

**USER MANUAL
MANUALE D'USO**

PL 68EN

FLUSH-MOUNT
CEILING LOUDSPEAKER
IN COMPLIANCE WITH
EN 54-24 STANDARD

DIFFUSORE ACUSTICO
PER CONTROSOFFITTO
CONFORME ALLA
NORMA EN 54-24



**IMPORTANT NOTES**

Before connecting and using this product, please read this instruction manual carefully and keep it on hand for future reference. This manual is to be considered an integral part of this product and must accompany it when it changes ownership as a reference for correct installation and use as well as for the safety precautions.

RCF S.p.A. will not assume any responsibility for the incorrect installation and / or use of this product.

SAFETY AND OPERATING PRECAUTIONS

1. All the precautions, in particular the safety ones, must be read with special attention, as they provide important information.

2. Loudspeaker lines (amplifier outputs) can have a sufficiently high voltage (i.e. 100-70 V) to involve a risk of electrocution: never install or connect this loudspeaker when the line is alive.

3. Make sure all connections have been made correctly and the loudspeaker input voltage is suitable for the amplifier output.

4. Protect loudspeaker lines from damage. Make sure they are positioned in a way that they cannot be stepped on or crushed by objects.

5. Make sure that no objects or liquids can get into this product, as this may cause a short circuit.

6. Never attempt to carry out any operations, modifications or repairs that are not expressly described in this manual.

Contact your authorized service centre or qualified personnel should any of the following occur:

- The loudspeaker does not function (or works in an anomalous way).
- The cable has been damaged.
- Objects or liquids have got into the unit.
- The loudspeaker has been damaged due to heavy impacts or fire.

7. Should the loudspeaker emit any strange odours or smoke, remove it from the line after having immediately switched the amplifier off.

8. Do not connect this product to any equipment or accessories not foreseen. For suspended installation, only use the dedicated anchoring points and do not try to hang this loudspeaker by using elements that are unsuitable or not specific for this purpose.

Also check the suitability of the support surface to which the product is anchored (wall, ceiling, structure, etc.) and the components used for attachment (screw anchors, screws, brackets not supplied by RCF etc.), which must guarantee the security of the system / installation over time, also considering, for example, the mechanical vibrations normally generated by transducers.

IMPORTANT NOTES

9. RCF S.P.A. strongly recommends this product is only installed by professional qualified installers (or specialised firms) who can ensure a correct installation and certify it according to the regulations in force.

The entire audio system must comply with the current standards and regulations regarding electrical systems.

10. Mechanical and electrical factors need to be considered when installing a professional audio system (in addition to those which are strictly acoustic, such as sound pressure, angles of coverage, frequency response, etc.).

11. Hearing loss

Exposure to high sound levels can cause permanent hearing loss. The acoustic pressure level that leads to hearing loss is different from person to person and depends on the duration of exposure.

To prevent potentially dangerous exposure to high levels of acoustic pressure, anyone who is exposed to these levels should use adequate protection devices. When a transducer capable of producing high sound levels is being used, it is necessary to wear ear plugs or protective earphones.

See the technical specifications in the instruction manual for the maximum sound pressure the loudspeaker is capable of producing.

12. To ensure a correct sound reproduction, loudspeaker phase is to be respected (loudspeakers are connected respecting the amplifier polarity). This is important when loudspeakers are installed adjacent one another, for instance, in the same room.

13. To prevent inductive effects from causing hum, noise and a bad system working, loudspeaker lines should not be laid together with other electric cables (mains), microphone or line level signal cables connected to amplifier inputs.

14. The loudspeaker cable shall have wires with a suitable section (twisted, if possible, to reduce inductive effects due to surrounding electro-magnetic fields) and a sufficient electrical insulation. Refer to local regulations since there may be additional requirements about cable characteristics.

15. Install this loudspeaker far from any heat source.

16. Do not use solvents, alcohol, benzene or other volatile substances for cleaning the external parts of this product. Use a dry cloth.

RCF S.P.A. THANKS YOU FOR PURCHASING THIS PRODUCT, WHICH HAS BEEN DESIGNED TO GUARANTEE RELIABILITY AND HIGH PERFORMANCE.

DESCRIPTION



PL 68EN is a ceiling loudspeaker in compliance with EN 54-24 standard. It is equipped with a fire protection steel dome and can be installed into false ceilings (flush-mounted).

Main features:

- High quality voice reproduction.
- Steel construction with metal protection grille.
- Fire protection dome with an attachment system that ensures quick installation.
- Dual cone 6" loudspeaker.
- Transformer for connection to 100 V (/ 70 V) constant voltage lines.
- Power selection among three values.
- Ceramic terminal strip.
- Thermal fuse that prevents damage to the audio line due to heat on the loudspeaker.

INSTALLATION AND CONNECTIONS



WARNING: Make sure that the loudspeaker is installed in a stable and secure way in order to avoid any conditions that may be dangerous for persons or structures.

Ensure the support surface (e.g. the false ceiling) has the necessary mechanical characteristics to support the weight of the loudspeaker.

Before installing the loudspeaker, carefully check all components to be used and make sure there is no damage, deformation, corrosion and/or missing or damaged parts that could reduce the safety of the installation.

In outdoor use, avoid installing the loudspeaker in places exposed to harsh weather conditions.

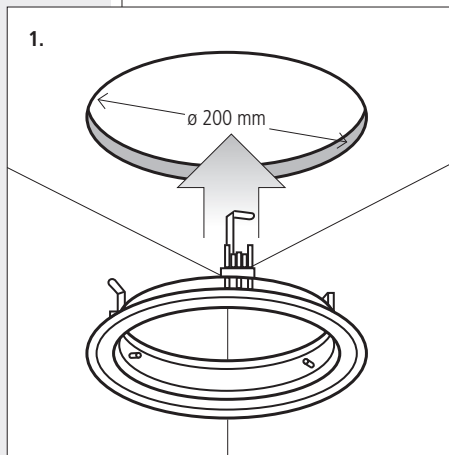
The PL 68EN is designed for flush-mount installation (into false ceilings).

Before installing loudspeakers, make sure there is sufficient space behind the false ceiling: with respect to the support surface of the loudspeaker front flange, at least an empty space 130 mm (about 5") deep is necessary.

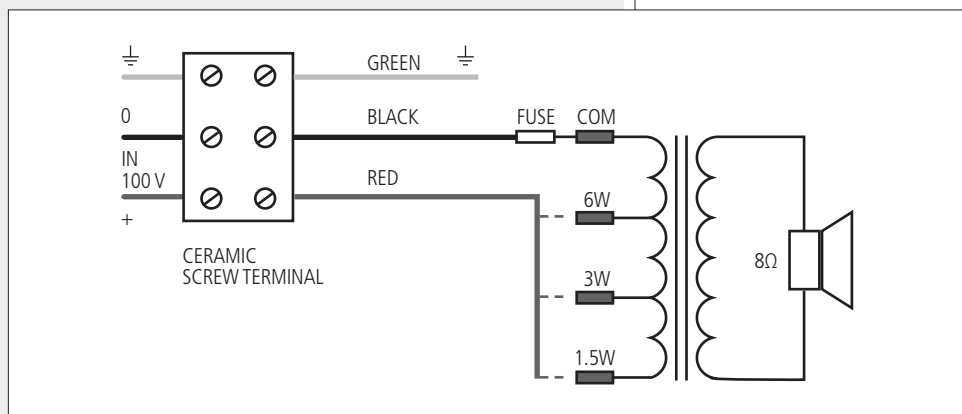
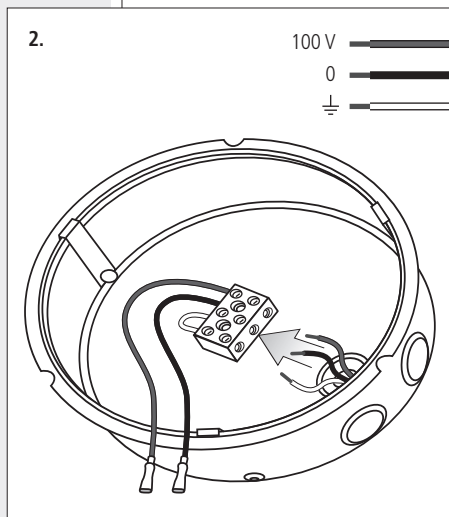
Loudspeaker connections should be only made by qualified and experienced personnel having the technical know-how or sufficient specific instructions to ensure that are made correctly and prevent any electrical danger.

To prevent any risk of electric shock, do not connect loudspeakers when the amplifier is switched on. Before turning the system on, check all connections and make sure there are no accidental short circuits. The entire sound system shall be designed and installed in compliance with the current local laws and regulations regarding electrical systems.

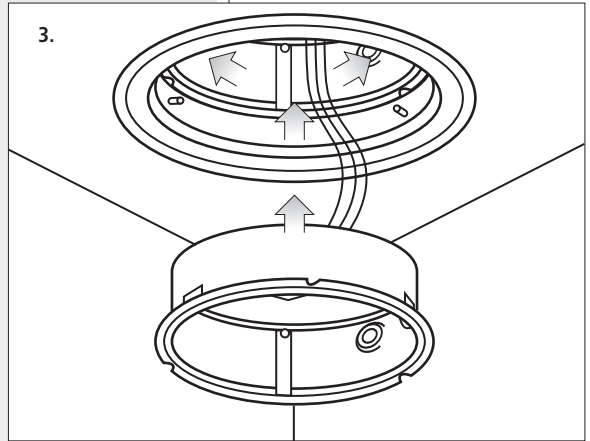
1. Drill a hole of diameter 200 mm (7.87") in the false ceiling panel.
Insert the external flange into the hole (previously drilled) and then release its springs to fix it to the false ceiling.



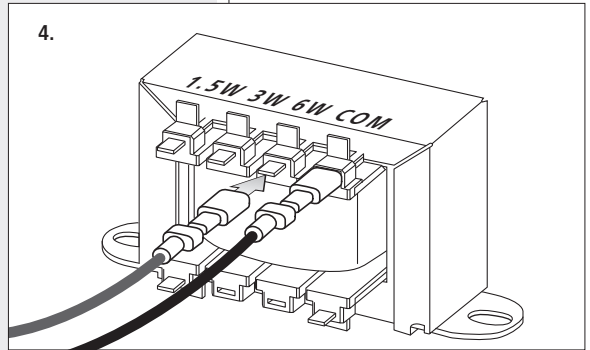
2. Insert the cable into the fire dome and connect both the 100 V (/ 70 V) line and the earth wire to the ceramic terminal strip of the fire dome (as shown in the figure).



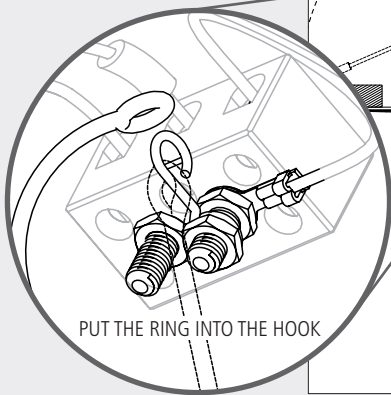
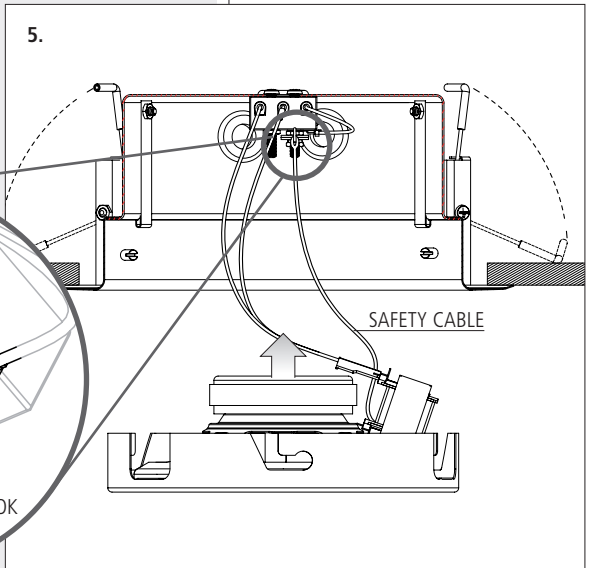
3. Insert the fire dome into the external flange (already fixed to the false ceiling).



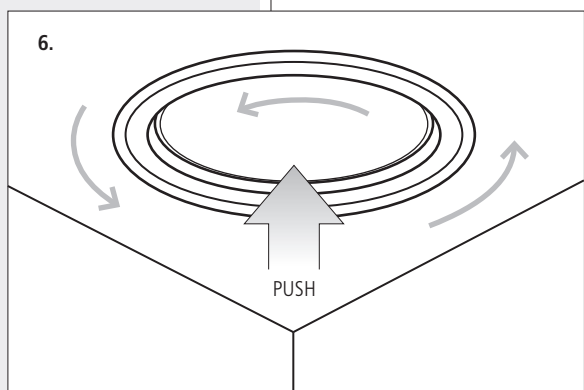
4. Select the power value among 6 / 3 / 1.5 W (at 100V) on the loudspeaker transformer by linking the red wire to the proper terminal. If the line is 70 V, the power will be halved. Connect the black wire to the transformer COM terminal.



5. Link the safety cable and then insert the loudspeaker into the fire dome.

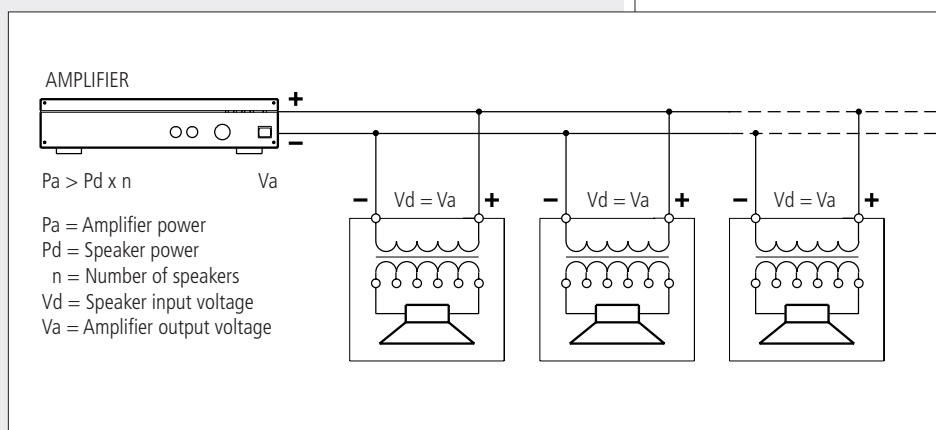


6. Push and turn counterclockwise the loudspeaker to secure it.



GENERIC NOTES ABOUT CONSTANT VOLTAGE SYSTEMS

- The loudspeaker input voltage (V_d) shall correspond to the amplifier output voltage (V_a).
- The sum of nominal power values ($P_d \times n$) of all loudspeakers connected to the line shall not exceed the amplifier power (P_a).
- Make sure all loudspeakers are connected in phase to ensure a correct sound reproduction.

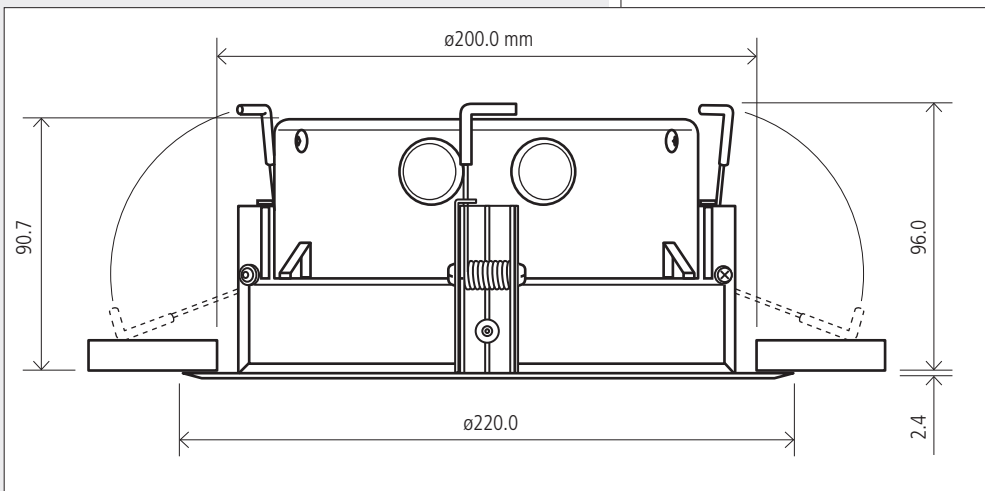


- Always use cables having wires with an adequate cross-section, considering the cable length and the total loudspeaker power.
- Loudspeaker lines must be kept separated from mains cable, microphone cables or others, in order to avoid inductive phenomena may cause hum or noises.
- Use loudspeaker cables having twisted wires to reduce hum caused by inductive effects due to coupling with electromagnetic fields.

SPECIFICATIONS



INPUT VOLTAGE:	100 V (/ 70 V)
POWER (SELECTABLE) AT 100V:	6 W – 3 W – 1.5 W (power values are halved at 70 V)
INPUT IMPEDANCE:	1.67 k Ω – 3.33 k Ω – 6.67 k Ω
FREQUENCY RESPONSE:	130 Hz \div 20 kHz (–10 dB)
SENSITIVITY:	94 dB (1 W, 1 m), 82 dB (1 W, 4 m)
MAX. SOUND PRESSURE LEVEL:	102 dB (6 W, 1 m), 90 dB (6 W, 4 m)
COVERAGE ANGLE (– 6 DB):	201° (500 Hz), 126° (1 kHz), 127° (2 kHz), 112° (4 kHz)
TRANSDUCER:	6" dual-cone
APPLICABLE WIRE SECTION:	0.8 \div 4 mm ²
COLOUR:	white
BODY AND GRILLE MATERIAL:	steel
FIRE DOME MATERIAL:	steel
FIRE DOME COLOUR:	red
CONNECTOR:	ceramic terminal strip
FALSE CEILING CUTOUT SIZE:	\varnothing 200 mm (7.87")
NET WEIGHT:	1.34 kg (2.95 lbs)
OPERATING TEMPERATURE:	–30 \div +60 °C (–22 \div +140 °F)
DIMENSIONS:	\varnothing 220 mm (8.66"), h: 96 mm (3.78")





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EN 54-24:2008

Loudspeaker for voice alarm systems
for fire detection and fire alarm systems for buildings

PL 68EN

Type A

DoP: 012_14

Other technical data: see operational manual.



Except possible errors and omissions.
RCF S.p.A. reserves the right to make modifications without prior notice.

Salvo eventuali errori ed omissioni.
RCF S.p.A. si riserva il diritto di apportare modifiche senza preavviso.

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