Smoke alarm device diagnosis tool
Order No.: 2333 00

IMPORTANT: Use of the radio diagnosis tool does not replace the specified smoke alarm device tests according to the specifications of the corresponding technical documentation for the smoke alarm device Dual/VdS with radio module! These must be carried out independently of use of the radio diagnosis tool.
If use of the radio diagnosis tool is not possible or errors are indicated by the radio diagnosis software, check the corresponding smoke alarm device and its installation according to the instructions.

IMPORTANT: With activation of the diagnosis functions of the smoke alarm device by the radio diagnosis tool, it may occur in rare cases that alarm forwarding between the radio-networked smoke alarm devices is interrupted for a maximum of 4 minutes. After this time period, any active alarms are recorded and forwarded in the network. The functionality of the individual smoke alarm devices is ensured at all times.

IMPORTANT: With use of the radio diagnosis tool, the service life of the batteries in the smoke alarm devices may be reduced, especially with use of the "cyclical recording" function with short recording cycles.

CONTENT

General Information

The radio diagnosis tool is intended for the testing of Gira smoke alarm devices Dual/VdS with radio module. It consists of the radio diagnosis USB box and the radio diagnosis software.
The radio diagnosis tool enables control of the smoke alarm device installations and an overview of their condition.
The radio diagnosis USB box is connected to the USB interface of a PC. Pollution severity, serial number, battery voltage, temperature and the event memory for the last 20 events can then be read out via radio.
Application of power supply is indicated by the control LED of the radio diagnosis USB box. If this control LED does not light up or only lights up weakly after connection to the PC, another USB port should be used.

System requirements

- Radio diagnosis USB box with connection cable (included in the scope of supply)
- Quick start instructions (included in the scope of supply)
- PC with Windows XP, Windows Vista or Windows 7 and installed Microsoft .Net Framework 3.5 (available free from Microsoft)
- Mini-CD compatible CD or DVD drive for loading of software on the included Mini CD.
- USB 1.0/2.0 port capable of supplying 500 mA current for supply of the radio diagnosis USB box
- Application program (radio diagnosis software) for control of the radio diagnosis USB box from the supplied Mini CD or via the Gira website (www.gira.com).
- Driver software for the radio diagnosis USB box on the supplied Mini CD or via the Gira website (www.gira.com).

Installation

USB driver

Before connection of the radio diagnosis USB box, the USB driver software on the supplied Mini CD must be installed on the PC. Follow the online installation instructions for the driver and install the software.
Connect the radio diagnosis USB box to the PC with the supplied USB cable. The PC will automatically search for the driver for the radio diagnosis tool and install this.

Software

The PC software described here for control of the radio diagnosis USB box can be installed from the supplied Mini CD or from the Gira website (www.gira.com). The Gira website (www.gira.com) also has updates for the radio diagnosis software for downloading.
With installation it must be observed that the radio diagnosis USB box must firstly be connected to the USB interface and that the USB driver is completely installed. The radio diagnosis software can then be installed.

Deinstallation

The diagnosis software and USB driver can be deinstalled via the Windows system control software function. For further details, consult the help function of the operating system.

Settings

COM port

A "virtual" COM port can be set up following installation of the required USB driver and connection of the radio diagnosis USB box via the included USB cable to the PC. The radio diagnosis software communicates with the radio diagnosis USB box via this port.
With each start of the radio diagnosis software, this searches automatically for the port at which the radio diagnosis USB box is connected and selects this port. The status line contains the information "Connected with [COMx]" when the radio diagnosis USB box has been located.
If the radio diagnosis USB box is not automatically located, for example because the radio diagnosis software was started before the radio diagnosis USB box was connected or before the driver was installed, the search can be repeated by calling up the "Settings / Establish Connection" menu item.

Language

In the *Settings / Language* menu, either *German* or *English* can be selected.

Setting up a project

The smoke alarm devices of a building or residential unit can be combined in a project.
Any number of smoke alarm devices can be added to a project. It is not mandatory for the smoke alarm devices of a project to belong to a group. These can also be assigned to different groups. It should be observed however that all smoke alarm devices belonging to a project are within the radio range of the radio diagnosis USB box location.
To set up a new project, go to *File* and then select the menu item *New project.* The editing mask for setting up can be called up again later via *Edit / Set up project*.

Adding smoke alarm devices to a project

The search for smoke alarm devices follows in two steps. In the first step the group address of a smoke alarm device is read out, and in the second step all smoke alarm devices belonging to the corresponding group are searched for. As soon as a smoke alarm device is detected in this step it is added to the project, and further smoke alarm devices are then searched for.

Locating smoke alarm devices

After the *Find alarm device* button has been pressed, transmitting of group information must be activated at any smoke alarm device. For this, put the smoke alarm device into programming mode and press the test button (see the operating instructions for the smoke alarm device Dual/VdS and radio module).
As soon as the smoke alarm device has transmitted its group designation the smoke alarm device programming mode can be terminated. After confirmation, the second step is initiated and the group is analysed for corresponding smoke alarm devices.
The search can be repeated at any time. Only smoke alarm devices are added to the project that are unknown until then.

Naming the smoke alarm device

The name is only used for overview purposes, making assignment easier within the building. The name is always displayed together with the smoke alarm device ID and the group address. The name can also be found in your measurement data. Name length is restricted to 20 characters.

Switching on / switching off signal sound

To localise the smoke alarm device, the radio diagnosis software is able to trigger a signal sound on the smoke alarm device. Here the device signalises both optically and acoustically after approx. 30 seconds and can therefore be found even in complex installations. The signalling at the smoke alarm device is switched on and off with the *"Signal on"* and *"Signal off"* buttons. When the signalling is active, it can also be switched off at the smoke alarm device by pressing the test button.

Localising all smoke alarm devices in a group

If a smoke alarm device has been installed and assigned to a group, you can search through the group again. The *"Find"* button starts the search in the corresponding group. If a new smoke alarm device is found it is automatically added to the list. Smoke alarm devices that no longer exist or are no longer found are not automatically deleted from the list.

Deleting smoke alarm devices from the list

The *"Delete"* button removes a smoke alarm device from the list. If all smoke alarm devices in the list are to be deleted, this can be carried out via the menu item *"Delete smoke alarm device list"* This menu item is found in the main menu via *"Edit"*.

Managing projects

This function manages various projects with subordinate single and group smoke alarm devices. All managed project data can be re-used at any time for quick and reproducible diagnosis. With unchanged grouping of smoke alarm devices, renewed teaching in of the smoke alarm devices is not required.
When creating a project, a project folder with the project name for the measurement data is created. At the same time a project file (*.rwm) with the relevant project data is saved on the same file level.

New project

A new project is created via the main menu item *File / New project*. Existing data (project data and measurement values) are saved automatically and the list of smoke alarm devices and the measurement value table is emptied. At this point no data are saved in the file system. This step is carried out when the project is saved for the first time.

Open project

Previously saved project data can be loaded via the menu item *File / Open project*. Existing data (project data and measurement values) are saved automatically and the list of smoke alarm devices and the measurement value table is emptied.

Save project

The current project can be saved via *File / Save project.* If no name has been assigned for the project, this is then requested. The same applies for measurement data. If no name has been assigned, a name is queried for saving of the measurement data.

Save project as

The project can be saved via *File / Save project as* and a new name for the project can be assigned.

Measurement values

As soon as the data are read out from a smoke alarm device the measurement value table is attached. Measurement value tables are saved to the file system in XML format. Alternatively, the data of a measurement value table can also be exported in CSV format.

Open measurement values

Saved measurement values are loaded via the menu item *File / Open measurement values*. The radio diagnosis software does not test whether the measurement values comply with the project data.

Saving measurement values as

Measurement values are saved via the menu item *File / Save measurement values as*.

Exporting as CSV

The measurement values are saved as a CSV file via the CSV export function and can then be used further with CSV format-compatible applications such as Microsoft Excel.

Printing

Displayed measurement values are printed via the menu item *File / Print*. A print preview is shown here, for adapting the page settings and selecting the printer for example. Export of the data into other formats such as PDF or Excel is possible if corresponding software is installed on the computer.

Diagnosis

The radio diagnosis tool can read out various status information for a smoke alarm device (see Table 2: Diagnosis of status information).

The status information for temperature, pollution severity and battery voltage have a light function in addition to the measurement value. The colour of the light signals the following recommendation.

Light colour	Recommendation
Green	No maintenance required
Yellow	Maintenance recommended (function still exists)
Red	Maintenance required (function restricted)

Table 1: Diagnosis of light status

The event memory is displayed separately for each smoke alarm device and lists the last 20 events, such as alarms and error information of the smoke alarm device, e.g. mains voltage failure or weak battery state.

<table>
<tr><th>Column</th><th>Description</th><th>Information</th></tr>
<tr><td>Time stamp</td><td>Time and date of when the diagnosis data of the smoke alarm device were received</td><td></td></tr>
<tr><td>Name</td><td>If smoke alarm devices were named during setting up of the project, the names are displayed here</td><td>Plain text name of alarm device, e.g. "living room"</td></tr>
<tr><td>Serial number</td><td>Serial number of smoke alarm device</td><td>Required for service queries</td></tr>
<tr><td>Temperature</td><td>Current internally measured temperature, measured by the smoke alarm device. This is continuously updated by the smoke alarm device.

<table><tr><td>Temperature</td><td>Light colour</td></tr><tr><td>< 55 °C</td><td>Green</td></tr><tr><td>≥ 55 °C</td><td>Yellow</td></tr><tr><td>≥ 60 °C</td><td>Red</td></tr></table></td><td>The smoke alarm device may trigger a temperature alarm with temperatures over 50 °C. If the temperature measured by the smoke alarm device is significantly different to the room temperature, it must be checked whether the installation site for the smoke alarm device is suitable. If not, another installation site must be found. In this regard, see the operating instructions for the smoke alarm device.</td></tr>
<tr><td>Pollution severity</td><td>This value specifies how far the smoke chamber is polluted with dust, as a percentage value.

<table><tr><td>Pollution severity</td><td>Light colour</td></tr><tr><td>< 80 %</td><td>Green</td></tr><tr><td>≥80 %</td><td>Yellow</td></tr><tr><td>= 100 %</td><td>Red</td></tr></table></td><td>The smoke alarm device signals a fault from a pollution severity of 100 % upwards, as the internal control can no longer compensate for the pollution.
If an installed smoke alarm device measures a high level of pollution after a short period of time, the smoke alarm device should have been installed at a more suitable location. If no other installation site is possible, the smoke detection function at the alarm device can be deactivated. The smoke alarm device is designed with normal residential situations for a service life of 10 years. In this regard, see the operating instructions for the smoke alarm device.</td></tr>
</table>

<table>
<tr><th>Column</th><th>Description</th><th>Information</th></tr>
<tr><td>Battery voltage</td><td>This value in volts [V] shows the current remaining voltage of the battery. New batteries have a voltage of approximately 9 V.

<table><tr><td>Battery voltage</td><td>Light colour</td></tr><tr><td>> 7 V</td><td>Green</td></tr><tr><td>≤ 7 V</td><td>Yellow</td></tr><tr><td>≤ 6.8 V</td><td>Red</td></tr></table></td><td>In accordance with the regulations, the smoke alarm device must monitor the battery voltage so that it is able to signalise the requirement for battery replacement in good time. With an installed radio module, the corresponding battery warning is triggered at approx. 6.8 V. The battery is additionally depleted by radio diagnosis, resulting in shorter battery life.</td></tr>
<tr><td>Group</td><td>Internal radio ID of the group to which the smoke alarm device is assigned.</td><td></td></tr>
<tr><td>Signaller</td><td>Internal radio ID of the individual smoke alarm device.</td><td></td></tr>
</table>

Table 2: Diagnosis of status information

Reading out the smoke alarm device

The radio diagnosis software can specifically read out individual smoke alarm devices via the "Read out alarm device" operating mode. The smoke alarm devices can be selected from the list of smoke alarm devices. The selected smoke alarm device is displayed next to the start button. By clicking on the start button, the radio diagnosis software begins to read out the corresponding smoke alarm device. This process is finished after approximately 1 minute. The data obtained are added to the measurement value table. The process can be aborted at any time via the stop button.
The reading out of an alarm device may last up to 1 minute.

Diagnosis

With the "'diagnosis" operating mode, all smoke alarm devices selected in the list of smoke alarm devices are read out sequentially. A selected smoke alarm device is designated by a ticked box in front of the name of the smoke alarm device. As soon as the data are read out from a smoke alarm device, the obtained data is added to the measurement value table. The diagnosis is complete when all smoke alarm devices have been read out. The process can be aborted at any time via the stop button.
With diagnosis, there is a query period of approx. 1 minute per alarm device.

Cyclical transmission

With the "cyclical transmission" operating mode, a diagnosis is implemented according to the selected interval. The radio diagnosis software checks whether all smoke alarm devices can be read out in the specified interval. If not, specify a longer interval.
Approximately 1 minute is required per smoke alarm device until the data are available and read into the software. The maximal duration of the diagnosis data recording should not exceed 14 days in order to prevent excessive depletion of the smoke alarm device batteries.

Displaying the event memory

A smoke alarm device is capable of internally saving the last 20 events (e.g. smoke alarm, test alarm or weak battery state). With each readout of the smoke alarm device the event memory of the smoke alarm device is also read out. After selecting a smoke alarm device, the event memory of the corresponding smoke alarm device is displayed. The data can be updated by reading out a smoke alarm device. All data are sequentially displayed according to time, with the latest event at the top.
The data from the event memory in the smoke alarm device are updated with the events described in the table. In addition, the latest events are updated according to a cycle of 20 days or 20 days following the last event if no other event exists.
The passive events described are logged with every update of the event memory, but do not trigger an updating of the event memory.

Content of the event memory	**Meaning of the entry**
Active smoke alarm device events	
Temperature alarm	This smoke alarm device has triggered an alarm because of the measured temperature or temperature change. This alarm was transmitted to the other (radio-) networked smoke alarm device.
Radio alarm	This smoke alarm device has registered an alarm transmitted from another smoke alarm device via radio.
Wire alarm	This smoke alarm device has registered an alarm transmitted from another smoke alarm device via wire.
Weak battery	A "weak battery" warning was output from this smoke alarm device.
Smoke alarm	This smoke alarm device has triggered an alarm because of the measured air haze (smoke). This alarm was transmitted to the other (radio-) networked smoke alarm device.
RK fault	Smoke chamber fault code
TS fault	Temperature sensor fault code
Passive smoke alarm device events	
230 V failure	Displays whether the 230 V smoke alarm device had supply at the time of the entry. With a smoke alarm device with non-230 V supply, this entry is always set.
Radio test alarm	This smoke alarm device has registered a test alarm transmitted from another smoke alarm device via radio.
Wire test alarm	This smoke alarm device has registered a test alarm transmitted from another smoke alarm device via wire.
Status	Smoke alarm device status code

Table 3: Content of the event memory

Signal

In "signal" mode, the signalling of a smoke alarm device is switched on or off in order to localise the smoke alarm device. See "Switching on / switching off signal sound".

Causes of faults and their elimination

The following table lists common problems, their possible causes and how to eliminate them.

The radio diagnosis software or installation does not start	The radio diagnosis software requires Microsoft .Net Framework 3.5. This can be downloaded for free from Microsoft.
	The software requires Windows XP, Windows Vista or Windows 7.
No connection of the radio diagnosis software to the radio diagnosis USB box	The radio diagnosis box is not supplied sufficiently with current by the USB port. Use another USB port
	The required USB driver is not installed or incorrectly installed. Reinstall the USB driver from the CD supplied.
	The USB cable is defective or not connected correctly. If the USB cable is defective, a standard A/B USB cable can be used. It is recommended to use only shielded cable shorter than 3 m.
	Restart the PC to complete installation of the driver.
	Restart the radio diagnosis software or select "Connect" in the menu to start a new search for the radio diagnosis USB box.
	Never use a USB hub to connect the diagnosis box with the PC.
With diagnosis, one or several smoke alarm devices cannot be located or no diagnosis data are received	Transmission was disrupted by an interfering transmitter. Repeat the transmission and deactivate the interfering transmitter.
	The smoke alarm device is outside of the radio range of the radio diagnosis USB box. Reduce the distance to the smoke alarm device.
	Smoke alarm device is not ready for operation. Check to see that the smoke alarm device is not in programming mode and has sufficient power supply (battery).
	Never use a USB hub to connect the diagnosis box with the PC.
The required time cannot be set with cyclical diagnosis	Approx. 1 minute per alarm device is required for the querying of diagnosis data during diagnosis. Therefore all time periods that are shorter than the number of alarm devices in minutes are not possible.

The software no longer responds after the USB connection was disconnected	Disconnection of the USB connection during communication between the diagnosis software and diagnosis module may mean that the software must be terminated. Data created until then are retained and can be restored following restarting of the software. Do not disconnect the connection between the PC and the radio diagnosis USB box during the diagnosis process.

Table 4: Fault sources

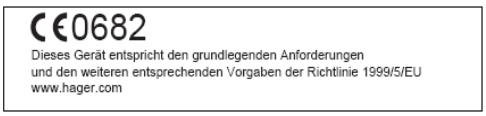
General information

Radio transmission

Radio transmission occurs on a non-exclusive transmission path, and interference cannot be excluded for this reason.
The range of a radio system depends on transmitter performance, reception characteristic of the receiver, air humidity, installation height and the constructional state of the building.
Examples for material penetration:

Dry material	**Penetration**
Wood, plaster, sheetrock	approx. 90 %
Brick, pressboard	approx. 70 %
Reinforced concrete	approx. 30 %
Metal, metal screens, aluminium cladding	approx. 10 %

Information on radio operation



The radio diagnosis tool may be operated in all EU and EFTA countries.

Technical data

Power supply:	USB 1.1 (500 mA)
Transmission frequency:	433.42 MHz, ASK
Transmission range:	typically 100 m (in free field)
Temperature range:	-5 °C to +55 °C
Weight:	150 g
Dimensions (W x H x D):	110 x 94 x 38 [mm]

Warranty

We provide a warranty in accordance with the statutory requirements.

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

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

Legal information

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

Industriegebiet Mermbach
Dahlienstraße
D-42477 Radevormwald

P.O. Box 12 20
D-42461 Radevormwald

Germany

Phone +49(0)21 95 - 602-0
Fax +49(0)21 95 - 602-399

www.gira.de
info@gira.de