

# Smart Dupline® Output Relay Module Type SH2RE16A4

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- 4 separate output channels
- Relay load 16 A
- Module load: 64 A
- 2 DIN housing
- LED indication for power supply, Dupline® bus, output1, output2, output3, output4
- Connection to other cabinet modules via local bus

## Product Description

This is a four-relay output module for DIN mounting. The outputs are normally OFF. When an activation command is received from the Dupline® bus, the output turns ON and remains ON until the OFF command is

received. Thanks to the internal bus, the SH2RE16A4 modules can be connected one next to the other without the need for wiring the Dupline® bus.

## Ordering Key SH 2 RE 16A 4

smart-house \_\_\_\_\_  
2-DIN housing \_\_\_\_\_  
Relay \_\_\_\_\_  
Resistive load \_\_\_\_\_  
Outputs \_\_\_\_\_

## Type Selection

Housing	Mounting	Relay max. load	Relay outputs	Supply: by Dupline® bus
2 DIN	DIN-rail	16A	4 SPST relay	SH2RE16A4

## Output Specifications

Relay output	4 SPST relay
Resistive load	AC1 16 A
Mechanical life	5 x 10 <sup>6</sup> operations
Electrical life	1 x 10 <sup>5</sup> operations, 250 V 12 A
Minimum load	100 mA / 12 V
Operating frequency	60 operations/min
Electrical characteristics	See table
Connection	L <sub>OUT1</sub> : relay output1 L <sub>OUT2</sub> : relay output2 L <sub>OUT3</sub> : relay output3 L <sub>OUT4</sub> : relay output4

Load	Test conditions	Typical number of operations
250 V, 12 A, cos φ=1	1800/h, 50% DC, +70°C	1.0 x 10 <sup>5</sup>
250 V, 8 A, cos φ=1	1800/h, 50% DC, +70°C	3.5 x 10 <sup>5</sup>
250 V, 4 A, cos φ=1	1800/h, 50% DC, +70°C	5.0 x 10 <sup>5</sup>
250 V, 3 A, cos φ=1	1800/h, 50% DC, +70°C	7.5 x 10 <sup>5</sup>
230 V, 550 W filament lamps I <sub>in</sub> ≤ 40 A peak I <sub>off</sub> = 2.5 A	60/h, 8% DC, +22°C	2.5 x 10 <sup>5</sup>
230 V, 1000 W filament lamps I <sub>in</sub> ≤ 71.5 A peak I <sub>off</sub> = 4.5 A	60/h, 8% DC, +25°C	7.0 x 10 <sup>4</sup>
230 V, 900 W fluorescent tubes (25 x 36 W) parallel compensated, 30 μF	360/h, 50% DC, +25°C	1.0 x 10 <sup>4</sup>
230 V, compressor I <sub>in</sub> ≤ 21 A peak I <sub>off</sub> = 3.5 A cos φ = 0.5	500/h, 20% DC, +25°C	1.7 x 10 <sup>5</sup>
250 V, 8 A, cos φ = 0.3	360/h, 50% DC, +25°C	1.0 x 10 <sup>5</sup>

## Input Specifications

Keypad For local ON/OFF switching

## Supply Specifications

Power supply	Supplied by the Dupline® bus on the local bus
Power-on delay	Typ. 2s

## Dupline® Specifications

<b>Voltage</b>	8.2 V
<b>Maximum Dupline® voltage</b>	10 V
<b>Minimum Dupline® voltage</b>	5.5 V
<b>Maximum Dupline® current</b>	10 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

<b>Installation category</b>	Cat. II
<b>Dielectric strength</b> Dupline® to output	4 kV AC for 1 min. 6 kV impulse 1.2/50µs (IEC60664-1, TAB. A. 1)
<b>Address assignment</b>	Automatic: the controller recognises the module through the SIN (Specific Identification Number) that has to be inserted in the SH tool.
<b>Environment</b> Degree of protection Front Screw terminal Pollution degree Operating temperature Storage temperature Humidity (non-condensing)	IP 50 IP 20 2 (IEC 60664-1, par. 4.6.2) -20° to +50°C (-4° to 122°F) -50° to +85°C (-58° to 185°F) 20 to 80% RH
<b>LED's indication</b> Power LED Dupline® LED Output LED	1 green 1 yellow 4 red
<b>Connection</b> Terminal Cable cross-section area Tightening torque	8 screw-type Max. 1.5 mm <sup>2</sup> 0.4 Nm / 0.8 Nm

<b>Housing</b> Dimensions Material	2 DIN module Noryl
<b>Weight</b>	150 g
<b>Approvals</b>	cRUUS, according to UL60950 <b>UL notes:</b> Max room temperature: 40°C A readily accessible disconnecting device shall be added in the building installation
<b>CE Marking</b>	Yes
<b>EMC</b> Immunity - Electrostatic discharge - Radiated radiofrequency - Burst immunity - Surge - Conducted radio frequency - Power frequency magnetic fields - Voltage dips, variations, interruptions Emission - Conducted and radiated emissions - Conducted emissions - Radiated emissions	EN 61000-6-2 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6  EN 61000-4-8  EN 61000-4-11 EN 61000-6-3  CISPR 22 (EN55022), cl. B CISPR 16-2-1 (EN55016-2-1) CISPR 16-2-3 (EN55016-2-3)

## Mode of Operation

### Working mode

If the SH2RE16A4 is connected to the Dupline® bus and the bus is working properly, the relay module is in STANDARD mode and the green LED is ON. The relay enters LOCAL mode if the push button is pressed. In LOCAL mode the relay does not accept any command from the bus and the green LED will be flashing. The relay can go back to STANDARD mode after one of the

following events:

- 1) After a timeout of 1 minute after a button press
- 2) After a power cycle.

If the bus is not connected or faulty, the module is not powered and the outputs maintain the last status they had. No fail-safe condition is present.

To have a low power consumption, the 4 outputs are not activated all together at the same time, but a delay of

500 ms is present between two consecutive activations.

### Push button

The push button is used for local switching ON/OFF of the outputs, without needing to connect the bus for test purposes. With a short press, the user enters LOCAL mode and the green LED will be flashing: at the same time all the 4 outputs will be switched ON, if at least one of them is OFF. If all the out-

puts are ON they will be switched OFF.

### 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: 4 output channels

## LEDs Indication

**Red LED:** 4 output LEDs.

Output1: ON if output1 active, OFF if output1 OFF.

Output2: ON if output2 active, OFF if output2 OFF.

Output3: ON if output3 active, OFF if output3 OFF.

Output4: ON if output4 active, OFF if output4 OFF.

When a relay is switched on/off, all the LEDs are switched off to reduce current consumption.

**All blinking together:** the voltage on the Dupline® bus is not sufficient to supply the relay.

(Vbus < 5 V)

**Green LED:** Power status.

ON: supply ON

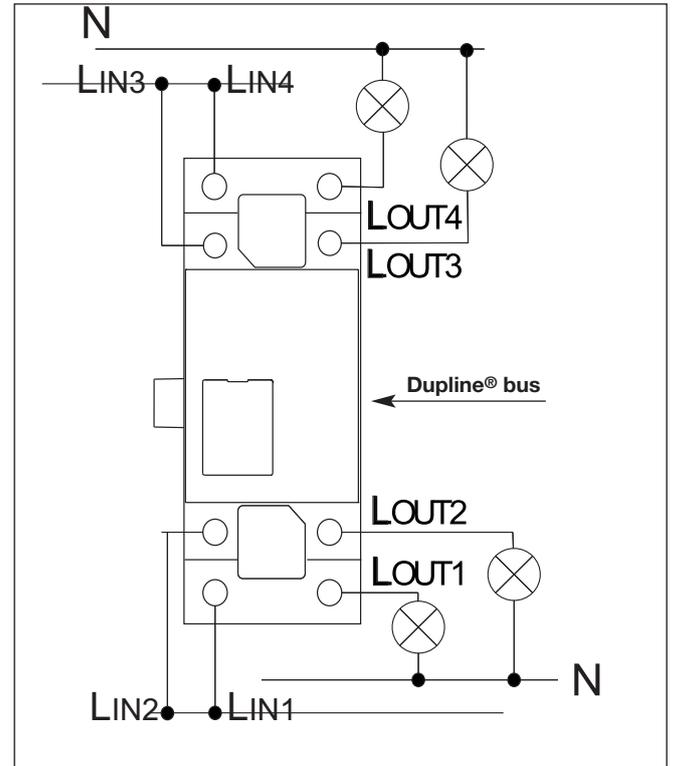
OFF: supply OFF

Flashing: LOCAL MODE active

**Yellow LED:** if the Dupline® bus is working properly, it is always ON.

It is OFF if the bus is OFF or not connected.

## Wiring Diagrams



## Dimensions

