

# TANNOY®

## CMS

### CEILING MONITOR SYSTEMS INSTALLATION MANUAL

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CMS801 DC BM  
CMS801 DC PI  
CMS801 sub BM  
CMS801 sub PI  
CMS801 PI back can

Tannoy has a policy of continuous improvement and this specification sheet provides the latest information at the time of printing. All specifications may be subject to further change. Please contact the Tannoy website for the latest information.

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## CMS

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

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CMS801 TEMPLATE HOLE CUTOUT SIZE: 295mm (11.61")

6481 0499

## CONTENTS

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- 1 | INTRODUCTION
- 2 | UNPACKING
- 3 | PRODUCT FEATURE IDENTIFICATION
- 4 | ACCESSORIES
- 5 | INSTALLATION GUIDE
  - 5.1 | MECHANICAL INSTALLATION GUIDE FOR SUSPENDED CEILINGS
  - 5.2 | MECHANICAL INSTALLATION GUIDE FOR SHEET-ROCK CEILINGS
  - 5.3 | MECHANICAL INSTALLATION INSTRUCTIONS FOR OPTIONAL PLASTER RING
  - 5.4 | INSTRUCTIONS FOR OPTIONAL PRE-INSTALLATION BACK-CAN (PI MODELS ONLY)
- 6 | WIRING AND SETTING UP
- 7 | DIMENSIONS
  - 7.1 | CMS801 DC BM DIMENSIONS
  - 7.2 | CMS801 DC PI DIMENSIONS
  - 7.3 | CMS801 SUB BM DIMENSIONS
  - 7.4 | CMS801 SUB PI DIMENSIONS
  - 7.5 | CMS801 PI BACK CAN DIMENSIONS
- 8 | TECHNICAL SPECIFICATIONS
  - 8.1 | CMS801 DC SPECIFICATIONS
  - 8.2 | CMS801 SUB SPECIFICATIONS
- 9 | PAINTING
- 10 | WARRANTY
- 11 | DECLARATION OF CONFORMITY

## 1. INTRODUCTION

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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

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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

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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. 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;*
- c) use of terminal blocks of a lower melting point but protected with thermal insulation;*
- d) use of terminal blocks such that, on melting, an open-circuit or a short-circuit does not occur.*

**4. PRODUCT FEATURE IDENTIFICATION:**

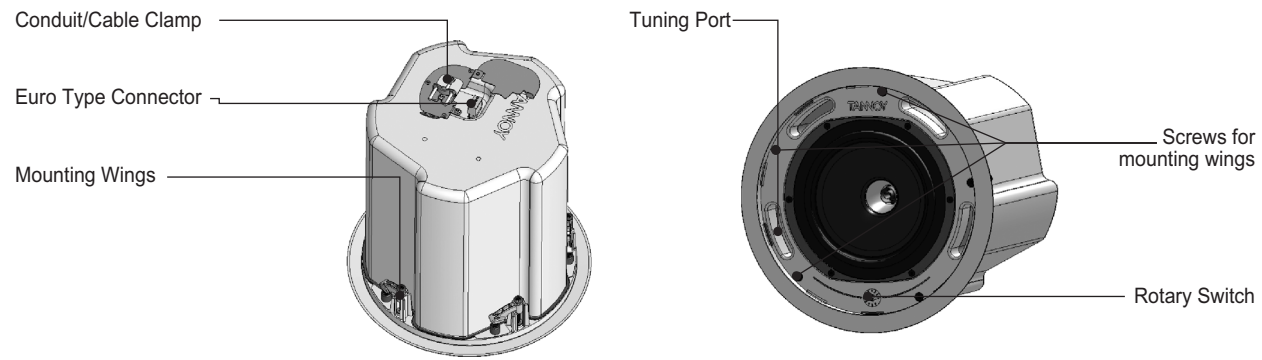


Fig 1.1: The blind-mount (BM) models come with a pre-fitted back can

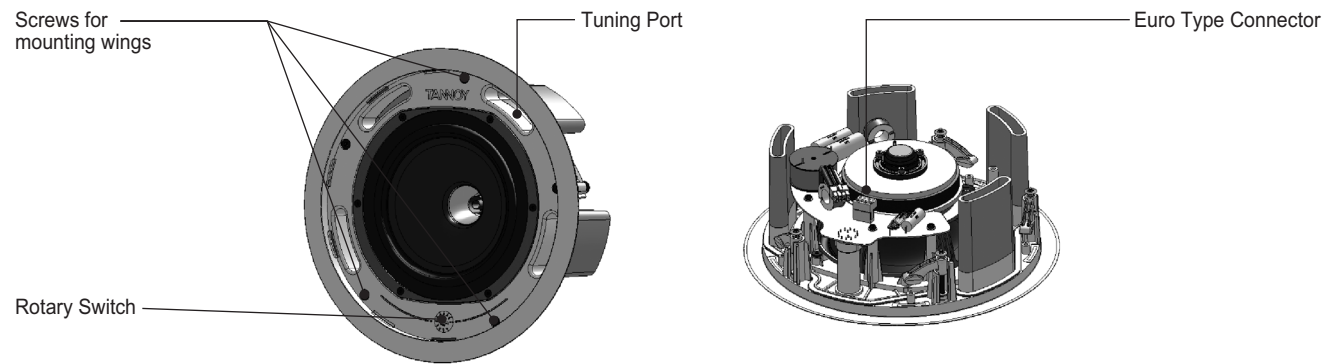


Fig 1.2: A pre-install (PI) model shown without optional pre-install back can

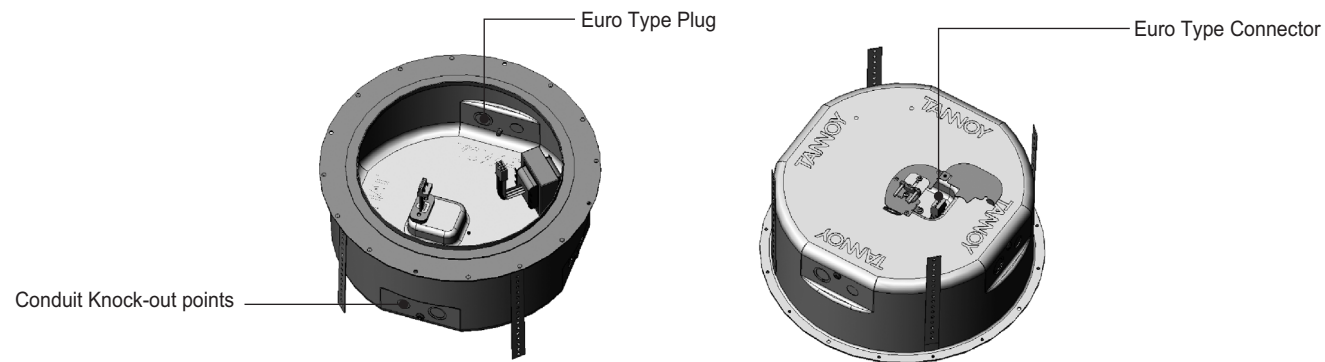
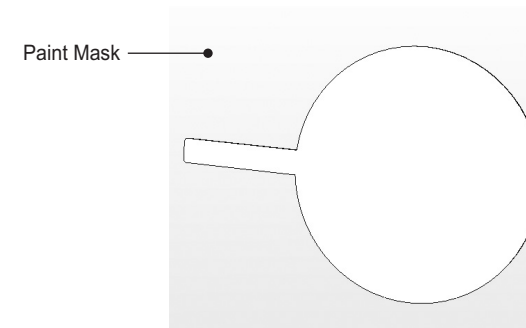
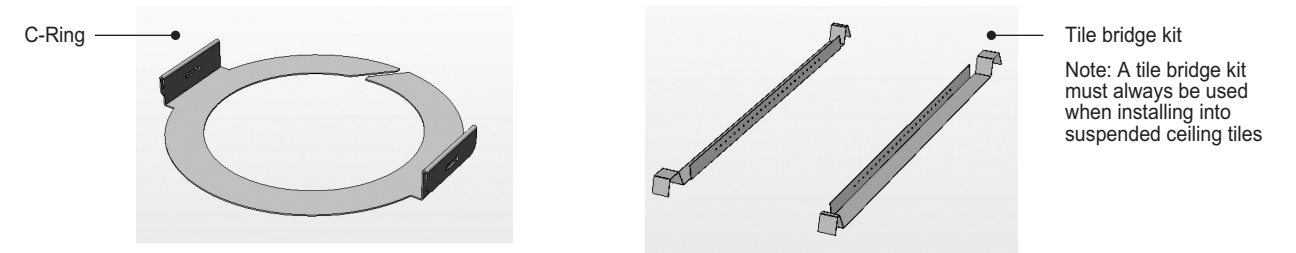


Fig 1.3: Optional pre-install (PI) back can for PI models

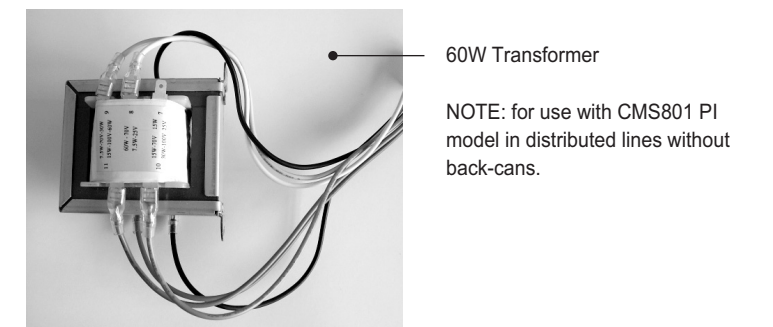
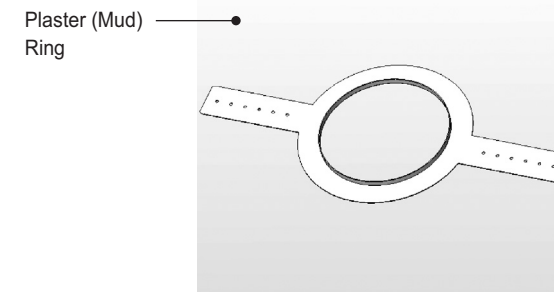
Note that the CMS801 PI model's transformer is pre-attached to the CMS801 PI back can for easy install.

**5. ACCESSORIES:**

Each product is supplied with the following accessories as standard:

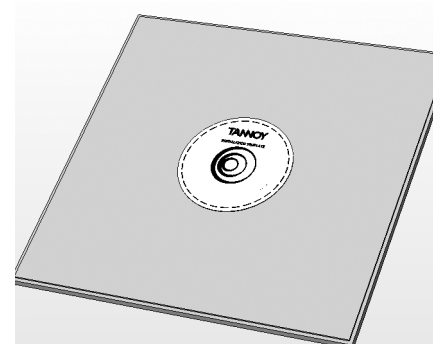


Optional accessories:

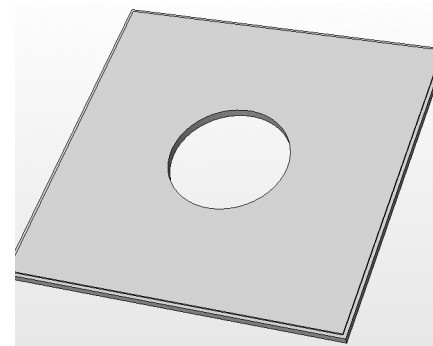


## 5.1 MECHANICAL INSTALLATION GUIDE FOR SUSPENDED CEILINGS

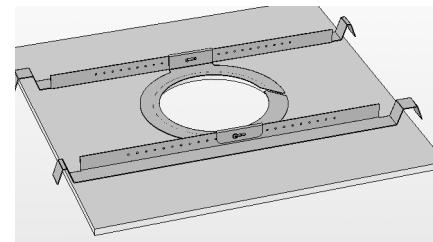
- 1 Remove the ceiling tile from its frame and place it on a flat surface. Mark the cut-out area on the ceiling tile by tracing around the template provided.



- 2 Cut out the hole in the ceiling tile using a circular 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.



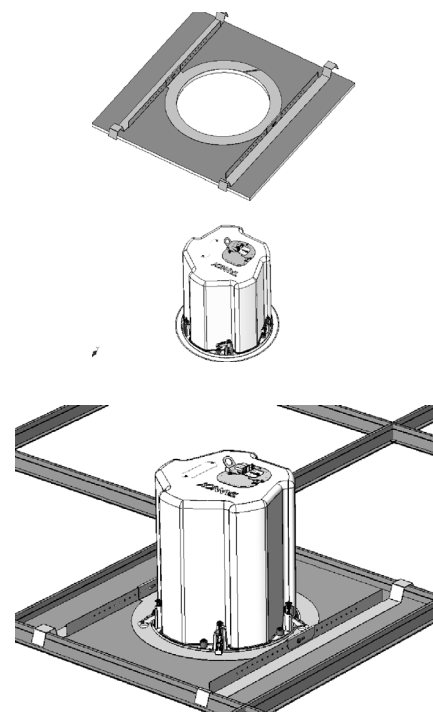
- 4 Slide the speaker assembly through the hole and turn the screws on the front of the speaker to extend the mounting wings. Tighten the screws until a firm grip is achieved.

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

**DO NOT OVERTIGHTEN!**

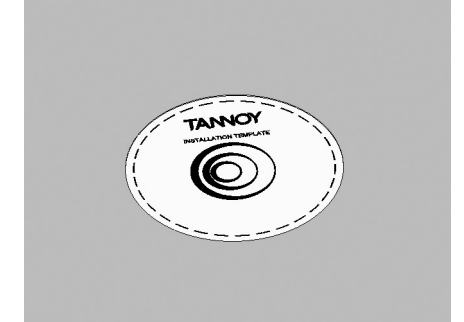
- 5 Slide the tile panel back into the suspended ceiling. The tile bridge ends will catch over the railings, supporting the weight of the speaker.

Go to section 6 for instructions on wiring and set-up instructions.

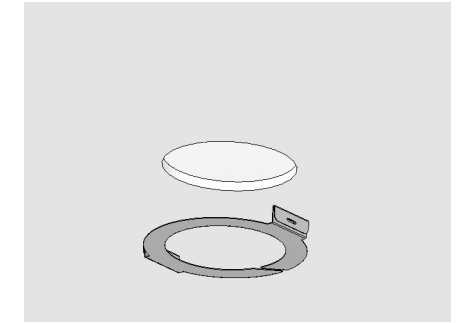


## 5.2 MECHANICAL INSTALLATION GUIDE FOR SHEET-ROCK (PLASTER BOARD) CEILINGS

- 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 circular saw or pad saw, then slide the C-ring into the ceiling, aligning it over the cut-out hole.

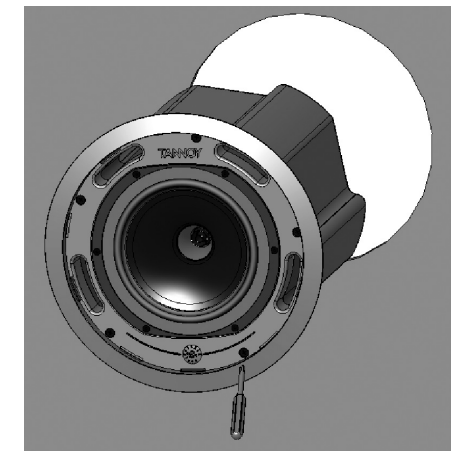


- 3 Go to section 6 for wiring and set-up instructions then return to point 4 below.

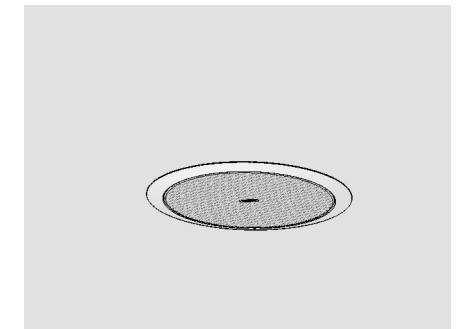
- 4 Slide the speaker assembly through the hole and turn the screws to extend the mounting wings. Tighten the screws until a firm grip is achieved.

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

**DO NOT OVERTIGHTEN!**



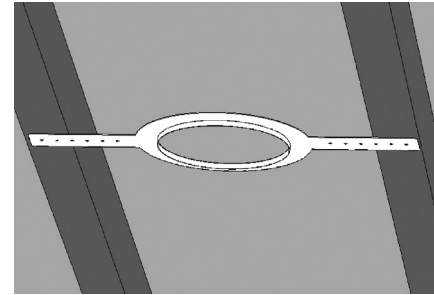
- 5 Insert grille by pushing it onto the speaker.



**5.3 MECHANICAL INSTALLATION INSTRUCTIONS FOR OPTIONAL PLASTER RING:**

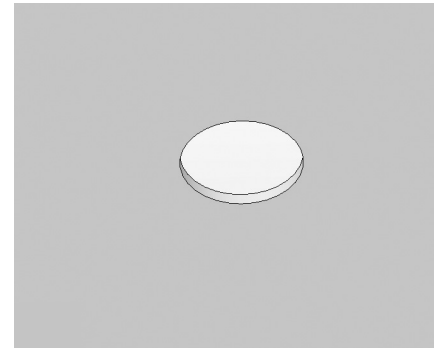
An optional plaster (mud) ring bracket is available from Tannoy. This bracket is designed to be pre-installed into newly constructed, non-suspended ceilings.

- 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 circular saw or pad saw.



- 4 | Go to section 6 for instructions on wiring then return to point 5 below.

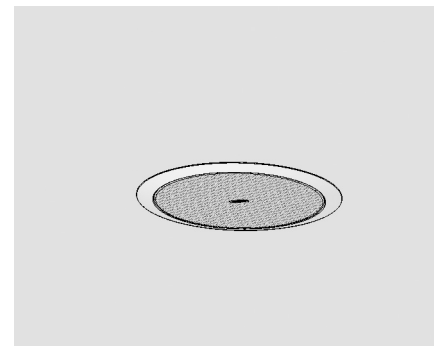
- 5 | Slide the speaker assembly through the hole and turn the screws to extend the mounting wings. Tighten the screws until a firm grip is achieved.

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

**DO NOT OVERTIGHTEN!**



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



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

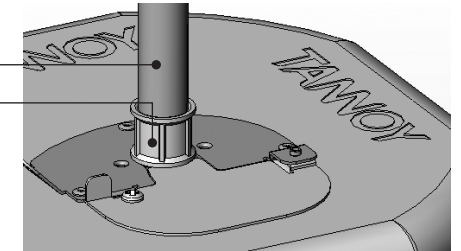
AN OPTIONAL PRE-INSTALL BACK CAN IS AVAILABLE FOR ALL PI (PRE-INSTALL) MODELS. THIS BACK CAN IS DESIGNED TO BE PRE-INSTALLED INTO NEWLY CONSTRUCTED, NON-SUSPENDED CEILINGS.

Note that the CMS801 PI model's transformer is pre-attached to CMS801 PI back can for easy install.

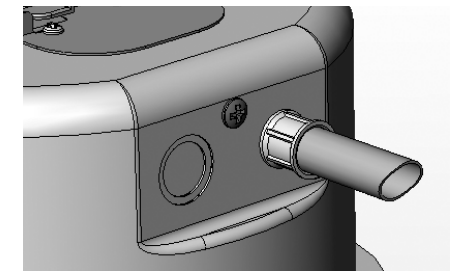
- 1 | Attach the back can to the installed conduit This can be attached in two ways:

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

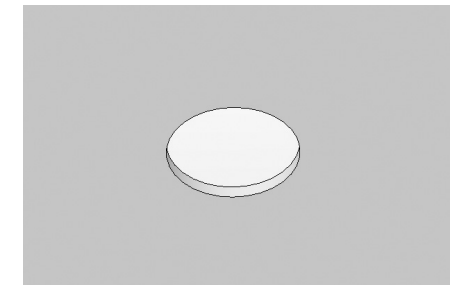


b. You can use any of the three knock-out points at the sides of the PI back can (19mm, 22mm or 28mm diameter):



- 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 circular saw or pad saw

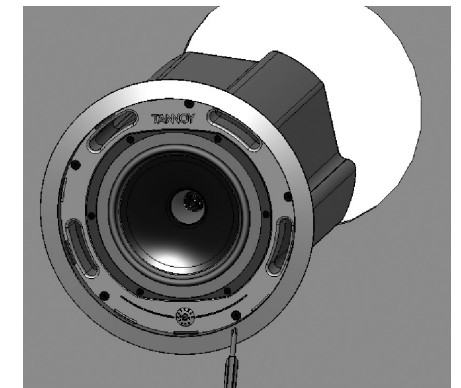


- 4 | Go to section 6 for instructions on wiring and setting up then return to point 5 below.

- 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.

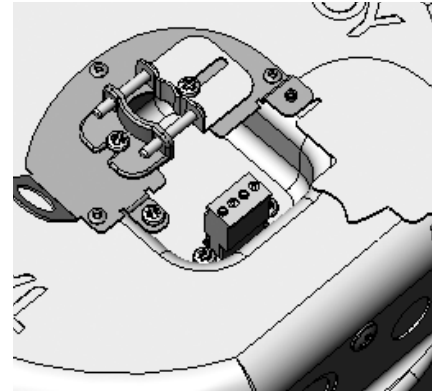
If using a power driver, Tannoy recommends a torque setting of 1.5Nm.

**DO NOT OVERTIGHTEN!**



**6. 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.

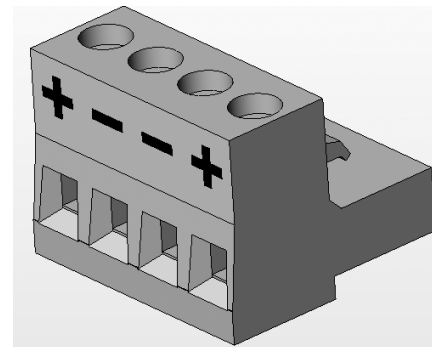


**2** | For connection to an amplifier, use pins 1 and 2:

- 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:

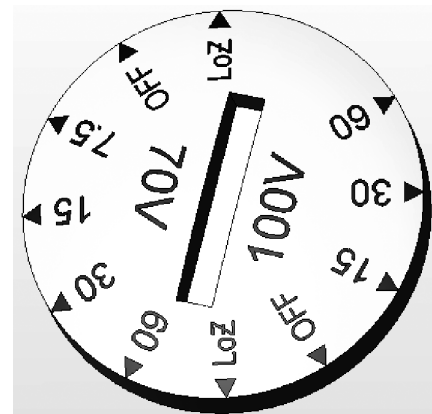
- Pin 3 is negative
- Pin 4 is positive



**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.

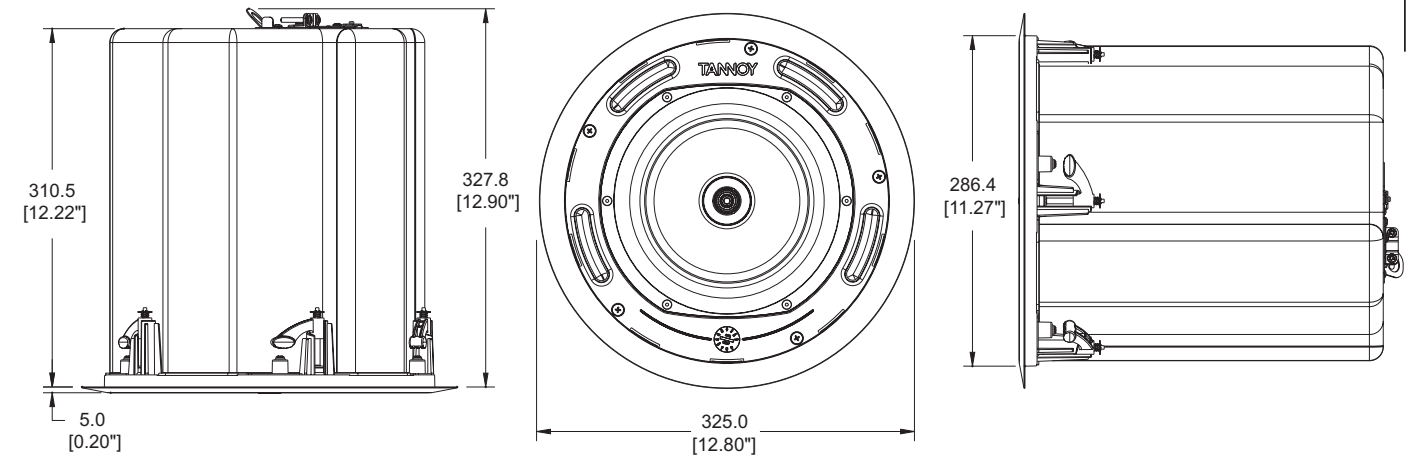
THE SPEAKER IS SUPPLIED IN LOW IMPEDANCE MODE. NEVER CONNECT THE SPEAKER TO A 70/100 VOLT AMPLIFIER WHILE IT IS SET FOR LOW IMPEDANCE.

All CMS801 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.



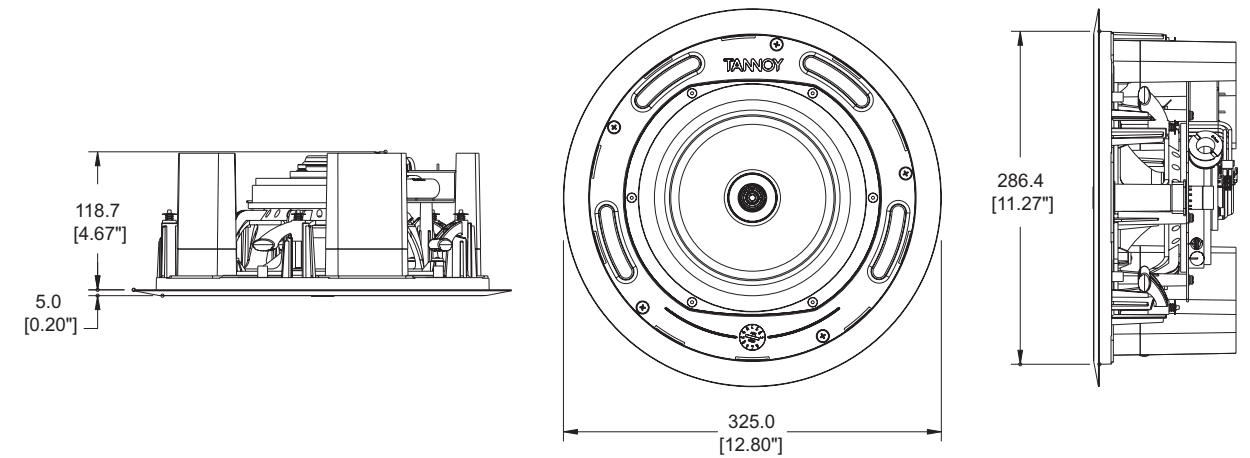
**7.1 CMS801 DC BM DIMENSIONS:**

TEMPLATE HOLE CUTOUT SIZE: 295mm



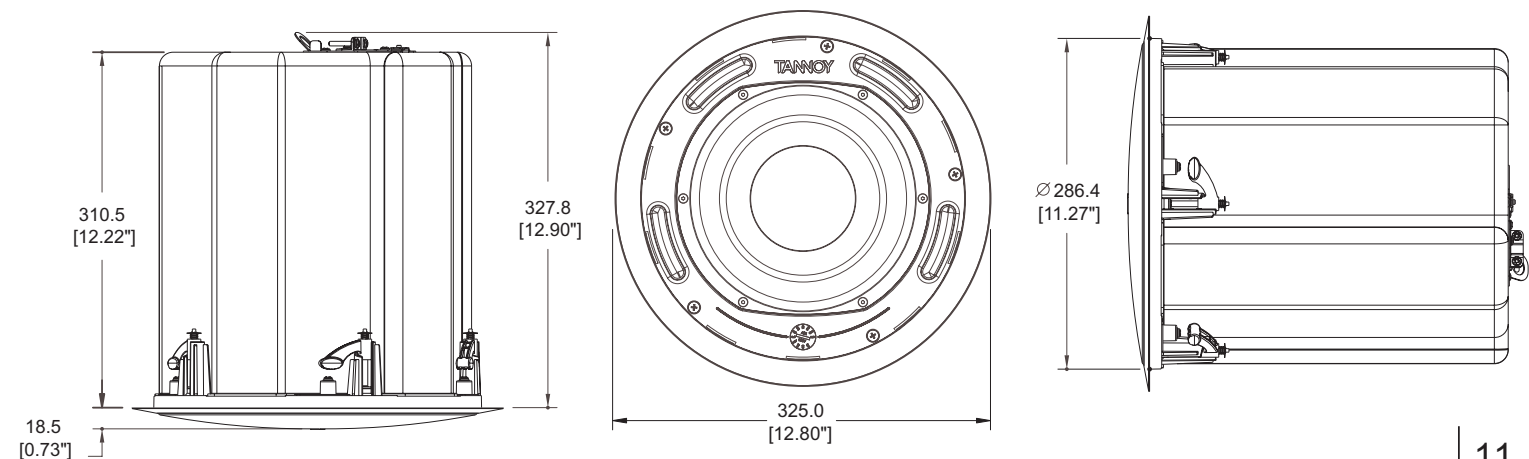
**7.2 CMS801 DC PI DIMENSIONS:**

TEMPLATE HOLE CUTOUT SIZE: 295mm



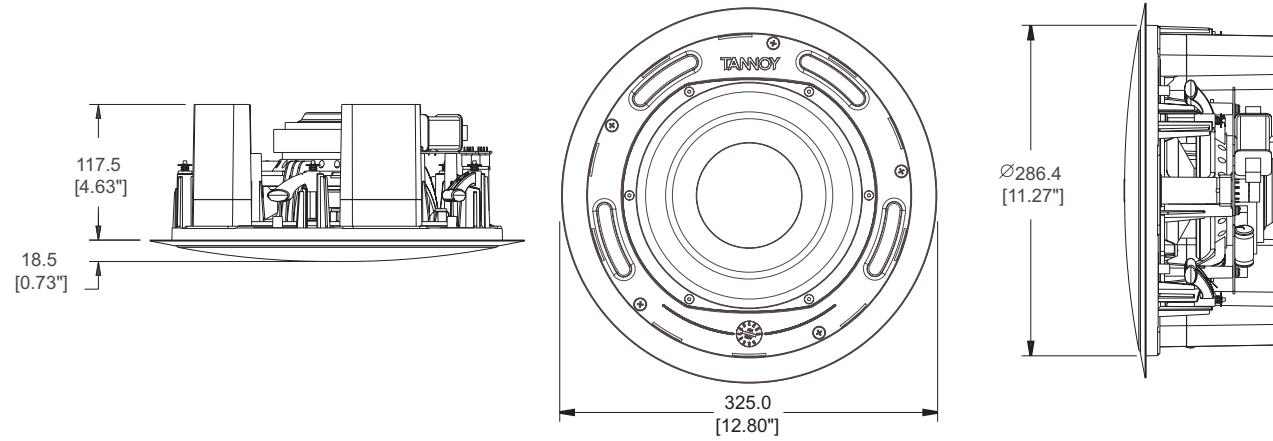
**7.3 CMS801 sub BM DIMENSIONS:**

TEMPLATE HOLE CUTOUT SIZE: 295mm



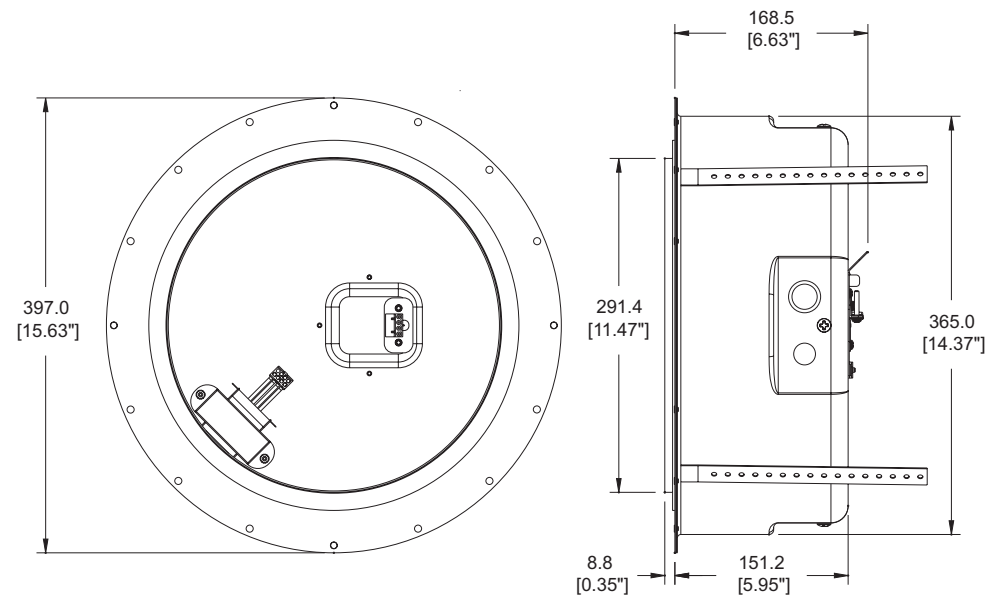
**7.4 CMS801 sub PI DIMENSIONS:**

TEMPLATE HOLE CUTOUT SIZE: 295mm



**7.3 CMS801 PI BACK CAN DIMENSIONS:**

TEMPLATE HOLE CUTOUT SIZE: 295mm



**8.1 TECHNICAL SPECIFICATIONS:**

MODEL	CMS801 DC	
<b>System</b>		
<b>Frequency response (-3dB) <sup>(1)</sup></b> BM back can	47Hz - 30kHz	
<b>Frequency range (-10dB) <sup>(1)</sup></b> BM back can	40Hz - 35kHz	
<b>Frequency range (-10dB) <sup>(1)</sup></b> PI back can	41Hz - 35kHz	
<b>System sensitivity (1W @1m) <sup>(2)</sup></b>	92dB (1W = 2.83V for 8 Ohms)	
<b>Nominal coverage angle</b>	90 degrees conical	
<b>Coverage angle (1kHz to 6kHz)</b>	100 degrees conical	
<b>Directivity factor (Q)</b>	5.5 averaged 1kHz to 6kHz	
<b>Directivity index (DI)</b>	7.2 averaged 1kHz to 6kHz	
<b>Rated maximum SPL</b>	112dB (average) 118dB (peak)	
With THP60	110 (average)	
<b>Power handling</b>		
Average	90W	
Programme	180W	
Peak	360W	
<b>Recommended amplifier power</b>	180W @ 8 Ohms	
<b>Nominal impedance</b>	8 Ohms	
<b>Transformer taps (via front rotary switch)</b>		
70V	60W/30W/15W/7.5W/OFF & Low impedance operation	
100V	60W/30W/15W/OFF & Low impedance operation	
<b>Distortion</b>		
10% full power (8.49V)	2nd Harmonic	3rd Harmonic
250Hz	0.65%	0.39%
1kHz	1.36%	0.29%
10kHz	1%	0.03%
1% full power (2.68V)	2nd Harmonic	3rd Harmonic
250Hz	0.20%	0.43%
1kHz	0.49%	0.28%
10kHz	0.42%	0.03%
<b>Crossover</b>	2kHz - 2nd order LF, 2nd order order HF (with dynamic HF protection)	
<b>Transducers</b>		
<b>Low frequency</b>	200mm (8.00") Dual Concentric™ constant directivity driver with multi fibre paper pulp cone	
<b>High frequency</b>	25mm (1.00") titanium dome with neodymium magnet system	
<b>Enclosure</b>		
Back can	Zinc plated steel	
Baffle	Reflex loaded UL 94V-0 rated ABS	
Grille	Steel, with weather resistant coating	
<b>Safety Features</b>	Safety ring located at rear of enclosure for load bearing safety bond	
<b>Clamping Design</b>	security toggle clamp	
<b>Backcan Options</b>		
Blind Mount (BM)	Complete with fixed back can	
Pre Install (PI)	Separate back can for pre installation	
<b>Cable Entry Options</b>	Cable clamp & squeeze connector for conduit up to 22mm	
<b>Conduit Knockouts</b>	3 sets of horizontal positions 19/22/28mm 0.75/0.87/1.1"	
<b>Connectors</b>	Removable locking connector with screw	
<b>Safety agency ratings (pending)</b>	UL-1480, UL-2043, CE	
<b>BM hole cutout diameter</b>	295mm (11.61")	
<b>PI hole cutout diameter</b>	295mm (11.61")	
<b>Dimensions</b>		
Bezel diameter	325mm (12.80")	
Front of ceiling to rear of back can (BM)	310.5mm (12.22")	
Front of ceiling to top of safety loop (BM)	327.8mm (12.90")	
Back of ceiling surface to rear of back can (PI)	151.2mm (5.95")	
Back of ceiling surface to top of safety loop (PI)	168.5mm (6.63")	
Front of ceiling to rear of bass ports (no back can) PI	123.7mm (4.87")	
<b>Net Weight (ea)</b>		
CMS801 BM	6.3kg	
CMS801 PI	3.0kg	
PI back can	4.3kg	
<b>Shipping Weight</b>		
CMS801BM (pair)	19.0kg	
CMS801PI (pair)	11.2kg	
PI back can (single)	5.7kg	
<b>Included Accessories</b>	C Ring, tile bridge, paint mask, cutout template, grille	
<b>Optional Accessories</b>	Plaster (Mud) Ring, line transformer for PI product installs without back can	

**Notes:**

<sup>(1)</sup> Average over stated Bandwidth. Measured in an IEC baffle in an Anechoic Chamber

<sup>(2)</sup> Unweighted pink noise input, measured at 1m on axis.

<sup>(3)</sup> Long term power handling capacity as defined in EIA - 426B test

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**11. 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:

CMS801 DC BM  
 CMS801 DC PI  
 CMS801 sub BM  
 CMS801 sub PI  
 CMS801 PI back-can

Applicable Standards:

EN 50103-1 Emission  
 EN 50103-1 Immunity

Electrical Safety:

EN 60065

Signed:

A handwritten signature in black ink, appearing to read 'G. Hawley', written over a horizontal line.

Position: Engineering Director - Professional Products

Tannoy Professional

Date: 26/05/2007

For Tannoy Ltd

**NOTES**

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