




SYSTEM SENSOR 52051E-RF,52051RE-RF Wireless Thermal Fire Sensor Installation Guide

[Home](#) » [SYSTEM SENSOR](#) » SYSTEM SENSOR 52051E-RF,52051RE-RF Wireless Thermal Fire Sensor Installation Guide 



Contents

- [1 DESCRIPTION](#)
- [2 SPECIFICATIONS](#)
- [3 INSTALLATION](#)
- [4 SETTING THE ADDRESS](#)
- [5 PROGRAMMING](#)
- [6 LED INDICATORS AND FAULT DESCRIPTION](#)
- [7 TESTING](#)
- [8 CLEANING](#)
- [9 LIMITATIONS OF HEAT SENSORS](#)
- [10 Documents / Resources](#)
 - [10.1 References](#)

DESCRIPTION

These heat sensors are battery operated RF devices designed for use with the M200G-RF radio gateway. They contain a wireless transceiver and run on an addressable fire system (using a compatible proprietary communication protocol).

The 52051E-RF provides fixed 58°C temperature sensing (A1S).

The 52051RE-RF provides 58°C rate-of-rise (10°C/minute) temperature sensing (A1R).

The sensors plug into the B501RF wireless base.

These devices conform to EN 54-25 and EN 54-5 (categories A1S and A1R). They comply with the requirements

of 2014/53/EU for conformance with the RED directive.

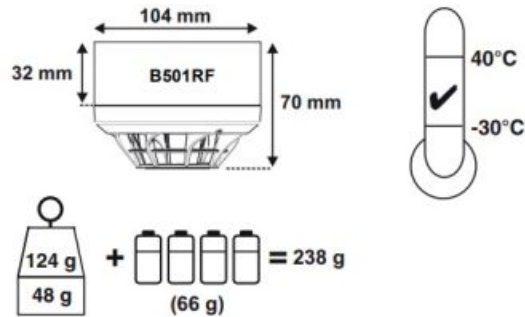


Figure 1: B501RF Mounting

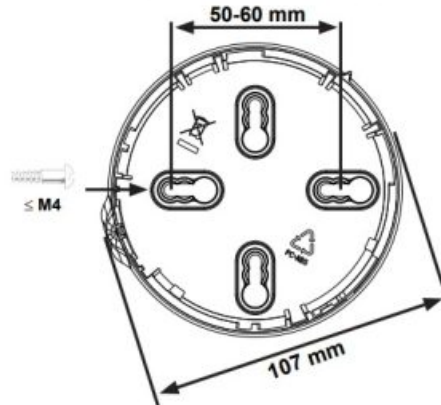


Figure 2: Attaching Sensor Head to Base

SPECIFICATIONS

Supply Voltage: 3.3 V Direct Current max.

Standby Current: @ 3 V: 120 μ A (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.

Only use the batteries recommended in this manual and 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).

Figure 3a: Activation of Tamper Resist Feature

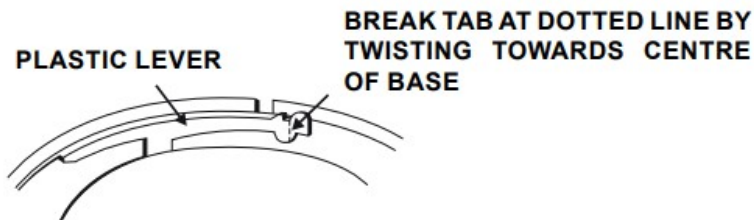
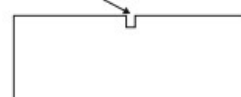


Figure 3b: Removing Sensor Head From Base

USE A SMALL-BLADED SCREWDRIVER TO PUSH PLASTIC IN THE DIRECTION OF THE ARROW



NOTE

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



NOTE POLARITY

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 program 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.)

LED INDICATORS AND FAULT DESCRIPTION

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

Sensor Status LEDs

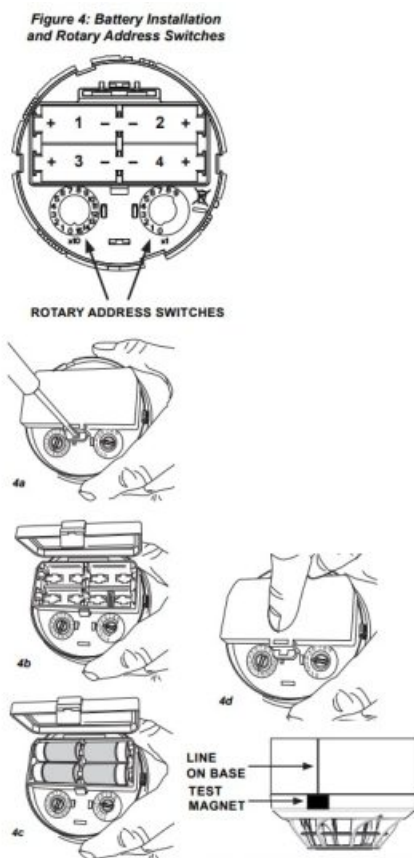
Sensor Status	LED State	Meaning
Power-on initialisation (no fault)	Long Green pulse	Device is un-commissioned (factory default)
	3 Green blinks	Device is commissioned
Fault	Blink Amber every 1s.	Device has an internal trouble
Un-commissioned	Red/Green double-blink every 14s (or just Green when communicating).	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 are 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.

EU Declaration of Conformity

Hereby, Honeywell Products and Solutions Sàrl declares that the radio equipment types 52051E-RF and 52051RE-RF are 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/>



TESTING

Magnet Test

A correctly positioned test magnet will generate an alarm. 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.

Direct Heat Testing (Hair dryer of 1000-1500 watts).

Aim the heat toward the sensor from the side. Keep the heat source about 15 cm away to prevent damage to the cover during testing.

The sensor should signal an alarm to the CIE via the Gateway when the temperature at the sensor reaches 58°C. Following testing, reset the alarm indication at the CIE (fire panel).

CLEANING

Use a vacuum cleaner and/or clean, compressed air to remove dust and debris from the thermistor and sensor cover as required (take care to avoid damaging the thermistor).

Note

When replacing batteries, all 4 will need to be replaced.

LIMITATIONS OF HEAT SENSORS

These heat sensors will only work when connected to a compatible control panel. Heat detectors have operating limitations. They will not sense fires where heat does not reach the sensor, and may respond differently to varying heat conditions. Consideration must be given to the environment when selecting and siting fire sensors. Heat sensors cannot last forever, and we recommend replacement after 10 years.

UK
CA 0359 22

CE 0333 16

52051E-RF DOP-IRF003

52051RE-RF DOP-IRF004

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EN 54-25: 2008 / AC: 2010 / AC: 2012 Components Using Radio Links.
EN 54-5: 2017 + A1: 2018 Categories A1S and A1R Heat Detectors
for use in fire detection and fire alarm systems for buildings.



I56-3891-004

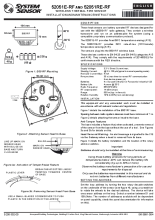


Patents Pending

D200-302-00 I56-3891-004

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Documents / Resources



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52051E-RF, 52051RE-RF, 52051E-RF 52051RE-RF Wireless Thermal Fire Sensor, 52051E-RF 52051RE-RF, Wireless Thermal Fire Sensor, Thermal Fire Sensor, Fire Sensor

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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