ORCA®
You're in Safe Hands

User Manual

Model: OM866RB-10RF

Relay Base

SPECIFICATION

Product Life:	10 years
Supply Voltage:	230V AC
Backup Battery:	3V Lithium Battery (Sealed)
Battery Consumption:	0.8W (standby)
Contact Rating:	220-240V AC, 5A resistive Continuous or Pulse mode
Output:	One volt free contact (NO/NC)
Visual Indicator:	Green - Bright: Power Present Red - Flashing: Low Battery Red - Illuminated: RF Pairing Mode Red - Illuminated: Fire/CO Triggered
Wireless Interconnection:	Radio Frequency [868MHz] max 30pcs RF devices Indoor max 50m / outdoor max 80m
Hardwire Interconnection:	Max 40pcs devices in 150metres
Operating/Storage Temperature:	-10°C to 40°C
Operating/Storage Humidity:	15% to 95% Relative Humidity
Plastic Material:	ABS
Approval:	CE

INTRODUCTION

Please carefully read and retain this manual for the entire duration of the device's use, as it contains vital information on the installation and operation of the OM866RB-10RF Relay Base. The manual should be considered an integral part of the product, and if you are installing the device, it is mandatory to provide a copy of the manual to the homeowner and any subsequent users.

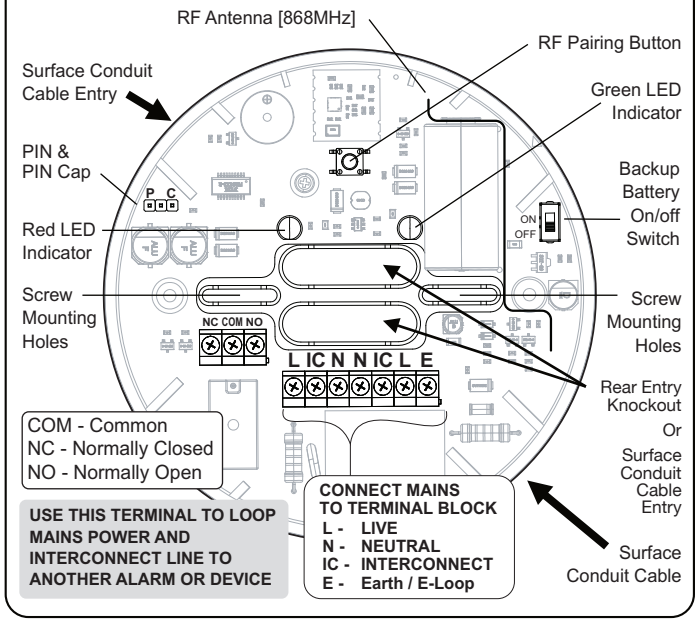
The OM866RB-10RF Relay Base is a versatile device that switches a relay upon receiving a wireless alarm signal from a compatible ORCA Gen 2 wireless device. The electrically isolated contacts of the relay can be used for numerous applications, such as signaling and turning on lights.

The OM866RB-10RF Relay Base is powered by 230V AC mains and features a Lithium backup battery. By default, the relay operates continuously, meaning it switches on when one of the connected wireless devices activates and switches off when the alarm condition ceases.

IMPORTANT SAFETY NOTES

- The installation of this mains-powered Relay Base should be performed by a qualified electrician in accordance with relevant local Regulations for Electrical Installations. Incorrect installation may expose the user to shock or fire hazards and damage the product. This unit is not waterproof and must not be exposed to dripping or splashing.
- It is mandatory to incorporate an all-pole mains switch into the electrical installation of the building.
- If connecting the Relay Base to an alternative energy source such as wind, solar, UPS, etc., a 230V AC Pure Sine Wave must be supplied. If you plan to connect it to a power source that utilizes an inverter, ensure that the Total Harmonic Distortion (THD) is less than 5%. If you are unsure, please consult the inverter manufacturer. The same applies to battery-powered UPS (Uninterruptible Power Supply) inverters.
- The Relay Base must not be powered from a light dimmer circuit.

Fig.1 Wiring details for connecting to a low voltage or voltage free device



INSTALLATION INSTRUCTIONS

BEFORE WIRING THE RELAY BASE

NOTE: WE RECOMMENDED READING THE MANUAL AND FOLLOW THE STEPS IN CHRONOLOGICAL ORDER TO COMPLETE THE SET UP OF RELAY BASE.

Carefully read and follow these instructions:

1. Disengage mains power from the circuit before installing the Relay Base to ensure safety.
2. To prevent injury, securely attach the Relay Base to the ceiling or wall. Choose a suitable mounting position near the mains supply and the device to be connected to the relay.
   Note: *Keep the Relay Base away from metal surfaces or large metal objects that may interfere with the RF signal.*
3. If the incoming wiring is on the surface of the wall/ceiling, use appropriately sized trunking/conduit to mate with the unit. Remove the knockout material from the back of the relay with a sharp knife, ensuring that there is no gap when mated with the trunking/conduit. There is one suitable surface cabling knockout.
   Note: *the other two surface entries are not recommended as the wiring will reduce the antenna signal). There is one rear entry knockout. Refer to Fig.1 for details.*

WIRING INSTRUCTION

At this point, the Relay Base should already have been screwed to the wall/ceiling and the house wiring should be protruding through the knockouts.

1. Connect the power supply wires (Live & Neutral) to the mains terminal block according to Fig.1. (Screw tightening torque: max 0.5Nm (5.1kgf.cm)).
   Note: *Do not connect a green/yellow or copper earth wire to any terminal, as the unit* ***must not be earthed****.*
2. Connect the L (Live) wire from the power supply of the auxiliary device to the COM (Common) terminal.
3. Connect either the NC or NO contact of the relay (depending on what is required for controlling the auxiliary device) to the auxiliary device.
   - If the relay is used to cut out a boiler in case of alarm, use NC. (see Fig.2)
   - For a Beacon that should only be on in case of alarm, use NO. (see Fig.3)
4. Alternatively, if the auxiliary device is powered from the same circuit as the relay (i.e. 230VAC), insert a link wire between the L (Live) terminal and the C (Common) terminal of the relay. Then, connect either the NC or NO contact of the relay (depending on what is required) to the auxiliary device. Connect the N (Neutral) terminal from the relay to the auxiliary device as shown in the diagrams below. (see Fig.4)

Fig.2 Relay used to cut out a boiler in case of alarm

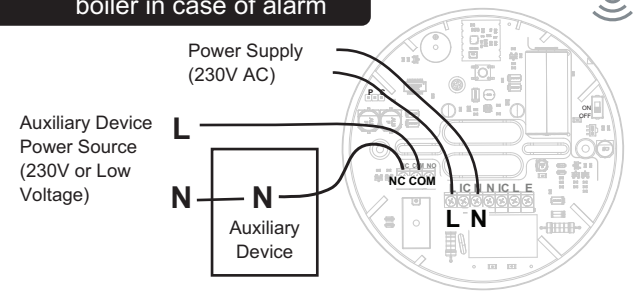


Fig.3 Beacon that should only be on, in case of alarm

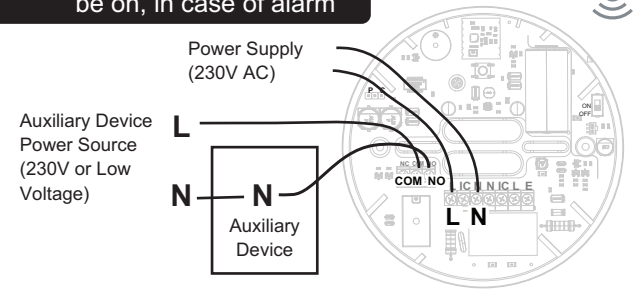
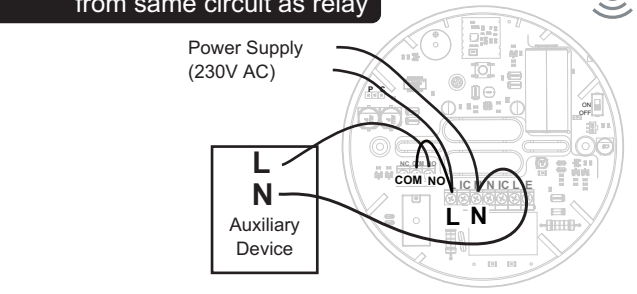


Fig.4 Auxiliary device powered from same circuit as relay



SET UP RELAY OPERATION TO EITHER CONTINUOUS OR PULSE

1. To set up whether the relay operates continuously or by a pulse, set the black PIN cap on the 3 PINs appropriately. By default, the pin cap should be fitted to 2 pins at the right side, which means the relay operates continuously i.e. it will switch on when one of the alarms activates and switches off when the alarm condition ceases.
2. If momentary (pulse) relay operation is required, carefully remove the pin cap and fit it into the "P" position (see Fig.5). This is commonly used with warden call systems where only momentary short circuit signaling is required. Do this before connecting the mains power or activating the backup battery.
3. With the pin cap in the "C" (Continuous) position, the alarm signal will switch the latching relay until a cancel signal is received.

SET UP BACKUP BATTERY STATUS FROM "OFF" TO "ON"

1. Turn on the backup battery by gently sliding the switch to the "ON" position (see Fig. 2). This switch must be in the 'ON' position to ensure correct operation.
2. Fit the cover to the module pillars and screw it in place using the two screws supplied.

TESTING THE RELAY BASE POWER STATUS

1. Engage the mains power to activate the relay base.
2. Check if the green light is on. If the green light is not present, check if the wires have been connected correctly (see Fig.1).
   Note: *The green LED will be on whenever AC power is present. Switch on the backup battery to ensure that the battery power has been charged.*

RF PAIRING SET UP

1. PROGRAM THE RF PAIRING

   Press and hold the RF Pairing button through the hole in the cover using a small screwdriver until the Red LED is illuminated. The Red LED Light will stay illuminated for 150 seconds.

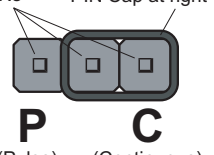
   Pair all other RF Alarms and devices in the network. Consult their instruction manuals on how to pair the other alarms. Ensure that each individual Alarm/device is put into RF network in its final location.

   To complete the pairing, the RF network must exit RF Pairing mode.

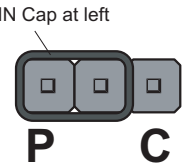
   The Relay Base will automatically exit RF Pairing mode after 150 seconds. To manually exit RF Pairing mode, press the RF Pairing button again on the Relay Base one time. The Red LED indicator will go off and the system will return to standby mode.

Fig.5

Default Setting: Continuous Operation



Alternative Setting: Pulse Operation

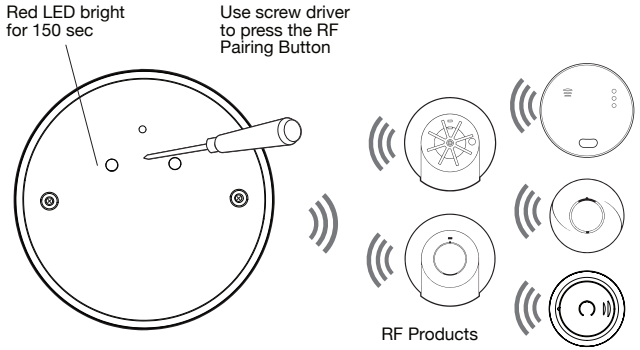


Note: *If some devices continue to flash amber/ red, consult their instruction manual to manually exit RF Pairing mode. Check that the RF indicators have stopped flashing on all devices.*

Note: *Once RF network is established, the system will not communicate with any other RF Alarms and RF devices outside of RF paired group.*

TEST THE RF PAIRING NETWORK

To check the RF network, press the Test button for around 30 seconds on any RF Paired



Alarm. All alarms should sound. Ensure that the device connected to the relay contacts operates. Release the test button – check the device switches off. (If the continuous/ pulse slide switch is in the pulse position, check the relay just switches on for 5 seconds and then switches off). All RF devices in the RF Pairing network should be checked similarly.

Note: *A maximum of 20 RF devices may be interconnected to one relay. When one alarm sounds, all interconnected alarms will sound and the relay will switch.*

Attention: Do not interconnect carbon monoxide alarms with smoke/heat alarms unless an Orca OM866C-10RF controller is used in that system. The OM866C-10RF controller will allow the user to quickly identify the source of the alarm (e.g. fire or CO gas) and take appropriate action. This is important as the occupant will need to open all windows and doors if it is a CO incident but do the opposite to slow down a fire.

Note: *The backup battery will enable the Relay Base to operate during mains failure upon receipt of an alarm signal. The backup battery will power the relay for up to 2 months in the event of the mains being off.*

CONNECTING TO ORCA 230V ALARMS

The relay base can also be wired to work with Orca OM1907-AC 230v smoke alarms if you choose to use these instead of RF wireless smoke alarms.

To install, connect a wire from an Interconnect (IC) terminal on the relay base to the Switch Wire (S) terminal on the Orca 230V smoke alarm as shown in Fig 6.

Note, if you wish to position the relay base part way along the smoke alarm line, you will need to use both Interconnect (IC) terminals on the relay base as shown in Fig 7.

WARNING: Connecting the Switch Wire terminal to any other supply conductor may result in damage to the alarm, failure to operate or shock hazard and void the warranty of the alarm.

Fig.6 Wiring the relay base with 230v smoke alarms

A = Active
E = Earth
N = Neutral
S = Switch Wire
L = Live
IC = Interconnect
N = Neutral
E = Earth

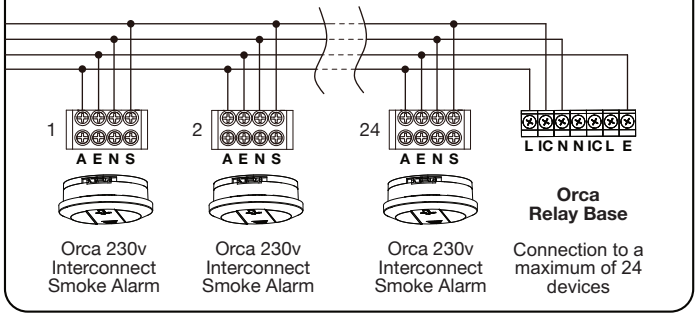
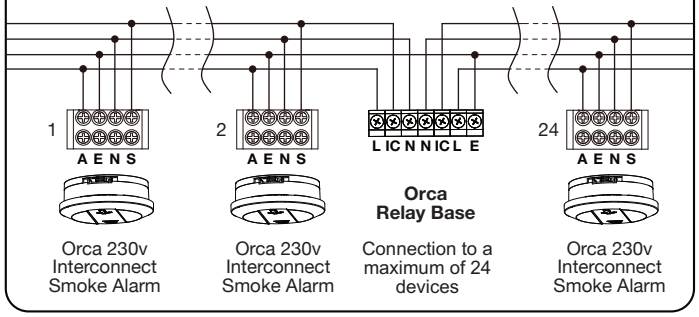


Fig.7 Wiring the relay base with 230v smoke alarms

A = Active
E = Earth
N = Neutral
S = Switch Wire
L = Live
IC = Interconnect
N = Neutral
E = Earth



CHECKING & MAINTENANCE

CHECK PERFORMANCE INSTRUCTION

We recommend end-user to perform this RF Network Check on this device monthly. Please follow below steps:

1. Check whether the green LED power indicator is on. If it is off, check circuit breaker fuse, wiring, etc. When mains power is restored, the green LED light will come on solid.
2. If the red LED is flashing once every 10 seconds, it indicates the relay base has a battery problem.
   - Check whether the battery slide switch is in the “ON” position. If not, switch it to ON. If the switch is already at “ON”, leave the AC connected at least 2 hours before checking again.
   - If the red LED continues to flash red every 10 seconds, then the unit is defective and must be replaced.
3. Press the Test Button on any connected alarm and check that: (a) the relay switches and (b) the auxiliary device behaves as expected.

BACKUP BATTERY STATUS

To ensure the relay base is functioning properly, it is crucial to periodically check the status of the backup battery. We recommend performing this Backup Battery Status Check immediately after installation and at least once a year.

1. Disconnect the mains supply.
2. Then, check the relay performance as outlined above in “CHECK PERFORMANCE INSTRUCTION”.
3. If everything is satisfactory, reconnect the mains. However, if the relay fails to operate, this unit is defective and needs to be replaced.

END OF LIFE

After 10 years (see date label on the side of the relay), the OM866RB-10RF Relay Base must be replaced.

TROUBLESHOOTING THE RF PAIRING

If when testing, the Relay Base does not respond, then:

1. Ensure that the Alarm Test button on a connected alarm has been held down until the RF light comes on, which can take up to 30 seconds.
2. If the issue persists, reset the RF pairing on the Relay Base by pressing the RF Pairing button 5 times. The LED will flash red for 10 times, indicating that the RF memory has been cleared, and the Relay Base is now reset. To reset other devices in the system, refer to their respective instruction manuals. Once all devices are reset, repeat the RF pairing procedure.
3. If resetting the RF pairing does not improve the signal reception, try relocating the Relay Base and/or rotate/relocate the alarms. Signal reception can be improved significantly by changing the position of the alarms. However, this may also result in some devices being out of range of existing devices, even if they were properly paired before. Therefore, it is important to check that all alarms/relays are communicating in their final installed positions. If units are rotated and/or re-sited, it is recommended to return them to the factory settings before RF pairing all units again in their final positions. Finally, re-check the RF pairing to confirm that the issue has been resolved.

LIMITATIONS OF THE RF PAIRING

Our wireless pairing system is very reliable and is tested to high standards. However, due to its low transmitting power and limited range (required by regulatory bodies), there are some limitations to consider:

- Receivers may be blocked by radio signals occurring on or near their operating frequencies, regardless of the RF Pairing.
- RF systems should be tested regularly, at least monthly. This is to determine whether there are sources of interference preventing communication, whether the radio paths have been disrupted by moving furniture or renovations, and if so, to give a warning of these and other faults.

LIMITED WARRANTY

This Relay Base is warrantied to be free from defects in materials and workmanships under normal use and service for a period of ten years from date of purchase. This warranty does not cover malfunction or damage resulting from accident, misuse or abuse or lack of reasonable care of the product. This warranty is in lieu of all other express warranties, obligations or liabilities.

NEWFIELD GROUP LTD (NEWFIELD) will not be obligated to repair or replace parts which are found to be in need of repair because of misuse, damage or alterations occurring after the date of purchase.

The liability of NEWFIELD arising from the sale of this Relay Base shall not in any case exceed the cost of replacement of the Relay Base.

NEWFIELD shall have no liability for any personal injury or property damage, or any special incidental, contingent or consequential loss or damage of any kind resulting from a fire. The exclusive remedy for breach of the limited warranty contained herein is the repair or replacement of the detective product at NEWFIELD’s option. In no case shall NEWFIELD’s liability under any other remedy prescribed by law exceed the purchase price.

Send the Relay Base with proof of purchase, postage and return postage prepaid, to your local supplier.

Your alarm system is not a substitute for property, disability, life or other insurance of any kind. Appropriate coverage is your responsibility. Consult your insurance agent.

This does not affect your statutory rights. This alarm system is only suitable for single occupancy private dwellings and not intended for multi occupancy private dwellings or commercial or industrial dwellings.

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