22051E-RF

WIRELESS OPTICAL SMOKE SENSOR INSTALLATIONANDMAINTENANCEINSTRUCTIONS

ENGLISH

I56-4224-004

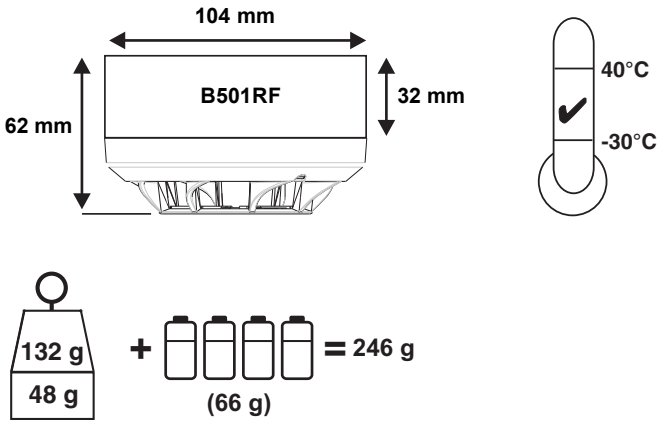


Figure 1: B501RF Mounting

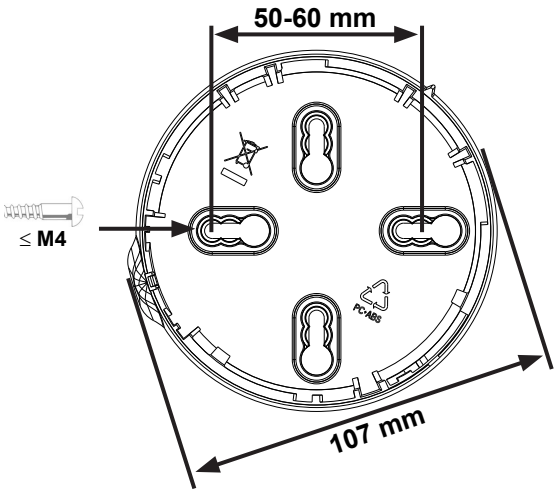


Figure 2: Attaching Sensor Head to Base



Figure 3a: Activation of Tamper Resist Feature

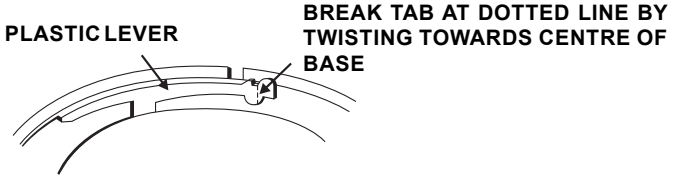
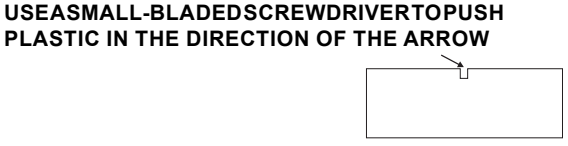


Figure 3b: Removing Sensor Head From Base



DESCRIPTION

The 22051E-RF radio sensor is a battery operated RF device designed for use with the M200G-RF radio gateway. It contains a wireless transceiver and runs on an addressable fire system (using a compatible proprietary communication protocol).

It is an optical smoke sensor.

The sensor plugs into the B501RF wireless sensor base.

This device conforms to EN 54-25 and EN 54-7. 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:	@ 3V: 120 µA (typical in normal operating mode)
Red LED Current Max:	4 mA
Re-sync time:	35 s (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;
RF output power:	14 dBm (max)
Range:	500 m (typ. in free air)
Relative Humidity:	10% to 93% (non-condensing)

INSTALLATION

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

Figure 1 details the installation of the B501RF base.

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

Figure 2 details attaching the sensor head to the base.

Anti-Tamper Features
The base includes a feature that, when activated, prevents removal of the sensor from the base without the use of a tool. See Figures 3a and 3b for details on this.

Head Removal Warning - An alert message is signalled to the CIE via the Gateway when a head is removed from its base.

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

Important

Batteries should only be installed at the time of commissioning

Warning

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

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

Do not mix batteries from different manufacturers

SETTING THE ADDRESS

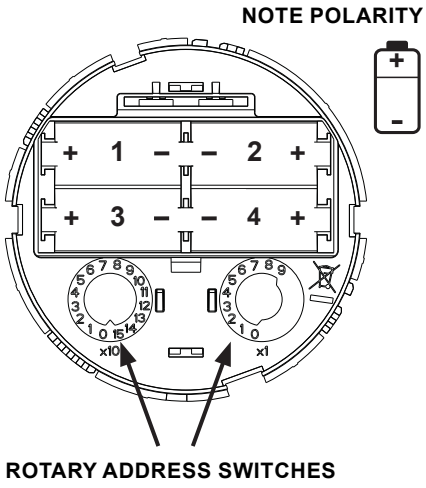
Set the loop address by turning the two rotary decade switches on the underside of the sensor (see figure 4), using a screwdriver to rotate the wheels to the desired address. The device will take one sensor address on the loop. Select a number between 01 and 159 (Note: The number of addresses available will be dependent on panel capability, check the panel documentation for information on this).

PROGRAMMING

To load network parameters into the RF sensor, it is necessary to link the RF gateway and the RF sensor in a configuration operation. At commissioning time, with the RF network devices powered on, the RF gateway will connect and programme them with network information as necessary. The RF sensor 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. D200-306-00.)

NOTE: Do not run more than one interface at a time to commission devices in an area.

Figure 4: Battery Installation and Rotary Address Switches



LED INDICATORS AND FAULT DESCRIPTION

The radio sensor has two LED indicators that show the status of the device.

Sensor Status LEDs

Sensor 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, periodic blink Red 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.
Magnet test	1s green pulse when test magnet activates the internal switch.	Device signals Alarm, all delays are removed for 10 minutes.

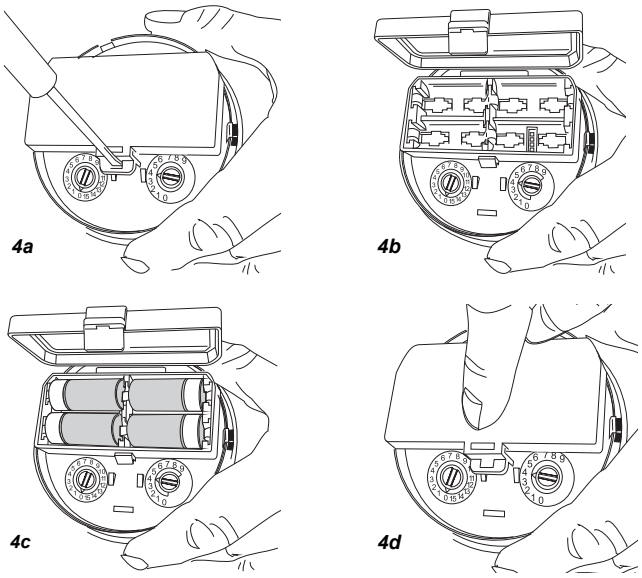


Figure 5: Test Magnet Position

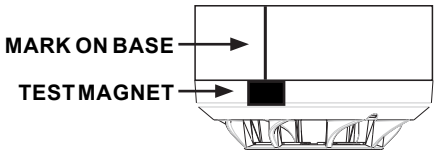
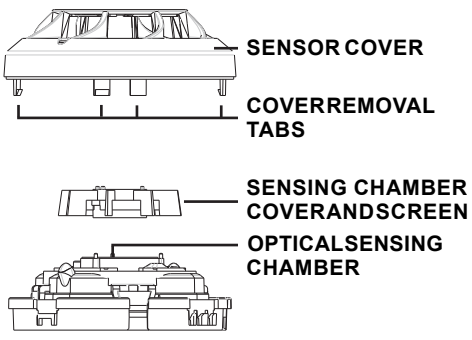


Figure 6: Cleaning the Sensor



TESTING

Magnet Test

Position the magnet (M02-04-00) as shown in Figure 5, after identifying the straight line ridge on the sensor base. To aid positioning, the sensor LEDs will turn on green for 1s when the alarm switch activates. The device will turn off all delays and filters for 10 minutes. After this period, the device returns to its normal mode.

Smoke Testing

Using smoke, or a synthetic smoke aerosol, subject the sensor to controlled amounts of smoke in accordance with local codes of practice. The sensor should signal an alarm to the CIE via the Gateway within 30 seconds.

Following testing, reset the alarm indication at the CIE (fire panel).

CLEANING

Use a fine brush, vacuum cleaner and/or clean, compressed air to remove dust and debris from the sensing chamber and sensing chamber cover as required. Figure 6 shows how to remove the covers.

Arrows on the plastic indicate the positioning when replacing the chamber cover and air guide.

Note

When replacing batteries, all 4 will need to be replaced

LIMITATIONS OF SMOKE SENSORS

These smoke sensors will only work when connected to a compatible control panel. Smoke detectors have operating limitations. They will not sense fires where smoke does not reach the sensor, and may respond differently to varying types of smoke. Consideration must be given to the environment when selecting and siting fire sensors.

Smoke sensors cannot last forever, and we recommend replacement after 10 years.

UK CA 0359 22 CE 0333 16
DOP-IRF-021

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Zone d'activités La Pièce 16
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EN 54-25: 2008 / AC: 2010 / AC: 2012
Components using radio links
EN 54-7: 2018 Smoke detectors

EU Declaration of Conformity

Hereby, Honeywell Products and Solutions Sàrl declares that the radio equipment type 22051E-RF is in compliance with directive 2014/53/EU

The full text of the EU DoC is available at the following internet address:
https://www.systemsensoreurope.com/products/category/wireless-fire-systems/

Patents Pending