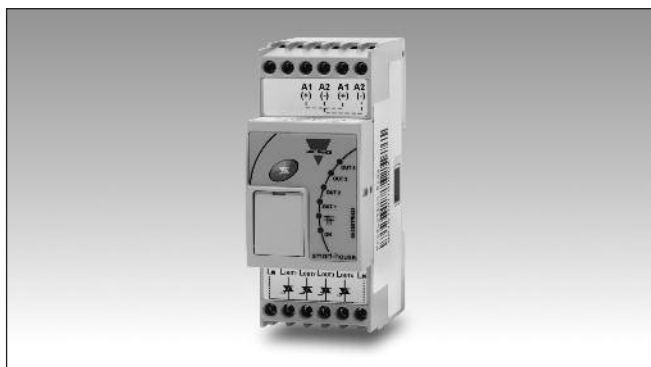


# Smart Dupline® Solid State Relay output module Type SH2SSTRI424

CARLO GAVAZZI



- 4 triac outputs
- 2-DIN housing
- LED indication for power supply, Dupline® bus, output1, output2, output3, output4
- Connection to other cabinet modules via local bus
- Control of 24-230 Vac loads such as valves for temperature adjustment

## Product Description

This is a four-solid-state-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 SH2SSTRI424 modules can be connected one next to the other without the need for wiring the Dupline® bus.

## Ordering Key

**SH2 SSTR I 4 24**

smart-house

2-DIN housing

Triac output

Number of outputs

Power supply

## Type Selection

Housing	Mounting	Outputs type	Supply: 15 to 30VDC
2 DIN	DIN-rail	4 triac	SH2SSTRI424

## Input Specifications

Key Pad For local ON/OFF switching

## Output Specifications

Output Triac

Maximum current (230 or 24VAC)	4 active outputs	2 active outputs	1 active output
Temperature: 50°C	400mA for each output	500mA for each output	600mA
Temperature: 40°C	500mA for each output	700mA for each output	800mA
Temperature: 30°C	700mA for each output	900mA for each output	1000mA

## Supply Specifications

Power supply	Overvoltage cat. II (IEC 60664-1, par. 4.3.3.2) 15 to 24 VDC ± 20%	Connection	2xA1 (+) and 2xA2 (-) (2 pairs of terminals internally connected)
Rated operational voltage		Power on delay	Typ. 4 s
Rated operational power	400 mW	Power off delay	1 s
Protection for reverse polarity	Yes		



## 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>	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

<b>Installation category</b>	Cat. II	<b>Connection</b>	
<b>Dielectric strength</b>		Terminal	10 Screw-type
Power supply to Dupline®	500V pulse 1.2/50µS	Cable cross-section area	max. 1.5 mm <sup>2</sup>
	500V AC for 1 minute	Tightening torque	0.4 Nm / 0.8 Nm
Power supply to output and Dupline® to output	6 kV pulse 1.2/50µs	<b>Housing</b>	
	4 kV AC for 1 minute	Dimensions	2 DIN module
<b>Address assignment</b>	Automatic: the controller recognises the module through the SIN (Specific Identification Number) that has to be inserted in the Sx tool.	Material	Noryl
<b>Environment</b>		<b>Weight</b>	150 g
Degree of protection		<b>Approvals</b>	cURus according to UL60950
Front	IP 50	<b>CE Marking</b>	Yes
Screw terminal	IP 20	<b>EMC</b>	
Pollution degree	2 (IEC 60664-1, par. 4.6.2)	Immunity	EN 61000-6-2
Operating temperature	-20° to +50°C (-4° to 122°F)	- Electrostatic discharge	EN 61000-4-2
Storage temperature	-50° to +85°C (-58° to 185°F)	- Radiated radiofrequency	EN 61000-4-3
Humidity (non-condensing)	20 to 80% RH	- Burst immunity	EN 61000-4-4
<b>LED's indication</b>		- Surge	EN 61000-4-5
Power LED	1 green	- Conducted radio frequency	EN 61000-4-6
Dupline® LED	1 yellow	- Power frequency magnetic fields	EN 61000-4-8
Output LED	4 red	- 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

### Working mode

If the SH2SSTRI424 is connected to the Dupline® bus and the bus is working properly, the output module is in STANDARD mode and the green LED is ON. It enters LOCAL mode if the push button is pressed. In LOCAL mode the module doesn't accept any command from the bus and the green LED will be flashing. The relay can go back to STANDARD mode only when the bus is ok and after one of the following events: 1) As soon as the Dupline® bus returns 2) After a timeout of 1 minute after a button press 3) After a power cycle.

### Pushbutton

The push button is used for local switching ON/OFF of the outputs, without needing to connect the bus for test purposes.

#### Bus connected

With a short pulse, the user enters LOCAL mode and the green LED will be flashing: at the same time all the outputs will be switched ON, if at least one of them is OFF. If all the outputs are ON they will be switched OFF.

#### Bus not connected or faulty

If the bus is not connected or faulty, the push button overwrites the fail-state status of the outputs: if at least one output is OFF, all of them will be switched ON. If

both the outputs are ON they will be switched OFF. Should all the outputs be configured for the safe-state recycle status, then a short pressure will reset the timer and revert to the original status of the outputs.

### Fail/safe condition

The output status of the outputs, when the Dupline® bus is not connected or faulty, is programmed via the Sx tool and the user can choose between the following options:

1. Outputs always OFF
2. Outputs always ON
3. The two outputs maintain the status they had before the disconnection

4. The two outputs run in a cycle with programmable on and off periods: the user can set both the off and on period from 1 to 255 minutes.

The factory setting is outputs always OFF.

### Coding/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 Sx tool when creating the system configuration. Used channels: 4 output channels.

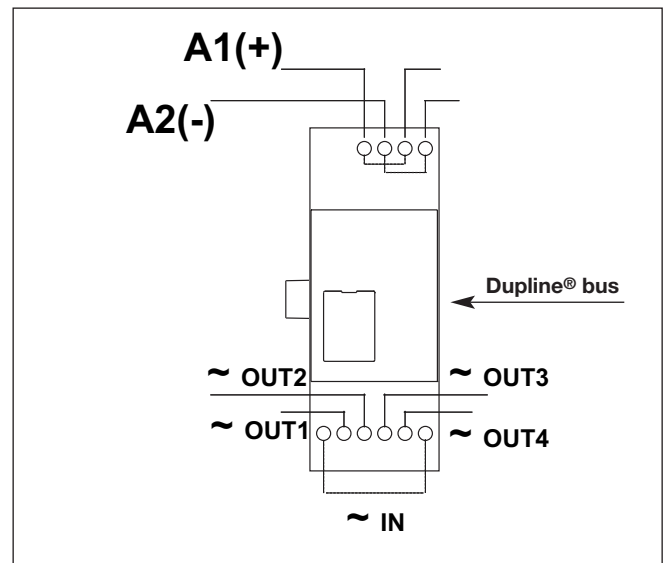
## LEDs Indication

**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.

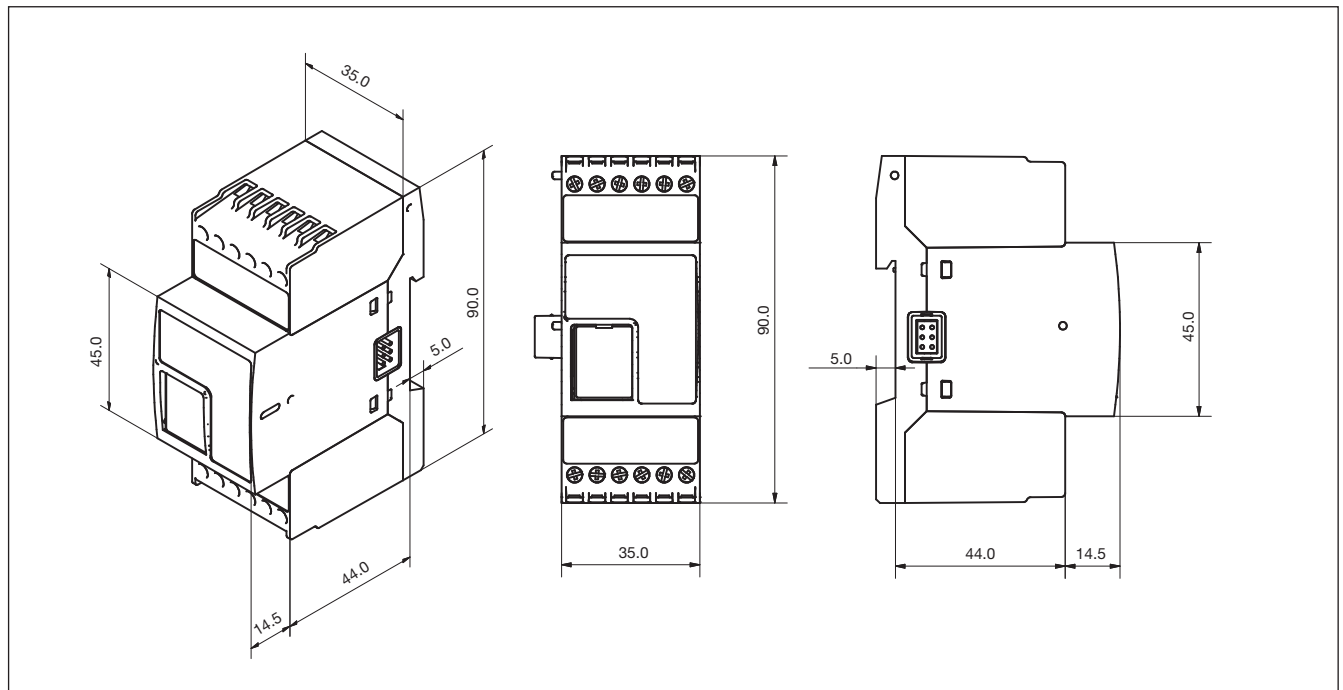
**Green LED:** Power status.  
 ON: Supply ON  
 OFF: Supply OFF  
 Flashing: LOCAL MODE active

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

## Wiring Diagrams



## Dimensions



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