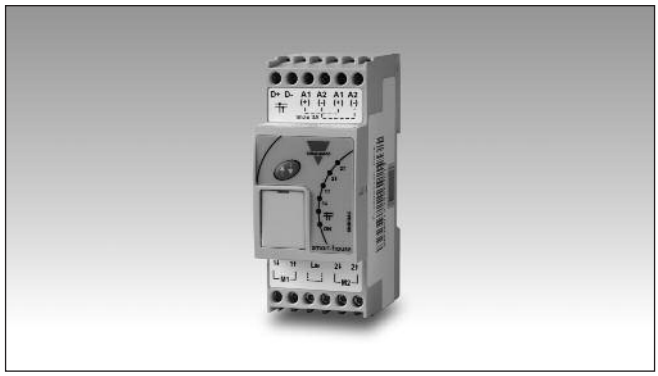
Smart Dupline®
Control for AC Rollerblind Motor
Type SH2ROAC224



- **Up/down control for two AC rollerblind motors**
- **DC power supply**
- **Relay load 5A**
- **2 DIN housing**
- **LED indication for power supply, Dupline® bus, motor up, motor down**
- **Connection to other cabinet modules via local bus**

Product Description

This is a 2-DIN relay output module to control AC rollerblind motors.
It has been developed to be connected to and controlled by the smart-house system controllers.
The rollerblind motor is driven by two relays in series: one to switch the motor ON/OFF and the second one to control the direction UP/DOWN. These two relays are controlled in such a way to respect the motor timing before any reversing of the motor direction.

Ordering Key

SH 2 RO AC 2 24

- **smart-house**
- **2-DIN housing**
- **Rollerblind function**
- **AC motor**
- **Outputs number**
- **Power supply**

Type Selection

Housing	Mounting	Relay load	Relay output	Supply: 15 to 30 VDC
2 DIN	DIN-rail	5A	2 SPST + 2 SPDT relay	**SH2ROAC224**

Output Specifications

Relay output		2 SPST (R1, R2) + 2 SPDT (R3-R4) relay
Resistive load	AC1	5 A/240 VAC (1200 VA)
Inductive load	AC15	2.5 A/230 VAC
Mechanical life		≥ 10 x 10^6 operations
Electrical life		≥ 1 x 10^5 operations, AC1
Operating frequency		≤ 360 operations/h
Wiring		1↑ ↓1 output for motor 1, 2↑ ↓2 output for motor 2,

Input Specifications

Keypad	For local ON/OFF switching

Supply Specifications

Power supply Rated operational voltage	Overvoltage cat. II (IEC 60664-1, par. 4.3.3.2) 15 to 24 VDC ± 20%
Operational voltage range	15 to 30 VDC (ripple included)
Rated operational power	3 W
Protection for reverse polarity	Yes
Connection	2xA1 (+) and 2xA2 (-)- (2 pairs of terminals internally connected) Max 3A
Power on delay	Typ. 4 s
Power off delay	≤ 1 s

Dupline® Specifications

Voltage	8.2 V
Maximum Dupline® voltage	10 V
Minimum Dupline® voltage	5.5 V
Maximum Dupline® current	1.1 mA

The Dupline® bus is present on the internal bus: the modules can be connected one next to the other without the need of wiring the dupline bus. See “Wiring diagram”.

General Specifications

Installation category	Cat. II
Dielectric strength	
Power supply to dupline	500 V impulse (1.2/50 µs) 500 V AC for 1 min. (IEC60664-1, TAB. F. 1)
Dupline to output, power supply to output	6 KV impulse 1.2/50µµs 4 KV AC for 1 min. (IEC60664-1, TAB. A. 1)
Address assignment	Automatic: the controller recognises the module through the SIN (Specific Identification Number) that has to be filled in the SH tool.
Fail-safe mode	In case of interruption of the smart-house connection, the motor will stop and it will be possible to control it locally by means of the pushbutton
Environment	
Degree of protection	
Front	IP 50
Screw terminal	IP 20
Pollution degree	2 (IEC 60664-1, par. 4.6.2)
Operating temperature	-20° to +50°C (-4° to 122°F)
Storage temperature	-50° to +85°C (-58° to 185°F)
Humidity (non-condensing)	20 to 80% RH
LED's indication	
Power LED	1 green
Dupline LED	1 yellow
Motor status	4 red

Connection	
Terminal	12 screw-type
Cable cross-section area	max. 1.5 mm^2
Tightening torque	0.4 Nm / 0.8 Nm
Housing	
Dimensions	2 DIN module
Material	Noryl
Weight	150 g
Approvals	cRUus, according to UL60950 **UL notes:** Max room temperature: 40°C A readily accessible disconnecting device shall be added in the building installation
CE Marking	Yes
EMC	
Immunity	EN 61000-6-2
- Electrostatic discharge	EN 61000-4-2
- Radiated radiofrequency	EN 61000-4-3
- Burst immunity	EN 61000-4-4
- Surge	EN 61000-4-5
- Conducted radio frequency	EN 61000-4-6
- Power frequency magnetic fields	EN 61000-4-8
- Voltage dips, variations, interruptions	EN 61000-4-11
Emission	EN 61000-6-3
- Conducted and radiated emissions	CISPR 22 (EN55022), cl. B
- Conducted emissions	CISPR 16-2-1 (EN55016-2-1)
- Radiated emissions	CISPR 16-2-3 (EN55016-2-3)

Mode of Operation

Push button
The push button is used for local switching ON/OFF of the output, without the need to connect the bus for test purpose.
The command from the pushbutton will only be recognized if it is kept pressed for more than 1 second: the two outputs will be activated for the whole time the push button is kept pressed. Once the push button is released, the outputs are deactivated. Every time the button is pressed, the direction of the motors is changed, always respecting the reverse delay time.

This rollerblind module is driven by the SH2WEB24 controller to move rollerblinds, sunblinds and shutters. It receives the UP and DOWN command from the SH2WEB24, and then activates the relevant output accordingly. The two outputs are driven independently and can be managed by different rollerblind functions.
The UP/DOWN output remains active for a time known as "running time" or until another UP/DOWN command is received. Before reversing the movement, the output remains deactivated for a time called "reverse delay". The reverse delay times are sent to the SH2ROAC224 by the SH2WEB24 and can be different for each output. The running time is managed by the controller.
If the tilting function is enabled, the SH2ROAC224 will be able to manage the tilting command received from the SH2WEB24. The tilting command can be of two types: tilting UP and tilting DOWN. Once this command is received, the SH2ROAC224 will activate the UP or DOWN output for the tilting time always respecting the reverse delay time.

Addressing
No addressing is needed since the module is provided with a specific identification number (SIN): the user has only to insert the SIN number in the SH tool when creating the system configuration.
Used channels: 2 output channels.

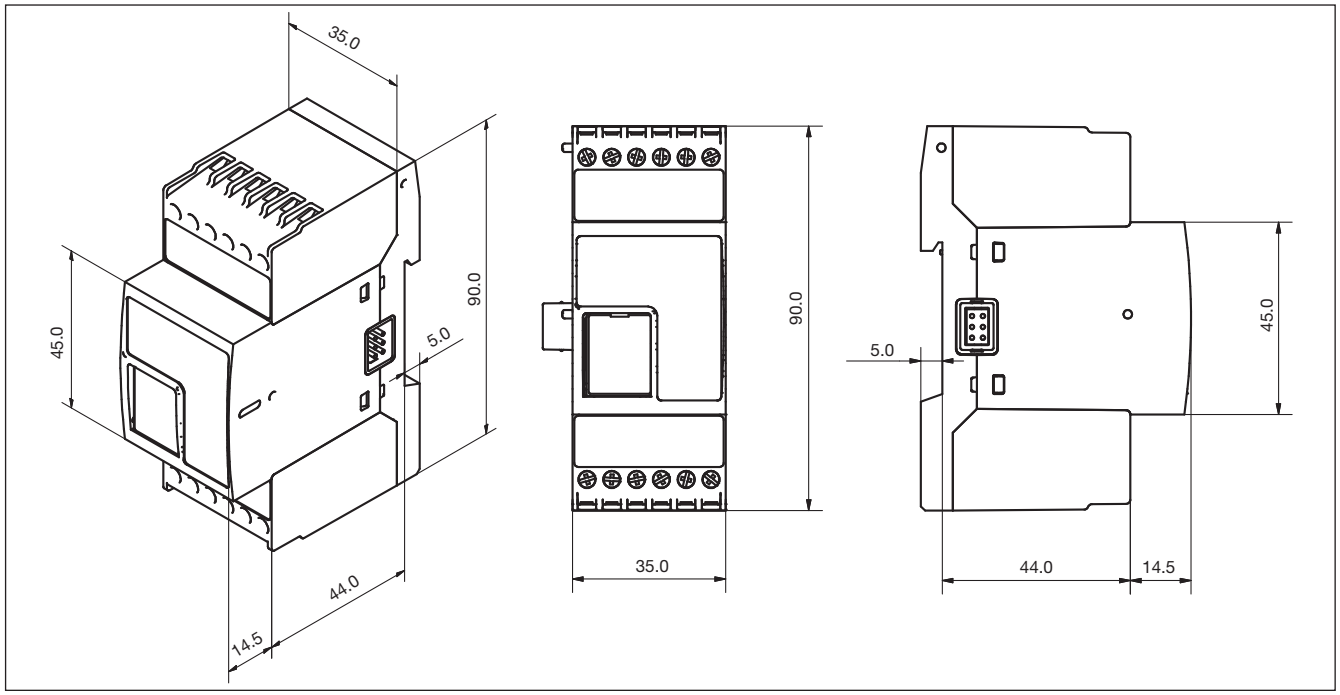
LEDs Indication

Red LED: 4 motor LEDs.
1? LED (red)
Motor1 DOWN: ON if motor 1 DOWN command active.
1? LED (red)
Motor1 UP: ON if motor 1 UP command active.
2? LED (red)
Motor2 DOWN: ON if motor 2 DOWN command active.
2? LED (red)
Motor2 UP: ON if motor 2 UP command active.
RED LED blinks during reverse time.
Locally, the reverse time is 5s.

Green LED: Power status.
ON: supply ON
OFF: supply OFF

Yellow LED: if the dupline bus is working properly, it is always ON.
If there is a fault on the bus it will be flashing.
It is OFF if the bus is OFF or not connected.

Dimensions



Wiring Diagrams