

TANNOY®

CMS

CEILING MONITOR SYSTEMS INSTALLATION MANUAL

CMS 501 BM	CMS 601 BM
CMS 501 DC BM	CMS 601 DC BM
CMS 501 PI	CMS 601 PI
CMS 501 DC PI	CMS 601 DC PI
CMS 501 PI back-can	CMS 601 PI back-can

REVISION DATE: 2ND NOVEMBER 2009

CMS

Tannoy United Kingdom	T: 00 44 (0) 1236 420199	E: enquiries@tannoy.com
Tannoy Deutschland	T: 00 49 (180) 1111 881	E: anfragen@tannoy.com
Tannoy France	T: 00 33 (0)1 7036 7473	E: ventes@tannoy.com
TC Group Americas	T: 00 1 (519) 745 1158	E: info@tcgroup-americas.com

Tannoy adopts a policy of continuous improvement and product specification is subject to change.

tannoy.com



6481 0480

CMS 501 models TEMPLATE HOLE CUTOUT SIZE: 190mm
CMS 601 models TEMPLATE HOLE CUTOUT SIZE: 253mm

CONTENTS

1	INTRODUCTION
2	UNPACKING
3	SAFETY NOTICES
4	PRODUCT FEATURE IDENTIFICATION
5	ACCESSORIES
6	INSTALLATION GUIDE
6.1	MECHANICAL INSTALLATION GUIDE FOR SUSPENDED CEILINGS
6.2	MECHANICAL INSTALLATION GUIDE FOR SHEET-ROCK CEILINGS
6.3	MECHANICAL INSTALLATION INSTRUCTIONS FOR OPTIONAL PLASTER RING
6.4	INSTRUCTIONS FOR OPTIONAL PRE-INSTALLATION BACK-CAN (PI MODELS ONLY)
7	WIRING AND SETTING UP
8	DIMENSIONS
8.1	CMS 501 DIMENSIONS
8.2	CMS 601 DIMENSIONS
9	TECHNICAL SPECIFICATIONS
10	PAINTING
11	WARRANTY
12	DECLARATION OF CONFORMITY

1. INTRODUCTION

Thank you for purchasing this Tannoy Ceiling Monitor System product. This product range is suited for high-level music and speech reinforcement applications requiring exceptional sonic quality with uncompromised reliability.

2. UNPACKING

Every Tannoy product and accessory is carefully inspected before packing. After unpacking, please inspect your product to make sure no damage has occurred in transit. In the unlikely event of any damage, would you please notify your dealer immediately and retain your shipping carton, as your dealer may ask you to return the faulty unit to him for inspection.

Each CMS loudspeaker is packed in pairs and provided with the following accessories as standard; C Ring, tile-bridge kit, grille, cut-out template, and paint mask. A plaster (mud) ring is also available as an optional extra.

3. SAFETY NOTICES

Some regional construction codes require the use of a secondary method of securing loudspeakers in ceiling to provide security of a back up support. A secondary support line should be attached from the safety loop on the rear of the product to a source point on the ceiling. For PI models, the secondary support line should be attached from the back of the driver chassis to a source point on the ceiling. Please consult the relevant construction codes in your region.

When using a power driver to install the product it is essential to use the correct torque level settings to avoid over tightening and damage to the ceiling material or clamps.

Recommended torque setting: 1.5Nm

Tannoy will not be held responsible for any damages caused by the improper installation of these loudspeakers.

Electrical Safety Notice: to comply with the standard UL1480, metal-clad flexible conduit (BX) is required for connection to the terminal block for proper earth grounding.

In order to comply with UL regulations, the PI back-can must always be used with the CMS PI models.

SAFETY NOTE:

In order to comply with relevant fire safety regulations (i.e. BS 5839:1998), it is required that in the event of fire, that failure of the circuit to which the loudspeaker is connected does not occur before evacuation of the building is complete. Suitable measures include: -

- a) use of terminal blocks (for connection to primary) with a melting point of not less than 650°C, for example constructed from ceramic materials;*
- b) use of terminal blocks of a lower melting point but protected with thermal insulation;*
- c) use of terminal blocks such that, on melting, an open-circuit or a short-circuit does not occur.*

4. PRODUCT FEATURE IDENTIFICATION:

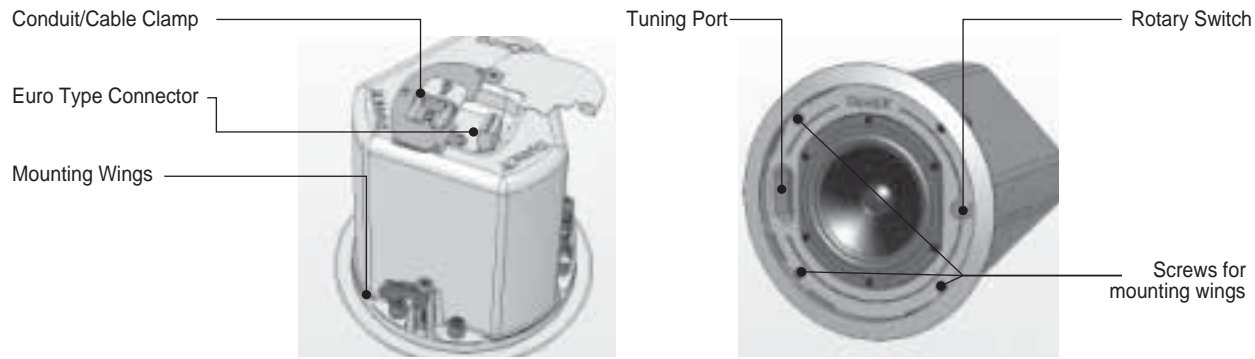


Fig 1.1: The blind-mount (BM) models come with a pre-fitted back-can

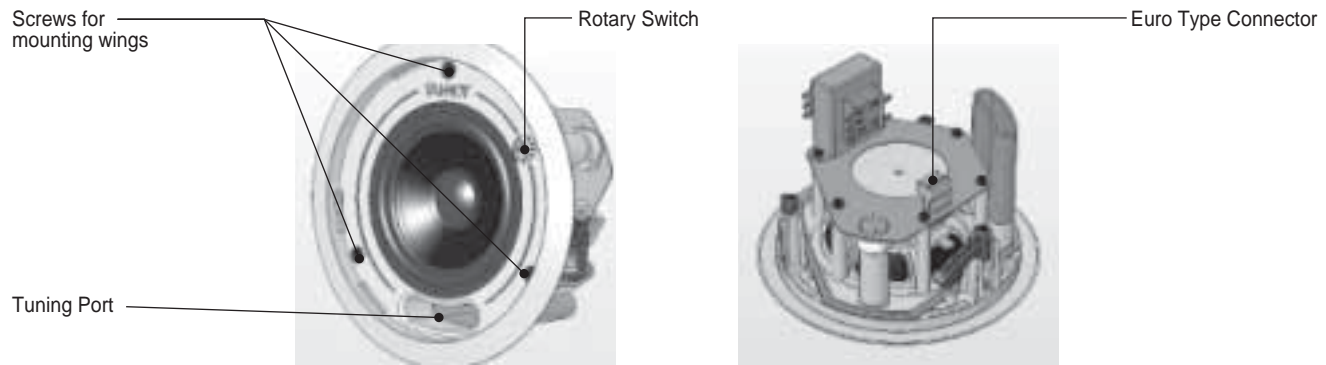


Fig 1.2: A pre-install (PI) model shown without optional pre-install back-can

Safety Notice: In order to comply with UL regulations, the PI back-can must always be used with the CMS PI models.

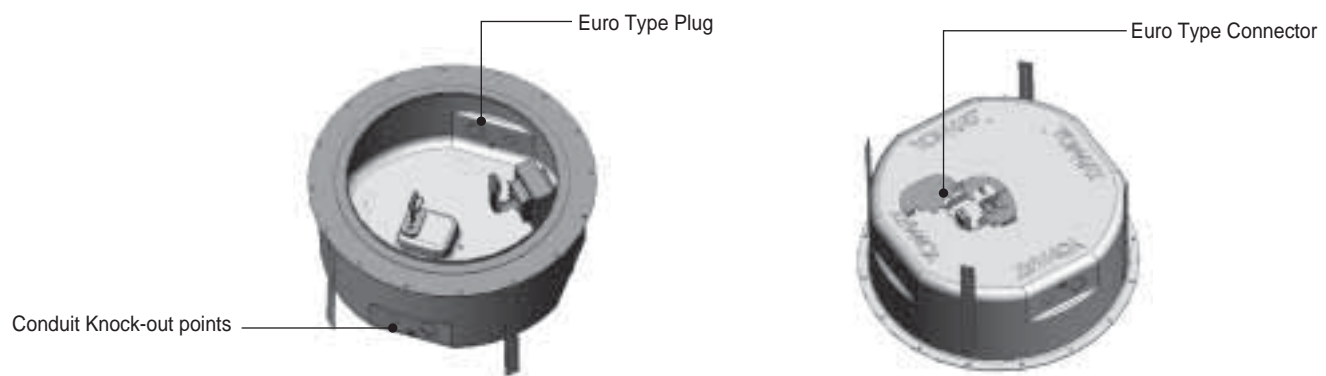


Fig 1.3: Optional pre-install (PI) back-can for PI models

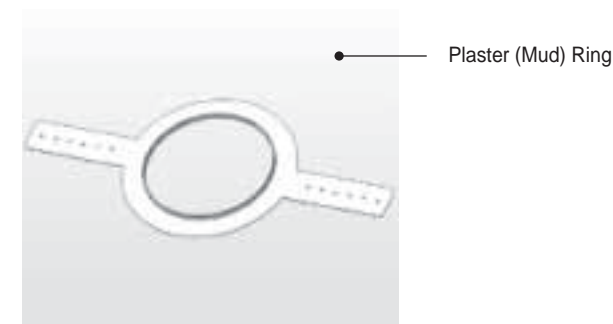
Note that the 601 PI models have the transformer pre-attached to the inside of the 601 PI back-can, whereas the 501 models have the transformer pre-attached to the speaker assembly.

5. ACCESSORIES:

Each product is supplied with the following accessories as standard:



Optional accessories:

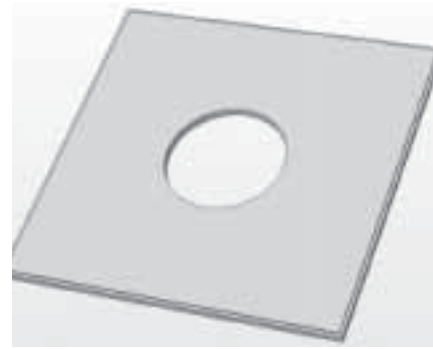


6.1 MECHANICAL INSTALLATION GUIDE FOR SUSPENDED CEILINGS

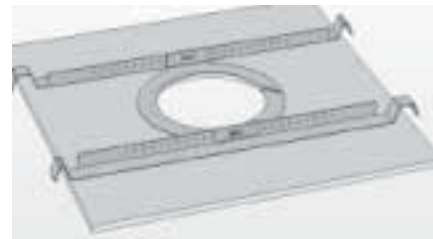
- 1 | Remove the ceiling tile from its frame and place it on a flat surface. Mark the cut-out area on the ceiling tile by tracing around the template provided.



- 2 | Cut out the hole in the ceiling tile using a hole saw or pad saw.



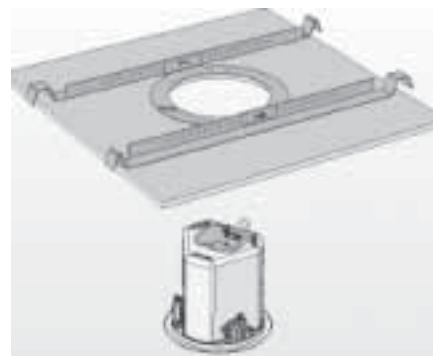
- 3 | Place the C-ring and tile-bridge on top of the ceiling panel, aligning the C-ring over the hole, and screw the C-ring to the tile bridge using the fixings provided.



- 4 | Slide the speaker assembly through the hole and turn the screws on the front of the speaker to extend the mounting wings. Tighten the screws until a firm grip is achieved.

If using a power driver, Tannoy recommends a torque setting of 1.5Nm.

DO NOT OVERTIGHTEN!



- 5 | Slide the tile panel back into the suspended ceiling. The tile bridge ends will catch over the railings, supporting the weight of the speaker.

Go to section 7 for instructions on wiring and set-up.



6.2 MECHANICAL INSTALLATION GUIDE FOR SHEET-ROCK (PLASTER BOARD) CEILINGS

- 1 | Mark the cut-out area on the ceiling by tracing around the template provided.



- 2 | Cut out the hole in the ceiling using a hole saw or pad saw, then slide the C-ring into the ceiling, aligning it over the cut-out hole).

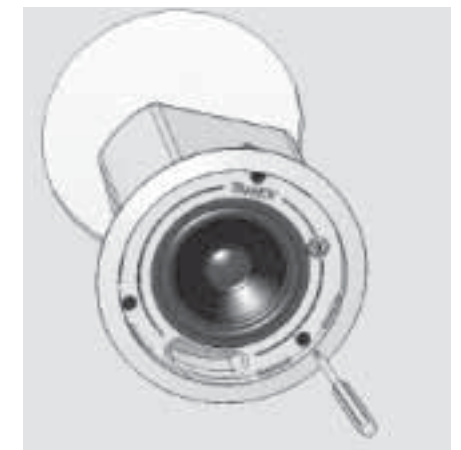


- 3 | Go to section 7 for wiring and set-up instructions then return to point 4 below.

- 4 | Slide the speaker assembly through the hole and turn the screws to extend the mounting wings. Tighten the screws until a firm grip is achieved.

If using a power driver, Tannoy recommends a torque setting of 1.5Nm.

DO NOT OVERTIGHTEN!



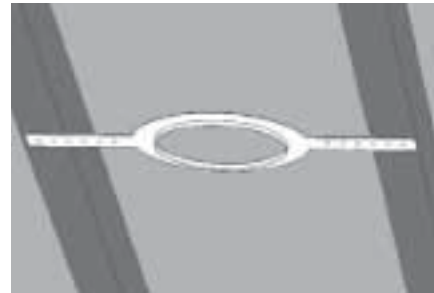
- 5 | Insert grille by pushing it onto the speaker.



6.3 MECHANICAL INSTALLATION INSTRUCTIONS FOR OPTIONAL PLASTER RING:

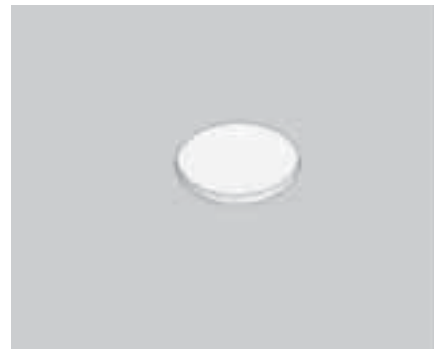
An optional plaster (mud) ring bracket is available from Tannoy. This bracket is designed to be pre-installed into newly constructed, non-suspended ceilings.

- 1 | Nail or screw the plaster ring to the joists.



- 2 | Lay the speaker wiring to where the speaker will be fitted and complete the plastering work on the ceiling.

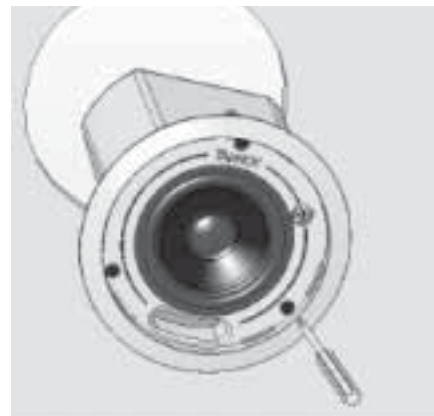
- 3 | Cut out the hole in the ceiling using a hole saw or pad saw.



- 4 | Go to section 7 for instructions on wiring then return to point 5 below.

- 5 | Slide the speaker assembly through the hole and turn the screws to extend the mounting wings. Tighten the screws until a firm grip is achieved.

DO NOT OVERTIGHTEN!



- 6 | Insert grille by pushing it onto the speaker.



6.4 INSTRUCTIONS FOR OPTIONAL PRE-INSTALLATION BACK-CAN (PI MODELS ONLY):

AN OPTIONAL PRE-INSTALL BACK-CAN IS AVAILABLE FOR ALL PI (PRE-INSTALL) MODELS. THIS BACK-CAN IS DESIGNED TO BE PRE-INSTALLED INTO NEWLY CONSTRUCTED, NON-SUSPENDED CEILINGS.

Note that the 601 PI models have the transformer pre-attached to the inside of the 601 PI back-can, whereas the 501 models have the transformer pre-attached to the speaker assembly.

- 1 | Attach the back-can to a safe and secure fixing point. This can be done in a number of ways...

METHOD 1: Fix the back-can to a secure fixing point by using suitable fixings with the 4 fixing holes provided on the PI back-can



METHOD 2: Secure the back-can to a safe and secure fixing point using suitable fixings with the flexible straps that are attached to the PI back-can.



METHOD 3:
a. Attach the PI back-can to the optional pre-mount ring (plaster ring) using the fixings provided with the pre-mount ring.



b. Next, secure the wings of the pre-mount ring to a safe and secure fixing point by using suitable fixings.

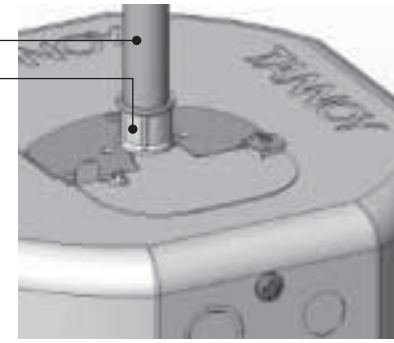


6.4 INSTRUCTIONS FOR OPTIONAL PRE-INSTALLATION BACK-CAN (PI MODELS ONLY):

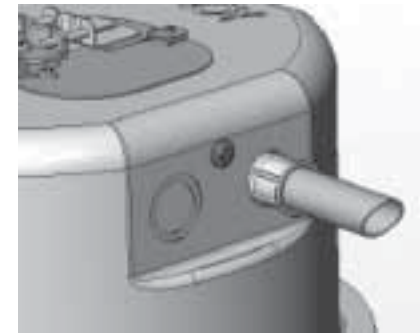
2 | Attach the conduit to the installed back-can. This can be attached in two ways:

a. You can use the clamp at the back of the pre-install back-can. The product will accept a squeeze connector with a thread size of up to 22mm: To remove the cable clamp, simply unscrew the threaded washer (under the wiring cover) which holds the cable clamp in place and replace it with a conduit squeeze connector.

Conduit
Conduit Squeeze Connector

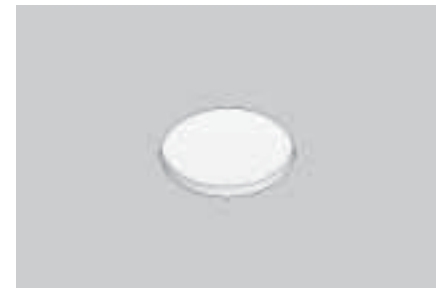


b. You can use any of the three knock-out points at the sides of the PI back-can (19mm, 22mm or 28mm diameter):



3 | If conduit is not chosen as the wiring method, run an approved speaker cable to the installed can. Terminate in the top mounted cable clamp or with an approved cable connector in one of the three knock-out points at the sides of the PI back-can.

4 | Cut hole in proper location in ceiling material and install over pre installed back-can.

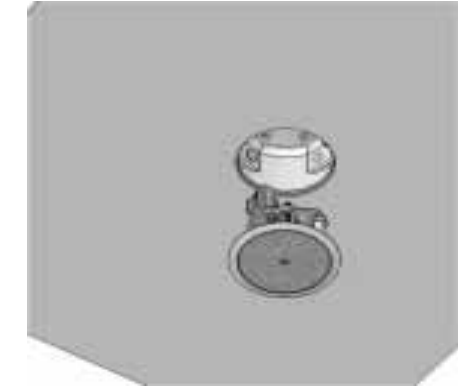


6.4 INSTRUCTIONS FOR OPTIONAL PRE-INSTALLATION BACK-CAN (PI MODELS ONLY):

5 | Go to section 7 for instructions on wiring and setting up then return to point 5 below.

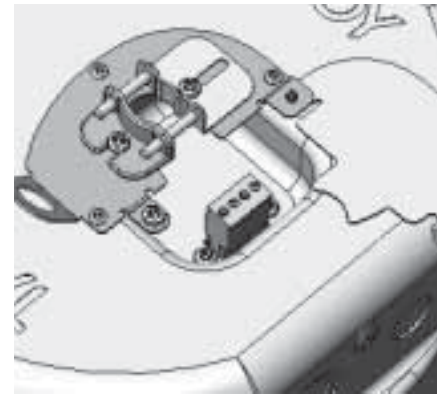
6 | Slide the speaker assembly through the hole and turn the screws to extend the mounting wings. Tighten the screws until a firm grip is achieved.

DO NOT OVERTIGHTEN!



7. WIRING AND SETTING UP:

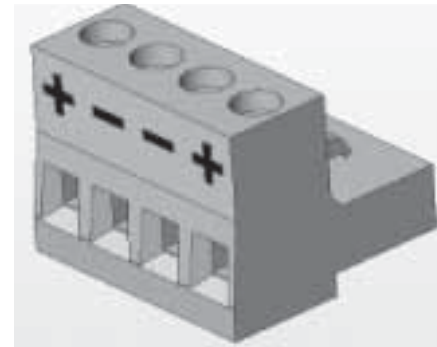
1 | Open the wiring cover at the back of the speaker can to access the Euro type connector plug and socket.



2 | For connection to an amplifier, use pins 1 and 2:
 • Pin 1 is positive
 • Pin 2 is negative

For connection to additional speakers in a distributed line, pins 3 and 4 are in parallel where:

- Pin 3 is negative
- Pin 4 is positive



3 | Close the wiring cover and tighten both screws on the cable clamp. Use the rotary switch located on the front of the unit to select whether you wish to use the speaker in a low-impedance or distributed-line application.

THE SPEAKER IS SUPPLIED IN LOW IMPEDANCE MODE. NEVER CONNECT THE SPEAKER TO A 70/100 VOLT AMPLIFIER WHILE IT IS SET FOR LOW IMPEDANCE.

All CMS 501 models use a 30W transformer. When using distributed-line systems, the transformer can be tapped at 30W, 15W and 7.5W, with an additional 3.75W tapping for 70.7V line systems.



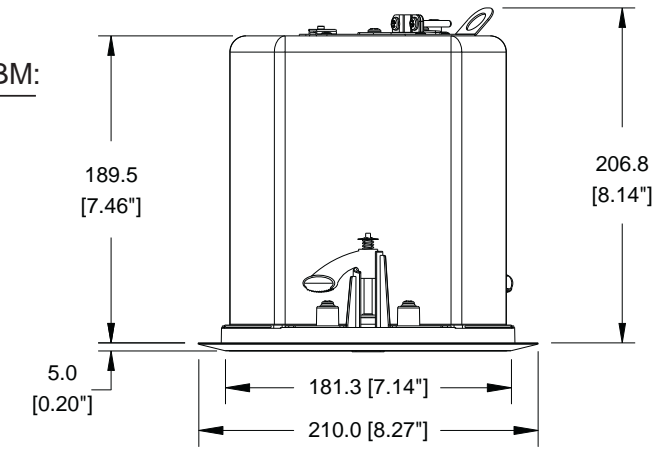
4 | All CMS 601 models use a 60W transformer. When using distributed-line systems, the transformer can be tapped at 60W, 30W, and 15W, with an additional 7.5W tapping for 70.7V line systems.



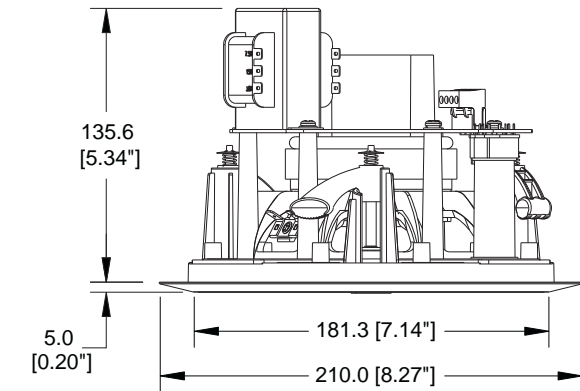
8.1 CMS 501 MODEL DIMENSIONS:

CMS 501 models TEMPLATE HOLE CUTOUT SIZE: 190mm

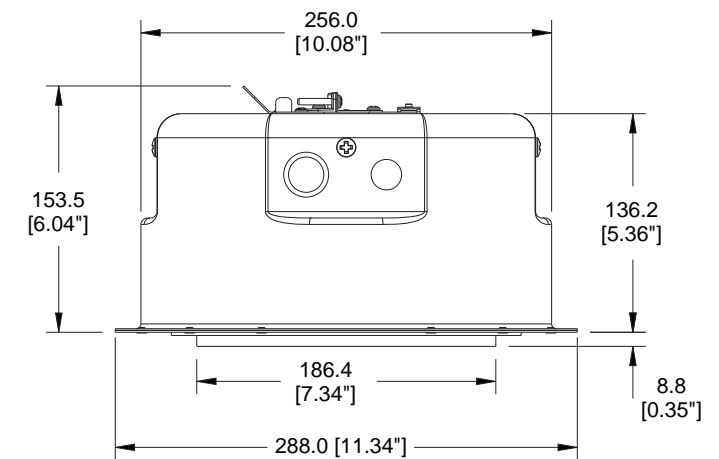
CMS 501 BM & CMS 501 DC BM:



CMS 501 PI & CMS 501 DC PI:



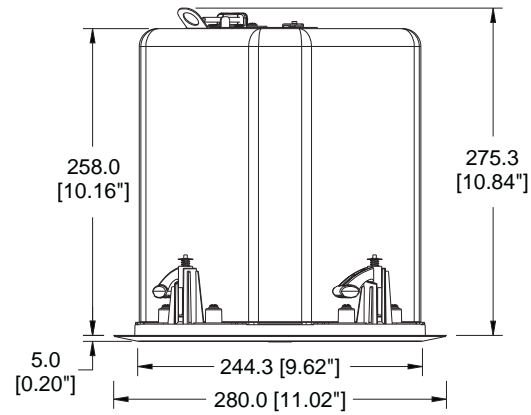
CMS 501 PI BACK CAN:



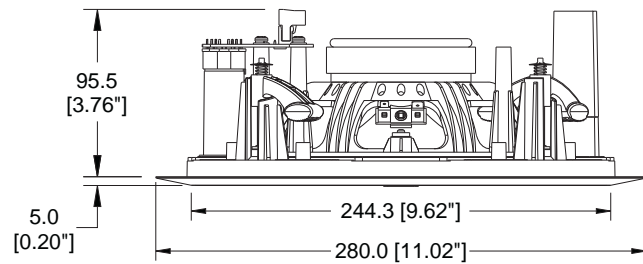
8.2 CMS 601 MODEL DIMENSIONS:

CMS 601 models TEMPLATE HOLE CUTOUT SIZE: 253mm

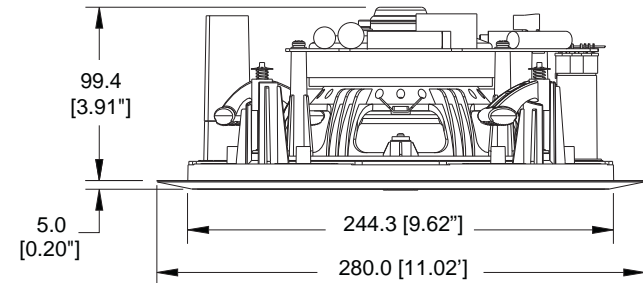
CMS 601 BM & CMS 601 DC BM:



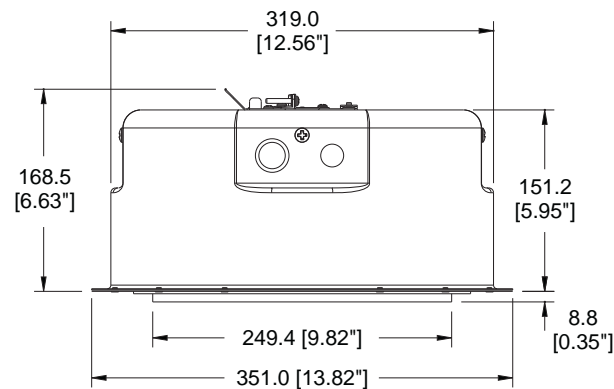
CMS 601 PI:



CMS 601DC PI



CMS 601 PI BACK-CAN:



9. TECHNICAL SPECIFICATIONS:

MODEL	CMS501	CMS 501DC	CMS601	CMS 601DC
Features	Inductive Tweeter Symmetrical Constant Directivity	Dual Concentric Symmetrical Constant Directivity	Inductive Tweeter Symmetrical Constant Directivity	Dual Concentric Symmetrical Constant Directivity
Power Rating (Watts, RMS)	50 W	60 W	60 W	80 W
Power Rating (Watts, Peak)	100 W	120 W	120 W	160 W
Sensitivity (dB) 1W @ 1m **	89 dB	89 dB	91 dB	90 dB
Frequency Response* of Blind-Mount (BM) models (±3dB)	89 Hz -22 KHz	88 Hz -54 KHz	75 Hz -20 KHz	63 Hz - 20 KHz
Low frequency limit* of BM models (-10dB)	73 Hz	65 Hz	50 Hz	43 Hz
Frequency Response* of Pre-Install (PI) models (±3dB)	85 Hz -22 KHz	85 Hz -54 KHz	75 Hz -20 KHz	65 Hz - 20 KHz
Low frequency limit* of PI models (-10dB)	63 Hz	63 Hz	50 Hz	50 Hz
Included accessories	C Ring, tile bridge, paint mask, hole template, grille	C Ring, tile bridge, paint mask, hole template, grille	C Ring, tile bridge, paint mask, hole template, grille	C Ring, tile bridge, paint mask, hole template, grille
Optional accessories	Plaster (mud) ring	Plaster (mud) ring	Plaster (mud) ring	Plaster (mud) ring
Clamping design:	Security toggle clamp	Security toggle clamp	Security toggle clamp	Security toggle clamp
Line voltage:	70V/ 100V / Low Impedance (6 Ohms)	70V/ 100V / Low Impedance (8 Ohms)	70V/ 100V / Low Impedance (6 Ohms)	70V/ 100V / Low Impedance (8 Ohms)
Tappings via rotary switch, front mounted	30 W/ 15 W/ 7.5 W 3.75 W (70V-line only) LoZ (6 Ohms) OFF	30 W/ 15 W/ 7.5 W 3.75 W (70V-line only) LoZ (8 Ohms) OFF	60 W/ 30 W/ 15 W 7.5 W (70V-line only) LoZ (6 Ohms) OFF	60 W/ 30 W/ 15 W 7.5 W (70V-line only) LoZ (8 Ohms) OFF
Switch:	OFF position disconnects from line	OFF position disconnects from line	OFF position disconnects from line	OFF position disconnects from line
Option: Blind Mount (BM)	Complete with Fixed back can	Complete with Fixed back can	Complete with Fixed back can	Complete with Fixed back can
Option: Pre Install (PI)	Separate PI back can	Separate PI back can	Separate PI back can	Separate PI back can
Cable options	Cable clamp plus up to 22mm squeeze connector	Cable clamp plus up to 22mm squeeze connector	Cable clamp plus up to 22mm squeeze connector	Cable clamp plus up to 22mm squeeze connector
Conduit knock-out connections	3 sets of horizontal positions, 19/22/28mm diameters.	3 sets of horizontal positions, 19/22/28mm diameters.	3 sets of horizontal positions, 19/22/28mm diameters.	3 sets of horizontal positions, 19/22/28mm diameters.
Connector	Loop through with screw terminals	Loop through with screw terminals	Loop through with screw terminals	Loop through with screw terminals
Connector 4 way pin-out	IN: 1+ve 2-ve OUT: 3-ve 4+ve	IN: 1+ve 2-ve OUT: 3-ve 4+ve	IN: 1+ve 2-ve OUT: 3-ve 4+ve	IN: 1+ve 2-ve OUT: 3-ve 4+ve
Ceiling hole diameter BM	190mm (7.5") BM & PI	190mm (7.5") BM & PI	253mm (10.0") BM & PI	253mm (10.0") BM & PI
Ceiling hole diameter PI	190mm (7.5") BM & PI	190mm (7.5") BM & PI	253mm (10.0") BM & PI	253mm (10.0") BM & PI
Bezel Diameter	210mm (8.2")	210mm (8.2")	280mm (11.0")	280mm (11.0")
Max height: front of tile surface to safety lug. BM	207mm (8.2")	207mm (8.2")	276mm (10.9")	276mm (10.9")
Max height: back of tile surface to safety lug PI can	154mm (6.1")	154mm (6.1")	169mm (6.7")	169mm (6.7")
Approvals	UL-1480, UL-2043, CE	UL-1480, UL-2043, CE	UL-1480, UL-2043, CE	UL-1480, UL-2043, CE

* Measured in ceiling (2π half space)

** 1W @ 1m, 2.83V for 8Ω, 2.4V for 6Ω

10. PAINTING

If desired, the grille and baffle panel may be painted to match the surrounding décor.

Painting the baffle:

- ⊗ Carefully mask off the driver assembly using the paint-mask provided to ensure that the paint does not come into contact with the cone and roll surround.
- ⊗ Apply several thin coats of paint – this will provide a better finish than one overly thick coat.

Painting the grille:

- ⊗ Carefully remove the acoustically transparent foam from the reverse side of the grille.
- ⊗ Paint the grille and then replace the foam - several thin coats of paint will provide a better finish than one overly thick coat.
- ⊗ Re-bond the foam to the grille over the entire area using a light spray-adhesive to avoid audible resonances.

11. WARRANTY

No maintenance of the CMS loudspeaker is necessary.

All Tannoy professional loudspeaker products are covered by a 5 year warranty from the date of manufacture subject to the absence of misuse, overload or accidental damage. Claims will not be considered if the serial number has been altered or removed. Work under warranty should only be carried out by a Tannoy Professional dealer or service agent. This warranty in no way affects your statutory rights. For further information please contact your dealer or distributor in your country. If you cannot locate your distributor please contact Customer Services, Tannoy Ltd at the address given below.

Customer Services
Tannoy Ltd.
Rosehall Industrial Estate
Coatbridge
Strathclyde
ML5 4TF
Scotland

Tel: 01236 420199 (National)
+44 1236 420199 (International)
Fax: 01236 428230 (National)
+44 1236 428230 (International)
E-mail: enquiries@tannoy.com

DO NOT SHIP ANY PRODUCT TO TANNOY WITHOUT PREVIOUS AUTHORISATION

Our policy commits us to incorporating improvements to our products through continuous research and development. Please confirm current specifications for critical applications with your supplier.

12. DECLARATION OF CONFORMITY:



The following apparatus is manufactured in China for Tannoy Ltd of Rosehall Industrial Estate, Coatbridge, Scotland, ML5 4TF and conform(s) to the protection requirements of the European Electromagnetic Compatibility Standards and Directives relevant to Domestic Electrical Equipment. The apparatus is designed and constructed such that electromagnetic disturbances generated do not exceed levels allowing radio and telecommunications equipment and other apparatus to operate as intended, and, the apparatus has an adequate level of intrinsic immunity to electromagnetic disturbance to enable operation as specified and intended.

Details of the Apparatus:

Tannoy Contractor Loudspeaker

Model Numbers:

CMS 501 BM
CMS 501 DC BM
CMS 501 PI
CMS 501 DC PI
CMS 601 BM
CMS 601 DC BM
CMS 601 PI
CMS 601 DC PI

Applicable Standards:

EN 50081-1 Emission
EN 50082-1 Immunity

Electrical Safety:

EN 60065

Signed:

Position: Engineering Director - Professional Products

Tannoy Professional

Date: 14/12/2005

For Tannoy Ltd

NOTES

NOTES
