SYG-MA

Sygno-fi Wireless Multi-Sensor Detector c/w batteries

GENERAL DESCRIPTION

The **SYG-MA** Sygno-fi series detector samples the air and the environmental temperature in the protected area; when the environmental smoke quantity, the temperature level or the thermal variation rate exceeds a certain degree, a fire alarm message is sent to the control panel. **SYG-MA** is battery powered and doesn't need any system cabling installation.

1) LED indicators
2) Battery A
3) Battery B
4) Link program switch
5) Tamper spring (internal)
6) Tamper switch (external)
7) Battery cover
8) Battery cover latch
9) Insulating tab
10) Wall fixing openings
11) Identification tag
12) Identification tag lodgement
13) Magnet test area
14) Base / detector reference marks
15) Safety screw

Picture 1

DEPLOYMENT PROCEDURE

1) Select a location for the detector. See **LOCATION SELECTION**.
2) Unbox the detector from its packaging.
3) Detach the detector from its base. See **INSTALLING / REMOVING THE DETECTOR**.
4) Detach the battery cover from the detector. See **BATTERY COVER**.

5.1) a) Link the detector to the system (insulating tab extraction).
See **LINKING - WAKE-UP - WITH INSULATING TAB**.
See **LINKING - ONE-BY-ONE - WITH INSULATING TAB**.

-- or --

5.2) a) Power up the detector.
See **POWERING UP - FIRST TIME USE - WITHOUT INSULATING TAB**.
See **POWERING UP - RECOVERY**.
b) Link the detector to the system (moving the link program switch).
See **LINKING - WAKE-UP - WITHOUT INSULATING TAB**.
See **LINKING - ONE-BY-ONE - WITHOUT INSULATING TAB**.

6) Reinstall the battery cover on the detector. See **BATTERY COVER**.
7) Detach the identification tag from the base adapter. See **IDENTIFYING THE DETECTOR**.
8) Install the base adapter. See **FIXING THE ADAPTOR BASE**.
9) Install the detector on the base adapter. See **INSTALLING / REMOVING THE DETECTOR**.
10) Install the identification tag to the base adapter, with all relevant information written / labelled on it. See **IDENTIFYING THE DETECTOR**.
11) Secure the detector to its base with its safety anti-tamper screw. See **INSTALLING THE SAFETY SCREW**.
12) Test the detector. See **TESTING**.

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.

LOCATION SELECTION

Select a location for the detector that conforms to your local applicable safety standards and that is in a good position for sending / receiving wireless signals to / from the father **SYG-W2W**, **SYG-CEM** or **SYG-EM** network device.

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 **SYG-MA** must NOT be installed near electronic devices and computer equipment that can interfere with its wireless communication quality.

It is advisable to use the SYG-STK survey kit to locate a good wireless installation location.

BATTERY COVER

Detach the battery cover by pulling and lifting the closing latch.
To reinstall the battery cover, insert its two hooks into their corresponding detector's recesses; then block it by pressing down the opposite side, until you hear the click of the closing latch.

Always install the battery cover, since it is a vital part of the tamper detection feature. Make sure the battery cover is safely fixed, blocked and closed. Make sure that the internal tamper spring fits completely into its battery cover's lodgement. Check, more than once, that the cover's external tamper switch clicks when pressed.

INSTALLING / REMOVING THE DETECTOR

Rotate the detector clockwise on its adaptor base to install it.
Rotate the detector anti-clockwise from its adaptor base to remove it.

Check the alignment of the raised reference marks on the detector and on the base.

IDENTIFYING THE DETECTOR

The detector can be visually identified by the detachable tag imprinted with the adaptor base.
1) Detach the tag from the base.
2) Write / label the relevant identification information on the tag.
3) Insert the tag into its lodgement on the side of the adaptor base.

FIXING THE ADAPTOR BASE

Fix the base to the wall with suitable screws.

Always install the safety blocking screw.

INSTALLING THE SAFETY SCREW

Always install the safety blocking screw.

Please mind that LED signalling burns out battery power, therefore reducing batteries lifespan.

LED INDICATORS STATUS MESSAGES

The two LED indicators communicate to the final user the status of the **SYG-MA**.

Device status	LEDs indication
Power up (DIP on "ON")	Blinks red 4 times
Power up (DIP opposite "ON")	Blinks green 4 times
Entering wake-up mode	Blinks alternatively green / red 4 times
Link success (one-by-one)	Blinks green 4 times, then the same pattern again
Link failure (one-by-one)	Enters wake-up mode and signals "Entering wake-up mode" following this failure
Link success (wake-up)	Blinks green 4 times, then same pattern again
Link failure (wake-up)	Blinks green 4 times, then blinks red on once, then blinks alternatively green / red 4 times
Normal condition	LED off (can be programmed so as to blink green every wireless communication)
Alarm activation	Blinks red every 2 seconds
Battery fault	LED off (can be programmed so as to blink amber every 5 seconds)
Tamper fault	LED off
Replaced	Blinks amber 2 times
Test mode active	Blinks green

Table 1

POWERING UP AND LINKING - PRELIMINARY NOTES

SYG-MA needs to be powered up with the supplied batteries.
Linking is the operation through which **SYG-MA** is "wirelessly connected" to a **SYG-W2W**, **SYG-CEM** or **SYG-EM** Sygno-fi network device.

LINKING - WAKE-UP - WITH INSULATING TAB

"Wake-up" linking consists in associating one or more child devices to the Sygno-fi system altogether in a single operation.
Wake-up is performed either through the **SygNEX** software or the **SYG-W2W** / **SYG-CEM** keyboard-screen interface; it CANNOT be done through **SYG-EM** devices.
1) Create the "virtual model" of the **SYG-MA** either on **SygNEX** or on the **SYG-W2W** / **SYG-CEM**.
2) Pull out the insulating tab.
3) Trigger the wake-up procedure either from **SygNEX** or from the **SYG-W2W** / **SYG-CEM**.
4) Wait the end of the "wake-up" linking procedure.
5) Check on **SygNEX** or from **SYG-W2W** / **SYG-CEM** for linking success. Consult their user manual.

LINKING - ONE-BY-ONE - WITH INSULATING TAB

"One-by-one" linking consists in associating one child device at a time to the Sygno-fi system.
This operation is performed either through the **SygNEX** software or the **SYG-W2W** / **SYG-CEM** keyboard-screen interface; it CANNOT be done through **SYG-EM** devices.
1) Create the "virtual model" of the **SYG-MA** either on **SygNEX** or on the **SYG-W2W** / **SYG-CEM**.
2) Trigger the linking procedure either from **SygNEX** or from the **SYG-W2W** / **SYG-CEM**.
3) Pull out the insulating tab.
4) Wait the end of the "one-by-one" linking procedure.
5) Check on **SygNEX** or from **SYG-W2W** / **SYG-CEM** for linking success. Consult their user manual.

When extracting the insulating tab, keep both batteries into their lodgements with your thumb, since they can be accidentally pulled out too.

POWERING UP - FIRST TIME USE - WITHOUT INSULATING TAB

Use this procedure the first time you power up a **SYG-MA**; the detector has not been supplied with the insulating tab.
1) Make sure the Link / program switch is set on "ON".
2) Insert the two supplied batteries into their device's lodgments.

POWERING UP - DEVICE LINKED TO THE SYSTEM

Use this procedure when a **SYG-MA** is successfully linked to its Sygno-fi system and you have to extract one or both batteries (e.g. batteries substitution).
1) Reinsert the battery or both batteries into their lodgments.

If performing a batteries substitution, use two brand new batteries and substitute both of them.
Do not touch the Link / program switch.

POWERING UP - RECOVERY

Use this procedure when you fail to link successfully a **SYG-MA** or you want to link it again.
1) Move alternatively the Link / program switch 5 times.
2) Set the Link / program switch on "ON".
3) Insert the two supplied batteries into their device's lodgments.

Always ensure that the batteries are installed properly, with their polarities matching the indications on the device.

LINKING - WAKE-UP - WITHOUT INSULATING TAB

"Wake-up" linking consists in associating one or more child devices to the Sygno-fi system altogether in a single operation.
Wake-up is performed either through the **SygNEX** software or the **SYG-W2W** / **SYG-CEM** keyboard-screen interface; it CANNOT be done through **SYG-EM** devices.
1) Create the "virtual model" of the **SYG-MA** either on **SygNEX** or on the **SYG-W2W** / **SYG-CEM**.
2) Power-up the detector (either "first time use" or "recovery").
3) Set the Link / program switch OPPOSITE to "ON".
4) Trigger the wake-up procedure either from **SygNEX** or from the **SYG-W2W** / **SYG-CEM**.
5) Wait the end of the "wake-up" linking procedure.
6) Check on **SygNEX** or from **SYG-W2W** / **SYG-CEM** for linking success. Consult their user manual.

LINKING - ONE-BY-ONE - WITHOUT INSULATING TAB

"One-by-one" linking consists in associating one child device at a time to the Sygno-fi system.
This operation is performed either through the **SygNEX** software or the **SYG-W2W** / **SYG-CEM** keyboard-screen interface; it CANNOT be done through **SYG-EM** devices.
1) Create the "virtual model" of the child device either on **SygNEX** or on the **SYG-W2W** / **SYG-CEM**.
2) Trigger the linking procedure either from **SygNEX** or from the **SYG-W2W** / **SYG-CEM**.
3) Power-up the child device (either "first time use" or "recovery").
4) Set the child device's Link / program switch OPPOSITE to "ON".
5) Wait the end of the "one-by-one" linking procedure.
6) Check on **SygNEX** or from **SYG-W2W** / **SYG-CEM** for linking success. Consult their user manual.

TESTING

Magnet test
1) Activate test mode.
2) Apply again the magnet in correspondence of the "magnet test activation area".
3) LED indicators signal "Alarm activation".

Aerosol test
1) Activate test mode.
2) Apply the aerosol test device to the detector.
3) Wait a few seconds.
4) LED indicators signal "Alarm activation".

Heat test
1) Activate test mode.
2) Apply the heat test device to the detector.
3) Wait a few seconds.
4) LED indicators signal "Alarm activation".

Local safety standards may require you to test these devices on a regular basis.

Use only suitable aerosol testers / heat test devices supplied by approved manufacturers. Follow their specific use instructions.

Before testing every SYG-MA, always activate test mode. This is done by holding a suitable magnet in the "magnet test activation area". When activated, LED indicators signal "Test mode active".

BATTERY FAULTS AND BATTERY SUBSTITUTION PROCEDURE

When one or both batteries are low in charge, a specific fault message is routed to the control panel. If such event occurs:
1) Remove the safety screw.
2) Remove the detector from its base.
3) Remove the batteries cover.
4) Extract both batteries.
5) Insert both new batteries into their holders, oriented as per polarity marks.
   See **POWERING UP - DEVICE LINKED TO THE SYSTEM**.
6) Reinstall the batteries cover.
7) Reinstall the detector.
8) Reinstall the safety screw.

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

Batteries must be brand new.

Do not touch the Link / program switch.

Ensure that the batteries are installed properly, with their polarities matching the indications on the device.

MAINTENANCE - CLEANING

1) Remove the safety screw.
2) Remove the detector from its base.
3) Smoke entry areas and thermistor area: use a small, soft bristle brush to dislodge any obvious contaminants such as insects, spider webs, hairs, etc.
4) 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.
5) 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.
6) Install the detector onto its base again.
7) Test the detector.
8) Reinstall the safety screw.

TECHNICAL SPECIFICATIONS *

Specification	Value
Communication range with **SYG-W2W**, **SYG-CEM** or **SYG-EM** network devices	200 m (in open space)
Wireless frequency band	868 MHz
Number of wireless channels	66
Radiated power	14 dBm (25 mW)
Temperature alarm threshold (static)	58 °C
Operating temperature range	-10 °C to 55 °C
Maximum humidity (non condensing)	95% RH
IP rating	40

* See TDS-TWDMX technical specification document for further technical data.

Table 2

BATTERIES SPECIFICATIONS

Specification	Value
Batteries type	CR123A (3 V, 1.25 Ah)
Batteries lifespan *	10 years
Low battery threshold value (nominal)	2.850 V

Table 3

* Batteries lifespan depends by environmental conditions, default monitor settings and link quality.

SMOKE SENSITIVITY SPECIFICATIONS

Detector's sensitivity setting *	Obscuration threshold value for alarm activation
High sensitivity	0.12 dB/m
Medium sensitivity (default setting)	0.15 dB/m
Low sensitivity	0.18 dB/m

Table 4

* Detector's smoke sensitivity can be set through **SygNEX**.

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.

Use only in Sygno-fi fire detection and alarm systems.

WARRANTY

All devices are supplied with the benefit of a limited 3 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.

CE 0051 22 DoP-SYG-MA

UKCA 8504 22 DoPUK-SYG-MA

Eurotech Fire Systems Ltd
19/20 Stratfield Park
Elettra Avenue
Waterlooville
Hampshire
PO7 7XN
United Kingdom

SYG-MA

EN 54-25:2008

EN 54-7:2018

EN 54-5:2017 + A1:2018
Category A1R