Gira radio emergency set

5914 ..

GIRA

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1. Introduction

The Gira radio emergency set is a radio-based, expandable call system (transmission frequency 868.35 MHz) and is suitable for many applications, for example for installation in WC's suitable for the handicapped.

1.1 General notes

The technical data and specifications contained in this documentation may be changed without prior notification. The illustrations are also non-binding.

Subject to technical modifications.

Note: Up-to-date information is available on the Gira website.

As the device you have purchased is constantly being further developed and updated, information in this manual may no longer be up-to-date.

Current product information is always available on the Gira website:

http://www.gira.de

Current documentation for your product is available at

http://www.download.gira.de

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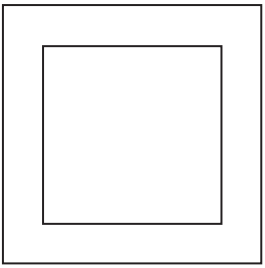
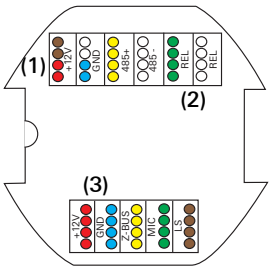
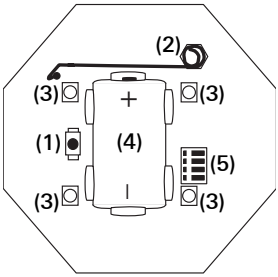
Dahlienstraße
42477 Radevormwald, Germany

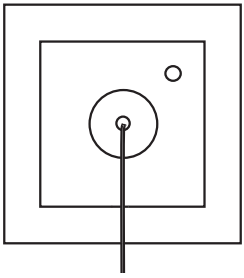
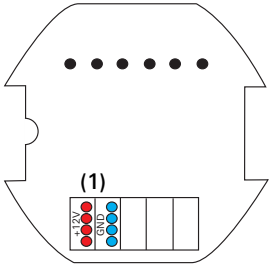
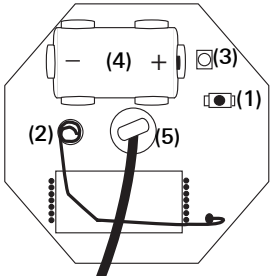
1.2 Scope of delivery

The following components are contained in the scope of delivery of the radio emergency set (Order No. 5914 ..):

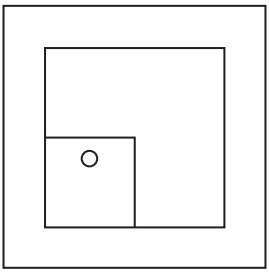
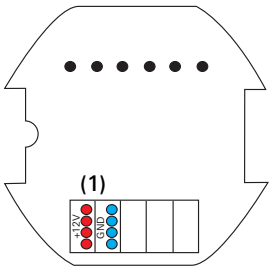
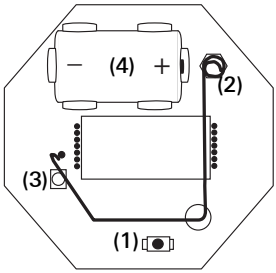
Radio call module, individual part order number 5935 00

Device view	Rear connections	Front of device
		
Contains both the control electronics for the radio emergency set as well as the signal light and buzzer.	(1) Power supply (2) Relay connection (3) RS 834+ connection	(1) Programming button (2) Antenna (3) LED display (4) Battery (5) DIP switch
Function: Call display / status display		
The radio call module is the central unit for the radio communication of the set, and contains the signal light and buzzer for the display of calls, and a relay contact.		

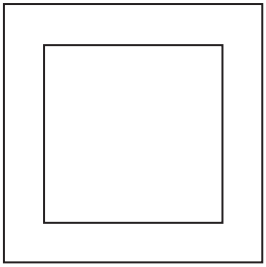
Radio pull-cord button, individual part order number 5932 ..

Device view	Rear connections	Front of device
 Connection via radio to: Radio call module	 (1) 12 V DC power supply (optional)	 (1) Programming button (2) Antenna (3) LED display (4) Battery (5) Pull-cord button
Function: Call triggering		
Triggers calls by pulling the cord. Reassurance light in the housing. Battery-operated.		

Radio switch-off button, individual part order number 5931 ..

Device view	Rear connections	Front of device
 Connection via radio to: Radio call module	 (1) 12 V DC power supply (optional)	 (1) Programming button (2) Antenna (3) LED display (4) Battery
Function: Call switch-off		
For switching off calls. Battery-operated.		

Power supply unit 12 V / 1 A, individual part order number 5930 ..

Device view		
 Power supply unit for flush-mounted installation		
Function: Power supply of the radio call module		
230 V / 12 V, 1 A. Power supply of the call module. Can also be used for supply of the pull-cord button and switch-off button.		

1.3 Area of application

The Gira radio emergency set is used to signal emergency situations and for alarming personnel. Signalling of an emergency situation is via a red signal light in the radio call module as well as acoustically via an optionally activated buzzer, also in the radio call module (factory setting: off).

The Gira radio emergency set is suited to all areas of application in which the installation of a call system according to DIN VDE 0834 is not expressly required, but where use of a call system is still expedient and is also thoroughly recommended due to high risk factors. Thus installation is possible in locations such as public outdoor facilities (e.g. toilet rooms in public baths), in public buildings such as administrative authorities, museums, department stores and also at places of work with especially high risk potential.

The range of application therefore covers for example all rooms in which persons who are alone (without visual or acoustic contact to their surroundings) may become subject to an emergency situation.

Gira assumes neither legal responsibility nor provides a guarantee for errors and damage of any kind as a result of improper use and/or unprofessional installation of the emergency set.

1.4 Functional description

A call is triggered if a person in need of help pulls the cord of the radio pull-cord button. The triggered call is signalled by a reassurance light in the housing of the radio pull-cord button. The red signal light of the radio call module simultaneously signals outside the room that help is required.

The radio switch-off button is located in the room where the call was triggered and is installed adjacent to the door. A triggered call can be deactivated by the person hurrying to give help pressing the green switch-off button.

Visual call signalling is with a red continuous light.

Acoustic call signalling in the radio call module can be switched on or off via the DIP switch on the circuit board (see Figure 2.3:) (factory setting: buzzer off).

The radio call module features a zero-voltage relay contact (see 2.7). The relay functions as a zero-voltage NC contact. This can be used for example for connection of a Gira TeleCoppler (optional).

After power failure, the function of the emergency set is maintained as all devices in the radio emergency set are battery-buffered (please see the technical data for precise designations of the battery types used).

The radio emergency set can be expanded by purchasing further components:

- Radio pull-cord button (Order No.: 5932 ..
- Radio switch-off button (Order No.: 5931 ..)

A maximum of 8 pull-cord buttons or switch-off buttons can be connected to a call module.

The maximum distance between the devices of an emergency set can be up to 100 m in the free field.

Note: Negative influence of radio signals.

With installation, disruptive factors that negatively influence the radio signals should be taken into account (see 2.1).

1.5 Interfaces and connection options

The radio emergency set features the following interface:

– The radio call module has a zero-potential relay contact (NC).
A Gira TeleCoppler (Order No.: 2335 00) can be connected to this.

2. Installation and start-up

Installation of the Gira radio emergency set must be carried out by a skilled electrician. He must observe the applicable requirements of DIN VDE 0834, DIN VDE 0100 and further standards as well as statutory standards.

The devices of a radio emergency set are pre-configured for immediate use and are installed in flush-mounted boxes.

2.1 Radio signals of the devices

Upon device installation several important rules must be observed to achieve the best possible radio transmission:

- The alignment or length of antennas must not be modified.
- The distance between the radio call module and the other devices of an emergency set should be at least 1 m (except the power supply unit).
- If possible, maintain a distance to large metallic surfaces (e.g. metal doors) and large electrical devices (motors, electrical switching cabinets etc.).
- Also maintain a distance to other functional assemblies that also use radio components.
- Do not install near to the ground (at least 0.5 m above the ground).
  Basic rule: the higher a radio component is installed, the longer its range.
- Attenuation of radio signals is achieved by reinforced concrete, metal grids, thick walls etc.
- Damp in materials or in the room reduces the penetration of radio waves.

2.2 Recommended installation heights for the devices

DIN 18024-2 ("Barrier-Free Construction") specifies that operating elements are mounted so they can also be easily reached by wheelchair users. A mounting height of 0.85 m is specified.

With pull-cord buttons in bathroom units, specific requirements in DIN 0100-710 must be adhered to. Pull-cord buttons must be fitted at least 20 cm above the highest possible position of the shower head.

It must be possible for the cord of the pull cord button to be reached by persons lying on the floor.

Note: Reef knot on the handle of the pull-cord button.

The handle of the pull cord button must be attached to the pull-cord by a reef knot to ensure that the cord cannot be pulled out of the handle.

2.3 Recommended installation height for the radio call module

The radio call module is for signalling an emergency situation and should be installed at a height of 1.5 m to 2.2 m.

2.4 Installation of the power supply unit for the radio call module

Care must be taken that the 230 V AC cable remains separate from the 12 V DC cable during installation.

Notes

Connection of the power supply unit must be carried out by a skilled electrician only. Ensure correct polarity when connecting the device. Before start-up, check the mains voltage. Heating up of the housing during operation is normal and safe.

Recommendation: Position the power supply unit to partition the cables.

Recommendation: Install the power supply unit and radio call module in deep installation boxes.

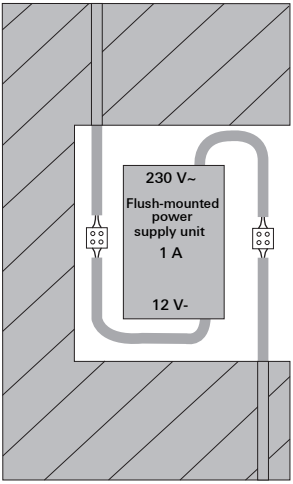


Figure 2.1: Separation of the power supply areas with the power supply unit

Important! Ensure uninterruptible power supply!

The radio call module has a 3 V lithium battery that with power failure ensures device functionality for up to 6 hours.
The device indicates power failure by rapid flashing.
Despite this we recommend an uninterruptible power supply for operation of the call module, so that if power failure occurs the function of the radio emergency set is still permanently maintained.

2.5 Starting up the radio emergency set

The components of a Gira radio emergency set are factory pre-configured. This means that the radio connection (transmission frequency 868.35 MHz) between the devices is automatically established during installation. The devices of the set do not have to be configured or taught in.

Observe installation distances of the radio components

Installation distances that are too small or too large may negatively influence a stable radio connection.
Recommended distances: minimum 1 m, maximum 100 m (in the free field).

2.5.1 Removing the battery discharge protection

Batteries are placed in the intended battery holder in the factory.

To avoid discharge during storage/delivery, a strip separates the battery pole and contact in the battery holder.

This strip must be removed with each device during installation/start-up.

2.6 Adding new devices to a radio emergency set / deleting device assignments from a radio emergency set

2.6.1 Expanding an existing radio emergency set with one or several devices

Note:
The description applies for devices not yet taught in with a set!

The following description applies for single devices to be integrated into an existing set.

Devices that are part of a set (Order No.: 5914 ..) are factory pre-configured and interconnected.

To delete the device assignment to a radio emergency set, see 2.6.2.

Important:
Only add several devices one after another.

For each device, implement steps 2 to 3 in succession.

Step	Set the device into programming mode	Response (signalling) of the device during teach-in
1	**1. Device = radio call module:** Press and hold the programming button for longer than 3 seconds.	**Flashing frequency: 1**
2	**2. Device = new device** Press and hold the programming button for longer than 3 seconds.	**Flashing frequency: 1 Hz**
3	**Result:** Radio contact is established, the status LED on both devices lights continuously for 5 seconds. The taught-in device exits programming mode. The radio call module remains in programming mode.	**Continuous light: 5 seconds** **The LED goes out** **Flashing frequency: 1 Hz**
4	**Teaching in a further device** Continue with step 2.	**Flashing frequency: 1 Hz**
5	**Exit programming mode** Press the programming button once.	**The LED goes out**

2.6.2 Deleting device assignment to a radio emergency set

Note:
Description applies to devices that are part of a radio emergency set!

To assign devices to a radio emergency set, see 2.6.1.

Important:
Only delete several device assignments one after another.

For each device, implement steps 2 to 3 in succession.

Step	Set the device into programming mode	Response (signalling) of the device during deletion of assignment
1	**1. Device = radio call module:** Press and hold the programming button for longer than 3 seconds.	**Flashing frequency: 1 Hz**
2	**2. device to be deleted** Press and hold the programming button for longer than 3 seconds.	**Flashing frequency: 1 Hz**
3	**Result:** The device assignment to the set is deleted and the status LEDs on both devices flash rapidly.	**Flashing frequency: 2 Hz**
	The device deleted from the assignment exits programming mode. The radio call module remains in programming mode.	**The LED goes out** **Flashing frequency: 1 Hz**
4	**Deleting a further device** Continue with step 2.	**Flashing frequency: 1 Hz**
5	**Exit programming mode** Press the programming button once.	**The LED goes out**

Note:
Programming mode is terminated automatically after 5 minutes.

Programming mode and thus also the flashing of the LED terminates automatically after 5 minutes independently of the programming button being pressed.

2.6.3 Testing the connection quality of the installation

As outlined in chapter 2.1, radio connection quality depends on various factors.

Note:
Test the connection quality before installation.

It is advisable to test connection quality prior to installing the devices so that another installation location can be selected if necessary.

Note:
The description applies both to pre-configured devices that are part of a radio emergency set and to devices added to a set!

To assign devices to a radio emergency set, see 2.6.1.

Important:
Only test the connection quality of several devices one after another.

For each device, implement steps 1 and 2 in succession.

Step	Set the device into test mode	Visual and acoustic display of the connection quality in the call module
1	**1. Device:** Press the programming button for less than 3 seconds.	If the buzzer is activated, an acoustic signal is output. The devices exchange information. This process takes several seconds.
2	**Display in the call module:**	**repeated 3 times within 5 seconds**
a)	Connection very good	**Flashes 1 x**
b)	Connection good	**Flashes 2 x**
c)	Critical connection	**Flashes 3 x**
3	**Testing a further device** Begin again with step 1.	
4	**Result: Critical connection** Find another installation location for the device and observe the points specified in chapter 2.1. Then test again.	**Flashes 3 x**

2.7 Relay in the radio call module

The relay functions as a zero-voltage NC contact.

The contact is open when:

- no voltage is applied
- a call is active
- a fault exists.

The contact is closed when:

- the device is ready for operation and there is no call and no fault.

The relay can be switched in series with other openers to signal faults or alarms.

2.8 Starting up the radio emergency set

Prerequisite:
Devices are assigned and part of a radio emergency set!

To assign devices to a radio emergency set, see 2.6.1.

Devices that are part of a set (Order No.: 5914 ..) are factory pre-configured and interconnected.

Test all functions of the radio components:

- Measure the 12 V DC supply voltage of the power supply unit.
  The power supply must not drop below 11.8 V DC.
- Pull the cord of the radio pull-cord button.
  The red light in the housing of the radio pull-cord button lights up (reassurance light).
  The red signal light in the radio call module lights up.
- Press the radio switch-off button, the red reassurance light in the housing of the radio pull-cord button and the red signal light in the radio call module go out.

2.8.1 Example for a standard installation

A WC suitable for the handicapped with pull-cord button and switch-off button can be equipped with the Gira radio emergency set. A call triggered by the pull-cord button is signalled by the red signal light of the call module outside, adjacent to the door of the WC. The call is switched off with the switch-off button in the WC area next to the door when the danger situation has been dealt with.

Components used:

– Radio call module (RMF)
– Radio pull-cord button (ZTF)
– Radio switch-off button (ATF)
– Flush-mounted power supply unit 12 V DC, 1 A for the call module (NG12V)

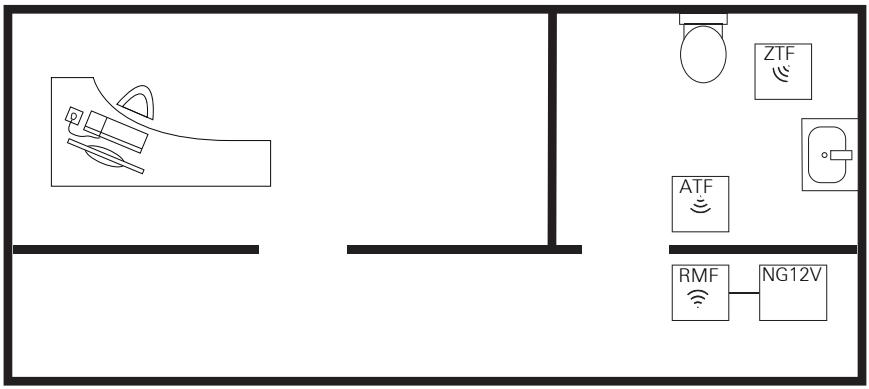


Figure 2.2: Example for use of the radio emergency set in a WC suitable for the handicapped

2.9 DIP switch on the circuit board of the call module

The factory setting is:

All 4 switches are in the left position, all options are "OFF".

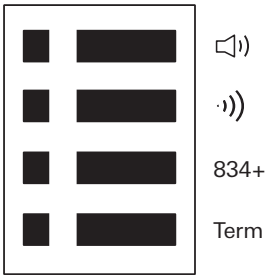
DIP switch in the call module	Symbol meanings	
		Buzzer off/buzzer on Factory setting: off
		For future application
	834+	For future application
	Term	For future application

Figure 2.3: DIP switch in the call module

2.10 Error signalling

2.10.1 Weak battery

Device display with weak battery	Call module display
Flashes 1 x short — Pause 5 sec. — Flashes 1 x short	Flashing frequency: 2 Hz
Possible cause: weak battery.	
Eliminate the cause: New battery, see 3.7.	
Result: The LED goes out	The LED goes out

2.10.2 Loss of radio connection

Device display	Call module display
Flashes 1 x short — Pause 5 sec. — Flashes 1 x short	Flashing frequency: 1 Hz
Possible cause (see 2.1): • e.g. unsuitable installation location • e.g. unsuitable climatic conditions (humidity) • e.g. unsuitable distance between the call module and the other devices	
Eliminating the cause: • e.g. select a suitable installation location • e.g. create suitable climatic conditions (low humidity) • e.g. ensure more suitable distance between the call module and other devices	
Result: The LED goes out	The LED goes out

2.10.3 Multiple loss of radio connection (> 20 times in 24 h)

Device display	Call module display
Flashing frequency: 1 Hz	Flashing frequency: 1 Hz
Possible cause (see 2.1): • e.g. unsuitable installation location • e.g. unsuitable climatic conditions (humidity) • e.g. unsuitable distance between the call module and the other devices	
Eliminating the cause: • e.g. select a suitable installation location • e.g. create suitable climatic conditions (low humidity) • e.g. ensure suitable distance between the call module and the other devices	
Deactivating the error signalling (flashing): Briefly press the programming button on the call module once.	
Result: The LED goes out	The LED goes out

2.10.4 Device reset to factory setting

The programming button of each device to be reset to the factory setting should be pressed and held for longer than 10 seconds.

Important:

All implemented settings are deleted.

2.10.5 Device defect

If all other fault sources have been excluded and a device is still unable to establish a radio connection, then a device reset must be carried out with the call module and all other taught-in devices. Following this, device assignments as specified in 2.6.1 must be implemented again.

3. Operation

3.1 Call triggering

- **Radio pull-cord button**

  The call is triggered by a person in need of help by pulling on the cord of the radio pull-cord button. The call is signalled with a lighting up of the reassurance light in the housing of the radio pull-cord button as well as with red continuous light from the signal light of the radio call module.

3.2 Call signalling

- **Radio pull-cord button**

  The call is signalled with a lighting up of the reassurance light in the housing of the radio pull-cord button.

- **Radio call module**

  The call is signalled by red continuous light from the signal light of the radio call module. The call may also be signalled with a buzzer tone (see 2.9).

3.3 Switching call off

- **Radio switch-off button**

  The call is deactivated in the room in which it was triggered by pressing the switch-off button (green button) by the person supplying assistance.

3.4 Status display and display of faults in the call module

Call type	Type and cycle sequence of the calls			
	Visual display		Colour	Acoustic signal when buzzer is ON
Call		Continuous light	Red	Tone sequence t_{on} approx. 1 sec. t_{off} approx. 10 ... 20 sec.
Signalling with "no connection"		Flashing light, long interval on/off approx. 1 sec. each ...	Red	
Signalling with "weak battery"		Flashing light, short interval on/off approx. 0.5 sec. each ...	Red	

3.5 Setting of acoustic signalling in the call module

The acoustic call signalling in the radio call module can be activated or deactivated via DIP switch (see 2.9).

3.6 Power failure

A call that was active before power failure is retained.

3.7 Maintenance and care

The operability of all system components must be checked regularly (once yearly). DIN VDE 0834 also specifies replacing batteries once yearly.

If batteries must be replaced, the batteries can be ordered with the Gira order number:

- Battery (type CR2, 3 V, 800 mAh) for the radio call module,
  order number: 5988 00
- Battery (type $^1/_2$ AA, 3.6 V, 1,200 mAh) for pull-cord button and switch-off button,
  order number: 5989 00

Important:

Danger of explosion in case of improper replacement of the battery.
Observe the regulations on the disposal of used batteries.

4. Technical data

Operating temperature	+5 °C to 40 °C
Storage temperature	-25 °C to 70 °C
Radio call module	With red LED signal light, installation in installation box, DIN 49073, (deep box recommended)
Lithium battery in: radio call module	1 x CR 2, 3 V, 800 mAh
Radio pull-cord button	Installation in installation box, DIN 49073 wall/ceiling installation possible.
Lithium battery in: radio pull-cord button	1 x $^1/_2$ AA, 3.6 V, 1,200 mAh
Radio switch-off button	Installation in installation box, DIN 49073
Lithium battery in: radio switch-off button	1 x $^1/_2$ AA, 3.6 V, 1,200 mAh
Transmission frequency	868.35 MHz
Range	100 m (free field)
Distance between radio components:	min. 1 m max. 100 m
Power supply unit for radio call module	Installation in installation box, DIN 49073 (deep box recommended)
Height	approx. 24 mm
Input voltage (PRI)	100 V to 240 V~
	50 - 60 Hz, 170 mA
Output voltage (SEC)	12 V DC
Output current	1 A
Approval EU	EN 60950 EN 60335
Protection type	IP 20
ambient temperature	- 25 °C to +50 °C
Care	Do not use solvents!

4.1 Current consumption of components

The power supply unit included can supply the call module, and if necessary 8 further devices.

5. Warranty

The warranty is provided in accordance with statutory requirements via the specialist trade.

Please submit or send faulty devices postage paid together with an error description to your responsible salesperson (specialist trade/installation company/specialist electrical trade).

They will forward the devices to the Gira Service Center.

Gira
Giersiepen GmbH & Co. KG
Electrical installation
systems

P.O. Box 12 20
42461 Radevormwald

Germany

Phone +49 (0) 2195 - 602 - 0
Fax +49 (0) 2195 - 602 - 191

www.gira.com
info@gira.com

GIRA

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