TAURUS
By ARGUS SECURITY

TW-BS-01/916

Wireless (916) Base Sounder

TW-BSB-23R-01/916

Wireless (916) Base Sounder VAD Red LED

TW-BSB-23W-01/916

Wireless (916) Base Sounder VAD White LED

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 sensors may respond differently to various kinds of smoke particles, thus application advice should be sought for special risks. Sensors 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 Taurus fire detection and alarm systems.

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.

The warranty does not cover the provided batteries.

TW-BS-01/916

Certified Product ™
SAI Global
Lic SMK41004
AS ISO 7240.25
Australian Standard

TW-BSB-23R-01/916

Certified Product ™
SAI Global
Lic SMK41004
AS ISO 7240.23
AS ISO 7240.25
Australian Standard

TW-BSB-23W-01/916

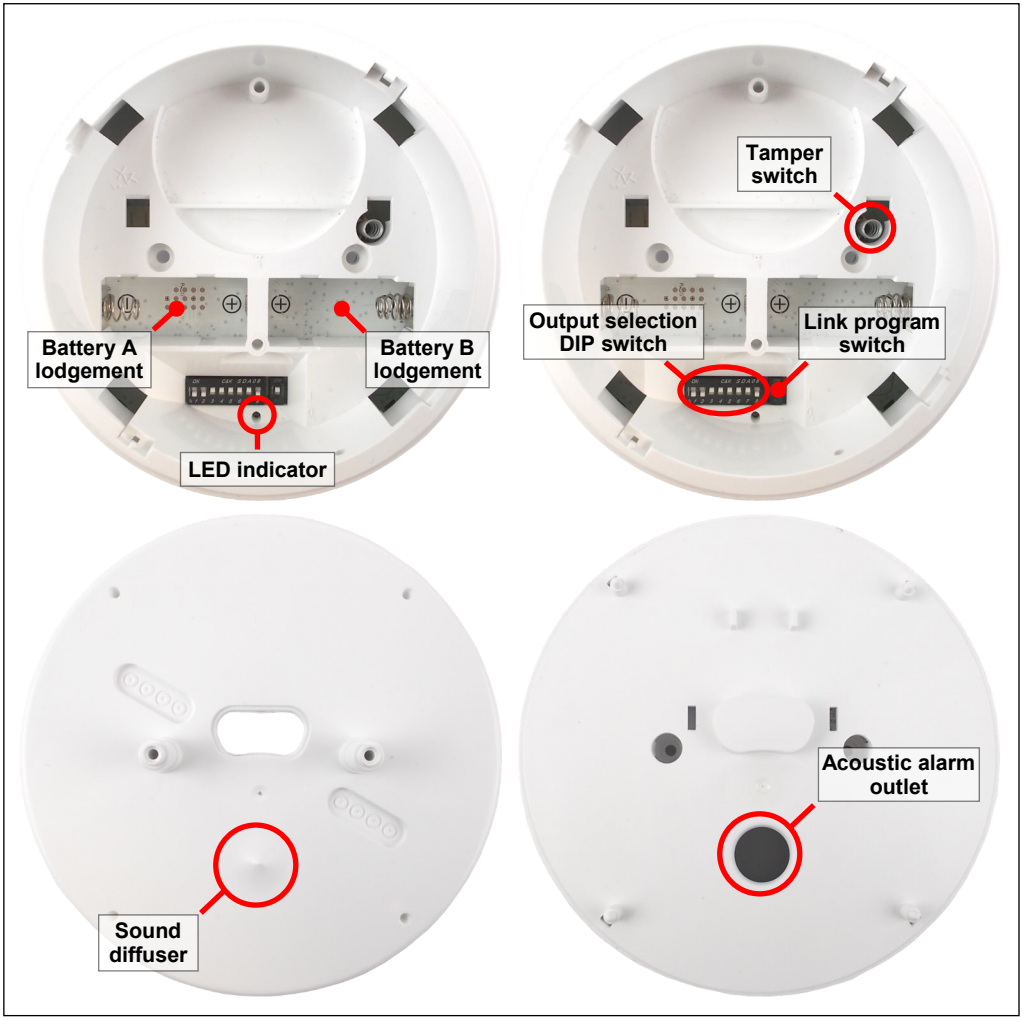
Certified Product ™
SAI Global
Lic SMK41004
AS ISO 7240.23
AS ISO 7240.25
Australian Standard

GENERAL DESCRIPTION

TW-BS-01/916, **TW-BSB-23R-01/916** and **TW-BSB-23W-01/916** base sounders are audio and audio-visual signalling devices used to alert people in the event of a fire.

These base sounders are designed to host Taurus series detectors, but they can operate autonomously if associated with a suitable cover plate.

TW-BS-01/916, **TW-BSB-23R-01/916** and **TW-BSB-23W-01/916** are battery powered and they don't need any system cabling installation.



Picture 1

DEPLOYMENT PROCEDURE

The general applicable procedure for the deployment of these products is the following:

1) Select a location for the base sounder. See **LOCATION SELECTION**.
2) Unbox the base sounder product from its packaging.
3) Detach the battery cover from the base sounder. See **BATTERY COVER**.
4) Detach the wall installation plate from the device. See **WALL INSTALLATION PLATE**.
5) Power up the base sounder. See **POWERING UP - FIRST TIME USE** / **POWERING UP - RECOVERY**.
6) Link the base sounder to the system. See **LINKING - WAKE-UP** / **LINKING - ONE-BY-ONE**.
7) Set the output acoustic's tone. See **SOUNDER OUTPUT'S CONFIGURATION**.
8) Set the output acoustic's volume. See **SOUNDER OUTPUT'S CONFIGURATION**.
9) Set the output visual signal's power (applicable only to **TW-BSB-23R-01/916** and **TW-BSB-23W-01/916**). See **SOUNDER OUTPUT'S CONFIGURATION**.
10) Drill out the required fixing holes on the wall installation plate. See **WALL INSTALLATION PLATE**.
11) Fix the wall plate. See **WALL INSTALLATION PLATE**.
12) Install the base sounder to the wall plate. See **WALL INSTALLATION PLATE**.
13) Fix the base sounder to the wall plate. See **FIXING THE BASE SOUNDER**.
14) Reinstall the battery cover. See **BATTERY COVER**.
15) Install the host detector. See **HOST DETECTOR / PLASTIC COVER INSTALLATION**.
16) Install the cover plate if the base sounder operates as standalone. See **HOST DETECTOR / PLASTIC COVER INSTALLATION**.
17) Secure the detector / cover plate with the safety anti-tamper screw. See **HOST DETECTOR / PLASTIC COVER INSTALLATION**.
18) Test the base sounder. See **TESTING**.

LOCATION SELECTION

Select a location for the base sounder that conforms to your local applicable safety standards and that is in a good position for sending / receiving wireless signals to / from the father **TW-MTI-01/916**, **TW-MEC-01/916** or **TW-ME-01/916** network device.

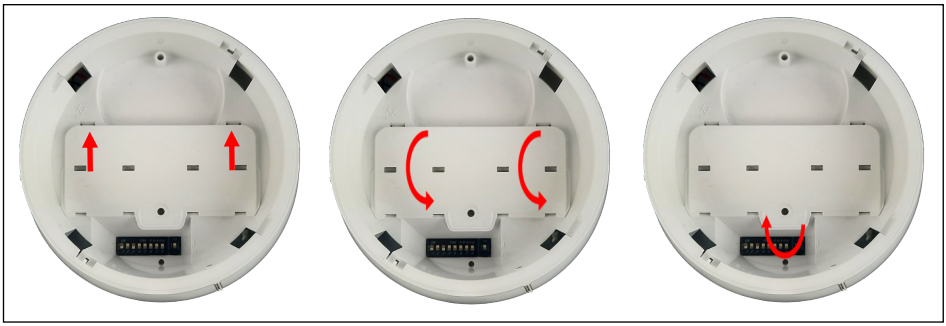
It is advisable to use the TW-SKT-01/916 survey kit to locate a good wireless installation location.

Mount the base sounder 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.

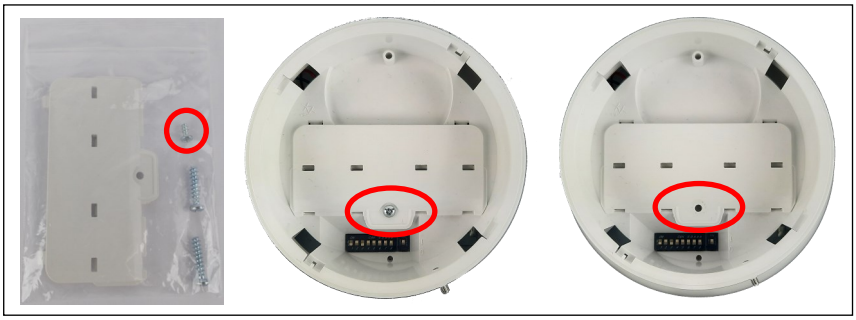
The base sounder must NOT be installed near electronic devices and computer equipment that can interfere with its wireless communication quality.

BATTERY COVER

To install the battery cover, insert its two hooks into the device's recesses as indicated in the picture below; then block it by pressing down the opposite side. To detach the battery cover, pull the tab highlighted in the following picture.



Picture 2



Picture 3

Use the little screw to fix the battery cover

Optional battery cover screw: to be used with base sounder lid cover only (not required with detector fitted)

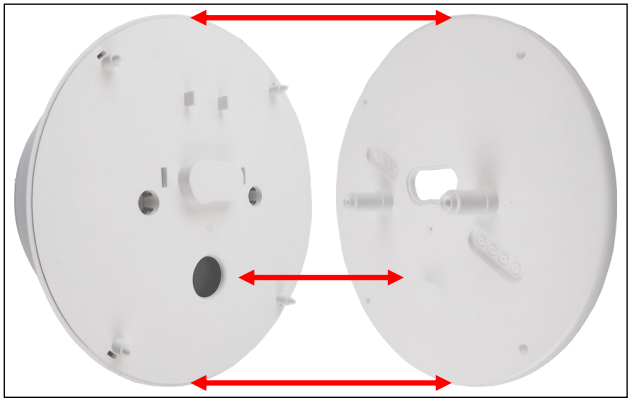
Every time the cover is removed, the tamper switch is released, causing a temper attempt message to be sent to the control panel.

Always install the battery cover, since it is a vital part of the anti-tampering feature.

Make sure the battery cover is safely fixed, blocked and closed.

WALL INSTALLATION PLATE

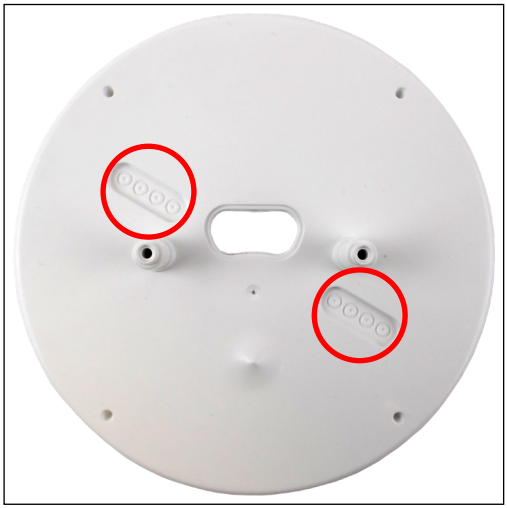
To detach / reinstall the wall plate to the base sounder refer to the following picture:



Picture 4

Make sure that the sound diffuser cone printed on the wall plate corresponds to the acoustic alarm signal outlet of the base sounder.

Drill templates on the wall plate are highlighted in the following picture:



Picture 5

LED INDICATOR STATUS MESSAGES

The LED indicator's messages are used only during installation and servicing.
LED indicator is inactive when the battery cover is in place for saving up battery charge (and due to the fact that normally the LED is hidden by the detector or the cover plate).

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

Table 1

With the battery cover installed, the LED indicator remains inactive.

POWERING UP AND LINKING - PRELIMINARY NOTES

TW-BS-01/916, **TW-BSB-23W-01/916** and **TW-BSB-23R-01/916** need to be powered up with the supplied batteries.

Linking is the operation through which these devices are "wirelessly connected" to a **TW-MTI-01/916**, **TW-MEC-01/916** or **TW-ME-01/916** Taurus network device.

POWERING UP - FIRST TIME USE

Use this procedure the first time you power up a **TW-BS-01/916**, **TW-BSB-23W-01/916** or **TW-BSB-23R-01/916**.

1) Make sure the Link / program switch is set on "ON".

2) Insert the two supplied batteries into their device's lodgments.

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

POWERING UP - DEVICE LINKED TO THE SYSTEM

Use this procedure when a **TW-BS-01/916**, **TW-BSB-23W-01/916** or **TW-BSB-23R-01/916** is successfully linked to its Taurus system and you have to extract one or both batteries (e.g. batteries substitution).

1) Reinsert the battery or both batteries into their lodgments.

Do not touch the Link / program switch.

If performing a batteries substitution, use two brand new batteries and substitute both of them.

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

POWERING UP - RECOVERY

Use this procedure when you fail to link successfully a **TW-BS-01/916**, **TW-BSB-23W-01/916** or **TW-BSB-23R-01/916** 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.

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

LINKING - WAKE-UP

"Wake-up" linking consists in associating one or more child devices to the Taurus system altogether in a single operation.

Wake-up is performed either through the **TauREX** software or the **TW-MTI-01/916** / **TW-MEC-01/916** keyboard-screen interface; it CANNOT be done through **TW-ME-01/916** devices.

1) Create the "virtual model" of the base sounder device either on **TauREX** or on the **TW-MTI-01/916** / **TW-MEC-01/916**.

2) Power-up the base sounder (either "first time use" or "recovery").

3) Set the Link / program switch OPPOSITE to "ON".

4) Trigger the wake-up procedure either from **TauREX** or from the **TW-MTI-01/916** / **TW-MEC-01/916**.

5) Wait the end of the "wake-up" linking procedure.

6) Check on **TauREX** or from **TW-MTI-01/916** / **TW-MEC-01/916** for linking success.
Consult their user manual.

LINKING - ONE-BY-ONE

"One-by-one" linking consists in associating one child device at a time to the Taurus system.

This operation is performed either through the **TauREX** software or the **TW-MTI-01/916** / **TW-MEC-01/916** keyboard-screen interface; it CANNOT be done through **TW-ME-01/916** devices.

1) Create the "virtual model" of the child device either on **TauREX** or on the **TW-MTI-01/916** / **TW-MEC-01/916**.

2) Trigger the linking procedure either from **TauREX** or from the **TW-MTI-01/916** / **TW-MEC-01/916**.

3) Power-up the child device (either "first time use" or "recovery").

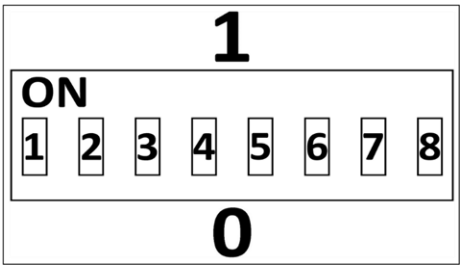
4) Set the child device's Link / program switch OPPOSITE to "ON".

5) Wait the end of the "one-by-one" linking procedure.

6) Check on **TauREX** or from **TW-MTI-01/916** / **TW-MEC-01/916** for linking success.
Consult their user manual.

SOUNDER OUTPUT'S CONFIGURATION

To configure the acoustic and visual output you must set the DIP switch component placed inside the sounder's base. Switches' layout and function is illustrated below:



Picture 6

Switch number	Function
1	Acoustic output tone setting
2	
3	
4	
5	
6	Acoustic output volume setting
7	
8	Visual output power setting

Table 2

1) Orientate the DIP component in front of you so as to see it straight; "below" corresponds to "0", "up" corresponds to "1".

To change the switches use the tip of a little screwdriver.

2) Select the required output tone; switches combinations and the corresponding tones are found on table 5 for the main tone set and on table 6 for the alternative tone set.

3) Select the required output volume; switches combinations and the corresponding volume levels are found on table 3.

4) Select the visual emission's power; switch settings and the corresponding power levels are found on table 4 (applies only to **TW-BSB-23R-01/916** and **TW-BSB-23W-01/916**).

Acoustic volume level	Switches configuration
High	11
Medium-High	01
Medium-Low	10
Low	00

Table 3

Visual emission power level	Switch configuration
High	1
Low	0

Table 4

Tone number	Main tone designation	Main tone pattern description	DIP switches
0	Silent	No sound	11111
1	Warble Tone	800Hz for 500ms, then 1000Hz for 500ms	11101
2	Continuous tone	970Hz continuous tone	01011
3	Slow Whoop (Dutch)	500-1200Hz for 3500ms, then off for 500ms	10101
4	German DIN tone	1200-500Hz swept every 1000ms (1Hz)	00111
5	Alternate HF slow sweep	2350-2900Hz swept every 333ms (3Hz)	10010
6	Alternative warble	800Hz for 250ms, then 960Hz for 250ms	11110
7	Alternative warble	500Hz for 250ms, then 600Hz for 250ms	11100
8	Analogue sweep tone	500-600Hz swept every 500ms (2Hz)	10100
9	Australian Alert (intermittent tone)	970Hz for 625ms, then OFF for 625ms	10001
10	Australian Evac (slow whoop)	500-1200Hz sweep for 3750ms, then OFF for 250ms	10110
11	FP1063.1-Telecom	800Hz for 250ms, then 970Hz for 250ms	00001
12	French tone AFNOR	554Hz for 100ms, then 440Hz for 400ms	00101
13	HF Back up interrupted tone	2800Hz for 1s, then OFF for 1s	11011
14	HF Back up interrupted tone - fast	2800Hz for 150ms, then OFF for 150ms	11001
15	HF Continuous	2800Hz continuous	01001
16	Interrupted tone	800Hz for 500ms,then OFF for 500ms	01111
17	Interrupted tone medium	1000Hz for 250ms, then OFF for 250ms	01101
18	ISO 8201 LF BS5839 Pt 1 1988	970Hz for 500ms, then OFF for 500ms	01110
19	ISO 8201 HF	2850Hz for 500ms, then OFF for 500ms	01100
20	LF Back up Alarm	800Hz for 150ms, then OFF for 150ms	11010
21	LF Buzz	800-950Hz swept every 9ms	01010
22	LF Continuous tone BS5839	800Hz continuous	11000
23	Siren 2 way ramp (long)	500-1200Hz rising for 3000ms, then falling for 3000ms	00000
24	Siren 2 way ramp (short)	500-1200Hz rising for 250ms, then falling for 250ms	00010
25	Swedish all clear signal	660Hz continuous	00100
26	Swedish Fire signal	660Hz for 150ms, then OFF for 150ms	00110
27	Sweep tone (1 Hz)	800-900Hz swept every 1000ms	10111
28	Sweep tone (3 Hz)	800-970Hz swept every 333ms (3Hz)	10011
29	Sweep tone (9 Hz)	800-970Hz swept every 111ms (9Hz)	01000
30	US Temporal Pattern HF	(2900Hz for 500ms ON, 500ms OFF) x3, then 1500ms OFF	00011
31	LF Sweep (Cranford tone)	800-1000Hz swept every 500ms (2Hz)	10000

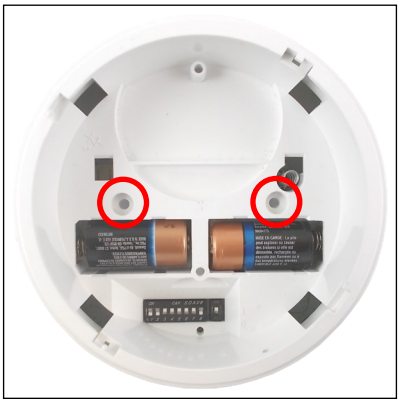
Table 5

Tone number	Alternative tone pattern description	DIP switches
0	970Hz continuous	11111
1	800Hz continuous	11101
2	1000Hz continuous tone	01011
3	500-1200Hz for 3500ms, then off for 500ms	10101
4	800Hz continuous	00111
5	2400Hz continuous	10010
6	800Hz continuous	11110
7	500Hz continuous	11100
8	500Hz continuous	10100
9	2400Hz continuous	10001
10	500-1200Hz sweep for 3750ms, then OFF for 250ms	10110
11	500-1200Hz rising for 250ms, then falling for 250ms	00001
12	800Hz continuous	00101
13	2800Hz continuous	11011
14	800Hz continuous	11001
15	2800Hz continuous	01001
16	800Hz continuous	01111
17	800Hz continuous	01101
18	970Hz for 500ms, then OFF for 500ms	01110
19	2850Hz for 500ms, then OFF for 500ms	01100
20	800Hz continuous	11010
21	800Hz continuous	01010
22	800Hz continuous	11000
23	800Hz continuous	00000
24	800Hz continuous	00010
25	660Hz continuous	00100
26	660Hz for 150ms, then OFF for 150ms	00110
27	800Hz continuous	10111
28	800Hz continuous	10011
29	800Hz continuous	01000
30	2900Hz continuous	00011
31	800Hz continuous	10000

Table 6

FIXING THE BASE SOUNDER

To fix the base sounder to the wall plate insert and fix the supplied screws in the holes highlighted in the following picture:



Picture 7

HOST DETECTOR / PLASTIC COVER INSTALLATION

If a detector is hosted, follow the setup instructions on its installation manual.

Make sure the detector's OWN battery cover is installed to avoid tamper detection events.

If a detector is not hosted, always use a Taurus cover plate to close and protect the inside of the base sounder.

The cover plate is not supplied together with the product.

For placing the detector / plastic cover refer to the following picture:

Picture 8

Always install the safety blocking screw.

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 / plastic cover 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) Check, through the indicator LED, that the device is in normal condition.
7) Reinstall the batteries cover.
8) Reinstall the detector / plastic cover.
9) 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.

TESTING

Test the base sounders as follows:

1) Trigger an alarm condition (call point activation, approved detector aerosol / heat testers).
2) Check the acoustic alarm output of the base sounder.
3) Check the visual alarm output of the base sounder (**TW-BSB-23R-01/916** / **TW-BSB-23W-01/916** only).
4) Remove the alarm condition.
5) Check that a normal condition persists (i.e. test smoke can stagnate in a detector's smoke chamber causing the alarm to be triggered again).

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

TECHNICAL SPECIFICATIONS *

Specification	Value
Communication range with **TW-MTI-01/916**, **TW-MEC-01/916** or **TW-ME-01/916** network devices	200 m (in open space)
Wireless frequency band	916 MHz
Number of wireless channels	66
Radiated power	14 dBm (25 mW)
Operating temperature range	-10 °C to 55 °C
Maximum humidity (non condensing)	95% RH
Certified IP rating (AS ISO 7240)	IP 21C
Environmental application	Indoor use only

Table 7

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

BATTERY SPECIFICATIONS

Specification	Value
Batteries type *	CR123A (3 V, 1.25 Ah)
TW-BS-01/916	5 + 1/2 years
TW-BSB-23W-01/916	4 + 1/2 years
TW-BSB-23R-01/916	4 + 1/2 years
Low battery threshold value (nominal)	2.850 V

Table 8

* When a low battery condition is indicated, both batteries must be changed altogether.
** Batteries lifespan depends by environmental conditions, default monitor settings and link quality.

ACOUSTIC SPECIFICATIONS

Specification	Value
Number of tones	32
Tone 1 (warble tone) typical sound output	88 dB(A)
Tone 2 (continuous tone) typical sound output	91 dB(A)
Tone 3 (Dutch slow whoop tone) typical sound output	91 dB(A)
Tone 4 (German DIN tone) typical sound output	89 dB(A)
Acoustic output frequency range	440 Hz to 2900 Hz

Table 9

ACOUSTIC PERFORMANCE

Horizontal plane L_{AFmax} @ 1m (dBA)							
Tone Number	Angle						Average
	15°	45°	75°	105°	135°	165°	
Tone 1	81.1	81.3	84.6	85.0	80.4	82.7	82.9
Tone 2	77.0	84.3	77.7	89.2	88.3	86.6	85.9
Tone 3	83.2	84.9	88.5	88.7	89.5	87.7	87.6
Tone 4	82.3	84.2	87.0	87.5	86.8	85.2	85.8

Table 10

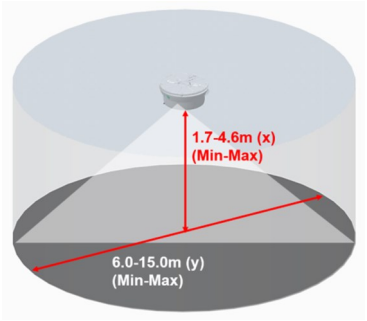
Vertical plane L_{AFmax} @ 1m (dBA)							
Tone Number	Angle						Average
	15°	45°	75°	105°	135°	165°	
Tone 1	84.0	89.0	84.4	91.6	87.2	88.0	88.2
Tone 2	87.2	86.8	76.7	96.9	90.0	89.1	91.1
Tone 3	86.7	88.1	85.4	95.1	90.4	90.5	90.6
Tone 4	85.4	87.0	84.9	92.9	89.0	88.9	88.9

Table 11

VAD SPECIFICATIONS

Specification	Value	Notes
Flash frequency	0.5 Hz	
WHITE flash / HIGH power coverage	Ceiling mounted, 3 m height, 15 m coverage diameter, 10.61 m x 10.61 m (112.5 m^2) square coverage. Ceiling mounted (AS ISO 7240.23 open "O" class), 4.6 m height, 15 m coverage diameter, 10.61 m x 10.61 m (112.5 m^2) square coverage	C3-15 (AS ISO 7240.23) O4.6-15 (AS ISO 7240.23)
RED flash / HIGH power coverage	Ceiling mounted, 3 m height, 10 m coverage diameter, 7.07 m x 7.07 m (50 m^2) square coverage	C3-10 (AS ISO 7240.23)
WHITE flash / LOW power coverage	Ceiling mounted, 3 m height, 10 m coverage diameter, 7.07 m x 7.07 m (50 m^2) square coverage	C3-10 (AS ISO 7240.23)
RED flash / LOW power coverage	Ceiling mounted (AS ISO 7240.23 open "O" class), 1.7 m height, 6 m coverage diameter, 4.24 m x 4.24 m (18 m^2) square coverage	O1.7-6 (AS ISO 7240.23)

Table 12



Ceiling Mounted Device Demonstration

Re. Item TW-BSB-23R-01/916 and TW-BSB-23W-01/916 only