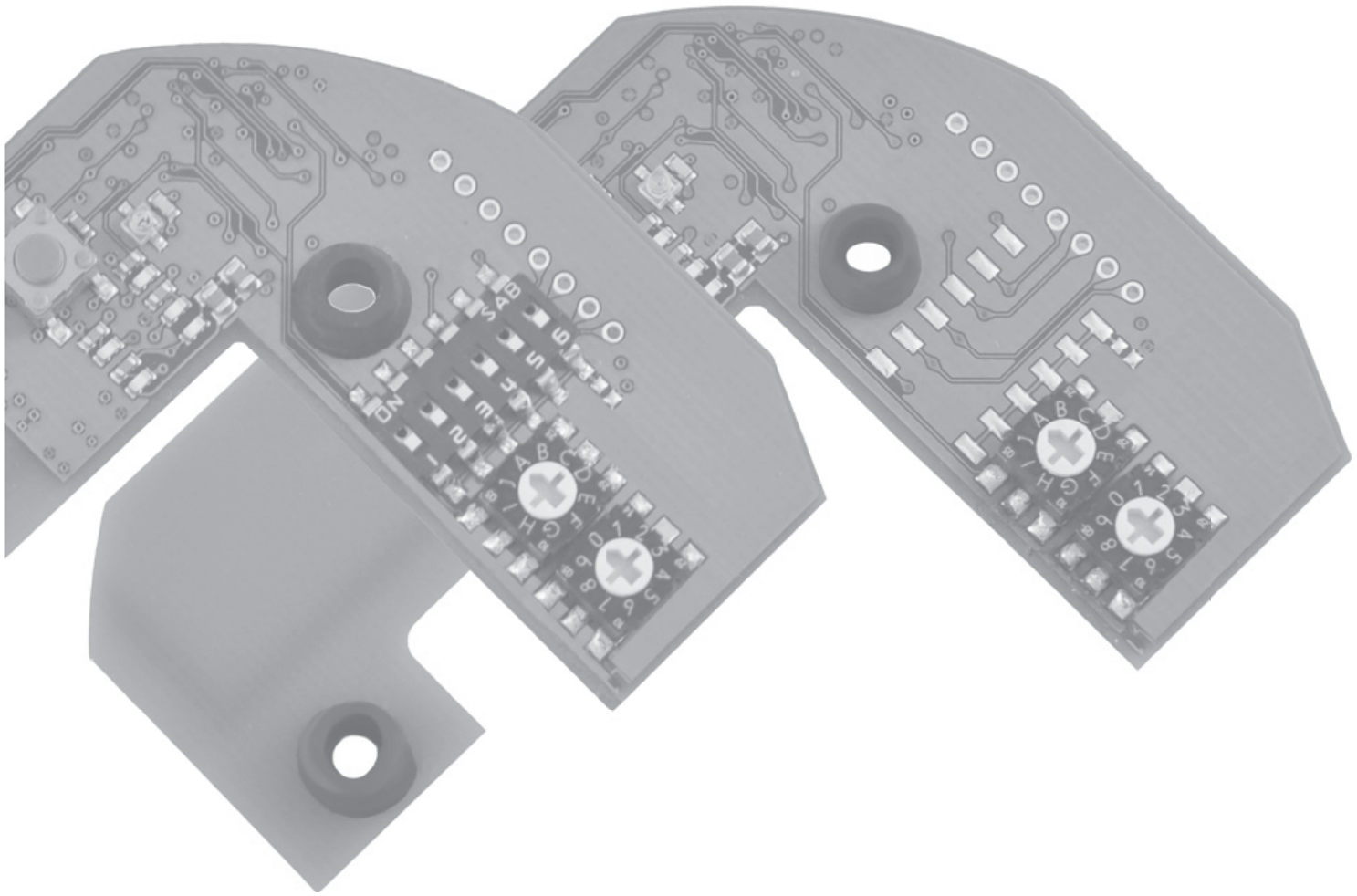
SECURITON



Mounting instructions
Genius Radio

Inhalt

1. General information

The Hekatron Basis and Pro radio modules were specially developed for application in the smoke detector Genius Hx®.
In combination with the Basis and Pro radio modules, the smoke detector Genius Hx® is recognised according to VdS 3515 as a smoke detector with connection to radio networks VdS G no. 210149.
The smoke detectors connected to the Basis and Pro radio modules are not a replacement for a central fire alarm system. If, in case of smoke or a detected fire, an alarm transfer to the fire brigade is desired or required, control and indicating equipment according to DIN 14675 must be used. We can support you in your planning and designing of the central fire alarm system.
Hekatron does not accept any liability for expenditures of time, material and money which may result from alarming a manned station, e.g. security firm or fire brigade.
Please read these mounting and operating instructions before mounting the radio module and keep these instructions for future reference. Your specialist dealer will be pleased to help you in case of any question.
For mounting and operation of the smoke detector Genius Hx®, please read the mounting instructions Genius Hx® Part no. 7002594.

2. Safety

2.1. Explanation of symbols

Safety notes and warnings are marked by symbols in these mounting and operating instructions. These notes are introduced by signal words which express the extent of the risk.
Always take the notes into account in order to avoid personal injury and property damage.

Safety notes and warnings:

WARNING!
... indicates a possibly hazardous situation which may lead to death or severe injury if it is not avoided.

CAUTION!
... indicates a possibly hazardous situation which may lead to property damage if it is not avoided.

NOTE!
... highlights useful tips and recommendations as well as information for an efficient and trouble-free operation.

2.2. Intended use

The Basis and Pro radio modules may only be installed in the smoke detectors Genius Hx®. The field of application is restricted to residential houses, apartments and rooms with similar purposes. Radio linked smoke detectors do not constitute a replacement for a central fire alarm system.

WARNING!
Danger due to improper use!
Each use exceeding the intended use and/or any other use of the Basis and Pro radio modules may lead to hazardous situations.
Therefore:

- Only use the Basis and Pro radio modules in accordance with their intended purpose.
- Any and all information of the mounting and operating instructions must be strictly observed.

Claims of any kind due to damages resulting from improper use are excluded.

2.3. Safety notes

WARNING!

Improper mounting, start-up and maintenance of the Basis and Pro radio modules may lead to gaps in fire protection and to dangerous situations.

Therefore:

- The mounting and operating instructions for the Basis and Pro radio modules must be read and understood before the work is started.
- All safety notes must be observed and all guidelines must be complied with.
- The mounting, start-up and maintenance of the smoke detectors with radio module should be carried out by a trained specialist.

If the smoke detectors with radio module are removed during renovation works, there is no fire protection during this period.

Therefore:

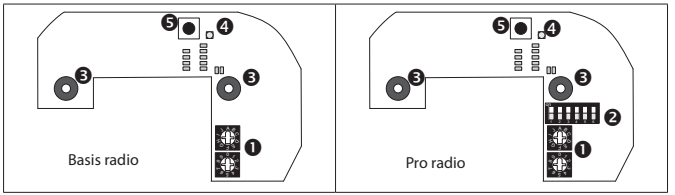
Smoke detectors with radio module must be mounted and commissioned after the work has been completed.

No more than 20 radio modules must be set to the same line and to the same ID.

Claims of any kind due to damages resulting from non-observance are excluded.

For safety notes relating to the smoke detector, please refer to the mounting instructions Genius Hx®.

3. Design of radio modules



❶ Rotary switch for setting the line (A-I and 0-9)
❷ DIP switch / function switch for Pro radio module
❸ Guide openings
❹ Signal LED
❺ Operating button

3.1. Scope of delivery

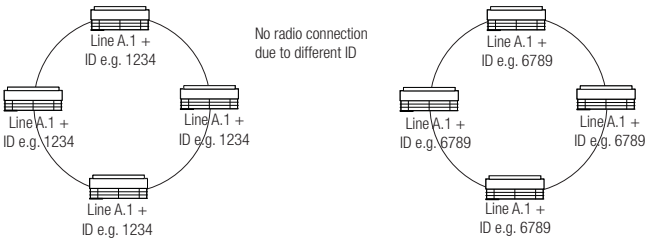
1 x Basis or Pro radio module
1 x mounting and operating instructions

4. Product presentation

4.1. Properties of the Basis and Pro radio modules

Line formation via rotary switch:
Two rotary switches for setting a maximum of 70 lines (see chapter 6). All radio smoke detectors of the same line can exchange messages. At least two radio smoke detectors must be installed per line.

Identification code
Each line automatically receives a clear identification code (ID) upon commissioning which is used by all detectors of this line. After commissioning, the radio modules can only be actuated by messages from radio modules of the same line and ID. Messages from neighbouring systems are ignored.



Simultaneous start-up of several radio networks:
Radio networks of different line settings can be commissioned at the same time.

Repeater function (amplifier):
Each radio module has a repeater. Repeaters receive signals and forward them with the maximum transmission power.
All messages with the same line and ID and messages which are intended for the radio module via a collective alarm line (see chapter 12) are forwarded.
Messages which are not from the same line or which are not intended for the radio module are **not** repeated (amplified).
Messages are **not changed** by the repeater.

Range tests:
Each radio module can be used for the range measurement. With the range measurement, the **number** (maximum of 9 pieces) of smoke detectors in a radio zone or the **largest possible distance** between two radio modules can be determined.

Alarm transmission:
If a smoke detector with radio module detects a fire, a corresponding message is sent to the radio network via its radio module after approx. 20 seconds:
- To all radio modules in the same line and ID.
- To the corresponding collective alarm line.

By pressing the test button on this smoke detector before these 20 seconds elapse, forwarding of the message is avoided.

The connected smoke detectors remain in alarm status until they are acknowledged or until the sensing chamber of the triggering smoke detector is free of smoke.

Fast alarm localisation:
By pressing the test button of a smoke detector which signals a received alarm, all audible alarms will turn off, except the smoke detector which has detected smoke. Smoke detectors which have detected smoke keep signalling the alarm and can thereby be localised as fast as possible.

Integrated real-time clock:
By means of the integrated real-time clock in the Genius Hx®, a status message which does not affect the operation of the smoke detector is suppressed between 10 pm and 6 am CET (winter time).

NOTE!
The Basis and Pro radio modules are compatible and can be combined in a radio network.

4.2. Basis radio module

The Basis radio module was designed for application in apartments, single-family homes or similar environments. For configuration of a Basis radio module, only the line must be set and start-up must be carried out.
The functions of the Basis radio module are set at the factory (see table 4.3).
The Pro radio module has additional functions available.

4.3. Pro radio modules

In addition to the functions of the Basis radio module, the following functions can be switched on/off by the DIP switch on the Pro radio module:

DIP switch	Function	Factory setting Pro/Basis
1	Suppress warnings (messages such as "Battery low" or failures of other smoke detectors are not signalled).	Off*/ Off **
2	Alarm suppression (fire alarms from other smoke detectors are not signalled)	Off*/ Off **
3	Send collective alarm	Off*/ Off **
4	Receive collective alarm	Off*/ Off **
5	Dismounting detector/ transmission path monitoring	Off*/ Off **
6	Reduction of transmitting power	Off*/ Off **

* With the Pro radio module, these functions can be switched on or off.

** With the Basis radio module, these functions are set and cannot be switched on or off.

Suppress alarms and warnings

By means of the DIP switch on the Pro radio module, signalling of a received alarm or warning can be suppressed. An own alarm or warning cannot be switched off.

Collective alarm lines

Alarms and warnings can also be sent to other lines by means of collective alarm lines. So alarms and warnings can be sent e.g. from the stairwell to the apartment, from the apartment to the stairwell or in both directions. Collective alarm lines are created via the lines H.0 to H.2, H.4, H.5 and H.7 (see chapter 12.1).

In a radio network* no more than 60 radio smoke detectors must be installed. In the case of larger objects, please contact our technical support.

NOTE!

In the case of larger radio networks, the signal transfer time may increase if several messages are circulating at the same time. Maximum signal transfer time** = Number of detectors x 3.5s Also see chapter 5 Signal transfer times.

* Def. radio network: All radio smoke detectors which start an alarm if a fire is detected.

** If several messages are circulating, the signal transfer time is increased accordingly. With two messages, the signal transfer time doubles, with 3 messages it triples etc.

Dismounting detector

The Pro radio module automatically detects a non-authorised removal of the smoke detector, e.g. due to theft. The connected radio smoke detectors signal this with an audible alarm.

Transmission path monitoring

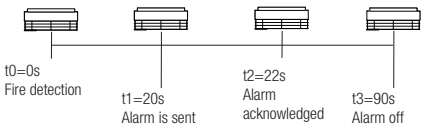
The radio system automatically checks all radio modules of one line for availability. If a radio module cannot be found any more, the radio system signals this.

5. Signal transfer times

In the project planning of a radio network, the spreading rate of a radio telegram has to be observed imperatively.
If the radio network is in its idle state (no radio networks in circulation), the signal spreads very rapidly (approx. 5-10 seconds).
If telegrams are in circulation, the emission of the telegram will be deferred according to the following formula:

Maximum signal transfer time = number of detectors x 3.5s

Example:
There are 20 radio smoke detectors in a radio network.
One of these detectors detects smoke and sends the alarm telegram to its connected detectors after 20 seconds have expired.
If the alarm signal is acknowledged shortly after sending, it takes a maximum of 70 seconds (20 smoke detectors*3.5s) until all radio smoke detector turn off again. If the alarm is acknowledged after the signal transfer time has expired, all radio smoke detectors turn off after 5-10 seconds.



6. Quick guide

In order to set, mount and commission smoke detectors with radio module, at least the following steps have to be carried out.
For supporting information please refer to the planning manual Genius H and Hx.

6.1 Project planning

Before mounting the smoke detectors with radio module, the project planning according to DIN 14676 (also see mounting instructions Genius Hx®) has to be carried out. In this process:

- The number of smoke detectors with radio module,
- The mounting positions,
- The respective line,
- The settings on the DIP switch (only Pro radio modules)

Should be determined. This information should be documented e.g. in the start-up and maintenance set (SM set Genius).

NOTE!
The distance between two radio smoke detectors should be at least 50 cm in order to ensure a safe radio connection.

NOTE!
A minimum distance of 2m should be maintained with regard to the following electric devices:
Wifi, DECT, radio weather stations, radio speakers, baby-phones, radio garage door openers

6.2. Line setting and mounting

Step	What needs to be done?
1	Mount the bases of the smoke detectors according to the project planning. Pay attention to the mounting directions in the mounting instructions Genius Hx®.
2	Set rotary switch on the radio module according to the project planning.
3	Only Pro radio module: Set DIP switch according to project planning.
4	Insert radio module into the respective smoke detector (see chapter 7).
5	Screw the smoke detector into the base, please refer to the mounting instructions Genius Hx®.
6	After the smoke detector was screwed into the base, the automatic self-test of the smoke detector, **not** of the radio module, is carried out.
7	Commissioning of the radio network (see chapter 9).

7. Line setting

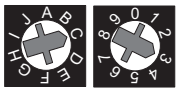
By means of the rotary switch of the radio module, the line of the respective radio module can be set. All radio modules of the same line can exchange messages after commissioning.

A line is composed of a letter (A to G) and a number (0 to 9).

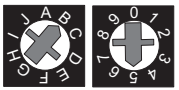
The collective alarm line is composed of the letter H and a number (0,1,2,4,5 and 7).

The range test is composed of the lines I.0 and I.1.

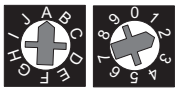
The lines H.3, H.6, H.8,H.9, I.2 to I.9 and J.0 to J.9 do not have any function.



Line C.3



Line B.5



Line A.2

NOTE!
The rotary switches should be set by means of a small slot-head screwdriver. Pay attention to tab locations!

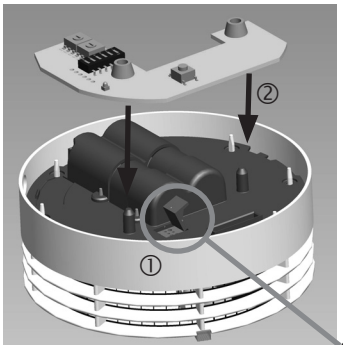
NOTE!

- Settings on the rotary switches for line formation must be made before the radio module is inserted into the smoke detector.
- The settings are read upon insertion and upon new commissioning.
- If the settings are changed after commissioning, the radio modules have to be commissioned again (see chapter 9).

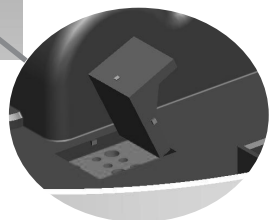
8. Mounting of Basis/Pro radio module

Step	What needs to be done?
1	Mount the base at the position determined during the project planning. In order to mount the base, please refer to the mounting instructions Genius Hx®.
2	Set the radio module according to the planning/project planning. All radio modules of a line have to have the same rotary switch setting.
3	• Remove the cover of the interface on the Genius Hx. • Insert the radio module into the smoke detector. Please take care that the pins of the plug are not distorted upon insertion. Caution: If the radio module was already mounted in a Genius Hx®, at least 10 seconds must elapse between removal and repeated insertion of the radio module.
4	• The radio module LED blinks for approx. 5 s after insertion, then it is ready for operation. • If the radio module skips to a faster blinking mode, the registration on the Genius Hx was not successful. Remove the radio module and insert it again.
5	Screw the smoke detector into the base, as described in the mounting instructions Genius Hx®.
6	Carry out the start-up (see chapter 10).

NOTE!
In de-energized state (radio module is removed from the detector), the system settings are deleted and the radio module has to be programmed again.



② Put on the radio module, do not touch the components directly (ESD)



① Break out the break out position with your thumb or by means of pincers

9. Range test

The lines I.0 and I.1 were specially designed for the range test. The two lines enable performance of a range test without additional equipment. The range test is carried out with approx. 70 % of the transmitting power.
Line I.0 gives feedback on the number of found smoke detectors with radio module.
Line I.1 is used to determine the maximum distance between two smoke detectors with radio module. During the range test, the transmitting power is decreased in order to ensure a trouble-free operation.

Condition:
In order to carry out the range test, the radio modules to be tested have to be set to the respective line I.0 or I.1.

NOTE!
The range tests should be carried out under real conditions.
- Keep all doors shut.
- Switch on electric consumers (lamps, photocopiers etc.).

WARNING!
- The lines I.0 und I.1 cannot be used to transmit fire alarms or warnings.
- After setting the respective line for operation, a commissioning must be carried out.

9.1. Range test with feedback - line l.0

This function can be used to determine how many radio modules are within the radio range of a radio module. For each radio smoke detector (max. 9 pieces) which is within the radio range an audible signal is produced on the actuating detector (one beep per found detector).

Step	What needs to be done? / Reaction
1	Set the line of the radio modules to be tested to l.0. No more than 9 radio smoke detectors must be used for this test.
2	Insert the radio modules into the smoke detectors.
3	Screw all smoke detectors but one into the bases Smoke detector in base = transmitter Smoke detector not screwed into the base = receiver
4	Position the transmitter at the mounting place. Under ideal conditions, the smoke detectors with radio module are positioned in the place in which they will be mounted later on.
5	Shortly (approx. 1 s) press the operating button of the radio module on the receiver, LED starts flashing.
6	After 2 minutes maximum, an audible feedback will be produced on the receiver. If 7 detectors are within the range, the beep is signalled seven times.
7	The audible feedback is repeated three times on the receiver.

9.2. Permanent range measurement-line l.1

With the permanent range measurement, it can be determined which distance can be between a radio module and another radio module without loosing the radio contact (determination of the maximum range with two radio smoke detectors).

Step	What needs to be done? / Reaction
1	Set the line of the two radio modules taking part in the test to l.1.
2	Insert the radio modules into the smoke detectors. Screw a smoke detector into the base = transmitter Second smoke detector not screwed into the base = receiver
3	Shortly (approx. 1 s) press the operating button of the radio module on the receiver. The measurement is started for approx. 2 minutes.
4	Remove the receiver from the transmitter
5	With existing radio contact, the radio module LED blinks every 2 seconds.
6	The flashing LED turns off as soon as the receiver is outside the radio range and it starts flashing automatically if it is within the range again.
7	If the test duration of 2 minutes is not sufficient, take the receiver back to the position where the last connection existed. Restart measurement, item 2.
8	Premature termination of the range test by pressing the operating button on the radio module of the receiver.

10. Commissioning of Basis/Pro radio modules

The following tests are carried out upon commissioning:

- All radio-connected smoke detectors of one line are tested for radio availability.
- The smoke detector test (self-test) is carried out automatically.
- The radio module automatically obtains a clear identification code (ID).

NOTE!
Upon commissioning, the transmitting power of the radio module is reduced to approx. 70 %.

NOTE!
At least **two radio smoke detectors** must be used per line.

NOTE!
If an existing radio network is extended by additional radio smoke detectors, a commissioning does not have to be carried out! See chapter 17 Extend radio network.

Step	What needs to be done? / Reaction
1	On the last smoke detector with radio module to be mounted, press the operating button of the radio module for 5 seconds until the red LED lights permanently. Then screw the detector into the base.
2	All smoke detectors with radio module of the same line which are functioning and accessible by radio signal the receipt of the message for 15 minutes. The alarm tone is produced in an interval with reduced volume.
3	Acknowledge all signalling smoke detectors by pressing their test button within these 15 minutes in order to register them in the system. The smoke detectors have to remain in the base. Acknowledgement is confirmed by the self-test tone. Caution: The test button also has to be pressed on the radio smoke detector on which the commissioning was started. If all radio smoke detectors are acknowledged, the commissioning is finished.
4	By pressing the operating button on a radio module which was not acknowledged before, the commissioning can be terminated prematurely; the smoke detectors acknowledged before are registered in the system.
5	With different lines, the steps 1 to 3 have to be repeated per line.

Signalling upon commissioning/maintenance:

Signalling	Cause	Measures
Repetition of the reduced self-test tone for 15 minutes in an interval of approx. 8 seconds	Commissioning or line test was initiated	None
One or several smoke detectors with radio module do not produce a self-test tone	Different lines are set	Change settings and carry out commissioning again after 2 minutes
	Different identification code	Delete identification code, carry out commissioning again
	Radio modules are outside the range, carry out range measurement again	See chapter 8
	No radio module in the smoke detector	Retrofit radio module
	Failure in smoke detector	Test smoke detector without radio module. See mounting instructions Genius Hx®
No other smoke detector produces the self-test tone	Smoke detector was not removed from the base	Wait for 2 minutes and carry out commissioning again

11. Maintenance of Basis/Pro radio modules

In order to ensure the operational reliability of the smoke detector with radio module, according to DIN EN 14676 servicing has to be carried out at least once a year.

During maintenance, the radio modules, the transmission and receiving equipment of the radio modules, the interface and the smoke detector itself are tested for functionality.

11.1 Line test

Step	What needs to be done? / Reaction
1	Remove one smoke detector from the base and press the test button on the smoke detector. If the smoke detector is in the base, only the smoke detector itself is tested. Caution: After 5 minutes, the removal detection is initiated, the removal is signalled after approx. 15-20 minutes.
2	All smoke detectors with radio module of the same line and ID which are functioning and accessible by radio signal the line test with the reduced self-test tone at an interval of approx. 8 seconds for 15 minutes.
3	Acknowledge all signalling smoke detectors by pressing the test buttons on the smoke detector within these 15 minutes. Acknowledgement is confirmed by the self-test tone.
4	Premature termination of the line test by shortly pressing the operating button on a radio module which was not acknowledged before.
5	Document the maintenance in the start-up and maintenance set (SM set Genius Hx®).

NOTE!
The radio modules automatically test their transmission and receiving equipment. This reduces the maintenance effort considerably as the test only has to be carried out once.

11.2 Network test

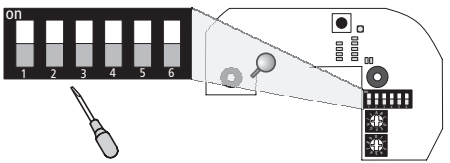
During the network test, the line itself and the collective alarm lines connected to this line are tested. We recommend testing the individual lines before testing the network.

Step	What needs to be done? / Reaction
1	Remove one smoke detector from the base and press the operating button on the radio module for more than 5 seconds. Important: Initiate the test on a radio module in which "send collective alarm" is switched on.
2	All smoke detectors (send collective alarm = on or same line) which are functioning and accessible by radio signal the network test with the reduced self-test tone in an interval of approx. 8 seconds for 30 minutes.
3	Acknowledge all signalling smoke detectors by pressing their test buttons within these 30 minutes. Acknowledgement is confirmed by the self-test tone.
4	Premature termination of the network test by shortly pressing the operating button on a radio module which was not acknowledged before.
5	Document the maintenance in the start-up and maintenance set (SM set Genius Hx®).

12. Settings Pro radio module

In the following table the functions are shown which can be switched on/off via the DIP switch of the Pro radio module.

DIP switch	Function
1	Suppress warnings (messages like "Battery low" or failures of other smoke detectors are not signalled).
2	Alarm suppression (fire alarms from other smoke detectors are not signalled)
3	Send collective alarm
4	Receive collective alarm
5	Dismounting detector/ transmission path monitoring
6	Reduction of transmitting power



Caution!
The settings of the DIP switches must be made before installation into the smoke detector. If the settings are changed subsequently, the radio module has to be removed from the smoke detector. Re-commission the radio network or carry our an extension.

12.1. Suppress warnings (DIP 1)

Warnings are e.g. "Batt. low", failure of detector or of radio module.

DIP switch 1	Description
On	Received warnings are **not** signalled
Off	Received warnings are signalled

12.2. Alarm suppression (DIP 2)

DIP switch 2	Description
On	Received alarms are **not** signalled.
Off	Received alarms are signalled.

Caution!
- If the signalling of received warnings/alarms is deactivated, the radio module no longer complies with VdS 3515.
- Only the received warnings/alarms are suppressed, not the own warnings/alarms of the smoke detector or radio module.

12.3. Send collective alarms (DIP 3)

DIP switch 3	Description
On	Own alarms and warnings are sent as a collective alarm.
Off	No collective alarms are sent. Messages are only sent within the own line.

12.4. Receive collective alarm (DIP 4)

DIP switch 4	Description
On	Alarms and warnings are received, signalled and forwarded (repeater).
Off	Alarms and warnings are not signalled and not forwarded (no repeater). Messages of the own list are signalled

12.5. Dismounting detector/transmission path monitoring (DIP 5)

DIP switch 5	Description
On	Dismounting detector and transmission path monitoring are switched on.
Off	Dismounting detector and transmission path monitoring are switched off.

12.6. Reduce the transmission power (DIP 6)

DIP switch 6	Description
On	Transmission power: Approx. 50 m unobstructed path (no mixed operation within the line)
Off	Transmission power: Approx. 100 m unobstructed path (no mixed operation within the line)

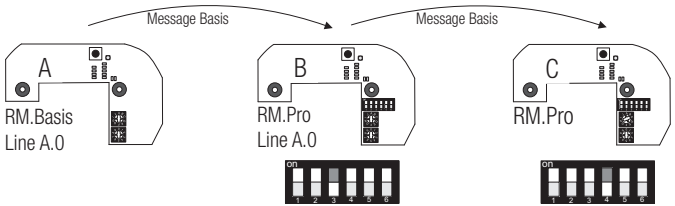
Caution!
If the transmission power is reduced, the radio module no longer complies with VdS 3515.

13. Collective alarms

The collective alarm lines H.0 to H.2, H.4, H.5 and H.7 are the only lines that can communicate with other lines. Provided that the DIP switches 3 and 4 are set correspondingly. In the following, these messages exceeding the own line will be named as collective alarms. Collective alarms are only sent and received by the Pro radio module. A Basis radio module cannot receive these messages.

NOTE!
The repeater does not change the signal, the message is forwarded identically.

Examples for the repeater function in case of collective alarm:



The Basis radio module (A) sends an alarm to a Pro radio module (B) of the same line. The Pro radio module (B) of the line A.0 repeats (amplified) the signal. The Pro radio module (C) of the line H.0 receives the message and ignores it as the message was sent by a Basis radio module (A).
The repeater forwards the signal identically, whether it comes form a Basis or a Pro radio module.
Different DIP switch settings are not taken into account.

13.1. Table of authorisations

The following table shows which lines are authorised to communicate with each other:

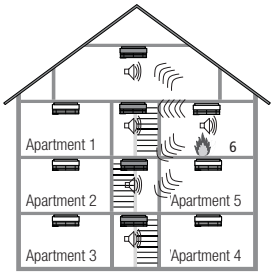
	A.n	B.n	C.n	D.n	E.n	F.n	G.n	H.7
H.0	X	X						X
H.1			X	X				X
H.2					X	X		X
H.3	No function							
H.4	X	X	X					X
H.5				X	X	X		X
H.6	No function							
H.7	X	X	X	X	X	X	X	X
H.8	No function							
H.9	No function							

n Can accept the values 0 to 9 on the rotary switch.

X Shows the possible combinations

Example:
The collective alarm line H.0 can exchange alarms with the lines A.0 to A.9, B.0 to B.9 and H.7. The line A.n cannot trigger the line B.n.

Example: apartment alarms stairwell



Collective alarm line e.g. stairwell

Separate lines per apartment

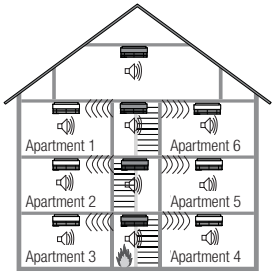
The radio smoke detector in apartment 6 detects a fire and sends the alarm to the collective alarm line in the stairwell.

Pro radio module apartment 6
= Send collective alarm "On"

Pro radio module in stairwell
= Receive collective alarm "On"

Configuration radio module	Line	DIP switch
Apartment 1	A.1	Send collective alarm = On
Apartment 2	A.2	Send collective alarm = On
Apartment 3	A.3	Send collective alarm = On
Apartment 4	A.4	Send collective alarm = On
Apartment 5	A.5	Send collective alarm = On
Apartment 6	A.6	Send collective alarm = On
Stairwell	H.0	Send collective alarm = On

Example: Stairwell alarms all apartments



Collective alarm line e.g. stairwell

Separate lines per apartment

A radio smoke detector of the collective alarm line detects a fire and sends the alarm to all apartments.

Pro radio module apartments
= Receive collective alarm "On"

Pro radio module in stairwell
= Send collective alarm "On"

Configuration radio module	Line	DIP switch
Apartment 1	A.1	Send collective alarm = On
Apartment 2	A.2	Send collective alarm = On
Apartment 3	A.3	Send collective alarm = On
Apartment 4	A.4	Send collective alarm = On
Apartment 5	A.5	Send collective alarm = On
Apartment 6	A.6	Send collective alarm = On
Stairwell	H.0	Send collective alarm = On

NOTE!
With all radio modules which send or receive (signal) the collective alarm, the corresponding DIP switch has to be switched to "on".

Acknowledgement of a collective alarm in case of alarm:

If an alarm is acknowledged in a collective alarm line, all radio smoke detectors are turned off but the one which has detected the smoke.
If the detector which detected the alarm is acknowledged, all radio smoke detectors are turned off

Feature:
If the alarm is acknowledged in a line, the collective alarm lines remain in alarm status until the collective alarm line is acknowledged.
If the detector which detected the alarm is acknowledged, all radio smoke detectors are turned off

13.2. Settings for collective alarm

The settings of the DIP switches 3 and 4 determine the communication between the radio modules of different lines.

Send collective alarm DIP switch 3 = Off	Alarms and warnings are not transmitted to other lines.
Receive collective alarm DIP switch 4 = Off	Alarms and warnings of other lines are not received or signalled. Signals are not forwarded (no repeater function of the collective alarm line).
Send collective alarm DIP switch 3 = Off	Alarms and warnings are not transmitted to other lines.
Receive collective alarm DIP switch 4 = On	Alarms and warnings of other lines (see table of authorisations) are received or signalled. Signals are forwarded (repeater function).
Send collective alarm DIP switch 3 = On	Alarms and warnings are sent as collective alarms.
Receive collective alarm DIP switch 4 = Off	Alarms and warnings of other lines are not received or signalled. Signals are not forwarded (no repeater function).
Send collective alarm DIP switch 3 = On	Alarms and warnings are sent as collective alarms.
Receive collective alarm DIP switch 4 = On	Alarms and warnings of other lines (see table of authorisations) are received or signalled. Signals are forwarded (repeater function).

14. Dismounting detector/transmission path monitoring

Signalling of the dismounting detector and the transmission path monitoring is suppressed at night between 10 pm and 6 am CET (winter time) by the integrated real-time clock.

The two functions are activated approx. one hour after commissioning as the system needs to update first. During this time, the serial numbers of the individual radio modules are exchanged.

Condition:
The DIP switch 5 is set to "on" with the radio modules to be monitored (only Pro radio module).

14.1 Dismounting detector:

Step	What needs to be done? / Reaction
1	The radio module sends a dismounting message (mute) if the smoke detector is removed from its base.
2	Dismounting is signalled 15 to 20 minutes after removal of the smoke detector from the base, double beep every 48 seconds. Signalling is produced by all radio modules of the same line and ID and if DIP switch 5 is switched on (DIP 5 = on).
3	• The signalling of dismounting can be avoided by setting the DIP switch 5 on the radio module to "off" within 5 minutes after dismounting (radio module still has to be in the smoke detector and within the radio range). • The radio module must only be removed from the radio range or from the detector after 10 seconds.
4	The transmission path monitoring is not deactivated by switching off the function dismounting detector. For this purpose, a new commissioning has to be carried out.

14.2 Transmission path monitoring

Conditions:
DIP switch 5 is set to "on"

Step	What needs to be done? / Reaction
1	The radio modules of the same line and ID monitor each other once a day.
2	If a radio module is not found in the radio network according to its ID during transmission path monitoring, its omission is signalled. Signalling is produced by all smoke detectors with radio module which are part of the transmission path monitoring.
3	Reasons for failure of a transmission path: ■ Failure of a smoke detector or a radio module ■ Removal of the smoke detector ■ Renovations ■ Change of furniture
4	A double beep is produced every 48 seconds which can be acknowledged for 24 hours by pressing the test button.
5	If the radio interference is removed, a new commissioning has to be carried out.

15. Removal of a radio module

Caution!
If a radio module is removed from the network, a new commissioning must always be carried out in order to ensure that the other radio participants can reach each other.

Step	What needs to be done? / Reaction
1	Remove smoke detectors from the base
2	If the dismounting detection/transmission path monitoring is switched on, set DIP switch 5 to "off" within 5 minutes after removal of the detector from the base.
3	Remove radio module from the smoke detector.
4	The remaining smoke detectors with radio module have to be commissioned again (see chapter 9).

16. Delete identification code/factory setting

The identification code has to be deleted first in order to programme a radio module for another radio network. For this reason, the radio module has to be removed from the Genius Hx® for approx. 10 seconds.

Caution!
If a radio module is removed from a radio network, a new commissioning has to be carried out for the remaining radio network in order to ensure that the transmission path between the individual radio smoke detectors still exists and that signalling of the transmission path monitoring is avoided.

17. Extend radio network

If an existing radio network is to be extended by one or several radio smoke detectors, please proceed as follows:

Step	What needs to be done? / Reaction
1	Carry out range test if necessary
2	Set radio module to the corresponding line
3	Mount smoke detector including radio module
4	Carry out the start-up (see chapter 9). Caution: The commissioning must be initiated on a radio module (press the operating button on the radio module for 5 s until the LED is red) which is already part of the line.

18. Acknowledge status message

A status message (e.g. "Batt. low", failure) can be acknowledged by pressing the test button on the smoke detector which sends the failure message. The failure is turned off for 24 hours and is then repeated automatically. If the failure is acknowledged on a smoke detector which receives the failure message, all radio-connected smoke detectors are switched off. The smoke detector sending the failure message keeps signalling.

Audible alarm	Cause	What needs to be done?
Beeps every 48 seconds	Failure on smoke detector or "Batt. low"	Change smoke detector
Short beep every 60 minutes	Receipt of a failure or of a "Batt. low" signal	Search for smoke detector sending the failure message

19. Acknowledge fire alarm

The smoke detector with radio module having detected a fire sends this message to its radio network after 20 seconds. If the test button is pressed on this smoke detector before these 20 seconds elapse, the message is not forwarded.

Acknowledge fire alarm on the smoke detector:

Step	What needs to be done? / Reaction
1	Press the test button on a smoke detector producing an audible alarm.
2	All audible alarms of smoke detectors turn off which do not have any smoke in the measuring chamber. Smoke detectors which have detected the fire keep producing the audible alarm.
3	Exception: If the test button of the smoke detector, which has detected the fire, is pressed all smoke detectors turn off.

If an alarm is acknowledged in a collective alarm line, all radio smoke detectors are turned off but the one which has detected the smoke.
If the detector which detected the alarm is acknowledged, all radio smoke detectors are turned off
Feature:
If the alarm is acknowledged in a line, the collective alarm lines remain in alarm status until the collective alarm line is acknowledged.

If the detector which detected the alarm is acknowledged, all radio smoke detectors are turned off.

20. Acknowledge dismounting detection and transmission path monitoring

Acknowledgement for 24 hours

Step	What needs to be done? / Reaction
1	Press the test button on a signalling smoke detector (double beep every 48 seconds).
2	All audible alarms of smoke detectors are acknowledged for 24 hours if the transmission path is alright. If the transmission path to a smoke detector is defective, this one has to be acknowledged individually.

Acknowledgement without repetition

Step	What needs to be done? / Reaction
1	Remove a smoke detector from the base
2	Observe the radio module LED: Flashes slowly (every 2 s): Dismounting detector Flashes quickly (every 0.5 s): Transmission path monitoring
3	Shortly press the operating button on the radio module. Caution: Carry out new commissioning! All radio smoke detectors have to be acknowledged again.

NOTE!
After performance of the acknowledgement, the system has to be commissioned again.
The radio network may be interrupted due to omission of a smoke detector with radio module.

21. Operating and warning signals

The smoke detector is equipped with an internal real-time clock which enables it to signal different operating and warning signals depending on the time of day.

Battery:
The integral battery of the smoke detector has a typical service life of 10 years and it is maintenance-free.
"Batt. low" is signalled at least 30 days before the battery is empty.

21.1 Alarm indication:

Smoke detector		Radio module	Cause	What needs to be done?
Audible alarm	**Operating LED**	**LED**		
85 dB oscillating alarm tone	Flashes each second	Off	Local alarm	Leave the building immediately
	Flashes every 8 seconds	Off	Received alarm Alarm	

21.2. Signalling in the daytime

Smoke detector		Radio module	Cause	What needs to be done?
Audible alarm	**Operating LED**	**LED**		
Off	Flashes every 48 seconds	Off	Operation, normal function	---
Short beep every 48 s	Flashes every 8 seconds	Off	"Batt. low"/ failure smoke detector	Change smoke detectors
		Flashes every 2 seconds	Failure radio module	Change radio module
Signalling is carried out 8 hours after installation		Flashes every 2 seconds	Radio module not programmed	Carry out commissioning
Double beep every 48 s	Current state smoke detector	Flashes slowly	Dismounting detector	
		Flashes quickly	Transmission path monitoring	
Short beep every 60 minutes	Off	Off	"Batt. low", failure of another smoke detector received	■ Search for smoke detector sending "Batt. low"/ failure ■ Inform servicing firm if necessary

21.3. Signalling at night

Smoke detector		Radio module	Cause	What needs to be done?
Audible alarm	**Operating LED**	**LED**		
Off	Flashes every 48 s dimmed	Off	Operation, normal function	---
	Flashes every 8 s	Flashes every 2 s	Failure radio module	Change radio module
Short beep every 48 s	Flashes every 8 s	Off	Failure of smoke detector	Change smoke detector

21.4 Signalling after acknowledgement

Smoke detector		Radio module	Cause	What needs to be done?
Audible alarm	**Operating LED**	**LED**		
Off for 24 hours	Off	Off	Failure of smoke detector or radio module	Change smoke detector or radio module
	Flashes every 48 s	Off	"Batt. low" after acknowledgement	Change smoke detector

22. Disposal

Every consumer is legally obliged to return all electric and electronic devices to the municipal collection points.
By doing so, you make an essential contribution to environmental protection!

The disposal via the domestic waste is prohibited.
Securiton has paid the costs for the disposal by means of the SWICO-vRG fee.
The radio module is produced in compliance with the strict criteria of the quality and environment management system according to DIN ISO 9001.
It complies with the statutory RoHS requirements and is free of any illegal substances.

The battery is an integral part of the detector and cannot be changed.

23. Guarantee and warranty

The Genius terms of guarantee apply.
You can find the Genius terms of guarantee on the internet on www.hekatron.de under the heading smoke detectors.
Referencdocument: 7002707 MA
Basis/Pro-Edition, 21.04.2011

24. Guarantee handling

For guarantee handling a return delivery note and a failure scenario record have to be requested by the dealer/supplier imperatively.
The failure screen record is also available for download on the website www.securiton.ch under the heading smoke detectors.
In the case of return deliveries the radio module has to be removed from the smoke detector and the smoke detector has to be removed from the base.

Hekatron Vertriebs GmbH hereby declares that the Basis and Pro radio modules comply with the general requirements and the other relevant provisions of the Directive 1999/5/EC. The declaration of conformity is available for download on the Hekatron website www.hekatron.ch in the download area.

25. Technical data

Approved by VdS	VdS 3515/G number G210149
Battery service life	Typically 10 years with an average of 28 °C
Supply voltage	3.6 V DC
Frequency band	SRD band
Frequency range	868.3 MHz
Type of antenna	PCB antenna
Range	At least 100 m unobstructed path
Transmission power	8 dBm / 6.3 mW
Ambient temperature during operation	0 °C to +55 °C
Storage temperature	–10 °C to +60 °C
Ambient humidity	At 40 °C at most 70 % relative humidity
Dimensions	Approx. 60 mm x 78 mm
Weight RM.Basis / RM. Pro	11g / 12g
Conformity	CE 0682, R&TTE, VdS3515

NOTE!

The typical operating life of 10 years is achieved under the following conditions:

- The radio module has to be installed into the Genius Hx® at most 2 years after the date of production.
- The radio module has to be installed into the smoke detector at most one year after first commissioning of the Genius Hx®.
- During the entire operating life, one commissioning and two range tests can be carried out.
- Per year, a line test, twelve function tests of the smoke detector and a full alarm of 90 seconds can be carried out.
- The portion of disturbance by other radio participants must not exceed 0.2 % (approx. 3 minutes per day)

26. Ordering data

Designation		Part number
Genius Hx	Smoke detector Hekatron in neutral packaging	239160
FM Basis	Basis radio module	239178
FM Pro	Pro radio module	239186
Plombenset	Set of seals Genius H/Hx VE32 grey (32 pcs)	246611
Set of adhesive pads	Set of adhesive pads Genius H/Hx (10 pcs)	246522

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