TW-MWSO-01/916 + CWS100

Wireless (916) Wall Sounder Module

TW-MWSO-01/916 + CWS100-AV

Wireless (916) Wall Sounder Module (VAD W-2.5-7)

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 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.

TW-MWSO-01/916 + CWS100

SAI Global
Lic SMK41004
AS ISO 7240.25

Certified Product ™ Australian Standard

TW-MWSO-01/916 + CWS100-AV

SAI Global
Lic SMK41004
AS ISO 7240.23
AS ISO 7240.25

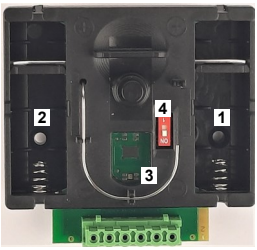
Certified Product ™ Australian Standard

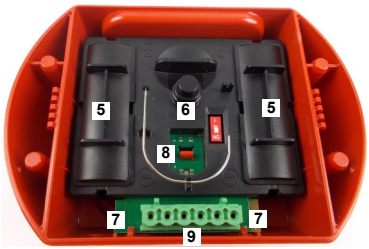
GENERAL DESCRIPTION

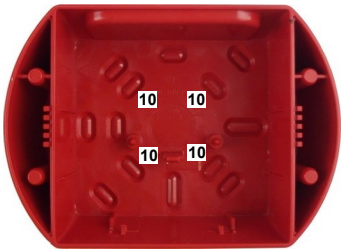
This device is an assembly of a **TW-MWSO-01/916** Taurus system interface module and a **CWS100** conventional sounder / **CWS100-AV** conventional sounder + Visual Alarm Device.

Sounder's output is activated following an alarm condition.

TW-MWSO-01/916 is battery powered and doesn't need any system cabling installation.







1) Battery B
2) Battery A
3) LED indicator
4) Link program switch
5) Battery cover
6) Front tamper switch
7) Module stop
8) Module locking catch
9) Module/sounder female connector
10) Preferred knockout wall fixing screw opening
11) Self-adhesive sealing pad
12) Safety screw

Picture 1

DEPLOYMENT PROCEDURE

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

1) Select a location for the sounder. See **LOCATION SELECTION**.
2) Unbox the sounder module and the sounder from their packaging.
3) Detach the battery covers from the sounder module.
4) Power up the sounder module. See **FIRST POWER UP** / **POWERING UP - RECOVERY**.
5) Link the sounder module to the Taurus system. See **LINKING - WAKE-UP - FIRST POWER UP** / **LINKING - WAKE UP - RECOVERY**
6) Set the output acoustic tone for the sounder. See **OUTPUT TONE SETTING**.
7) Set the output acoustic volume for the sounder. See **OUTPUT VOLUME SETTING**.
8) Install the sealing pad to the sounder base's back if the sounder is to be installed in a damp environment.
   See **OUTDOOR AND DAMP ENVIRONMENT INSTALLATION**.
9) Fix the sounder's base to the selected location. See **WALL INSTALLATION**.
10) Reinstall the battery covers.
11) Install the sounder module into the sounder's base. See **INSTALLING THE TW-MWSO-01/916**.
12) Close the sounder. See **CLOSING THE SOUNDER**.
13) Test the sounder. See **TESTING**.

Use the sealing pad if using outdoors and / or in a damp environment.

Environmental temperature must lay between -10 °C and +55 °C.

LOCATION SELECTION

Select a location for the 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 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 sounder must NOT be installed near electronic devices and computer equipment that can interfere with its wireless communication quality.

LED INDICATOR STATUS MESSAGES

The LED indicator's messages are used only during installation and servicing.
LED indicator is inactive when the **TW-MWSO-01/916** is installed and enclosed into the sounder; this is for saving up battery charge (and due to the fact that the LED is hidden inside the sounder).

Device status	LEDs indication
Power up (DIP on "ON")	Blinks red 4 times
First power up (DIP opposite "ON")	Blinks alternatively green / 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

POWERING UP AND LINKING - PRELIMINARY NOTES

TW-MWSO-01/916 needs to be powered up with the supplied batteries.
Linking is the operation through which this device is "wirelessly connected" to a **TW-MTI-01/916**, **TW-MEC-01/916** or **TW-ME-01/916** Taurus network device.

With the module enclosed into the sounder, the LED indicator remains inactive.

FIRST POWER UP

The device has features that facilitate the first installation. The first time you switch it on, without toggling the Link / program switch (set by default in the "opposite to on" position), the device enters wake-up mode.
Every power on that is done before completing a link will be considered as a "first power on" (device automatically in wake-up mode with in Link / program "opposite to on" position).

LINKING - WAKE-UP - FIRST POWER 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 / TW-MEC-01** keyboard-screen interface; it CANNOT be done through **TW-ME-01** devices.
1) Create the "virtual model" of the **TW-MWSO-01/916** either on **TauREX** or on the **TW-MTI-01 / TW-MEC-01.**
2) Insert the two supplied batteries into their device's lodgments (since it is a "first power up" do not toggle the Link / program switch)
3) Trigger the wake-up procedure either from **TauREX** or from the **TW-MTI-01 / TW-MEC-01.**
4) Wait the end of the "wake-up" linking procedure.
5) Check on **TauREX** or from **TW-MTI-01 / TW-MEC-01** for linking success. Consult their user manual.

POWERING UP - DEVICE LINKED TO THE SYSTEM

Use this procedure when a **TW-MWSO-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-MWSO-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 - RECOVERY

"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 **TW-MWSO-01/916** device either on **TauREX** or on the **TW-MTI-01/916** / **TW-MEC-01/916**.

2) Power-up the sounder module

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 - RECOVERY

"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**.

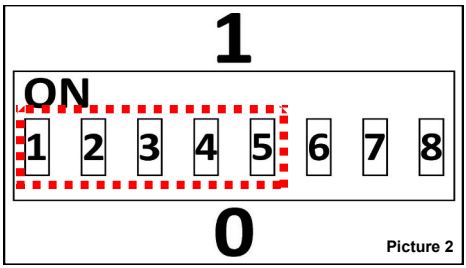
2) Trigger the linking procedure either from **TauREX** or from the **TW-MTI-01/916** / **TW-MEC-01/916**.

3) Power-up the child device

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.



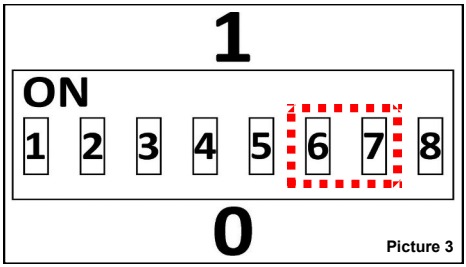
Picture 2

OUTPUT TONE SETTING

1) Select the tone you require to be activated during an alarm from the standard tone table (see STANDARD TONE TABLE). The alternative tone counterpart is found on the alternative tone table (see ALTERNATIVE TONE TABLE).

2) Refer to the "DIP switch configuration" column of the table: you will see a sequence of five "1" and "0" digits.

3) The five "DIP switch configuration" digits have to be set on the DIP switch on the back of the sounder device; use the first five switches; a switch positioned upwards acquires the value "1", while if positioned downwards acquires the value "0".



Picture 3

OUTPUT VOLUME SETTING

1) From table 1, select the volume level you require when the output tone is emitted during an alarm.

2) Refer to the "DIP switch configuration" column of the table: you will see a sequence of two "1" and "0" digits.

3) The two "DIP switch configuration" digits have to be set on the DIP switch on the back of the sounder device; use switches 6 and 7; a switch positioned upwards acquires the value "1", while if positioned downwards acquires the value "0".

Volume level	DIP switch configuration: 6 and 7	dB(A) evaluation	Notes
HIGH	11	100 dB(A) +/- 3	All tones
MEDIUM HIGH	01		
MEDIUM LOW	10		
LOW	00		

Table 1

Use the tip of a little screwdriver to move the switches.

STANDARD TONE TABLE

Tone number	Tone designation	Tone description	DIP switch configuration: 1,2,3,4 and 5
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	Alternative Warble	990Hz for 250ms, then 665Hz 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	Silent	No sound	11111
24	Siren 2 way ramp (long)	500-1200Hz rising for 3000ms, then falling for 3000ms	00000
25	Siren 2 way ramp (short)	500-1200Hz rising for 250ms, then falling for 250ms	00010
26	Swedish all clear signal	660Hz continuous	00100
27	Swedish Fire signal	660Hz for 150ms, then OFF for 150ms	00110
28	Sweep tone (1 Hz)	800-900Hz swept every 1000ms	10111
29	Sweep tone (3 Hz)	800-970Hz swept every 333ms (3Hz)	10011
30	Sweep tone (9 Hz)	800-970Hz swept every 111ms (9Hz)	01000
31	US Temporal Pattern HF	(2900Hz for 500ms ON, 500ms OFF) x3, then 1500ms OFF	00011
32	LF Sweep (Cranford tone)	800-1000Hz swept every 500ms (2Hz)	10000

Table 2

ALTERNATIVE TONE TABLE

Tone number	Tone description	DIP switch configuration: 1, 2, 3, 4 and 5
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	990Hz continuous	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	970Hz continuous	11111
24	800Hz continuous	00000
25	800Hz continuous	00010
26	660Hz continuous	00100
27	660Hz for 150ms, then OFF for 150ms	00110
28	800Hz continuous	10111
29	800Hz continuous	10011
30	800Hz continuous	01000
31	2900Hz continuous	00011
32	800Hz continuous	10000

Table 3

OPENING THE SOUNDER	**CLOSING THE SOUNDER**
1) Remove both safety screws. 2) With the supplied key, unlock the two side locking mechanisms by turning the key 90° counter-clockwise, **whilst applying a light pressure**. 3) Separate the sounder device from its base.	1) Assemble correctly the sounder body to the base using gentle pressure. 2) With the supplied key, lock the two side locking mechanisms by turning the key 90° clockwise, **whilst applying a light pressure**. 3) Install both safety screws.

When operating the supplied key, a gentle pressure towards the device is needed in order to unblock the locking mechanism.

When assembling or removing the front operating section of the sounder to/from the back box be careful to ensure the interconnection block is not twisted which may cause damage. Perform such operations without using excessive force.

EXTRACTING THE TW-MWSO-01/916	**INSTALLING THE TW-MWSO-01/916**
1) Gently release the locking catch (picture 1). 2) Remove the module.	1) Insert the module in the sounder's base as illustrated in picture 1; the module must be secured by the stops of the base. 2) Gently push down the module body so that the locking catch engages fully to hold the **TW-MWSO-01/916** in place. Check the module is stable and blocked.

OUTDOOR AND DAMP ENVIRONMENT INSTALLATION

When installing the sounder outdoors and / or in a damp environment, carefully apply the self-adhesive sealing pad to the back of the sounder base (picture 1).

WALL INSTALLATION

Fix the sounder base to the wall; knockout wall fixing screw openings are indicated in picture 1.

Use the sealing pad if using outdoors and / or in a damp environment.

Environmental temperature must lay between -10 °C and +55 °C.

TAMPER DETECTION

Tampering attempts are detected by two switches, one on the front and the other on the back of the **TW-MWSO-01/916**; once detected, a tampering event message is sent to the control panel.

TESTING

1) Activate the alarm condition.
2) Check the acoustic (and visual) output activation.
3) Reset the system from the control panel.

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

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) Open the sounder. See **OPENING THE SOUNDER**.
2) Extract the **TW-MWSO-01/916**. See **EXTRACTING THE TW-MWSO-01/916**.
3) Remove the battery covers.
4) Replace the two batteries with two new ones.
5) Reinstall the battery covers.
6) Reinstall the **TW-MWSO-01/916**. See **INSTALLING THE TW-MWSO-01/916**.
7) Close the sounder. See **CLOSING THE SOUNDER**.
8) Test the sounder. See **TESTING**.

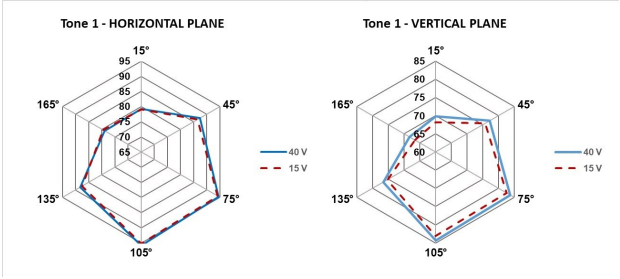
When a low battery condition is indicated, both batteries must be changed altogether.

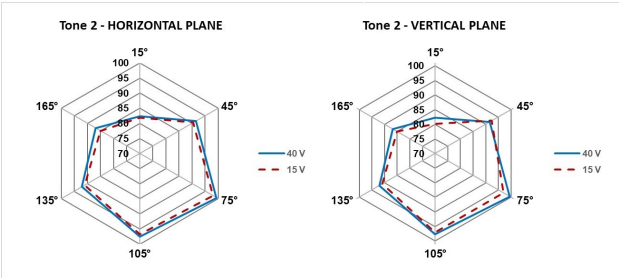
Batteries must be brand new.

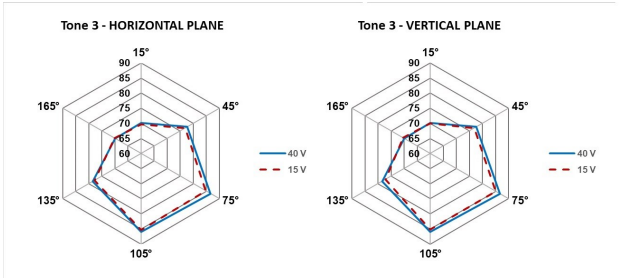
Do not touch the Link / program switch.

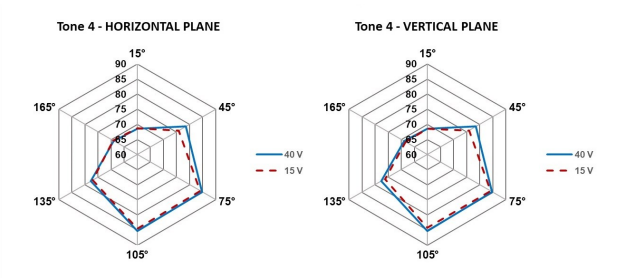
Ensure that the batteries are installed properly, with their polarities matching the indications on the device.

ACOUSTIC PERFORMANCES









TECHNICAL SPECIFICATIONS - TW-MWSO-01/916 + CWS100 / CWS100-AV *

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)
Acoustic emission frequency range. Valid for all tones	440 - 2900 Hz
Maximum acoustic intensity, volume set to HIGH. Valid for all tones	100 dB(A) ± 3
IP rating (certified)	33C
Operating temperature range	-10°C to +55°C
Maximum humidity (non condensing)	95% RH

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

Table 4

BATTERIES SPECIFICATIONS

Specification	Value
Batteries type	2x CR123A (3 V, 1.25 Ah)
Batteries lifespan (**TW-MWSO-01/916** + **CWS100**) *	> 5 years
Batteries lifespan (**TW-MWSO-01/916** + **CWS100-AV**) *	> 4 years & 1/2
Low battery threshold value (nominal)	2.850 V

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

Table 5

TECHNICAL SPECIFICATIONS - TW-MWSO-01/916 + CWS100

Specification	Value
Maximum current draw (at 3 V)	50 mA
Height	90 mm
Diameter	130 mm
Weight	350 g

Table 6

TECHNICAL SPECIFICATIONS - TW-MWSO-01/916 + CWS100-AV

Specification	Value	Notes
Maximum current draw (at 3 V)	260 mA	
Visual Alarm Device (VAD) colour	White	
Visual Alarm Device (VAD) frequency	0.5 Hz	
VAD flash coverage	Wall mounted, 2.5 m height, 7 m coverage width, 2.5 m x 7 m x 7 m (122.5 m^3) cubic coverage	W-2.5-7 (AS ISO 7240.23)
Height	92 mm	
Diameter	130 mm	
Weight	380 g	

Table 7

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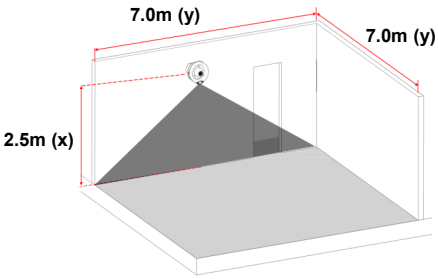

Wall mounted device demonstration