OPEN/CLOSE control Item 332500 (UMS5) **DIN-rail version** (230V AC)

Item 331500 (UMSU5) **Flush-mounted version** (230V AC)

Universal motor control for AC motors (roller shutters, blinds, roof windows, etc.) with extension inputs for group and central control

Special Features

- Extremely low power consumption: only 0.2W passive / 0.4W active
- Shutters can also be positioned via group and central control
- Single- or two-button motor control
- Electronic button interlock, so standard push-buttons can be used
- UMS 5: potential-free output contacts
- UMS 5P: electrically isolated extension inputs for universal voltage 12-230V UC
- Special venetian blind modes, convenient slat adjustment, privacy function
- Automatic closing function
- with adjustable time, doubled by a longer button press
- Motor protection by running time limit
- DIN-rail and flush-mounted versions

Fig. Item 332500

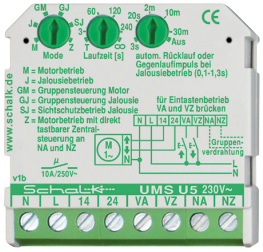


Fig. Item 331500

General

The electronic control unit UMS 5 is a universal motor control for clockwise/anticlockwise rotation. Both single- and two-button motor control can be implemented. The priority extension inputs allow several UMS 5 units to be combined into group and central controls. The motor running time can be limited, e.g. to avoid overloading the motor in the event of a mechanical blockage. A convenient, automatic and adjustable closing function prevents, among other things, a roof window from being left open unintentionally. With venetian blind control, the slats can be adjusted precisely or set automatically to a specific angle on switch-off.

Application

Roller shutters and venetian blinds, folding shutters, roof windows, smoke extraction hoods in fire protection systems, gate/door drives, valve controls, etc.

Function

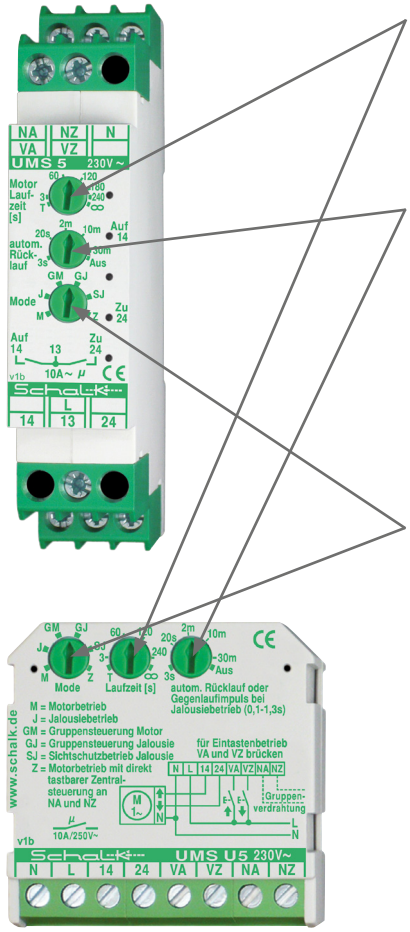
The UMS 5 is controlled by standard push-buttons or switches that need no mechanical interlock. A short button pulse on the local inputs VA (UP) or VZ (DOWN) selects the respective running direction. The drive runs to its end position and the set time elapses.

A repeated pulse (on VA or VZ) during the running time stops the motor. For single-button motor control, both local inputs are controlled with one push-button (not available in SJ mode). With this control, the running direction changes after each button pulse (Up-Stop-Down-Stop).
Via the extension inputs NA (UP) and NZ (DOWN), any number of drives can be moved up or down simultaneously in a defined way, regardless of their current state. When controlled via the extension input, the motor only runs as long as the control signal from the upstream group control unit is present. If NA and NZ are active at the same time, NA has priority. As long as NA or NZ is active, the local inputs remain locked.
If the UMS 5 is used as a group control unit, the extension inputs are not time-monitored. This means the subordinate control units can be held in a desired position for any length of time (e.g. by a wind monitor).
In venetian blind mode “J”, the drive is stopped again immediately after a short button pulse (<1s) on a local input. With a longer button pulse (>1s), the drive runs to the end position again. This allows the slats of a venetian blind to be adjusted with short presses. With single-button motor control, the running direction is not changed by button pulses in quick succession. This makes it easier to position venetian blind slats.

In “Privacy venetian blind” mode (SJ), a short press on the local inputs VA or VZ adjusts the venetian blind slats, e.g. from the vertical to the horizontal angle (privacy on/off). The motor running time for this angle adjustment can be set from 0.1 to 1.4s. A triple button press starts the complete motor running time (adjustable from 3 to 240s). If automatic return is set, the drive starts in the DOWN direction after the set return delay has elapsed. The timer is started by the local input VA. If VA is activated for longer than 2s, the return time is doubled.

In venetian blind mode, a counter-run pulse is set instead of the closing function; it positions the slats automatically after a motor stop. The “Motor control, central momentary” mode (Z) allows simple central control in smaller systems without an upstream group control unit. Here the extension inputs can be controlled directly with push-buttons, like the local inputs, but they have priority and the running direction cannot be stopped.

Controls and Indicators



“Motor running time” adjuster:
Sets the motor running time:

T	Momentary mode (motor only runs as long as the inputs are activated)
3...240	running time in seconds
∞	no running time limit

“Autom. return” adjuster:
Sets the automatic return time / counter-run pulse / slat running time:

In mode “M” (motor control):
Time for automatic closing function 3s..30min, or Off (function deactivated)
In mode “J” (venetian blind control):
Duration of counter-run pulse 0.1s to 1.3s, or Off (function deactivated)

In mode “SJ” (privacy venetian blind):
Slat running time 0.1s to 1.4s

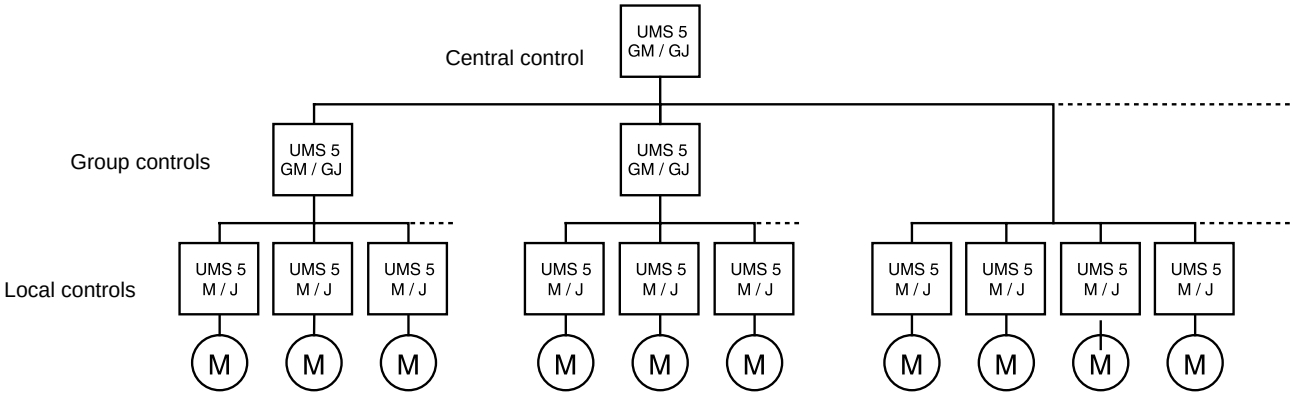
“Mode” adjuster:
Sets the operating mode:

M	Motor control (short press gives UP, DOWN or STOP)
J	Venetian blind control (short press for fine slat angle adjustment or STOP, long press for UP/DOWN)
GM	Group unit for motor control* (no time monitoring)
GJ	Group unit for venetian blind control* (no time monitoring)
SJ	UMS 5/U5 only: privacy venetian blind (short press switches privacy ON/OFF, triple press moves the venetian blind)
Z	Motor control, central momentary (all inputs operated with push-buttons)
U4	UMS 5P only: mode for backward compatibility with UMS 4

** In modes GM and GJ, the relay outputs M1 or M2 (14 or 24) remain switched through as long as an extension input stays activated. This allows priority control (with the local inputs locked) by sensors (e.g. wind monitor, rain sensor, etc.). In “U4” mode, the UMS 5P behaves like the earlier UMS 4 model and can therefore also be used to extend older systems or as a replacement unit. In this mode, activating the local inputs VA or VZ during the running time does not reverse the running direction directly; instead, the motor is only stopped.*

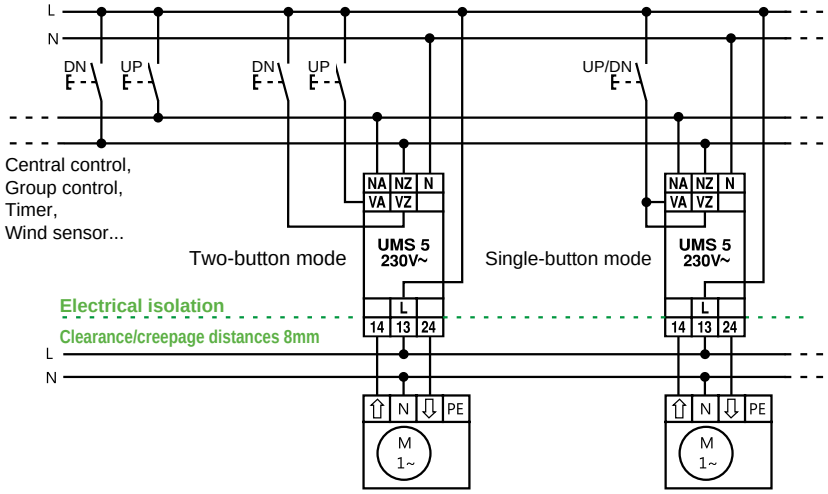
Status LEDs:
Legend:
○ LED off
● LED lit red
◍ LED flashing red
● LED lit green
◍ LED flashing green
◍ LED flashing alternately red/green

Basic Circuit of Central/Group Control



Circuit Diagrams Item 332500

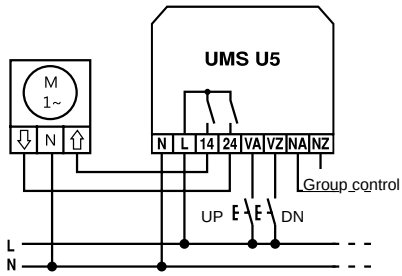
UMS 5 (230V AC)



With the DIN-rail mounted UMS 5 unit in the 230V version (UMS509), the supply voltage, local inputs and extension inputs can each be connected to different phases.

Circuit Diagram Item 331500

UMS U5 (230V AC)



Caution! *With the flush-mounted UMS U5 (230V AC), the supply voltage and control voltages must be in phase.*

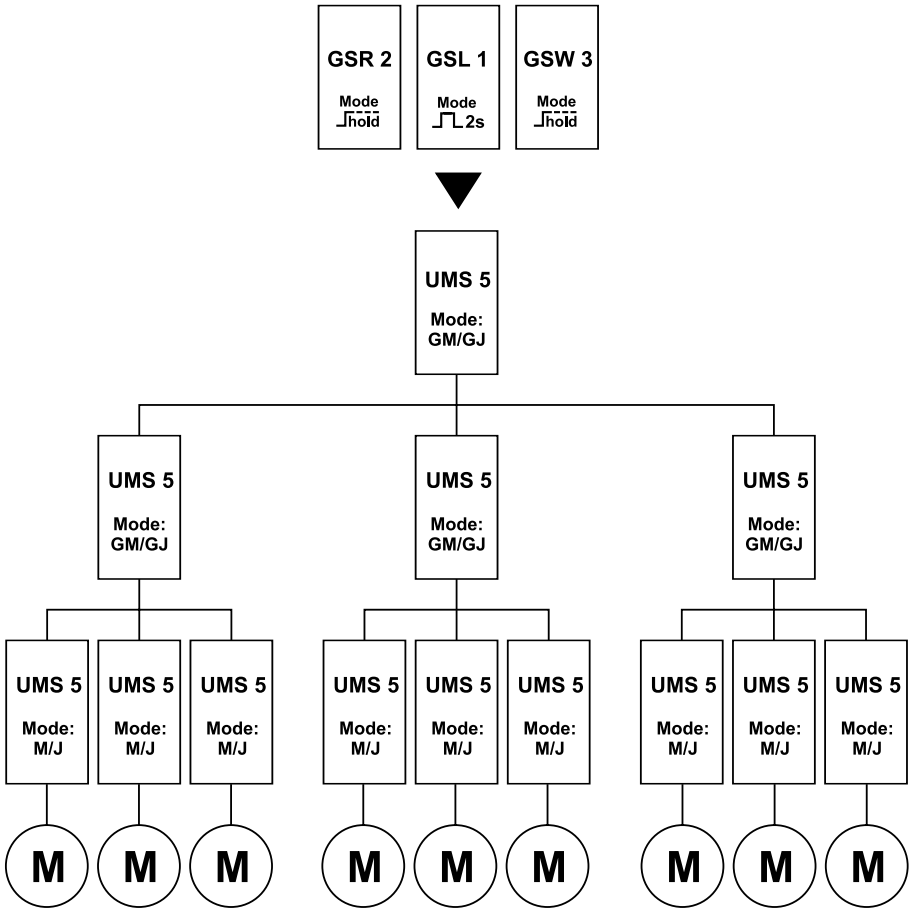
System Concept: Limit Switches Combined with Items 332500 & 331500

Limit switch
for rain, light or wind

Central control
The central control unit is controlled by push-buttons and any limit switches

Group controls
Groups are controlled by the central control unit and by push-buttons

Local controls
The individual local controls are controlled by the group controls and by their own push-buttons



The Local Controls

Each UMS 5 controls one drive via outputs 14 and 24. Control is via the local inputs (VA and VZ) with conventional double push-buttons. Mutual interlocking of the running directions and a running time limit are ensured by the UMS 5.

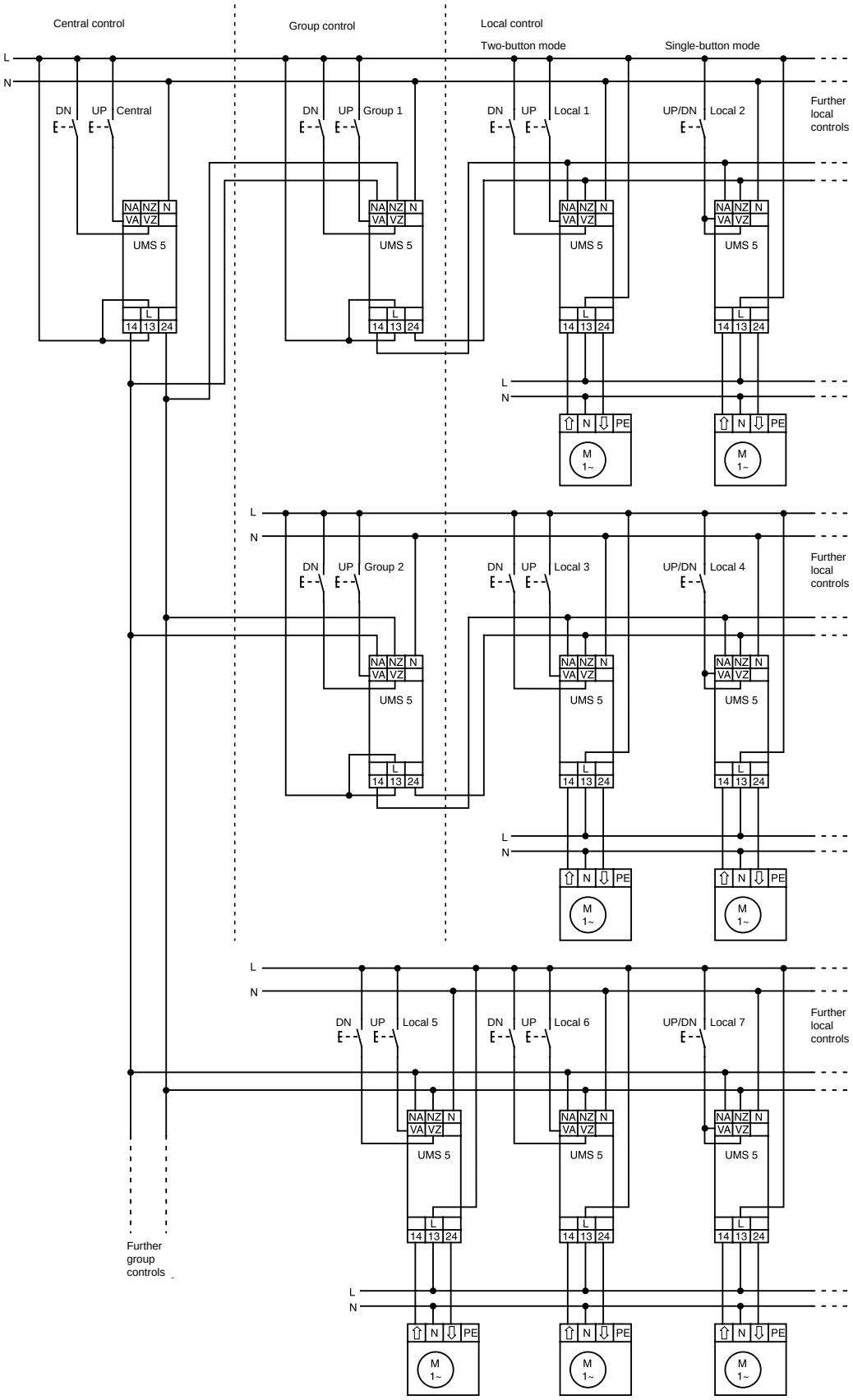
The Group and Central Control

Several UMS 5 units can be combined at their extension inputs (NA and NZ) simply by connecting them in parallel. By adding a further (higher-level) control upstream, these units can be operated together. This creates a so-called group. The group controls can in turn be combined using the same scheme so that they are operated together by a higher-level control. This further combination is called central control.

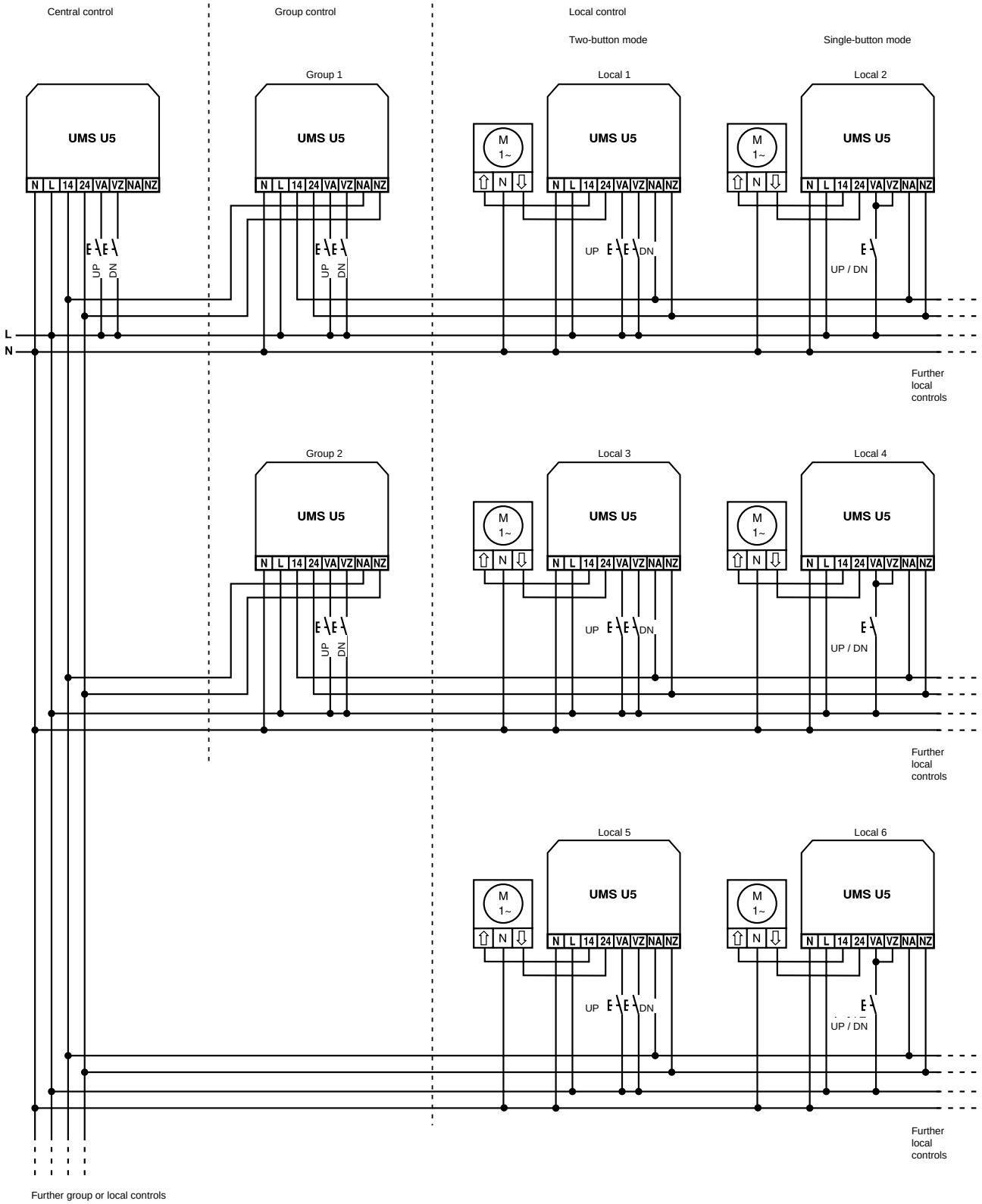
Rain, wind and light

The various limit switches are connected via inputs VA/VZ or NA/NZ on the central control. Safety-related signals from rain or wind must be applied as a continuous signal to the extension inputs. This locks the system, optimally protecting it against accidental incorrect operation. Signals without safety requirements, e.g. for shading or twilight automation, are applied as short control pulses to the local inputs. The system then remains fully operable for the user.

Connection Example Item 332500 (230V AC) in Group/Central Control

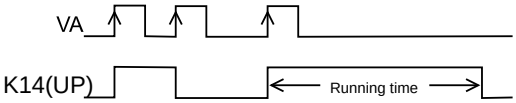


Connection Example Item 331500 (230V AC) in Group/Central Control

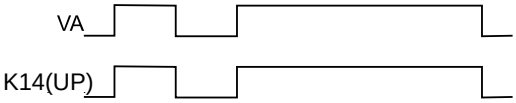


Function Diagrams Items 332500 & 331500

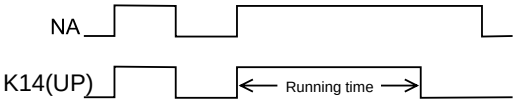
All operating modes with set motor running time: local inputs are edge-triggered and time-monitored:



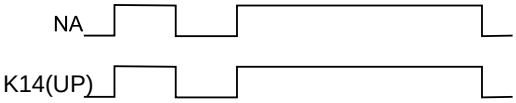
Motor running time set to momentary mode: local inputs are level-triggered and not time-monitored:



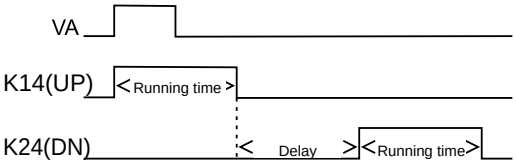
Modes M and J with motor running time: extension inputs are level-triggered and time-monitored:



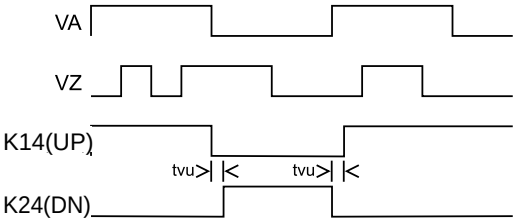
Modes GM/GJ or momentary mode: extension inputs are level-triggered and not time-monitored:



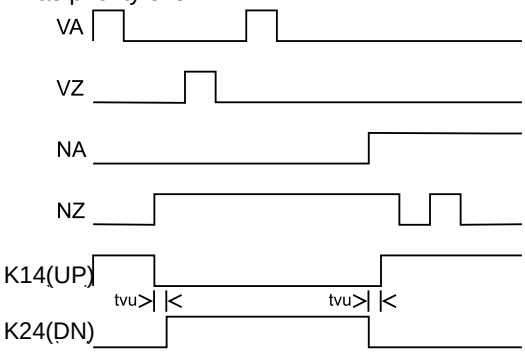
With automatic return, the return delay starts at the end of the motor running time:



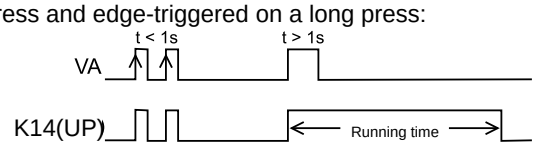
tvu = changeover pause (0.6s) between K14 and K24 (mechanical motor protection). While one local push-button is active, the other is ignored:



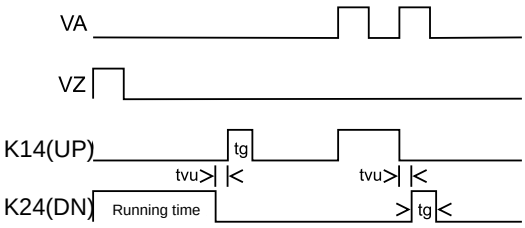
As long as extension inputs are active, local inputs are ignored. NA has priority over NZ:



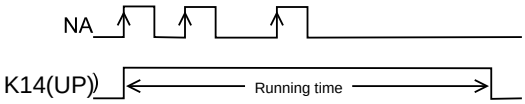
Venetian blind mode: local inputs are level-triggered on a short press and edge-triggered on a long press:



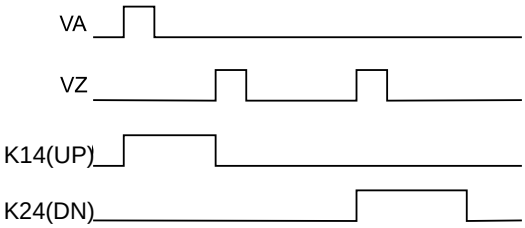
Set venetian blind counter-run (tg): counter-run is triggered when the VZ time elapses or by a manual stop with VA or VZ:



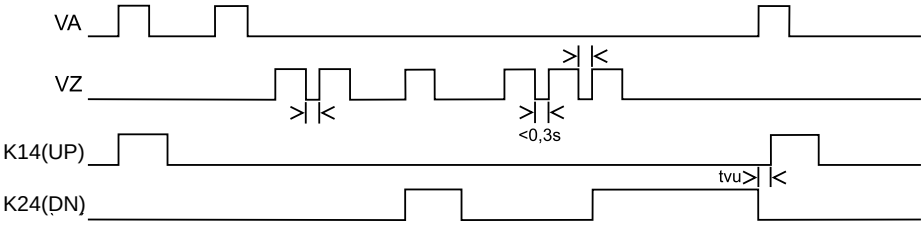
Mode Z with motor running time: extension inputs are edge-triggered and time-monitored.



Mode U4 (UMS 5P only): when operated alternately, the local inputs do not switch directly to the opposite direction but stop the motor. The extension inputs behave as in mode Z.



Mode SJ (not applicable to UMS 5P):
With a single button press, the local inputs switch on the selected running direction only once. A triple button press starts the complete motor running time. The “DOWN” running direction (K24) lasts 25% longer than the “UP” direction (K14), so that a defined starting position is reached even with different running times.



Technical Data Items 332500 & 331500

Operating voltage	230 V 50/60 Hz 10% or 24 V DC/AC 10 %
Control voltage	= operating voltage **UMS 5P only:** NA/NZ controllable via 12-230V UC
Power consumption	passive: 0.2W / active: 0.4W
Running time	3 - 240s
Autom. return time	3s - 30min
Counter-run pulse	0.1 - 1.3s
Relay changeover pause	0.6s
Relay output UMS 5	2 NO contacts potential-free 10A 250V AC
Relay output UMS U5	2 NO contacts on supply voltage 10A 250V AC
Switching capacity	see appendix: “Load capacity of the relay contacts”
Ambient temperature	-10°C to +45°C
Interference immunity	to IEC 801-4 level 4
Creepage/clearance dist.	to VDE 0110 Gr. C/250V
Insulating housing	non-flammable VDE 0304 Part 3, level FV 0
Mounting UMS 5	Snap-on mounting on 35 mm standard rail DIN EN 50 022
Connections UMS 5	Box terminals with captive screws M3.5 (4 x 1.5 mm^2 / 2 x 2.5 mm^2 / 1 x 4 mm^2)
Connections UMS U5	Box terminals with captive screws M3.5 (2 x 1.5 mm^2 / 1 x 2.5 mm^2)
Dimensions UMS 5	18 x 88 (45) x 58 mm^3
Installation depth UMS 5	55 mm
Dimensions UMS U5	43 x 43 x 18.5 mm^3
Weight UMS 5	approx. 80g
Weight UMS U5	approx. 45g
RAL colour	grey 7035 / green 6029