RUGGED REMOTE CONTROL SYSTEM

Features

- **4 switch relays - 1200W each**
- **Up to 4000m Range**
- **12 - 32Vac/dc and 230Vac supply**
- **Completely waterproof ABS enclosure (IP68)**
- **All outputs momentary, latching or programmable timed**
- **Any switch maps to any relay or multiple relay**
- **868MHz Reliable FM Technology**
- **EMC Compliant for Europe**

Description

Whatever your switching application the **SABRE Remote control system** with 4 individually controlled relay switches and a completely waterproof IP68 enclosure **SABRE** will be a great choice.

The **SABRE remote control system** has been designed with the requirements of Industrial electricians in mind and therefore it can be used to switch all lighting types as well as other applications such as flood lights, Electric gates and conveyors.

Each receiver has 4 switched outputs, which, using our one touch 'easy-learn' process can be controlled from any switch on any compatible transmitter.

Thanks to the latest technology each of the 4 outputs on the **SABRE remote control system** can be set to operate in a **timed**, **momentary** or **latching** mode for complete flexibility.

Applications

- Remote outdoor switching
- Industrial control
- Conveyors
- Plant equipment

System Part Numbering

Part Number	Description	Receiver Power Supply	Range** (Metres)
SABRE-S4L	System 4 outputs With SABRE-T4	230Vac 12-32Vac/dc	4000m

**Range stated is optimum - Line of Sight.
Range can be dramatically reduced by obstacles and other interference.

Additional Receiver

Part Number	Description	Receiver Power Supply	Range** (Metres)
ELITE-RXL	Receiver 4 outputs	230Vac 12-32Vac/dc	4000m

Additional Transmitters

SABRE Transmitters are available individually with 1, 3, 4 or 8 buttons and can be configured to work any SABRE or ELITE series receiver

Part Number	Description
SABRE-T1	Transmitter 1 switch
SABRE-T3	Transmitter 3 switch
SABRE-T4	Transmitter 4 switch
SABRE-T8	Transmitter 8 switch

Sync/Pair Button – Press once to auto sync. See Advanced operation for other pairing options.

Erase Button – Press and hold to erase all pairings, see advanced operation for individual erase

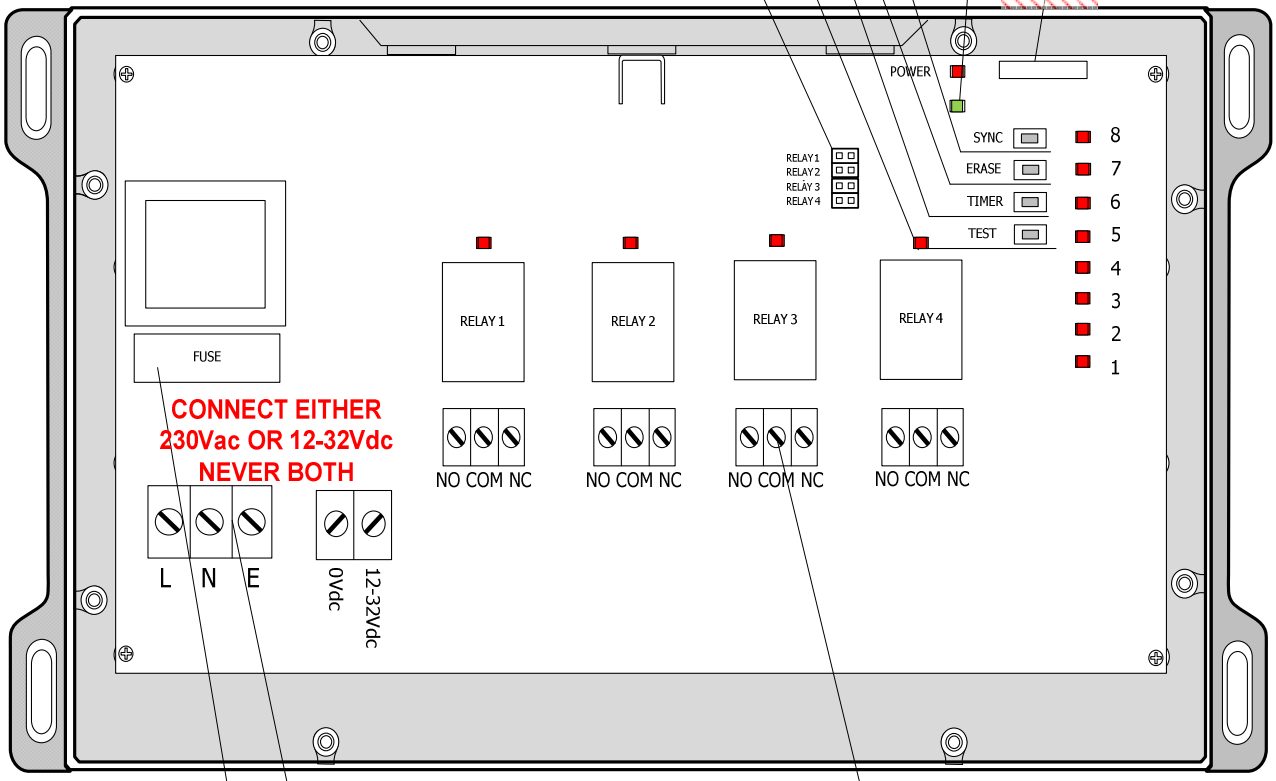
Timer Select Button – Used to select timer mode

Signal Test mode – Press to enter signal test mode

Momentary or Latching selection – Make the link to select momentary operation break the link for latching operation.

Status LEDs– Flash when signals are sent/received

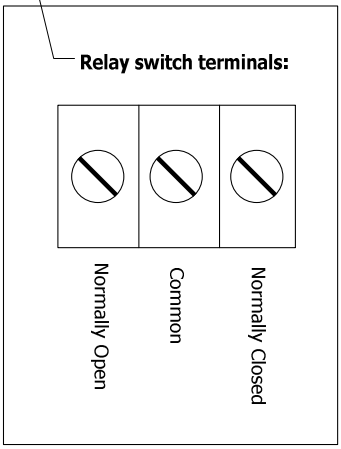
Mag sync – Touch a magnet to the plastic case in the cross hatched area to replicate the sync button on board without opening the case



230Vac power input

Power input fuse – should be 500mA

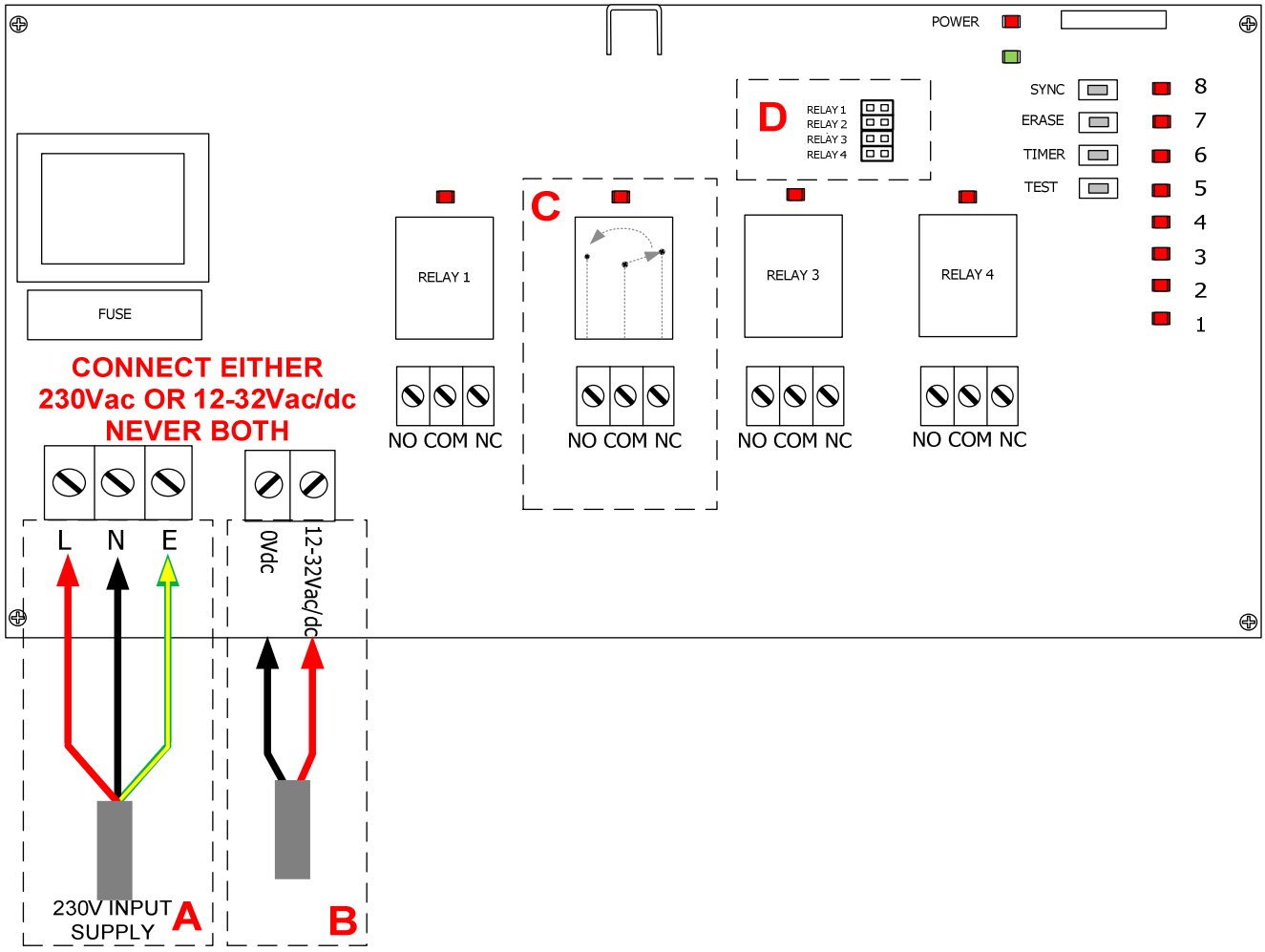
Relay switch terminals:



Quick Installation Guide (systems only)

The SABRE system provides 4 switches each capable of switching up to 1.2KW (6A @ 230V). Each relay is independent and separately controlled. The SABRE L series remote control system provides switched contacts and can therefore be used to switch most voltages either AC or DC (see maximums on page 7)

1. First mount the SABRE system receiver box in the wall in your desired location (see Page 8 for wall mounting dimensions and information).
2. Open the enclosure by removing fixing screws from the enclosure front and then removing the front from the enclosure.
3. Wire either MAINS, LIVE, Neutral and Earth connections to the power supply screw terminal as shown below **(shown as A).** Or wire 12-32Vac or 12-32Vdc to the low voltage terminals. **(shown as B)**
4. Wire your desired connections to the relay switches **(shown as C)**
5. Once all required wiring is complete, use the handheld SABRE transmitter to switch the outputs on and off.
6. As supplied, the handheld will operate the outputs - Button 1 to output 1, Button 2 to output 2 etc.
7. All buttons will operate in a latching mode - Press for on, press again for off. It is possible to change the operation to momentary mode by fitting the links **(shown as D)**
8. For advanced operation such as adding extra transmitters different button mapping options see advanced operation section.



Advanced operation

The SABRE system comes with one transmitter, this is already SYNC'ed and will operate the system out of the box.

To AUTO-SNYC a new transmitter

1. To SYNC a new SABRE handheld transmitter to the receiver box - simply press the SNYC button on the SABRE receiver board. (see page 3 for button locations)
2. The SABRE receiver will flash all of its relay output LEDs at a high rate to show that it is ready for AUTO-SYNC.
3. Press ANY button on the transmitter handheld that you wish to SNYC to the receiver.
4. All flashing LEDs will go out, LED 8 will flash quickly for 2 seconds then go out.
5. The SABRE receiver will then exit SYNC mode and return to normal operating mode - you may now use the transmitter to switch the outputs.

MANUAL-SYNC individual transmitter buttons (advanced)

1. To SYNC a specific SABRE handheld transmitter button to a specific output on the SABRE receiver box - press the SNYC button on the SABRE receiver board. (see page 3 for button locations).
2. The SABRE receiver will flash all its relay output LEDs at a high rate to show that it is ready for SYNC.
3. Press the SYNC button again - the SABRE receiver will flash output LED 1 only - this is showing that output 1 is selected. Pressing the SYNC button again will select output 2 and so on to output 4.
4. Once you have selected the required output (that output LED only is flashing) press the SPECIFIC button on the transmitter handheld that you wish to SNYC to the receiver.
5. The flashing LEDs will go out, LED 8 will flash quickly for 2 seconds then go out.

NOTE: After a successful pairing the SABRE-RX will exit SYNC mode automatically.
You cannot perform and SYNC ALL and then MANUAL SYNC's a single transmitter.

Erasing ALL transmitters:

1. Open the case and apply power
2. Press and hold the ERASE button for 10 seconds
3. All relay LEDs flash together and then go out
4. Erase complete, you can now follow the pairing process to pair your transmitters to the receiver.

ERASE Individual Transmitters:

1. Open the case and apply power
2. Press and release the ERASE button
3. The LED next to ERASE should remain lit and all relay LEDs will be flashing
4. Press any button on the transmitter to be erased
5. All output LEDs will go out to show that the transmitter has been erased
6. The SABRE will exit to normal operating mode

Erasing ALL Timers:

1. Open the case and apply power
2. Press and hold the TIMER button for 10 seconds,
3. A single relay LED will be flashing
4. When all Relay LED flash together and then go out the timer erase process is complete.
5. All relays will operate as per their jumper settings.

NOTE: Setting a timer OVERIDES all momentary or Latching on board link settings.

Continued overleaf...

Advanced operation continued...

Installation TEST MODE

The SABRE comes with an in-built test mode which allows a user to check the signal strength of any compatible handheld:

1. Press the SIGNAL TEST button on the PCB
2. Press any button/activate the transmitter which you want to test
3. LEDs 1-8 will show a bar graph of the signal strength - the more LEDs on the better the signal

TIP: Try the transmitter in the location where it will be used to make sure it will work once installation is complete.

Note: When in test mode and paired transmitter will still activate its relay.
For reliable communications please ensure at least 3 LED's are lit.

TIMER SELECT MODE

NOTE: As default all timers are set to 0 seconds.
The SABRE has a timer option which can be set individually on each output. Meaning that you can set any output to de-activate after a different amount of time should you wish

1. To enter timer select mode - Press the TIMER SELECT button
2. Select your chosen output by pressing the TIMER SELECT button to scroll through each relay in turn
3. When the LED for the required output is flashing wait until it becomes solidly LIT
4. Press the TIMER SELECT button again to increase the timer delay in line with the table below
5. When you have selected the required delay, wait 3 seconds. All Red LEDs will flash to show that the setting is saved

0 LED	1 LED	2 LED	3 LED	4 LED	5 LED	6 LED	7 LED	8 LED
0s	½ s	5s	10s	30s	1m	10m	30m	1hr

Note: Settings are saved even after power is removed.
When zero LED's are lit the relays will operate as per the jumper links. Momentary or latching.

Setting MOMENTARY / LATCHING links

NOTE: As default all relay switches are latching.
It is possible to set the relay switches on the SABRE receiver to either momentary or latching operation (Latching - one press for on, one press for off, Momentary - On while button is held only)

1. Remove all power from the receiver and then open the SABRE-RX receiver enclosure by unscrewing the 8 screws on the front panel.
2. The Momentary/Latching Setting links are in the position shown as **(D)** page 4.
3. To set a relay switch to momentary choose the associated link cap:
   Link fitted - MOMENTARY
   Link Removed - LATCHING
4. Re-apply the power to the SABRE-RX.

NOTE: The link setting can be changed without removing the power but it is not recommended to touch the PCB with the power applied.

Technical Specifications

Transmitters: SABRE-Tn Transmitters

Enclosure Rating: IP68
Battery Type: AAA x 4 (supplied)
Battery Life: 3 years @ approx 100 x 1/2second presses per 3 day.
Dimensions: 154 x 85 x 48 mm
Storage Temperature: -10 to +70° Celsius.
Operating Temperature: -10 to +50° Celsius

Changing the battery:

1. Un screw the 6 fixing screws on the rear of the enclosure.
2. Carefully separate the two enclosure halves - as the wires connecting them and should not be strained.
3. Remove the front half of the enclosure (joint is on top of the red rubberised section.
4. The batteries are fixed into the base - replace with new.
5. Re-assemble.

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage		3V	3.2V	V
Frequency:		869.500		MHz
RF Output Power (ERP) @ 869.5MHz	-	100		mW

Receiver Decoder: ELITE-RXL

Enclosure Rating: IP68
Dimensions: 267 x 148 x 78 mm (not including antenna)
Storage Temperature: -10 to +70° Celsius.
Operating Temperature: -10 to +50° Celsius.

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage for MAINS		230Vac	+10%	Vac
Supply voltage for LOW VOLTAGE	12V		32V	Vac/Vdc
Relay Rating* (230Vac) RLY1-4		6	12A (peak)	A(rms)
Supply Current : Quiescent		49		mA
All relays operating*		140		
Time delay from Tx on Switch to Rx Relay operation		30		mS
Time delay from Tx sw relax to Rx Relay release		30		mS

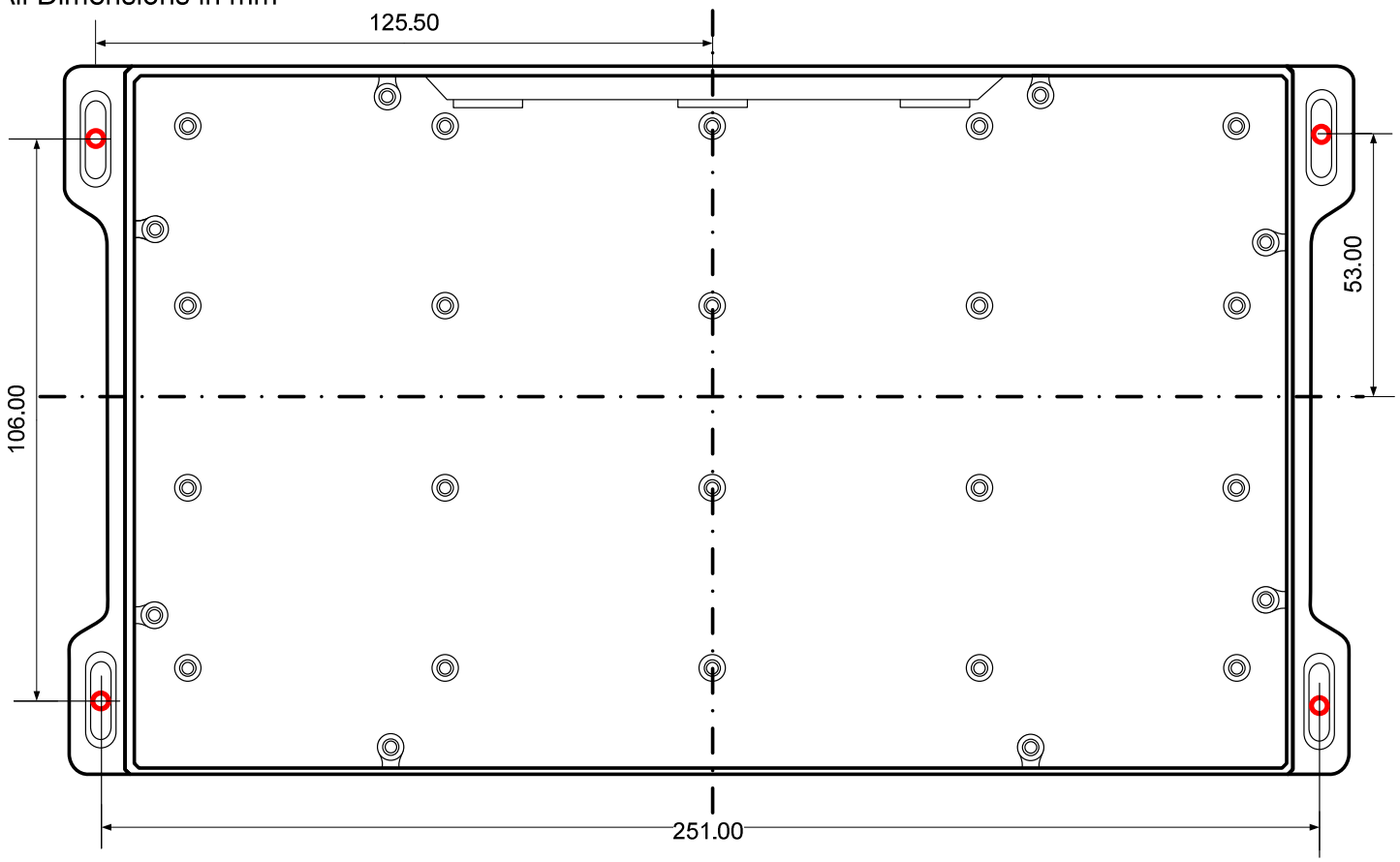
***The relay contacts in this unit are for functional use only and must not be used for isolation purposes**

Approvals Information:

- All RF Solutions products are manufactured in accordance with our ISO:9001 Quality System
- SABRE Systems are manufactured to CE standards
- Further information available on request.

Wall Mounting Dimensions (not to scale)

All Dimensions in mm



RF Solutions Ltd. Recycling Notice

Meets the following EC Directives:

DO NOT
Discard with normal waste, please recycle.

ROHS Directive 2002/95/EC
Specifies certain limits for hazardous substances.

WEEE Directive 2002/96/EC
Waste electrical & electronic equipment. This product must be disposed of through a licensed WEEE collection point. RF Solutions Ltd., fulfills its WEEE obligations by membership of an approved compliance scheme.

Waste Batteries and Accumulators Directive 2006/66/EC
Where batteries are fitted, before recycling the product, the batteries must be removed and disposed of at a licensed collection point.

Environment Agency producer registration number: WEE/JB0104WV.

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