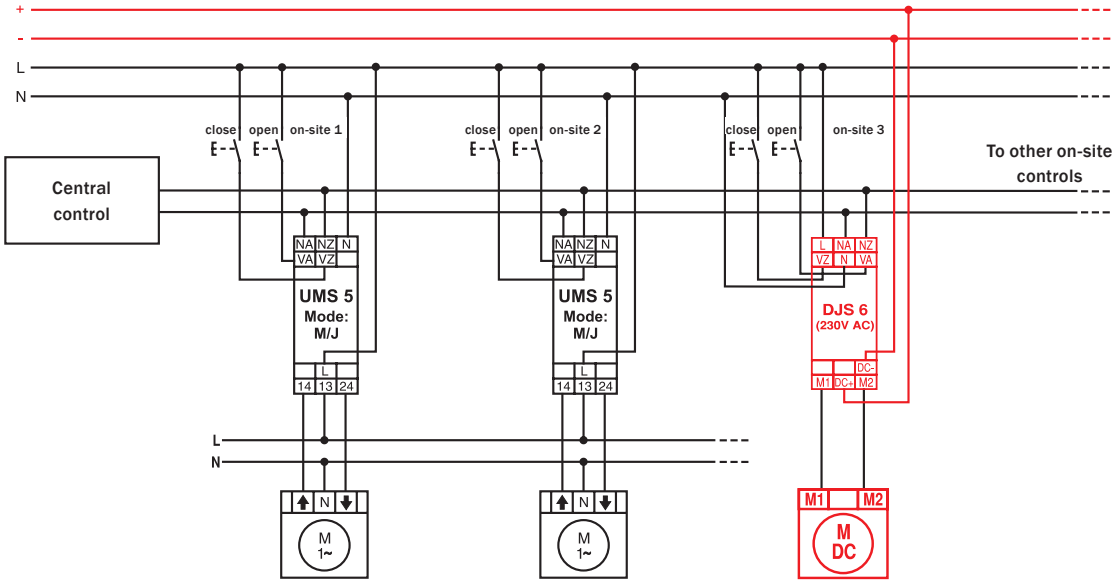
Status indicator LEDs:
Legend:
○ LED off
● LED lights red
◍ LED flashes red
● LED lights up green
◍ LED flashes green
◍ LED flashes alternately red/green

Connection examples



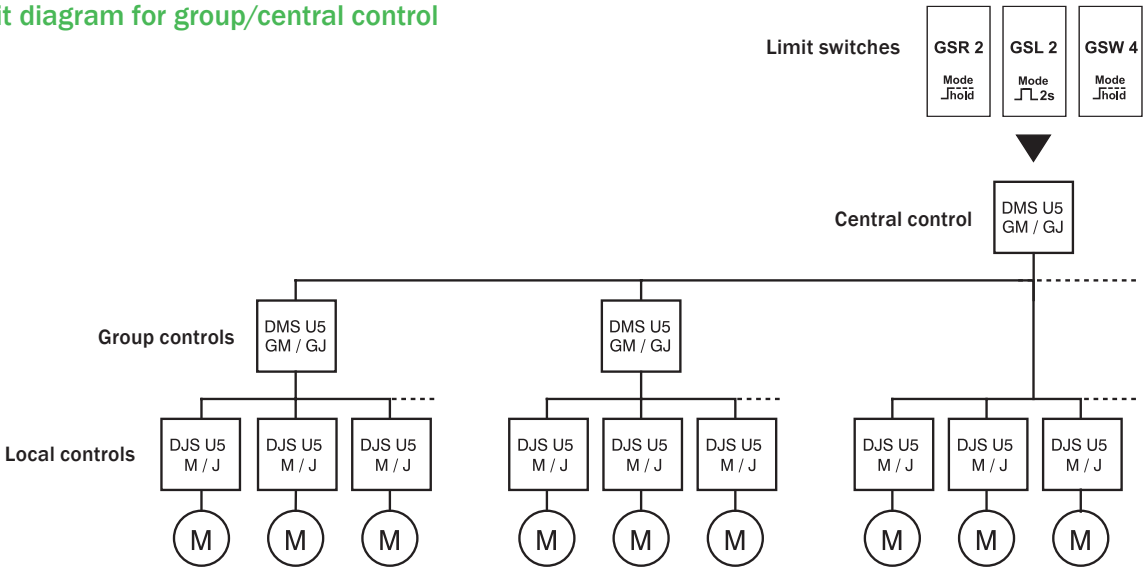


Application example: Existing 230V AC motor is replaced by a DC motor



Info *The existing wiring can be reused 1:1 - just replace the existing 230V AC control with the new DC control (DJS609, with 230V AC control voltage), and add an additional external feed of the DC power supply for the motor!*

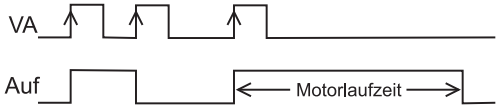
Basic circuit diagram for group/central control



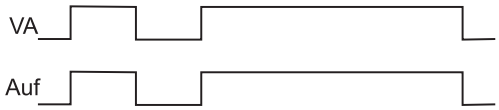
Caution *Due to the supply voltage tolerance of ±10%, a regulated power supply unit must be used - unregulated power supplies cause high voltage peaks, which can destroy the device!*

Functional diagrams DJS 6 / DJS U6

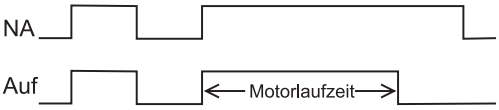
All operating modes and set motor running time: local inputs are edge-triggered and time-monitored



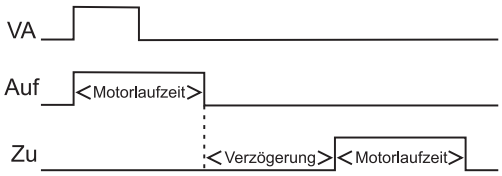
Motor running time in pushbutton mode: **local inputs are level-controlled and not time-monitored.**



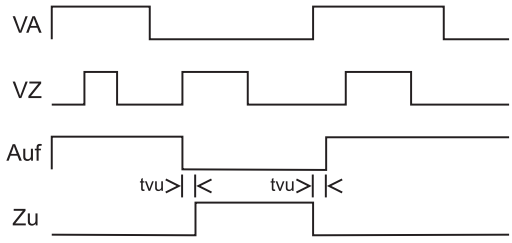
Operating modes M and J with motor running time: Auxiliary inputs are level-controlled and time-monitored.



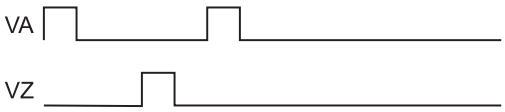
In the case of automatic return, the return delay begins at the end of the motor running time.

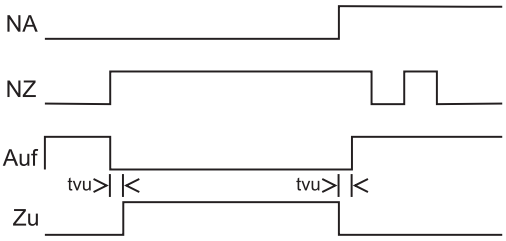


tvu = Switchover pause (0.6s) between K14 and K24 for motor protection (mechanical stress release). As one local button is active, the other local button is ignored.

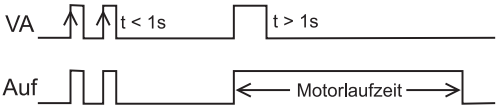


Local inputs are ignored as long as auxiliary inputs are active. NA overrides NZ.

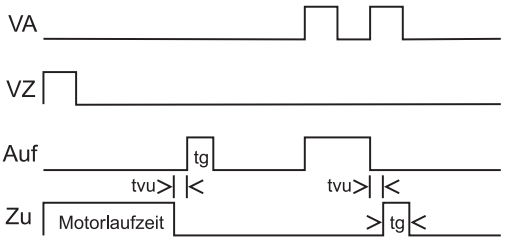




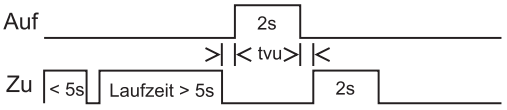
Louver blind mode “J”: local inputs are level-controlled in response to short press of button and edge-controlled when button held down.



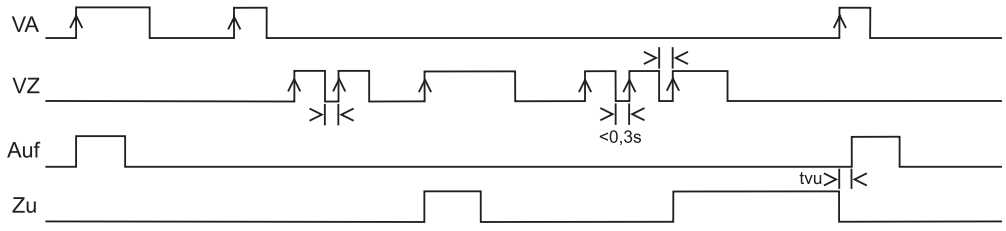
Set louver blind counter-run (tg): Counter-running is triggered by timeout of VZ or by manual stop at VA or VZ.



With the AF option (fan out), the blind slats are moved once OPEN and again CLOSED after a longer run time (>5s) (duration in each direction: 2s). This ensures that the slats are correctly aligned again.



Operating mode SJ: The local inputs switch on the selected direction of travel only once with a simple or long keystroke. A triple button press initiates the full motor run time. The running direction "CLOSE" lasts 25% longer than the running direction "OPEN", so that a defined starting position is given for different running times.Closing run time (longer than the opening run time (K14), to ensure a defined starting position for the next turn.



Technical data DJS 6 (12-24V DC) and DJS U6

Operating voltage:	12-24 V DC ±10% (regulated power supply required)
Control voltage	= operating voltage
Power consumption:	max. 0.6 W
Run time	3 - 240s
Automatic closing time	3s - 30 min
Reverse pulse	0.1 - 1.3s
Relay switching dead time	0.6 s
Relay output	12-24 V DC max. 8 A
Ambient temperature	-10°C to +45°C
DJS 6 mounting	Click-mount on standard 35-mm rail (EN 60715)
DJS U6 connections:	
- Connection terminals	Socket terminals with captive screws M3.5
- Clamping range	0.5 mm^2 - 4.0 mm^2
- Strip length	6.0 mm - 6.5 mm
- Screwing torque	0.80 Nm
DJS U6 connections:	
- Connection terminals	Socket terminals with captive screws M3
- Clamping range	0.5 mm^2 - 2.5 mm^2
- Strip length	6.5 mm - 7.0 mm
- Screwing torque	0.50 Nm
DJS 6 outside dimensions	18 x 88 (45) x 58 mm^3
DJS 6 installed depth	55 mm
DJS U6 outside dimensions	43 x 43 x 18,5 mm
RAL colour	grey 7035 / green 6029

Technical data DJS 6 (230V AC)

Operating voltage	230V AC
External power feed for motor	12-24 V DC ±10%
Control voltage	= Operating voltage

Order data

Item no.	EAN	Type	Designation
DJS609	4 046929 401210	DJS 6 (230V AC)	DC blind control 230V AC, for motors 12-24V DC (ext. supply)
DJS60K	4 046929 401203	DJS 6	DC blind control with fan-out function, 12-24V DC
DJSU6K	4 046929 401197	DJS U6	DC blind control (flush-mount) with fan-out function, 12-24V DC

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