Gira nurse call system
Installation, start-up, operation

Gira emergency set
2914 ..

GIRA

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1. Introduction

The Gira emergency set is a wired call system and is suitable for example for installation in WC's suitable for the handicapped.

1.1 General information

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

Subject to technical modifications!

Note: latest information is available on the Gira website.

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

The latest product information is available at the Gira website:

http://www.gira.de

Current documentation for your product is available at

http://www.download.gira.de

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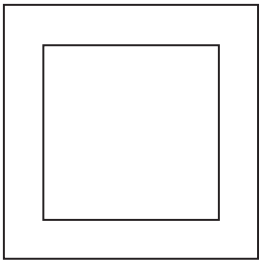
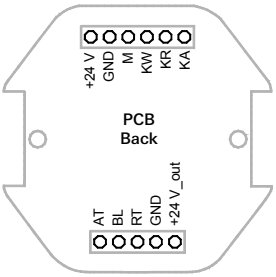
Dahlienstraße
D-42477 Radevormwald, Germany

1.2 Scope of delivery

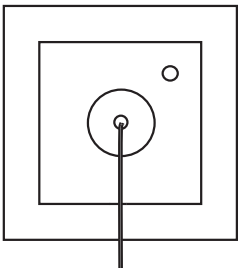
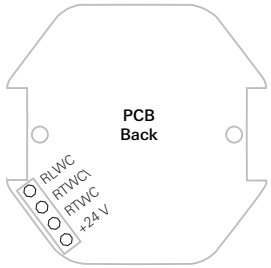
The following components are contained in the delivery scope of the emergency set (order no. 2914 ..):

Call module, order number 2916 00 (abbreviation: RM)

Device view	Connection assignment	Legend
 Contains both the electronics for the emergency set as well as the signal light.		+ 24 V Power supply GND Earth M Signal line to duty room KW Base relay contact KR Rest relay contact KA Operating relay contact + 24 V_out Voltage (protected) GND Earth (protected) RT Call button BL Reassurance light AT Switch-off button
Function: call display.		
Red signal light in the call module as flashing light with either pulsing **buzzer tone** see "2.8 The jumpers of the devices in the emergency set" on page 22. Zero-voltage relay contact for connecting for example a telephone dialler (not included in scope of delivery). Signal light with continuous light and continuous buzzer tone signal a wire fracture. See also "Call module" on page 23.		

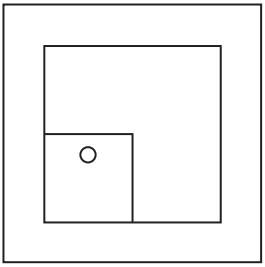
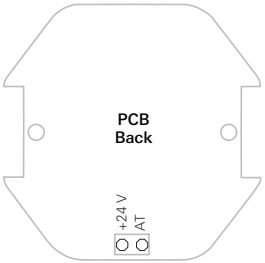
Installation in flush-mounted box according to DIN 49073. Recommendation: deep box.

Pull-cord button, order number 2912 .. (abbreviation: ZT)

Device view	Connection assignment	Legend
 Connection to: call module		RLWC Call light WC call RTWC\ Call button WC call (Out) RTWC Call button WC call (In) + 24 V Power supply
Function: call triggering.		
Pull cord with **red** handle on pull-cord button. **Red reassurance light** lights up in the housing of the pull-cord button. Red signal light in the call module lights up. Also buzzer may tone.		

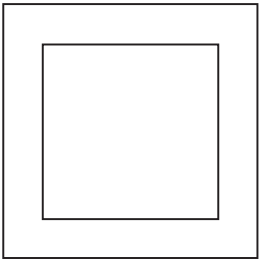
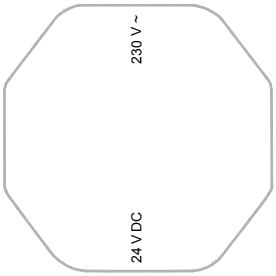
Installation in flush-mounted box according to DIN 49073.

Switch-off button, order number 2911 .. (abbreviation: AT)

Device view	Connection assignment	Legend
 Connection to: call module		+ 24 V Power supply AT Switch-off button
Function: call switch-off.		
Press green switch-off button. **Red signal light** in the call module **goes out**, **buzzer tone is muted.**		

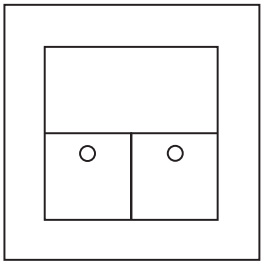
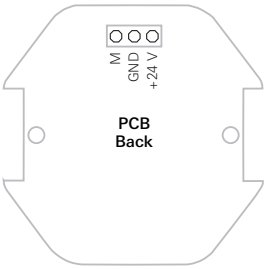
Installation in flush-mounted box according to DIN 49073.

Power supply unit 24 V/250 mA, order number 2969 .., (abbreviation: NNRS)

Device view		
 Power supply unit for flush-mounted installation		
Function: power supply of emergency set.		
230 V/24 V, 250 mA. The power supply unit can be loosely placed into a flush-mounted box.		

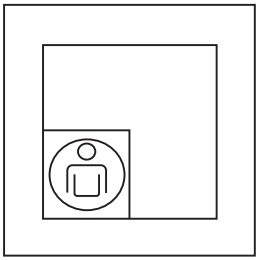
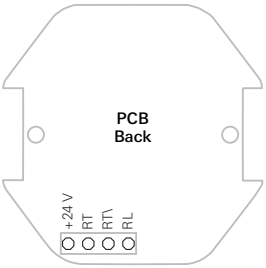
Installation in flush-mounted box according to DIN 49073. Recommendation: deep box.

Optional: duty room unit, order number 2915 .. (abbreviation: DZ)

Device view	Connection assignment	Legend
 Connection to: call module		M Signal line to duty room GND Earth + 24 V Power supply
Function: reception unit for calls in emergency set, suppression of buzzer tone.		
Mark presence with **green** button (a buzzer tone in an emergency only tones with set presence). The yellow button has a **red LED (call lamp)** that lights up if a call was triggered. With the **yellow** button the **buzzer tone** is suppressed for 20 seconds.		

Installation in flush-mounted box according to DIN 49073.

Optional: call button, order number 2900 .. (abbreviation: (RT)

Device view	Connection assignment	Legend
 Connection to: call module		+ 24 V Power supply RT Call button (In) RT\ Call button (Out) RL Call light
Function: call triggering.		
Trigger call with **red** button. **Red reassurance light** lights up in the call button. Red signal light in the call module lights up. Also buzzer may tone.		

Installation in flush-mounted box according to DIN 49073.

1.3 Area of application

The Gira 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 call module as well as acoustically via a buzzer (activated optionally) in the call module.

An additional call button and duty room unit can be optionally connected to the emergency set as a reception unit via which a call can be signalled visually and acoustically, e.g. in another room.

The Gira 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 Interfaces and connection options

The emergency set features the following interfaces and connection options:

– Relay contact (zero-voltage connection) in the call module, for connection of an external device (e.g. Gira TeleCoppler, order number 0363 00). See also "Call module" on page 23.
Consult the operating instructions of the external device!

2. Installation and start-up

Installation of the Gira nurse call system is to be carried out by a skilled electrician only. He must pay attention to the applicable requirements of DIN VDE 0834, DIN VDE 0100 and further standards as well as statutory regulations.

All emergency set devices are installed in flush-mounted boxes.

Wiring may be carried out with cable material such as J-Y(St)Y, 4 x 2 x 0.6 mm. When selecting cable material, further regulations and directives (e.g. freedom from halogen) must be observed.

2.1 Recommended installation heights for devices

Devices such as the call button or switch-off button should be mounted to a height of 0.7 m to 1.5 m. DIN 18024-2 (barrier-free construction) also stipulates that operating elements for wheelchair patients should be mounted to a height of 0.85 m. With pull-cord buttons in bathroom units, specific requirements specified by 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 pull cord to be reached by persons lying on the floor.

Note: reef knot on handle of pull-cord button.

The handle of the pull-cord button is to be secured with a reef knot on the pull cord.

2.2 Recommended installation height for the call module

The call module should be mounted to a height of 1.5 m to 2.2 m.

2.3 Installation of power supply unit

Care must be taken that the 230 V~ cable remains separate from the 24 V cable during installation.

We recommend: positioning the power supply unit to partition the cables.

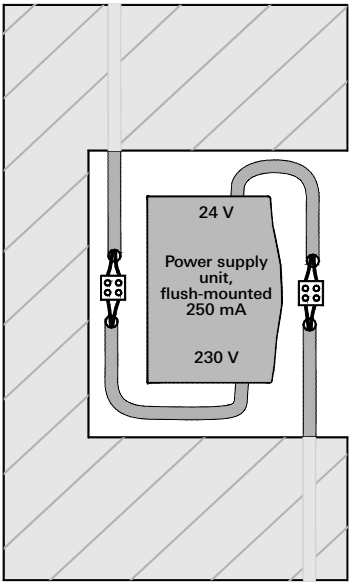


Figure 2.1: Separation of the power supply areas with the power supply unit

Important! Ensure uninterruptible power supply!

It is recommended to use an uninterruptible power supply (UPS) in order to ensure continued functionality of the emergency set in case of power failure.

2.4 Functional description

If a person in need of help pulls on the cord of the pull-cord button (optional: pressing the red button on the call button), a call is triggered. The triggered call is signalled by a reassurance light in the housing of the pull-cord button. Simultaneously the red signal light of the call module located outside of the room signals that help is needed in the room.

The optional duty room unit can be installed for example at a central point e.g. in the doorman's room. This visually signals the call to the personnel by lighting up of a call lamp in the button of the unit and also acoustically with a buzzer tone. The call can be acknowledged with the "buzzer OFF" button (yellow): the acoustic signal is suppressed for approx. 20 seconds.

The 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 flashing light.

The acoustic call signalling can be optionally connected directly in the call module via a jumper on the call module (see "The jumpers of the devices in the emergency set" on page 22).

The call module features a zero-voltage relay contact. This can be used for example for connection of a Gira TeleCoppler (optional). See also "Call module" on page 23.

The call triggering components are monitored for wire fracture. In cases of wire fracture the red signal light lights continuously. If the jumper is connected to the call module a continuous acoustic signal is emitted with wire fracture.

Following power failure a triggered call is retained.

The maximum distance between call module and duty room unit (reception unit) is 500 m.

2.5 Wiring routing

With wiring routing the following factors are important, partly also specified by DIN VDE 0834:

- Fireproof routing in escape routes.
- Safe electrical isolation from high voltage systems.
- Prevention of malfunctions by other systems.
- Safe wire connection.

Many federal states stipulate halogen-free installation material (including cabling and flush-mounted boxes) for public buildings. This requirement is also applicable for use of supplementary mounting aids such as clamps.

Gira emergency set devices are equipped with screw terminals.

2.6 Emergency set standard system

As standard, the call triggering components of the Gira emergency set are wired according to the so-called idle current principle (series connection). Wiring of the call switch-off components is carried out according to the working current principle (parallel connection).

2.6.1 Wiring of the call triggering components

The call triggering components, e.g. pull-cord buttons and call buttons are connected in series (idle current principle). If the call system is in idle state, a low current flows (idle current). When the corresponding button is pressed the flow of current is interrupted, thus triggering the call.

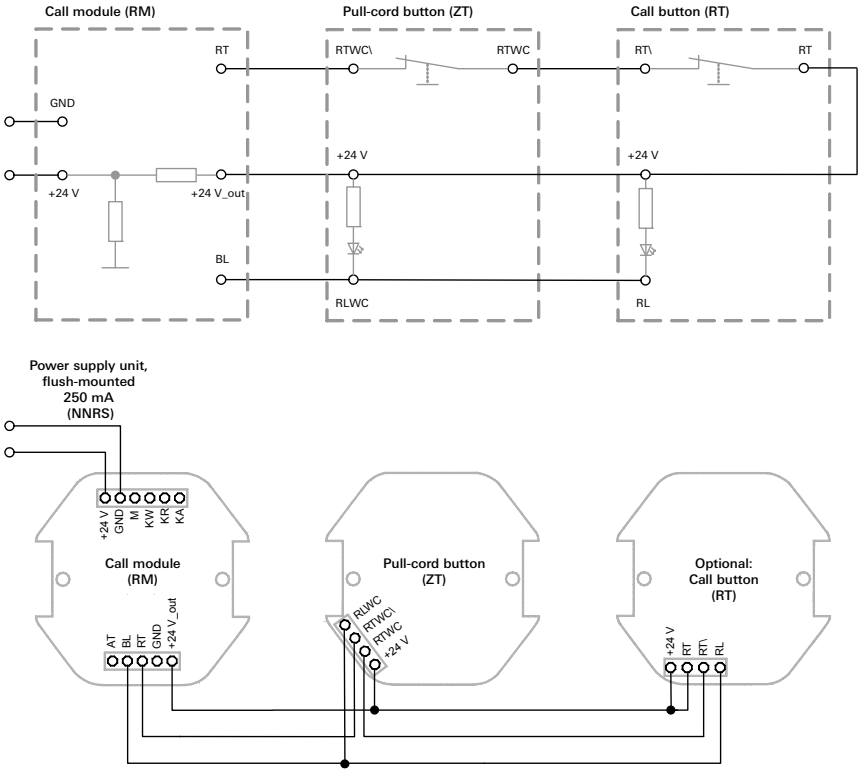


Figure 2.2: Wiring example for call triggering components (idle current principle)

2.6.2 Wiring of the call switch-off components

The call switch-off components, e.g. switch-off button, are connected in parallel (working current principle). If a call was triggered in the call system, pressing of the switch-off button for example closes the circuit again, thus switching off the call.

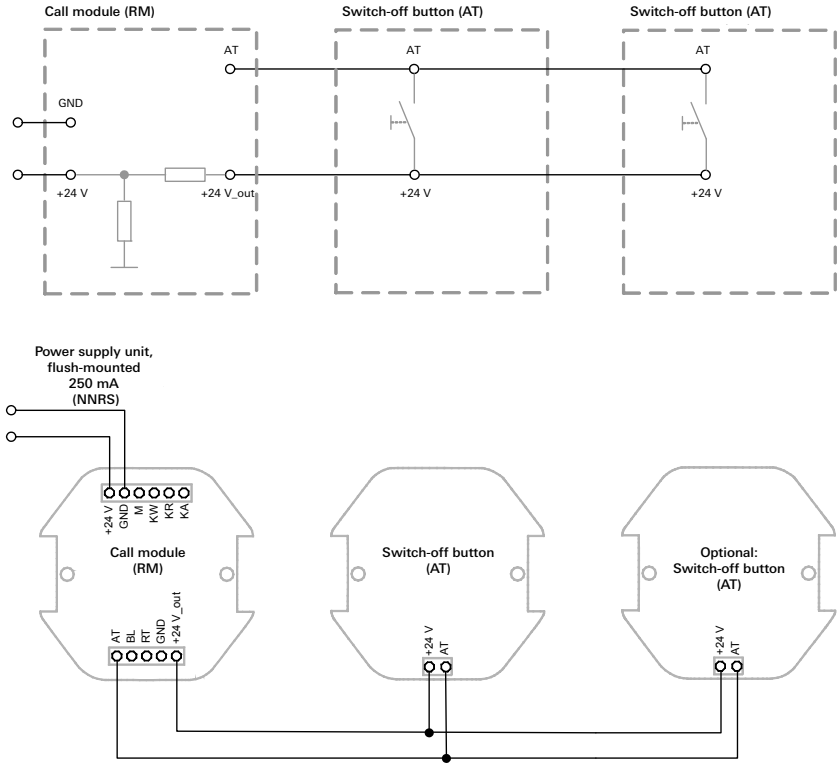


Figure 2.3: Wiring example for call switch-off components (working current principle)

2.6.3 Wiring of the standard system

A WC suitable for the handicapped with pull-cord button and switch-off button can be equipped with the standard variant of the Gira emergency set. A call triggered by the pull-cord button is visually 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:

– Call module (RM)

– Pull-cord button (ZT)

– Switch-off button (AT)

– Power supply unit, flush-mounted, 250 mA (NNRS)

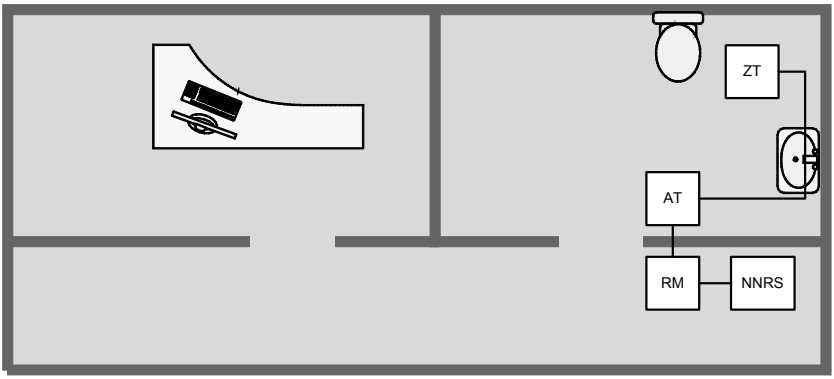


Figure 2.4: Example for emergency set in a WC suitable for the handicapped

A 4 x 2 x 0.6 mm cable must be laid for each emergency set component.

This method of cable routing guarantees sufficient numbers of wires even after modifications to the system have been carried out.

We recommend: call module and power supply unit installation in a deep flush-mounted box.

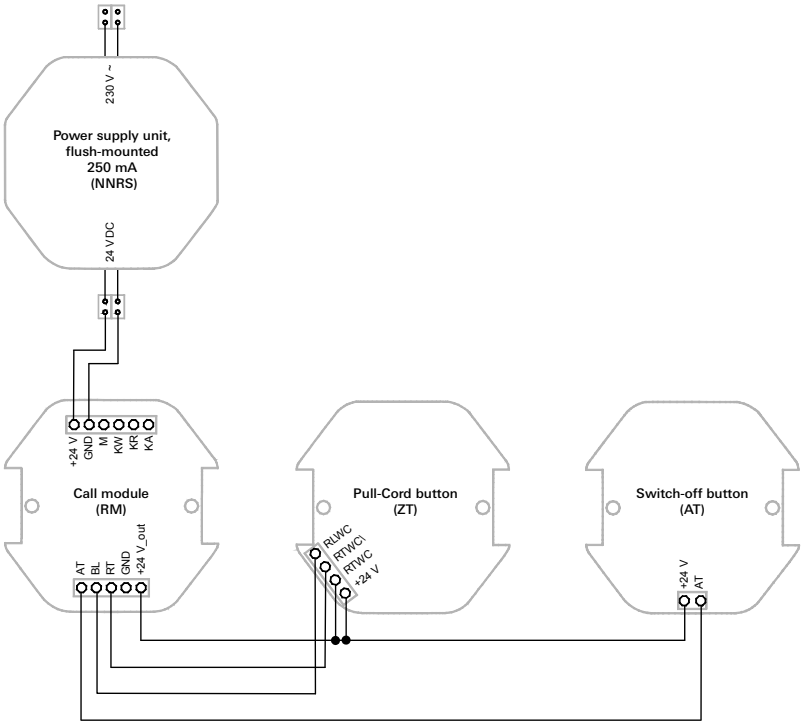


Figure 2.5: Wiring of emergency set as standard variant

2.7 Expansion of Gira emergency set

Additional application possibilities become available with specific expansion of the Gira emergency set with e.g. duty room units or call triggering components. The following shows some examples for expansion of the emergency set.

2.7.1 Expansion with a duty room unit

With expansion of the emergency set with a duty room unit, a call from a WC suitable for the handicapped for example can be signalled visually and acoustically in a room from which the call module cannot be seen. Possible areas of application: medical and massage practices, relaxation rooms, self-contained flats etc.

Components used:

– Emergency set, order number 2914 ..

– Additionally: duty room unit (DZ), order number 2915 ..

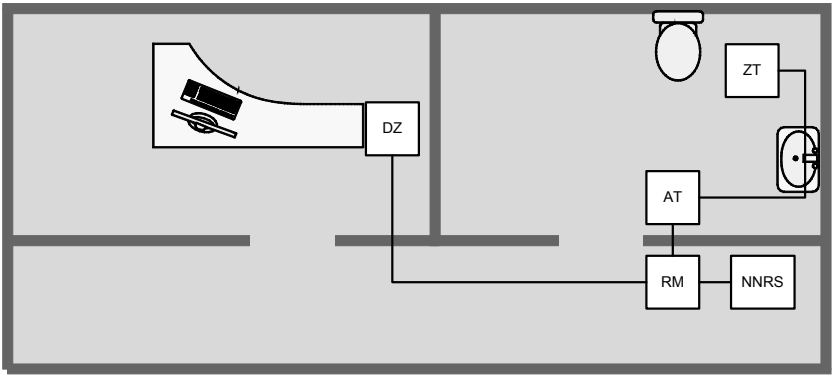


Figure 2.6: Example for expansion of the emergency set with a duty room unit

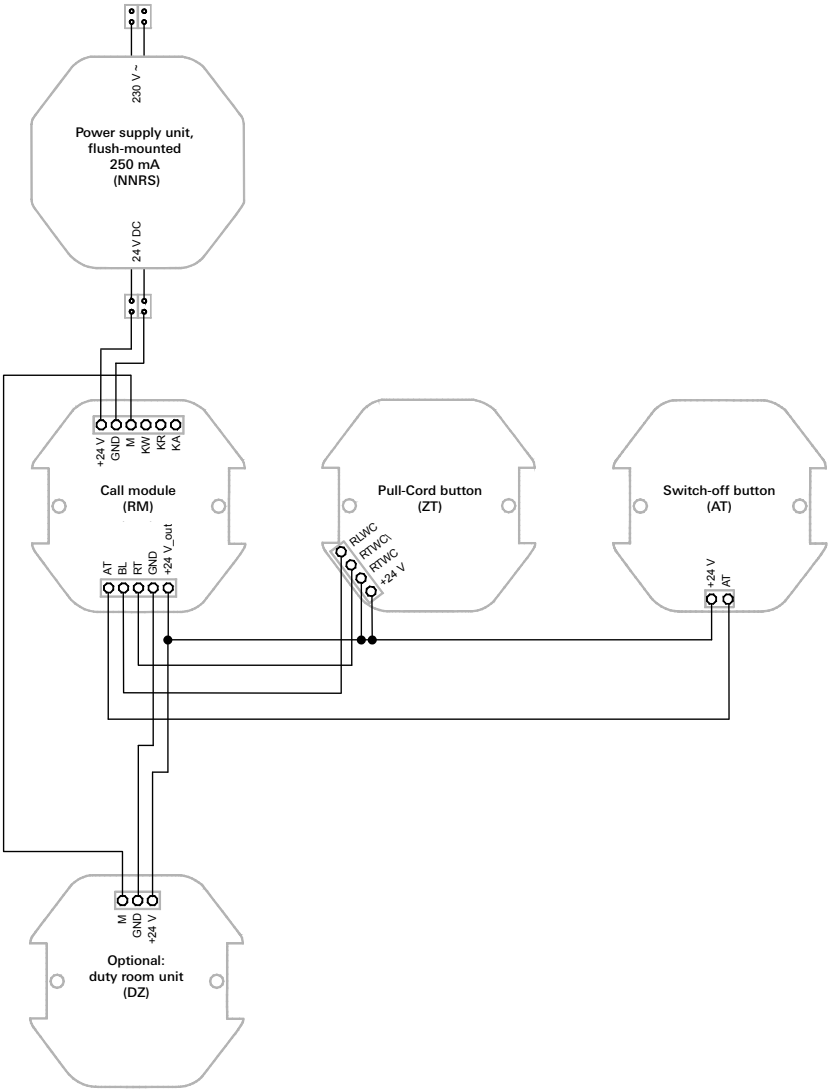


Figure 2.7: Wiring with a duty room unit

2.7.2 Expansion with two duty room units

With expansion of the emergency set with two duty room units, a call from a WC suitable for the handicapped for example can be signalled visually and acoustically in two separate rooms from which the call module cannot directly be seen. Possible areas of application: medical and massage practices, relaxation rooms, self-contained flats etc.

Components used:

– Emergency set, order number 2914 ..

– Additionally: 2 x duty room unit (DZ), order number 2915 ..

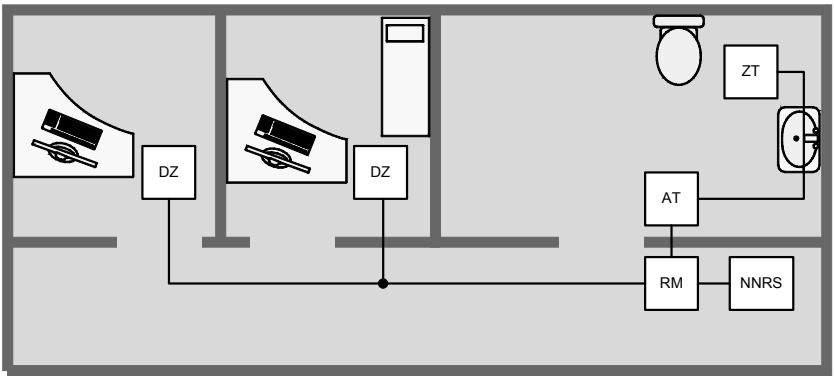


Figure 2.8: Example for expansion of the emergency set with two duty room units

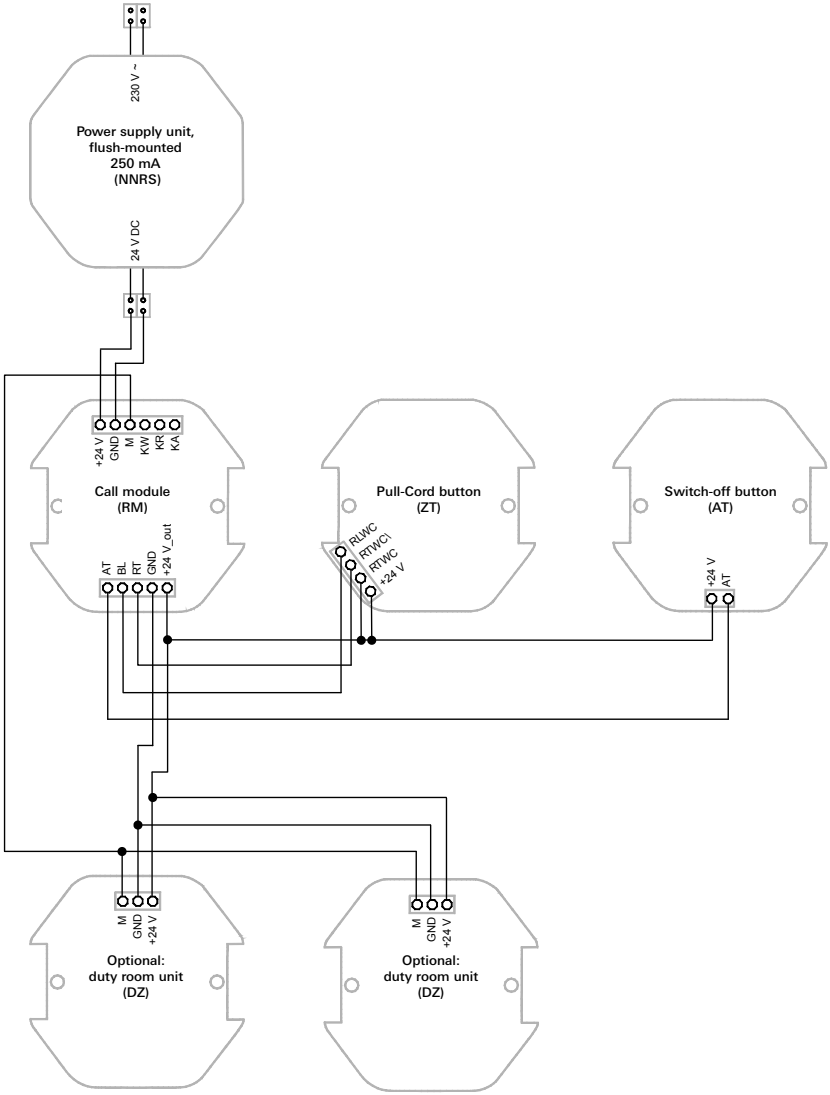


Figure 2.9: Wiring with two duty room units

2.7.3 Expansion with a call button

Expansion of the Gira emergency set with a call button can be used for example for call triggering from a washbasin in a WC suitable for the handicapped. Wiring is in accordance with the idle current principle (see "Wiring of the call triggering components" on page 12). Possible areas of application: medical and massage practices, relaxation rooms, self-contained flats etc.

Components used:

– Emergency set, order number 2914 ..

– Additionally: call button (RT), order number 2900 ..

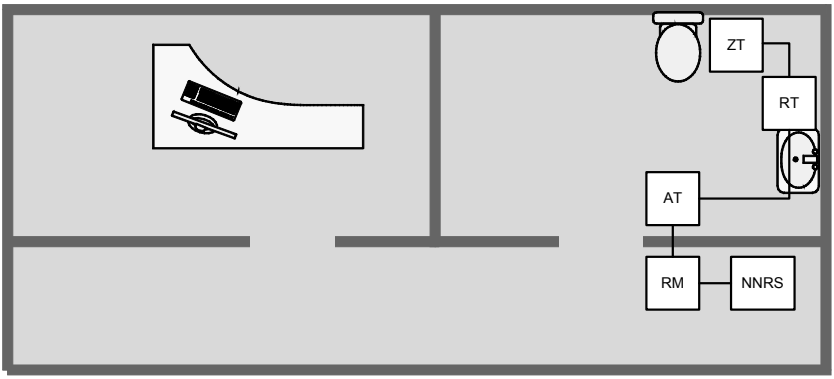


Figure 2.10: Example for expansion of the emergency set with a call button

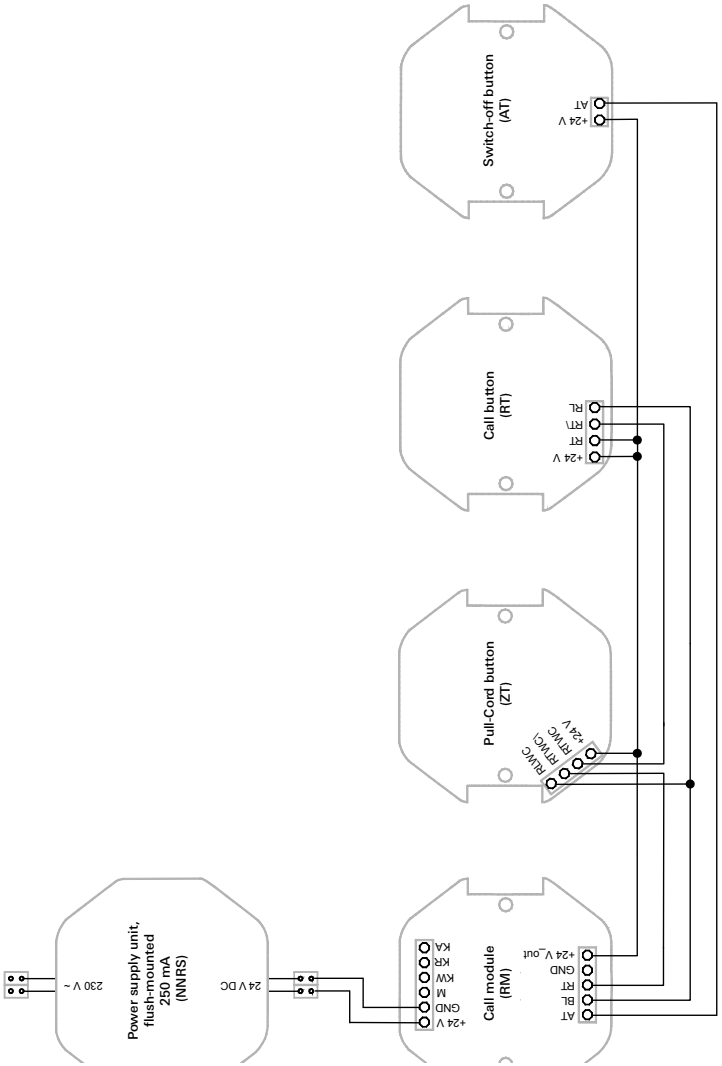
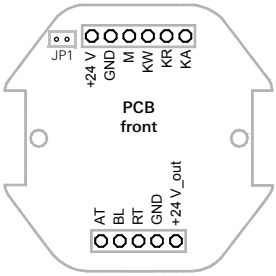
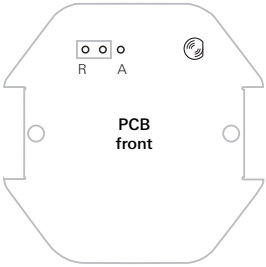


Figure 2.11: Wiring with an additional call button

2.8 The jumpers of the devices in the emergency set

Call module (RM)	Pull-cord button (ZT)
	
Jumper 1 (JP1) closed = Buzzer activated in call module (factory setting) open = Buzzer deactivated in call module	**Jumper** R = Setting for series wiring, idle current principle (factory setting) A = Setting for parallel wiring, working current principle, e.g. for coupling to systems of other manufacturers

2.9 Call module

The call module is the central control unit of the emergency set. It features a relay contact (zero-voltage contact) with which an external device can be optionally connected, e.g. the Gira TeleCoppler (order number 0363 00) for connection of a telephone. The relay contact can also be used for linking up several call modules if these are to be used in one building, see "2.9.2 Linking of several call modules on page 24".

2.9.1 Relay contact for connection of an external device

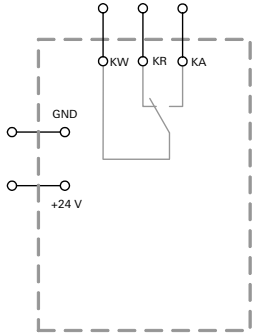


Figure 2.12: Basic wiring diagram for de-energized state with call triggering

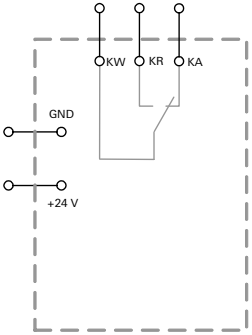


Figure 2.13: Basic wiring diagram for energized state (no call exists)

Designation of contacts:

- KW: base relay contact
- KR: rest relay contact
- KA: operating relay contact

The relay contact of the call module can be loaded to a maximum of 1 A at 30 V DC.

2.9.2 Linking of several call modules

The emergency set can be expanded with one or several call modules (order number 2916 00). With use of several call modules the relay contact can be used for interconnection. Advantage: as soon as the line between the call modules is interrupted an alarm is triggered.

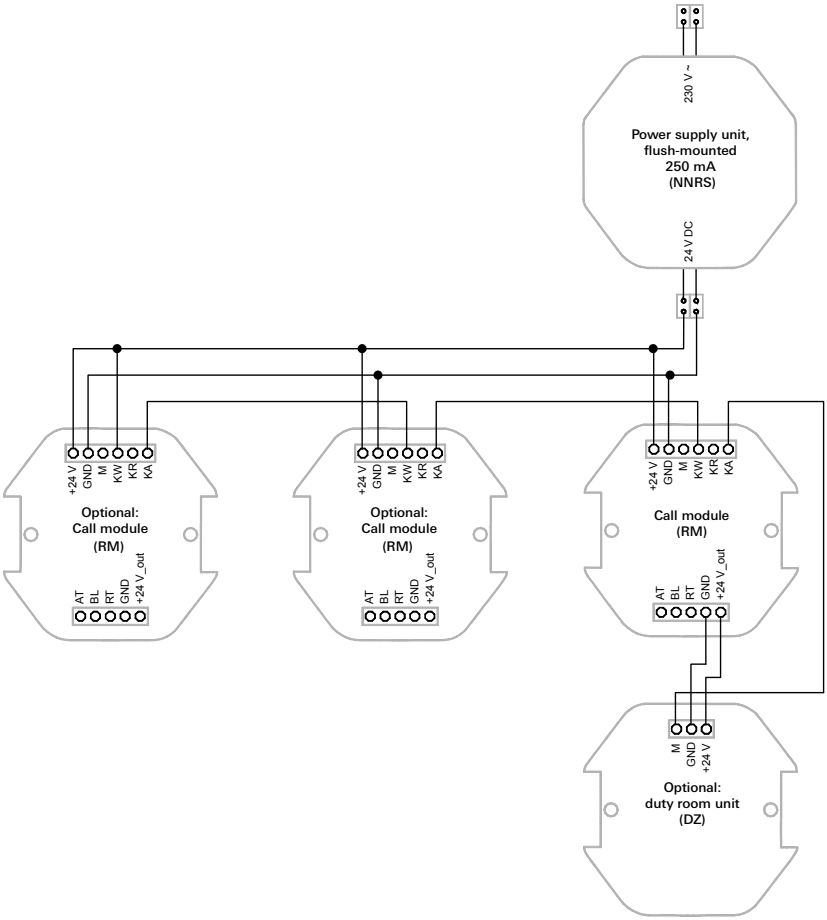


Figure 2.14: Linking of several call modules

With the linking of call modules either a continuous signal (e.g. with wire fracture) or no signal is triggered. The jumper of the call module in this case has no influence upon call signalling of the duty room unit.

2.10 Starting up emergency set

Check all functions of active and passive components as follows:

- Measuring of 24 V power supply.
  The power supply must not drop below 21.6 V.
- Press the green presence button at the duty room unit (optional), the red signal light of the call module must not light up.
- The red light in the pull-cord button/call button must glow (location light function).
- Pull the cord at the pull-cord button or press the red button of the call button.
  The red light in the housing of the pull-cord button/call button lights up (reassurance light).
  The red signal light in the call module flashes.
- Optional duty room unit: set presence with green button.
  The red LED in the yellow button of the duty room unit lights up when a call has been triggered and a buzzer tone is emitted.
  Press the yellow button, the buzzer tone is suppressed for 20 seconds.
- Press the switch-off button, the red reassurance light in the housing of the pull-cord button/call button and the red signal light in the call module go out.
  The location light in the housing of the pull-cord button/call button glows.
  Optional duty room unit: the red LED in the yellow button goes out, the buzzer tone is muted.

Notes

3. Operation

3.1 Call triggering

- **Pull-cord button**

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

- **Call button (order number 2900 .., not included in scope of supply of the emergency set)**

  The call is triggered by a person in need of help by pressing the red call button. The call is signalled with a lighting up of the reassurance light in the button as well as with the red signal light of the call module.

3.2 Call signalling

- **Pull-cord button**

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

- **Call button (order number 2900 .., not included in scope of supply of the emergency set)**

  The call is signalled with a lighting up of the reassurance light in the red button.

- **Call module**

  The call is signalled with a pulsing lighting up of the red signal light in the call module. The call may also be signalled with a buzzer tone (see "The jumpers of the devices in the emergency set" on page 22).

  In case of a wire fracture the red signal light lights continuously.
  If acoustic signalling is switched on (see "The jumpers of the devices in the emergency set" on page 22), a continuous tone is heard.

- **Duty room unit (order number 2915 .., not included in scope of supply of emergency set)**

  The duty room unit is activated by pressing the green presence button. The duty room unit installed at a central location (e.g. in the doorman's room) signals the call optically by lighting up of a red LED in the yellow button and acoustically with a buzzer tone. The call can be acknowledged with the "buzzer OFF" button (yellow button). This results in the acoustic signal being suppressed for approx. 20 seconds.

3.3 Switching call off

- **Switch-off button**

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

3.4 Setting of acoustic signalling in the call module

The acoustic call signalling in the call module can be activated or deactivated (see "The jumpers of the devices in the emergency set" on page 22).

3.5 Connection of peripheral devices

The call module establishes a zero-voltage contact (KW, KR, KA) for the duration of the call. This can be used for example to connect a telephone dialler (not included in scope of supply) for alarming a helper at another location.

3.6 Wire fracture

An active call cannot be acknowledged. The call module displays a continuous red light, the acoustic wire fracture signalling depends upon the jumper (see "The jumpers of the devices in the emergency set" on page 22). Call deactivation is only possible after correction of the error!

After error correction the system must be tested for flawless functioning (see "2.10 Starting up emergency set" on page 25.)

3.7 Power failure

Following a power failure and after subsequent return of the power supply the presence condition preceding power failure is retained. A call that was active before power failure is retained.

3.8 Maintenance and care

The operability of all system components must be checked regularly.

4. Technical Data

Operating temperature	+5 °C to 40 °C	
Storage temperature	-25 °C to 70 °C	
Call module		With LED signal light Installation in flush-mounted box according to DIN 49073 (deep box recommended)
Pull-cord button		Installation in flush-mounted box according to DIN 49073 Wall/ceiling mounting possible.
Switch-off button		Installation in flush-mounted box according to DIN 49073
Wiring		e.g. with 4 x 2 x 0.6 mm cable material Distance between call module and reception module (duty room unit): max. 500 m
Power supply unit		Installation in flush-mounted box according to DIN 49073 (deep box recommended)
Type	NNRS	Connection of the the power supply unit is to be carried out by a skilled electrician only. During connection of device note the polarity shown (label on upper side of device). Before start-up please check mains voltage. Heating up of the housing during operation is normal and safe. **Care:** do not use solvents!
Height	24 mm	
Input voltage (PRI)	100 V to 240 V~ 50 - 60 Hz, 180 mA	
Output voltage (SEC)	24 V DC	
Output current	250 mA	
Approval EU	EN 60601	
Protection type	IP X1	
Ambient temperature	-25 °C to +50 °C	

4.1 Current consumption of components

Order number	Description	Current consumption passive [mA]	Current consumption active [mA]	With active buzzer [mA]
2916 00	Call module	12,2	39,6	60,2
2912 ..	Pull-cord button	1,1	17,6	
2911 ..	Switch-off button	0	1,6	
2900 ..	Call button (optional)	3	19	
2915 ..	Duty room unit (optional)	5,2	23,4	59,7

The total current consumption of the emergency set may not exceed 250 mA.

5. Warranty

We provide a warranty in accordance with the statutory requirements.

Please send the device postage paid with error description via the specialist trade to our central customer service centre.

Gira
Giersiepen GmbH & Co. KG
Service Center
Dahlienstraße 12
D-42477 Radevormwald
Germany

Gira
Giersiepen GmbH & Co. KG
Elektro-Installations-
Systeme

Industriegebiet Mermbach
Dahlienstraße
42477 Radevormwald

Postfach 12 20
42461 Radevormwald

Germany

Tel +49(0)21 95 - 602-0 Fax
+49(0)21 95 - 602 -191

www.gira.com

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