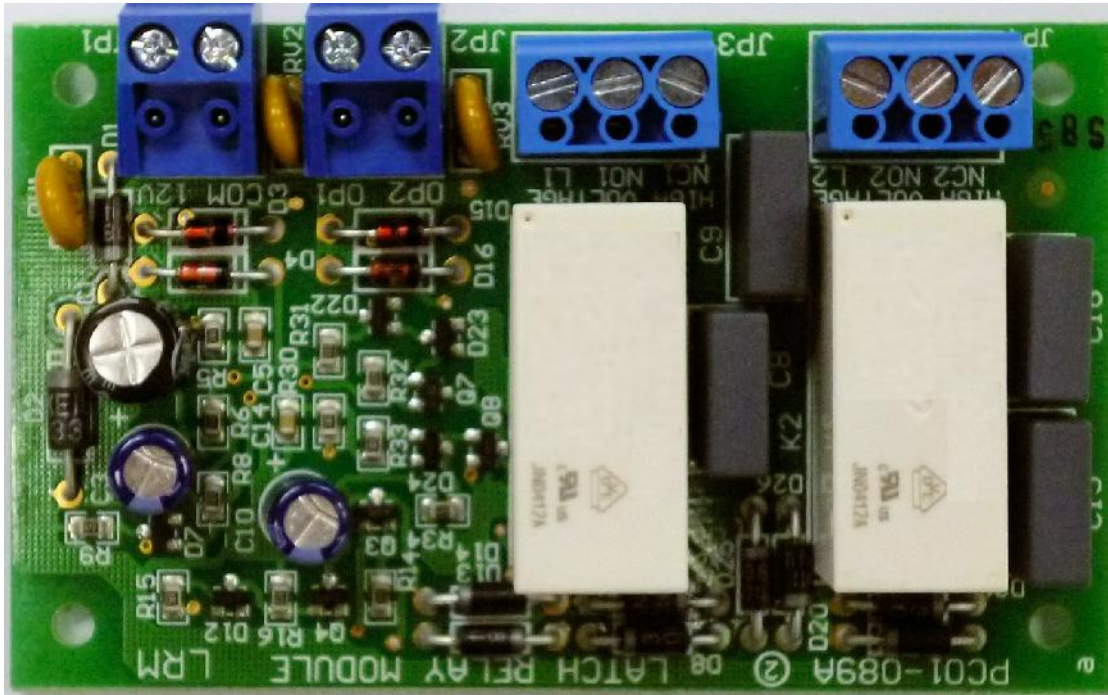
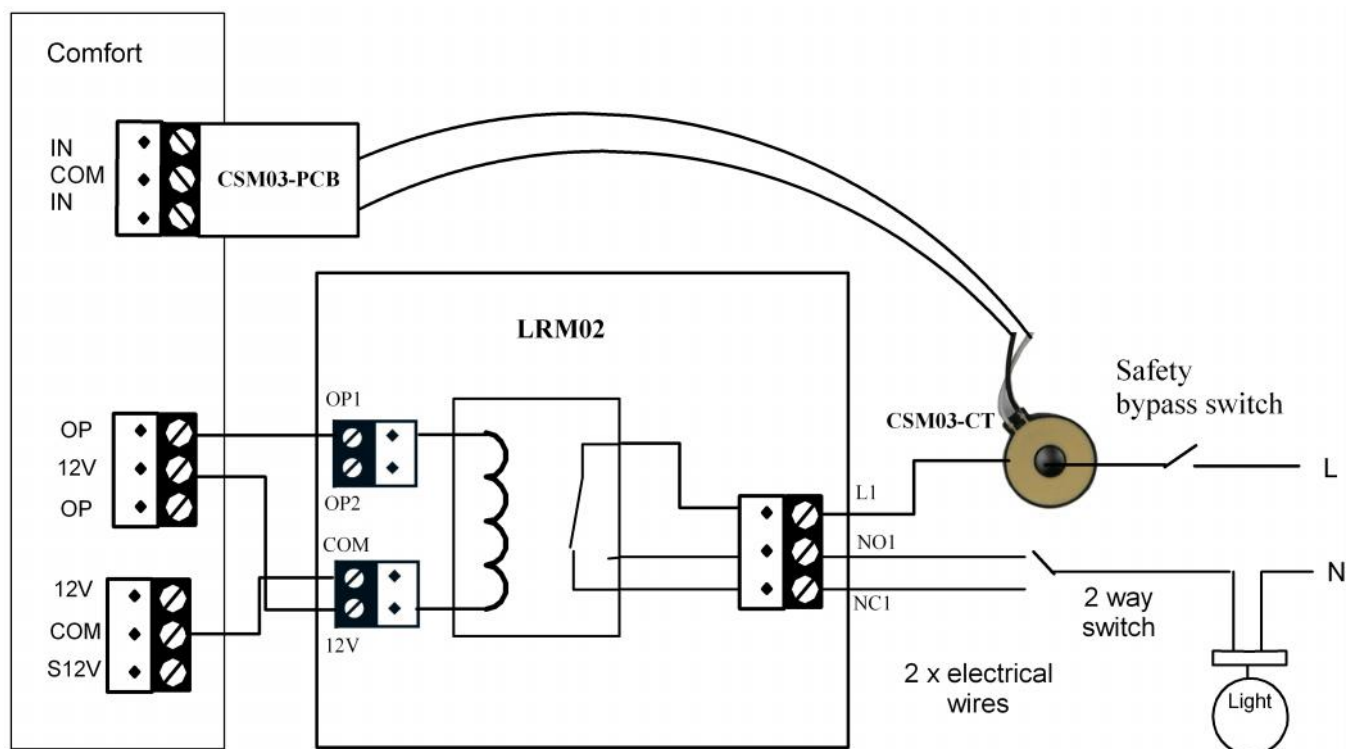


LRM02 Latched Relay Module



The LRM Module is used with Comfort to control 2 independent lighting circuits. It uses a mains-rated relay to switch the AC to the lights in conjunction with a two way switch and a current sensor (ordered separately) to sense the current flowing in the lighting circuit. This allows Comfort and the two way switch to switch the light independently and to monitor the light status.

Connections



LRM Connections

JP1 (2 pin terminal block, pluggable)

This is 12V and Common connectors. Connect to 12V pin of the Comfort Output terminal block and the 0V from Comfort.

JP2 (2 pin terminal block, pluggable)

This is for the outputs from the Comfort Control Panel. Connect OP1 and OP2 to two output terminals of Comfort for control of the 2 relays

JP3 (3 pin terminal block, fixed)

L1 is connected to the Live electrical wire. NO1 and NC1 are connected to the 2 electrical wires from the 2 way switch.

This terminal block carries Mains Voltage - Do Not Touch

JP4 (3 pin terminal block, fixed)

L2 is connected to the Live electrical wire. NO2 and NC2 are connected to the 2 electrical wires from the 2 way switch.

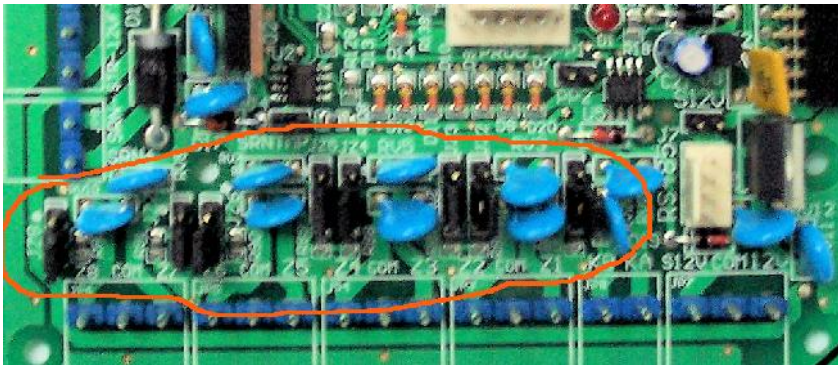
This terminal block carries Mains Voltage - Do Not Touch

Current Sensor

Current Transformer CSM03-CT and Current sensor PCB CSM03-PCB are required to sense the AC current in the Live electrical wire. The current sensors are ordered separately. The Live wire should pass through the central hole of the CSM03-CT. 1 CSM03-PCB is plugged onto two adjacent Comfort Zone Inputs and can be connected to 2 CSM03-CTs. When no current is flowing, the CSM03-PCB will give a Contact open to the Comfort Input. When sufficient current (min 100 mA rms) flows, the coil produces a voltage which gives a Contact closure to the Comfort Input. **To detect lower current, loop the mains cable 2 times through the hole. 2 turns through the current sensor allows 50 ma (12W @ 230V) to be detected. The current sensor works on AC current only.**

Programming

Program the zone as a Normally Open Switch (Zone Type 8). The shunt for the Zone on Comfort PCB should be set to the lower position (2-3) for No End of Line resistor.



To switch on the appliance irrespective of the position of the two-way switch, use the following Response:

If Input Zone = 0 Then

 Toggle Output Output#

End If

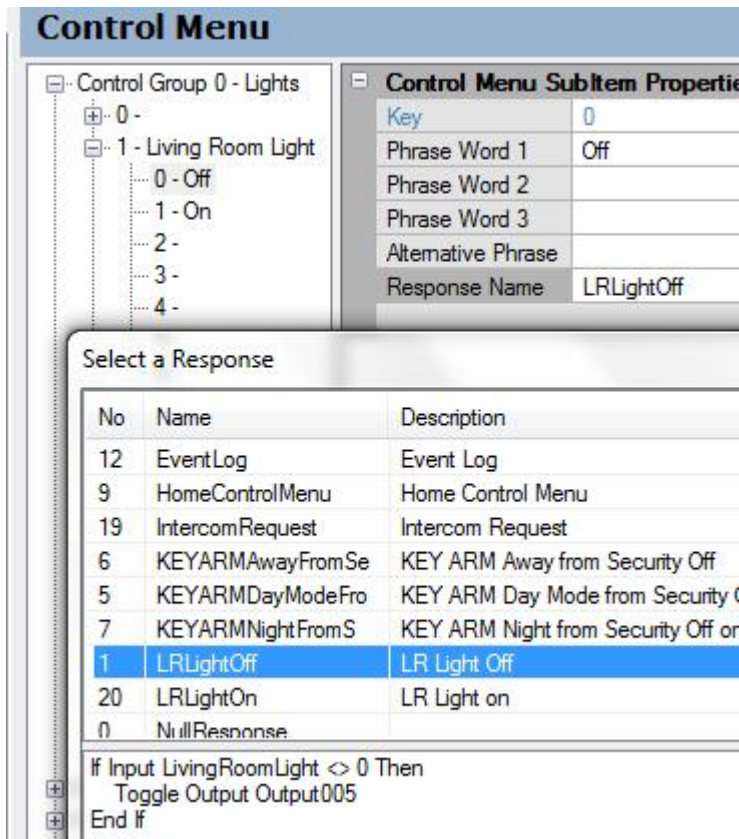
Zone is the zone number, Output# is the output number.

To switch off the appliance irrespective of the position of the two-way switch, use the following Response:

If Input Zone <> 0 Then

 Toggle Output Output#

End If



Control On and Off Response

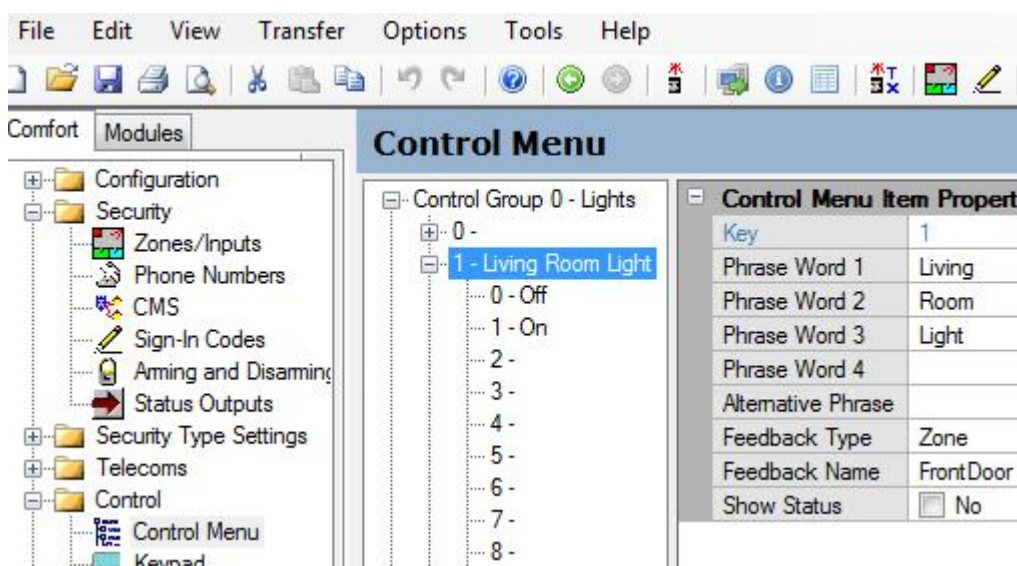
Feedback Status Announcement

To announce the state of the device on the Control Menu, e.g.

Living Room Light **ON**,

Press 0 for OFF, 1 for ON

In Configurator go to Control Menu. Each Control Key has a feedback box. In Feedback Type, select Zone/Input. In the Zone/Input box below, select the zone number which the current sensor is connected to.



Specifications:

PCB size:	88 x 53 mm
Mounting Holes:	78 x 43 mm (M3 holes 5 mm from each corner)
Weight:	88 grams
Relay Power Rating :	240 VAC 50 Hz 16 Amps Resistive Load

Relay Specifications

Arrangement:	1 Form C
Max Switching Current:	16A (Resistive Load)
Max Switching Voltage:	277 VAC
Max Switching Power:	5000 VA, 480 W
Insulation Resistance:	1000 MegaOhm min at 500 VDC
Breakdown Voltage:	
Between Open Contacts	1000 VRMS for 1 minute
Between contact and coil:	4400 VRMS for 1 minute
Expected Life:	
Electrical:	100,000 cycles under rated load (resistive)
Mechanical:	3,000,000 cycles min
Coil:	Connected to Comfort Output 12V DC 35 ma (pulse)

Terminal Block (JP3, JP4)

Wire size:	14 AWG to 24 AWG
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Important Safety Instructions

The LRM02 has been designed to comply with the requirements of EN60960-1: 2001. The following safety instructions must be complied with in all installations

Disconnecting Switch

A lighting switch with rating of at least 6 amps must be connected in series on the Live wire between the AC source and the LRM02 module, to be used as a disconnecting device. The location of this disconnecting switch is to be close to the LRM Module. The ON and OFF positions of the disconnecting switch must be indicated clearly using the symbols O (circle) and 1 (line) to represent ON and OFF respectively.

Note that a single pole switch can be used as a disconnecting device under Clause 3.4.6 of EN60950-1 if it is possible to identify the Neutral conductor in an AC Mains Supply

The AC supply of the LRM02 module should be connected to a Circuit Breaker in the unit where it is installed, where the breaker acts as an additional disconnect device for Live and Neutral conductors.

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