

### OVERVIEW

The co-based multicriteria detector uses three stimuli, carbon monoxide, smoke and temperature to detect any threatening conditions in the protected environment. If programmed as category NT an alarm condition is raised if any of the stimuli exceeds the safety threshold. If programmed as category MT an alarm conditions if at least two of the stimuli exceed the safety threshold.

### COMPATIBILITY

This detector is compatible only with wireless systems based on the Sagittarius protocol. For more specific information concerning compatibility refer to your fire security system supplier.

### INSTALLATION - IMPORTANT NOTES

For detector spacing, placement and special applications refer to your specific national standards.

Mount the detector as far as possible from metal objects, metal doors, metal window openings, etc. as well as cable conductors, cables (especially from computers), otherwise the operating distance may greatly drop. The detector must NOT be installed near electronic devices and computer equipment that can interfere with its wireless link quality.

This detector must be installed according to the procedures described in this manual.

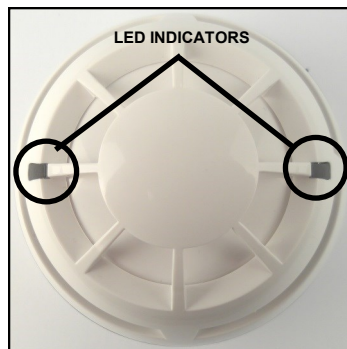
Test this detector after installation.

### BEFORE INSTALLING THE DETECTOR

- 1) Extract the batteries cover from the back of the detector.
- 2) Power-up the detector removing the isolating tab in the battery housing. LED indicators signal "Power up".
- 3) Link the detector to the Sagittarius wireless system ([LINKING](#)).
- 4) Check the **WIRELESS LINK QUALITY**.
- 5) **SELECT A GOOD LOCATION FOR THE DETECTOR.**
- 6) Tag device's loop and address data ([IDENTIFICATION](#)).
- 7) Fix the detector supporting base to the wall ([BASE INSTALLATION](#)).

### LED INDICATORS

Picture 1: provides visual indication for functional conditions and battery levels as indicated in table 1.



Picture 1

Detector's status	LEDs indication
Power up	1 second <b>GREEN</b> , then 4 X 0.5 second <b>RED</b> blink
Linking to the system	Blinking <b>GREEN</b> until linking is completed
Link failure	<b>RED</b> on (continuous)
Normal condition	LEDs off
Alarm	Blinking <b>RED</b> : 0.5 second on and 0.5 second off
Battery 1 fault	0.1 second <b>ORANGE</b> blink, then 5 seconds off
Battery 2 fault	0.1 second <b>GREEN</b> blink, then 5 seconds off
Both batteries fault	0.1 second <b>ORANGE</b> , then 5 seconds off 0.1 second <b>GREEN</b> , then 5 seconds off
Other fault	sequential <b>ORANGE / GREEN</b> 0.5 second blinking
Tamper	LEDs off
Lost link with wire to wireless translator / wireless expander	LEDs off
Type 1 Test Mode	Blinking <b>GREEN</b> every 1 second for 1 minute
Type 2 Test Mode	<b>GREEN</b> on (continuous) for 30 minutes

Table 1

**LINKING**

The system is waiting to achieve a wireless child device (for further information refer to the translator's or the Wirelex configuration software's literature):

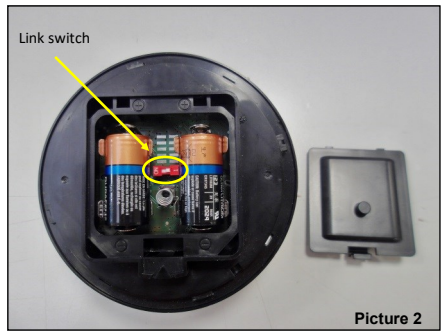
- 1) Move the link switch's cursor from ON to the opposite side of its run (we will call it BLANK, since it carries no indication). LED indicators signal "Linking to the system" (picture 2).

Linking is successful when:

- a) the translator indicates so (check translator's literature)
- OR
- b) the Wirelex software indicates so (check the Wirelex's literature).

If linking is unsuccessful:

- 2) Check if evident mistakes were made.
- 3) Perform the **LINKING RECOVERY**.



Picture 2

**!** During the linking phase, the detector must be positioned close to the aerial (within a few centimeters) of the translator or expander to which it is being linked.

**LINKING RECOVERY**

- 1) Take out both batteries from their holders
- 2) Move alternatively the link switch to ON / BLANK five times (picture 2)
- 3) Move the link switch to ON
- 4) Reinsert both batteries into their holders, oriented as per polarity marks
- 5) Perform the **LINKING** procedure.

**DETECTOR PROFILE SETTING**

During the installation, it is possible to select the device smoke and thermal sensitivity according to the 12 profiles indicated in Table 2. The profiles are grouped according to three major categories that are related to the characteristics of the environment defined as Harsh, Normal and Clean. The table indicates typical environment examples and shows the relation between smoke and thermal sensitivity. Carbon monoxide detection is used in all the cases to discriminate false alarms.

NT/MT	Profile	Environment class	Smoke sensitivity	Thermal sensitivity	Description	
NT	L1	Harsh	Low	Fixed	Heating room/parking area/warehouse	
	L2			High	Discoteque/Theatre stage	
	L3			A1R	Kitchen/Cafeteria/Bathroom	
	N1	Normal	Normal	Fixed	False ceiling/storage room	
	N2			High	Lobby/Stairway/Corridor	
	N3			A1R	College room/Office	
	H1	Clean	High	Fixed	Sleeping room/Dormitory	
	H2			High	Area with limited awareness people	
	H3			A1R	Hospital	
	MT	L0	Harsh	Low	None	Industrial Workshop
		L1			Fixed	Heating room/parking area/warehouse
		L2			High	Discoteque/Theatre stage
L3		Normal	Normal	A1R	Kitchen/Cafeteria/Bathroom	
N0				None	Prison	
N1				Fixed	False ceiling/storage room	
N2		Normal	Normal	High	Lobby/Stairway/Corridor	
N3				A1R	College room/Office	
H0				Clean	High	None
H1		Fixed	Sleeping room/Dormitory			
H2		High	Area with limited awareness people			
H3		Clean	High	A1R	Hospital	

Table 2

**WIRELESS LINK QUALITY**

It is possible to check wireless link quality between the detector and its linked-to translator or expander in this way:

- 1) Move the link switch to the ON position.
- 2) LED indicators will start blinking according to the following table:

Communication quality	Assessment	Device's indication
No communication	Fail	Two red blinks
Communication quality: 0 dB - 10 dB (Mark 2)	Poor, not acceptable	One red blink
Communication quality: 10 dB - 20 dB (Mark 3)	Medium-low, not recommended	One green blink
Communication quality: 20 dB - 30 dB (Mark 4)	Good	Two green blinks
Communication quality: > 30 dB (Mark 5)	Excellent	Two green blinks

- 3) **NOTE: Ensure the link switch is returned to the "BLANK" (operational) position on completion of testing.**



Table 3

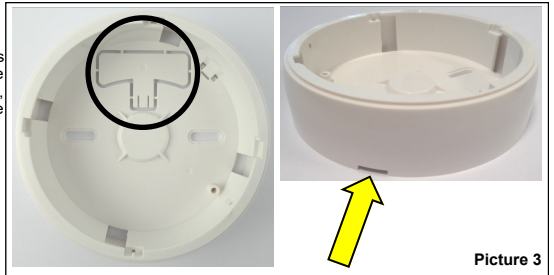
## SELECT A GOOD LOCATION FOR THE DETECTOR

Choose for the detector a placement position that:

- compliances with your specific standards
- is reached by a strong wireless signal from its linked-to translator or expander module
- is not interfered by environmental factors.


## IDENTIFICATION

For identification purposes, analogue loop number and device's address can be recorded on the plastic tag supplied with the base (picture 3). Extract the plastic tag from the bottom of the base, write or label identification data on it and, finally, insert it in the side slot of the base.

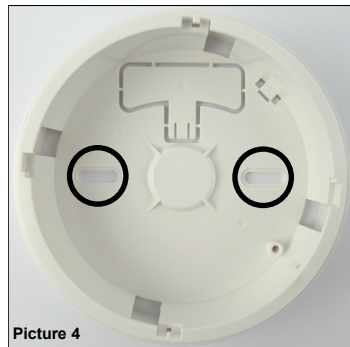


## BASE INSTALLATION

Fix the base to the wall with the provided screws (picture 4).

 **Dust covers DO NOT provide complete protection against contamination: detectors should be removed before construction, major re-decoration or other dust producing work is started.**

**Dust covers MUST be removed before the system can be made operational.**



## DETECTOR PLACEMENT

- 1) Install the batteries cover.
- 2) Position the detector centrally on the base ensuring it is level.
- 3) Rotate clockwise applying gentle pressure. The detector will drop into its keyed location.
- 4) Continue to rotate clockwise a few degrees until the detector has fully engaged in the base.
- 5) When the detector is firmly engaged, check the alignment of the raised reference marks on the detector and on the base (picture 5).



## **DETECTOR LOCKING**

To lock the detector to the base, screw in the provided security screw; screw entry is located on the side of the detector's base (picture 6).

## **TAMPER DETECTION**

When the detector is detached from the base a tamper message event is sent to the control panel.

## **TESTING**

### **Test this detector after installation.**

After each test reset the fire security system from the control panel, as per your control panel instructions.

## **TEST MODES**

Test modes make the **HFW-TRI-05** more reactive to aerosol stimulus; two test mode types are provided:

Type 1 Test Mode - triggered by a test magnet; persists for 1 minute. This mode makes the detector almost instantaneously alarm agent reactive.

Type 2 Test Mode - remotely triggered by the Wirelex program; persist for 30 minutes. This mode makes the detector as reactive to smoke as an optical smoke detector, simulating it.

### **TEST 1 - MAGNET TEST**

- 1) Hold a suitable magnet in correspondence of the indicated area (picture 7)
- 2) LED indicator will signal "Type 1 Test Mode"
- 3) Apply again the magnet in correspondence of the indicated area (picture 7)
- 4) LED indicator will signal "Alarm"

### **TEST 2 - AEROSOL TEST**

**Use only suitable aerosol testers supplied by approved manufacturers.**

- 1) Hold a suitable magnet in correspondence of the indicated area (picture 7)
- 2) LED indicator will signal "Type 1 Test Mode"
- 3) By following its specific instructions, apply the aerosol test device to the detector
- 4) Wait a few seconds
- 5) LED indicator will signal "Alarm"

### **TEST 3 - AEROSOL TEST**

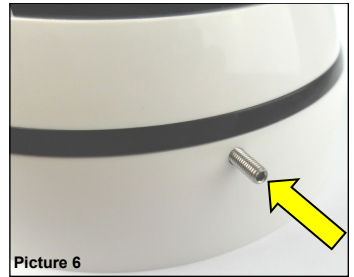
**Use only suitable aerosol testers supplied by approved manufacturers.**

- 1) Remotely activate the detector's green LED from the Wirelex program
- 2) LED indicator will signal "Type 2 Test Mode"
- 3) By following its specific instructions, apply the aerosol test device to the detector
- 4) Wait a few seconds
- 5) LED indicator will signal "Alarm"

### **TEST 4 - HEAT TEST**

**Use only suitable heat test devices from approved manufacturers.**

- 1) By following its specific instructions, apply the heat test device to the detector.
- 2) Wait a few seconds.
- 3) LED indicator will signal "Alarm".



## MAINTENANCE - CLEANING

- 1) Remove the detector from its base.
- 2) Smoke entry areas and thermistor area: use a small, soft bristle brush to dislodge any obvious contaminants such as insects, spider webs, hairs, etc.
- 3) Smoke entry areas and thermistor area: use a small vacuum tube or dry, clean, compressed air to suck up or blow any remaining small particles away.
- 4) Wipe the exterior housing of the detector with a clean, damp, lint-free cloth to remove any surface film that can later attract airborne contaminants.
- 5) Install the detector onto its base again.
- 6) Test the detector.



## MAINTENANCE - BATTERY REPLACEMENT

**When a low battery condition is indicated, both batteries must be changed altogether.**

**During this procedure the linking switch must NOT be touched at all !**

- 1) Detach the detector from its base.
- 2) Extract the batteries cover.
- 3) Extract the batteries.
- 4) Insert the new batteries into their holders, oriented as per polarity marks.
- 5) Reinstall the batteries cover.
- 6) Reinstall the detector onto its base.
- 7) Test the detector.

## NOTE OF THE DOCUMENT:

Argus Security Srl hereby declares that this detector is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the original Declaration of Conformity (Document: DoC LI01) is made available to the user on website: [www.argussecurity.it](http://www.argussecurity.it)

## WARNINGS AND LIMITATIONS

Our devices use high quality electronic components and plastic materials that are highly resistant to environmental deterioration. However, after 10 years of continuous operation, it is advisable to replace the devices in order to minimize the risk of reduced performance caused by external factors. Ensure that this device is only used with compatible control panels. Detection systems must be checked, serviced and maintained on a regular basis to confirm correct operation. Smoke detectors may respond differently to various kinds of smoke particles, thus application advice should be sought for special risks. Detectors cannot respond correctly if barriers exist between them and the fire location and may be affected by special environmental conditions. Refer to and follow national codes of practice and other internationally recognized fire engineering standards. Appropriate risk assessment should be carried out initially to determine correct design criteria and updated periodically.

## WARRANTY

All devices are supplied with the benefit of a limited 5 years warranty relating to faulty materials or manufacturing defects, effective from the production date indicated on each product. This warranty is invalidated by mechanical or electrical damage caused in the field by incorrect handling or usage. Product must be returned via your authorized supplier for repair or replacement together with full information on any problem identified. Full details on our warranty and product's returns policy can be obtained upon request.


## TECHNICAL SPECIFICATIONS \*\*

Communication range with the translator or expander	200 m	Open space
Operating frequency	868 MHz	
Operating frequency channels	7	
Radiated power	≤ 14 dBm (25 mW)	
Batteries type*	Type CR123A (3 Vdc)	
Primary battery lifespan		7.2 years life
Secondary battery lifespan		43 days life (after primary battery low fault)
Approved battery voltage range	2.85 - 3.2V	
Parent expander's check-up period	60 seconds (default setting)	
Alarm threshold temperature. Category A1R ROR	58 °C	
Alarm threshold temperature. Category B - high temperature	78 °C	
Dimensions	110 mm x 65 mm	
Weight	200 g	Base and batteries included
IP rating	40	
Max tolerated humidity (no condensing)	95% RH	
Operating temperature range	From -10 °C to +55 °C	

Table 4

\* When a low battery condition is indicated, both batteries must be changed for new cells. Lifespan of batteries indicated is subject to standard environmental conditions default monitor settings and excellent link quality.

\*\* Check latest version of document TDS-LDMCO for further data, obtainable from your supplier.

	
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HF-20-043CPR	HF-20-043UK
Hyfire Wireless Fire Solutions Limited - Unit B12a, Holly Farm Business Park, Honiley, Warwickshire, CV8 1NP - United Kingdom	
EN 54-25:2008 EN 54-5:2017+A1:2018 Category A1R & BS	
EN 54-7:2018 EN 54-31:2014+A1:2016 Programmable MT/NT category	
HFW-TRI-05	
For use in compatible fire detection and alarm system	