SECURITON

SecuriFire

Fire Alarm System
SRP 2.1

Maintenance and Service

Contents

1 Basics

1.1 Precautionary measures

Notice

We must assume that a real alarm could occur during normal maintenance work.
For this reason it is important that detection and alarm transmission is never switched off throughout the entire system.

Observe the following points during maintenance work:

- The customer must be informed about what functions in his system and what not
- The customer must be informed when the technician temporarily leaves the facility.
- During an interruption of the maintenance work of >30 min. (e.g. for lunch), the system must be fully switched on so that local alarm transmission can be guaranteed.
- The customer must be informed about his increased obligations during maintenance of the system
- If the “Lock outputs / MODAKT XX/16” function is active, it must be noted that alarms can be displayed only on the control unit (MIC 711/11, FIP etc.).

During maintenance work:

- Switch only one SecuriLine or detection zone (for modernisation detectors) in maintenance.

1.2 Maintenance interval

Notice

Maintenance and inspection work on danger detection systems are always subject to the provisions of the country in which the system is operated. For example:

- In GERMANY the DIN VDE 0833 Parts 1 + 2 and DIN 14675
- In SWITZERLAND the VKF (Cantonal Fire Insurance Union) directive and the technical guidelines of the SES (TR SES)

According to the device manufacturer the following limitations apply:

- The maximum service life of CO detectors (CCD573X) is 7 years.
- The maximum service life of smoke detectors is 10 years.

The detectors must be replaced at the latest before the service life expires.

Securiton also recommends the following:

- Maintenance and inspection work should be carried out at regular intervals and by trained and qualified personnel only (qualified electrician).
- Carry out a functional and visual check in accordance with the document at least once a year.

1.3 Compatibility notice

Warning

All installations must be upgraded to release 2.0.4 or higher.

Notice

SecuriFire Studio Release 2.0.4: new RTC-chip and B8-PSU are supported
SecuriFire Studio Release 2.1: B8 platform is supported

1.4 Firmware update:

It is the goal to update all systems on the latest release of an SRP (SecuriFire Release Package).
SRP2.0 must be updated to R2.0.x.
SRP2.1 must be updated to R2.1.x.

- Work through Section 2.
- Note Section 4 Planning.
- Note current service information: ..\..\ServiceInfo.
- Observe current application information: ..\..\ApplicationInfo.
- Section 7: Perform all tests designated “Firmware update”.
- Work through Section 8.

1.5 Fault rectification

- Work through Section 2.
- Rectify fault: See document: SF_ModFault_T811092.

1.6 Changes and additions.

- Work through Section 2.
- Observe technical documentation ..\..\TechnDoc.
- Note Section 4 Planning.
- Observe software manual SF_Studio_Manual_T811093.
- Note current service information: ..\..\ServiceInfo.
- Observe current application information: ..\..\ApplicationInfo.
- Section 7: The adaptations and transmission unit must be tested.
- Section 7: At least one real alarm transmitted to the fire brigade.
- Work through Section 8.

1.7 Maintenance

- All sections of this document must be worked through.
- Note current service information: ..\..\ServiceInfo.
- Observe current application information: ..\..\ApplicationInfo.

2 Prepare system for the maintenance or service

Subject	Tested
Must always be performed • Consult the customer in advance. • Arrange for keys, documents etc. • When possible, have the customer log off the facility from the alarm reception centres. • Note disablements, alarms and faults. • For extinguishing systems: Uncouple valve on bottles (arranged with the customer). • Acquire current planning file “*.bsa” of the system by uploading from the system. • Poll events and save in Excel list (with SecuriFire Studio). This list shall be saved under the name "Eventmemory_before_maintenance_Date.csv" on your data server. Check events for irregularities: Faults, alarms etc.	
To be performed during maintenance work • Check system content: Number and type of installed devices and systems. • Check and update responsible persons in the control notebook. • Check the orientation plans for the fire brigade. • Check connection number of the transmission unit. • Check the monitoring scope. Ask operator whether there have been changes in use. • If required by the operator: Instruction in the operation of the FAS.	

2.1 Quick test

The system must be subjected to the following tests in the current state (no restart).

Subject	Tested
Test operation • The system can be operated normally (switching, infos, memory).	
Test “Lock outputs” via MIC (on authorisation level 8): • In the configuration menu execute the command “Lock outputs” – “On”. The fault MODAKT XX/16 appears in the MIC display. (MODAKT XX/15 is not OK!)	
Alarm test • End command “Lock outputs”. • Switch off all outputs. • Switch on again only the outputs of the “Transmission unit”. • “Trigger” alarm. • Check transmission to the fire brigade.	
If one of the above named tests has a negative result • Do not de-energise the system. • Do not perform a restart. • Contact the FAS department at the head office immediately to discuss further measures.	

2.2 Command “Lock outputs” (MOD AKT XX/16)

The “Lock outputs” command has the following advantages:

- It remains in effect even after a restart of the system and prevents unwanted output actuation.
- Output actuations on the logical level can be tested for the correct functioning of project changes.

Lock the outputs for the following work:

- For all downloads and system restarts.
- For fault rectification with HW replacement.
- When testing project changes.

The outputs should not be locked for detector maintenance (detection zone or loop switched to maintenance) for the following reasons.

- If the loop or detection zone is switched to maintenance, it is protected against false triggering.
- For large objects an internal alarm transmission is no longer guaranteed (sirens out of order).

3 System check (for maintenance)

Subject	Tested
Visual hardware inspection of all SCPs • Visual inspection of the control panel internal connections • Check whether loose wires are present • Check all output terminals • Measure or estimate the ambient temperature in accordance with the document “SecuriFire mounting and installation instructions” T131458.	
Visual hardware check of all internal and external indication and control maps • Indication and control map: Perform display test, lamp test and buzzer test • Display: Colour OK, any damage, possible cleaning • Check all LEDs • Keys: Check function	
Automatic detectors / soiling With the “LoopAnalysis” tool • On all SecuriLines: Read maintenance and save protocol on the storage medium as XLM file. • Compare with last year's protocol. • Observe replacement recommendations, replace detectors • Visual inspection of detectors, see Section “**Alarm line test (test detectors)**”	

4 Planning

In the following the system is to be checked concerning firmware and planning.
Maintenance is a good opportunity for upgrading the system beforehand.

Notice

Project modifications and firmware upgrade must be implemented before the function tests.

The project file must be checked according to the checklist "SF_Projection_Checklist"

Help is available in the “SF_Studio_Manual_T811093” Software Manual.
Please refer to the current documents “Service Information” ..\..\ServiceInfo
as well as the current documents “Application information” ..\..\ApplicationInfo.

4.1 Topology of the installation

Subject	Tested
The SecuriLan must have the form of a loop. Refer also to Service Info "SF_SI10_Vernetzung".	

4.2 SD card for an extended event memory

Subject	Tested
So that the entire event memory of 65,000 events can be used, the SD card approved by Securiton must be inserted. This is to be used on the SCP from which access with the service computer normally takes place. In case that SD cards are used, they have to be projected for each MIC/MIC711. In addition, the max. number of events in "Projection/Project/Event memory" has to be set to 65000.	

4.3 Transmission unit with primary and alternative path

Subject	Tested
Is the transmission unit wired according to PVS-FA-2012-008 and PVS-FA-12-010 with the criteria “Fault critical”, “Fault not critical” and “Local alarm / Negative acknowledgement” and planned according to the instructions? See document "SF_AI_17 Remote_alerting_faults" for planning and wiring. See current instructions concerning transmission units.	

4.4 Main siren and sub siren outputs

Subject	Tested
At least one audible siren must be connected to SecuriFire via “Primary line” (monitored output). See application information “SF_AI_13_local_alarming”.	

5 Measurements and power supply test

Subject	Tested / Value
24 VDC voltage • 24 VDC voltage measured on terminal block on PSU Kl, VExt and GNDExt • Nominal value 27.0 V ± 0.4 V / 20C°	
Battery charging voltage • Battery connection charging voltage Cl + to Kl – • Nominal value 27.0 V ± 0.4 V / 20C°.	
Earth fault check Because on SecuriFire the GND of the SCP is directly on earth potential, no earth fault voltage can be measured. The following must be observed: • The detector lines and SecuriLine are to be tested in compliance with service information: "SFI05_earth_faults_SecurLinie"	
SCP system current • Loop ampere meter on the batteries in the circuit and remove 230 V mains connection. • Measuring value = current consumption of the system without charging current of the batteries (emergency power), see commissioning data system file. • See power calculation ..\EngineeringDocuments\CurrentCalculation.	
Battery failure • Test: Disconnect batteries. • Display after 15 min. in the display: "BATTERY FAULT". • Re-connect batteries. • Reset system.	
Failure 230 V test • Remove mains disconnector socket. • Let the system run on battery operation (at least 1 hr.). • Measurement of the discharge voltage **see Check battery voltage**. • Immediate display: PSU: "NETOK" LED goes out. • Control panel display: When the programmed delay time is expired (normally 1 hr.): "FAULT" "230 V / +24 V" • "Mains fault" LED flashes. • Continue to battery voltage check.	
Battery voltage check • Check the battery voltage: must not be under 11.5 V for each battery. • Connect 230 V mains. • Reset system.	
Fuse failure • Test: Remove fuse on PSU power supply unit. • Message in the MIC display: "MODAKT XX/24" fault info: "PSU FUSE F1-F5". (Important: magnetic door clamps drop off, file incident doors can close.) • Also, faults are displayed from devices that are supplied from PSU. • Re-insert fuse. • Reset system.	

6 Alarm lines, fire detectors

Subject	Tested
SecuriLine fire detector maintenance If factory maintenance (detector exchange after 8 years): • Switch the loop to be tested to maintenance. Use the SecuriFire maintenance tool. Check with testing device. You can choose amongst the following options: • “Guided maintenance without detour”. (Not recommended.) • “Guided maintenance with detour” • “Unguided maintenance” The maintenance data can be printed out directly via laptop and printer on site and saved as a PDF file on the CF card. Annually: • SecuriFire ServiceCenter: tab "Send" Detector zone - Range x - Test maintenance • Afterwards switch on again the detector zone(s) • Check in the event memory for the tested detectors	
Addressable fire detector maintenance(ORM 140/150, MMD 140/150) If factory maintenance (detector exchange after 8 years): • Switch detection zone to be tested to maintenance. Check with testing device.. (SecuriFire maintenance tool cannot be used.) • The performed maintenance work must be read out in the event memory.	
Conventional fire detector maintenance(ORM 130, SSD 521, SCD 563, etc.) If factory maintenance (detector exchange after 8 years): • Switch detection zone to be tested to maintenance. Check with testing device.. (SecuriFire maintenance tool cannot be used.) • The performed maintenance work must be read out in the event memory.	
All fire detectors Every two years (according to SES directives): • Visual inspection • Check automatic detectors on firm installation, sufficient free area around the detector, free entering of smoke	
All manual trigger buttons Annually (according to SES directives): • Trigger (see Section 7)	

7 Triggerings and alarm transmission

Subject	Tested
System on "Present" (delay on) • Trigger automatic detector: Check delay time and inspect time. • Trigger manual button: Must transmit directly on TU.	
System on "Absent" (delay off) • Trigger automatic detector: Must transmit directly on TU. • Trigger manual button: Must transmit directly on TU.	
Detection zones (after firmware update and annually compliant with SES directives) • Switch on "Lock outputs" (fault "MODAKT XX/16"): - DXI loop: Trigger a real alarm on at least 1 automatic detector per loop; afterwards, check for correct display. - DXI stub: Trigger a real alarm on 1 detector per loop; afterwards, check for correct display. - LEE 24 loop: Trigger a real alarm on 1 detector per loop; afterwards, check for correct display. - LEE 23 stub: trigger a real alarm on 1 stub per card; afterwards, check for correct display. - IM 8 stub: trigger a real alarm on 1 detector per stub; afterwards, check for correct display. • Check actuations of the outputs (TUs, sirens, fire incident controls) in the event list. • If a security management system or SecuriWan is connected to a control panel: Trigger alarm and have the customer check and reset management system / SecuriWan. At least 1 once • Trigger one detector per loop or stub line using the testing device. (the following points are not necessary after a firmware update) • Trigger all manual trigger buttons. • Check flame detector if present with testing device. • Check linear detector (special fire detector) if present with testing device. • Check group association by means of the event memory. • Check actuations of the outputs (TUs, sirens, fire incident controls) in the event list. • To check the correct operation of the control, trigger further detectors in different zones using the command "simulate alarm". • End "Lock outputs" (no "MODAKT XX/16" fault).	
Transmission unit (at annual maintenance and firmware update) (Important: twice yearly if the transmission section is not monitored.) • Switch off all outputs. • Switch on the outputs required for remote alerting. • Trigger one alarm in each area. • Check the transmission to the fire services. (all criteria). The pictogram "Transmission unit" (Telephone) lights up red. • Check transmission to the fault reception centre by creating a fault. (all criteria)	
Sirens (at annual maintenance) • Each siren must also be physically tested at least once (real actuation). The pictogram "Alarm unit" (Siren) lights up red.	

Fire incident controls, smoke ventilation (every two years) • Each output must also be physically tested at least once. For critical fire incident controls, stop production etc., possibly to interface. • Perform detection zone test (if the logical actuation was already tested during the “Detection zone test”, the detection zone can be activated with the “Simulate alarm” service tool). • Check actuation of lifts, ventilation systems etc. • Resetting the system (lifts, ventilation systems etc.)	
Extinguishing systems (every two years) • Test up to valve. (Without flooding.)	

8 Finishing work

Subject	Completed
• Wipe dust off indication and control maps and control panel housings with a damp cloth. • Restore the disablement list. • Switch on delay. • Read out event memory (can contain up to 65,000 events) and save as file "EventMemory_after_maintenance_date.sel" • Read out and save the maintenance data: LoopAnalysis/Project "read maintenance"  • Save the following files on a CF memory card and your data server: - "EventMemory_after_maintenance_date.sel" - "SFStudioVersionNumber_Date.bsa" (Project file) - "Maintenance_Date.xml" (file from the function " read maintenance " • Save event memory file and project file on the CF card and on the data server of the installer company. • Save event memory file and project file. • Put the system into operation again (customer code). • Project file download to all SCP and MIC 711 units. • The documentation must be updated locally on site. • Print out maintenance protocols (as per customer request). • Feedback to the management centre, log in alarm transmission again • Report any security problems to the customer.	