NOTIFIER®
by Honeywell

NRX-M711
RADIO SYSTEM INPUT / OUTPUT MODULE
INSTALLATION INSTRUCTIONS

PARTS LIST

Module unit	1
SMB500 back box	1
Front cover	1
Batteries (Duracell Ultra 123 or Panasonic Industrial 123)	4
Back box fixing screws and wall plugs	2
Module fixing screws	2
3-pin terminal block	2
2-pin terminal block	1
47 k-ohm EOL resistor	2
18 k-ohm alarm resistor	1
Module installation instructions	1
SMB500 back box installation instructions	1

251 g + (66 g) = 317 g

60°C
-20°C

Figure 1: IO module + back box outside dimensions

58 mm

125 mm

125 mm

DESCRIPTION

The NRX-M711 radio input-output module is a battery operated RF device designed for use with the NRXI-GATE radio gateway, running on an addressable fire system (using a compatible proprietary communication protocol).

It is a dual module having separate input and output capability, combined with a wireless RF transceiver and is supplied with a wireless back box.

This device conforms to EN54-18 and EN54-25. It complies with the requirements of 2014/53/EU for conformance with the RED directive.

SPECIFICATIONS

Supply Voltage:	3.3 V Direct Current max.
Standby Current:	122 µA@ 3V (typical in normal operating mode)
Red LED Current Max:	2 mA
Green LED Cur. Max:	5.5 mA
Re-Sync Time:	35s (max time to normal RF communication from device power on)
Batteries:	4 X Duracell Ultra123 or Panasonic Industrial 123
Battery Life:	4 years @ 25°C
Radio Frequency:	865-870 MHz. Channel width: 250kHz
RF Output Power:	14dBm (max)
Range:	500m (typ. in free air)
Relative Humidity:	5% to 95% (non-condensing)
Terminal Wire Size:	0.5 - 2.5 mm^2
IP Rating:	IP20

Input Module

End-of-Line Resistor:	47K
Supervision Current:	34 µA typical

Output Module

End-of-Line Resistor:	47K
Supervision Current:	60 µA typical
Relay Contacts:	2 A @ 30 VDC (resistive load)

External Power Supply Unit

Voltage:	30V DC max. 8V DC min.

INSTALLATION

This equipment and any associated work must be installed in accordance with all relevant codes and regulations.

Figure 1 details the dimensions of the back box and cover.

Spacing between radio system devices must be a minimum of 1m

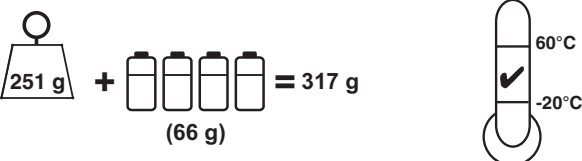**Table 1** shows the wiring configuration of the module.

Table 1: Terminal Connections

| TERMINAL	CONNECTION / FUNCTION	
	Input Module	
1	Input -ve	
2	Input +ve	
	Output module (Supervised mode)	**Output module (Relay mode)**
3	Connect to T8	Relay NO (normally open)
4	To load +ve	Relay C (common)
5	Connect to T7	Relay NC (normally closed)
6	Supervision: connect to load -ve	Not used
7	To ext PSU –ve	Not used
8	To ext PSU +ve	Not used

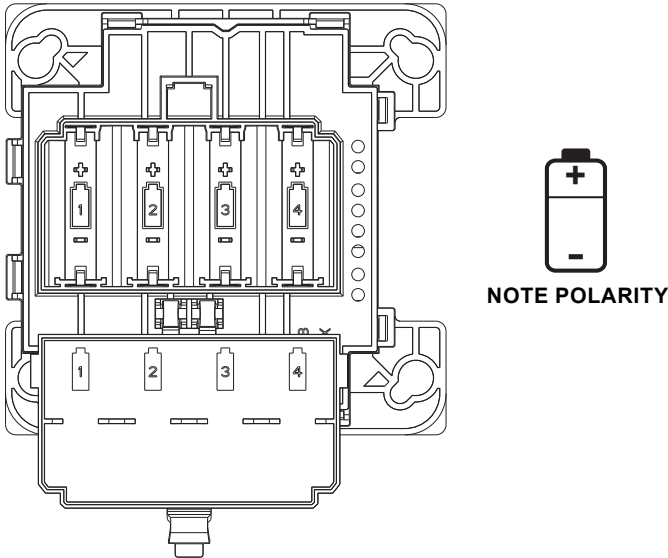**Input Module** requires 47K EOL for normal operation.

Output Module requires 47K EOL at the load for normal operation in supervised mode.

If the load is a low impedance (compared to the EOL) a series diode should be added for correct load supervision (see **Figure 2** for diode polarity).
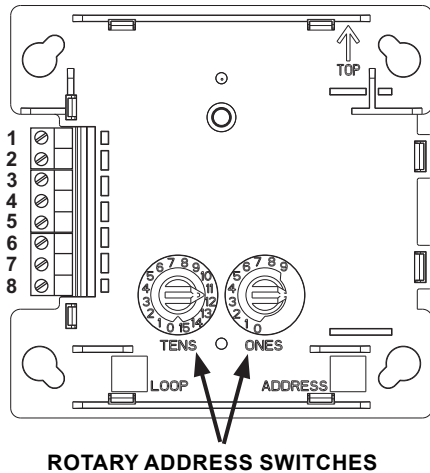
Figure 2: Diode Polarity

Load -VE ⏤◁⏤⌇⏤ Load +VE

Figure 3: Switching Inductive Loads
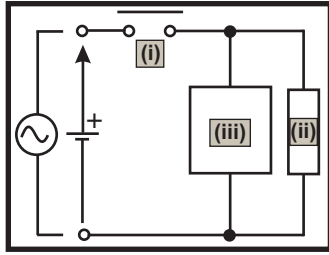
Figure 4: Rear of Module with Battery Compartment and Cover

NOTE POLARITY

Figure 5: Front of Module with Address Switches

ROTARY ADDRESS SWITCHES

WARNING: Switching Inductive Loads

See **Figure 3**. Inductive loads can cause switching surges, which may damage the module relay contacts **(i)**.

To protect the relay contacts, connect a suitable Transient Voltage Suppressor **(iii)** - for example 1N6284CA - across the load **(ii)** as shown in Figure 3.

Alternatively, for unsupervised DC applications, fit a diode with a reverse breakdown voltage greater than 10 times the circuit voltage.

Figure 4 details the battery installation and **Figure 5** the location of the address switches.

Important

Batteries should only be installed at the time of commissioning

Warning

⚠️ ***Observe the battery manufacturer's precautions for use and requirements for disposal.***

Possible explosion risk if incorrect type is used

Do not mix batteries from different manufacturers.

When changing the batteries, all 4 will need to be replaced

Using these battery products for long periods at temperatures below -20°C can reduce the battery life considerably (by up to 30% or more)

Fixing the module: Remove the 2 screws from the front cover to reveal the RF module. Remove the RF module from the back box (see below). Screw the back box to the desired position on the wall using the fixings provided. Refit the module in the box (see below). Wire the plug-in terminals as required by the system design. Refit the front cover to protect the module.

Removing the module from the back box: Slacken off the 2 fixing screws, twist the module clockwise slightly and lift out. Reverse this process to refit the module.

Device Removal Warning: In a working system, an alert message will be sent to the CIE via the Gateway when the front cover is removed from the back box.

SETTING THE ADDRESS

Set the loop address by turning the two rotary decade switches on the front of the module using a screwdriver to rotate the wheels to the desired address.

Except when Advanced Protocol (AP) is being used (see below) the dual I/O module will take two module addresses on the loop; the input module address will be the number shown on the switches (N), the output module address will be incremented by one (N+1). So for a panel with 99 addresses, select a number between 01 and 98.

In Advanced Protocol (AP) addresses in the range 01-159 are available, depending on panel capability (check the panel documentation for information on this).

Important

Set the loop address on the module **<u>Before</u>** inserting the batteries

LED INDICATORS

The radio module has a tri-colour LED indicator that shows the status of the device (see Table 2):

Table 2: Module Status LEDs

Module Status	LED State	Meaning
Power-on initialisation (no fault)	Long Green pulse	Device is un-commissioned (factory default)
	3 Green blinks	Device is commissioned
Fault	Blink Amber every 1s.	Device has an internal trouble
Un-commissioned	Red/Green double-blink every 14s (or just Green when communicating).	Device is powered and is waiting to be programmed.
Sync	Green/Amber double-blink every 14s (or just Green when communicating).	Device is powered, programmed and trying to find/join the RF network.
Normal	Controlled by panel; can be set to Red ON, Green ON, periodic blink Green or OFF.	RF communications is established; device is working properly.
Idle (low power mode)	Amber/Green double-blink every 14s	Commissioned RF network is in standby; used when the gateway is powered off.

PROGRAMMING AND COMMISSIONING

Configuring the Output Module Mode

The output module is supplied configured as a **Supervised Output Module** (factory default setting). To change the output to relay mode (Form C - volt-free changeover contacts) requires a separate programming operation using the **Device Direct Command** in **AgileIQ** (See **Radio Programming and Commissioning Manual** - ref. N200-306-00 for details.)

Starting with an un-commissioned module:

1) Remove it from the back box.

2) Ensure that the address is set to 00 (default setting).

3) Insert the batteries.

4) Select the *Device Direct Command tab* in AgileIQ.

5) Double click on the screen to reveal the list of options and follow the instructions to configure the output module mode.

Note: Remove the batteries from the device afterwards if the system commissioning operation is not about to be done.

It is recommended that the output module configuration is noted for future reference on the module label after commissioning:

OUTPUT MODULE: Supervised   ☐   Relay   ☐

Commissioning

1) Remove the module from the back box.

2) Ensure that the correct address has been set.

3) Insert the batteries.

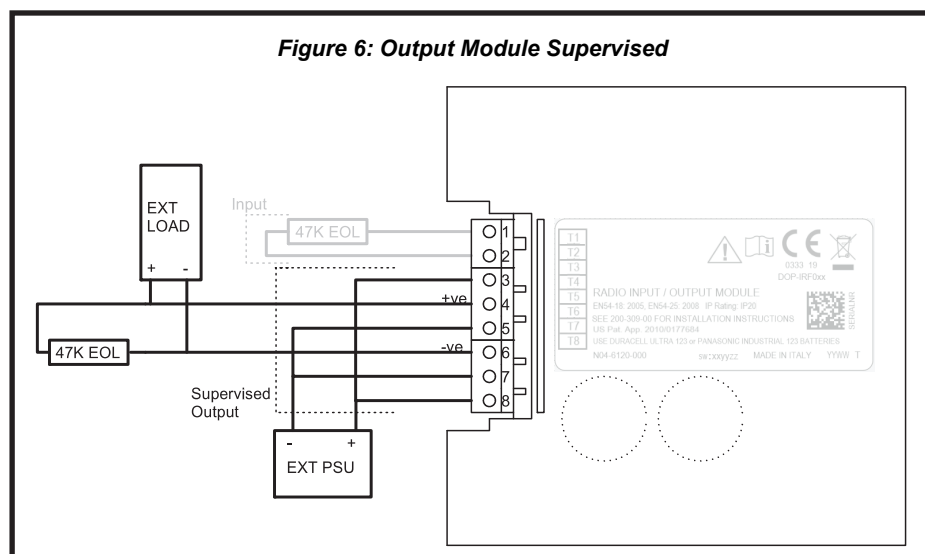4) Refit the module and replace the back box front cover.

To load network parameters into the RF module, it is necessary to link the RF gateway and the RF module in a configuration operation using the AgileIQ software tool. At commissioning time, with the RF network devices powered on, the RF gateway will connect and program them with network information as necessary.

The RF module then synchronises with its other associated devices as the RF mesh network is created by the Gateway. (For further information, see the **Radio Programming and Commissioning Manual** - ref. N200-306-00.)
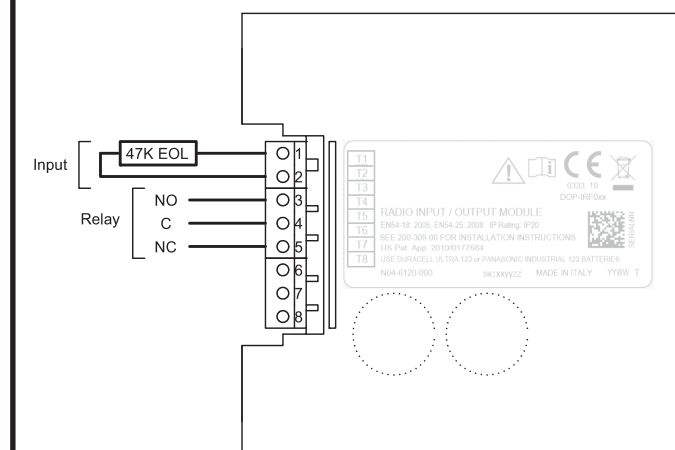
NOTE: Do not run more than one USB interface at a time to commission devices in an area.

WIRING DIAGRAMS

Figure 7: Input / Output Module Relay Mode

![CE]	**0333 19**	**DOP-IRF026**

Notifier Fire Systems by Honeywell
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EN54-25: 2008 / AC: 2010 / AC: 2012
Components Using Radio Links
EN54-18: 2005 / AC: 2007 Input/Output Devices
for use in fire detection and fire alarm systems for buildings

EU Declaration of Conformity

Hereby, Honeywell Products and Solutions Sàrl declares that the radio equipment type NRX-M711 is in compliance with directive 2014/53/EU
The full text of the EU DoC can be requested from:
HSFREDDoC@honeywell.com

Patents Pending

Figure 6: Output Module Supervised