Solution F1

Fire Control Panels - the new generation
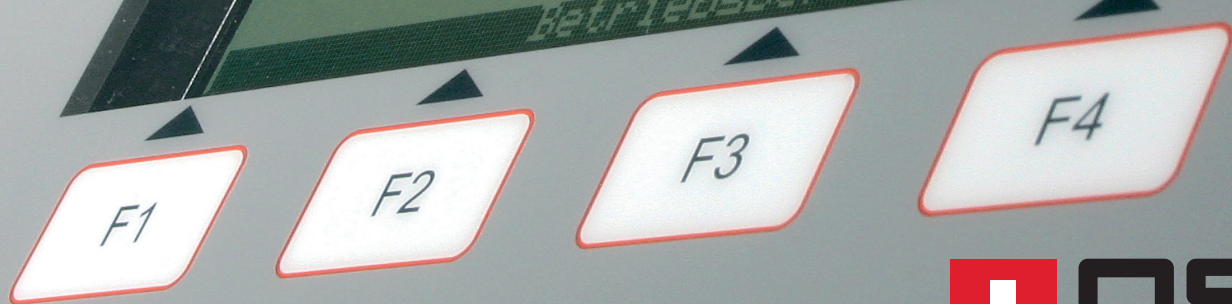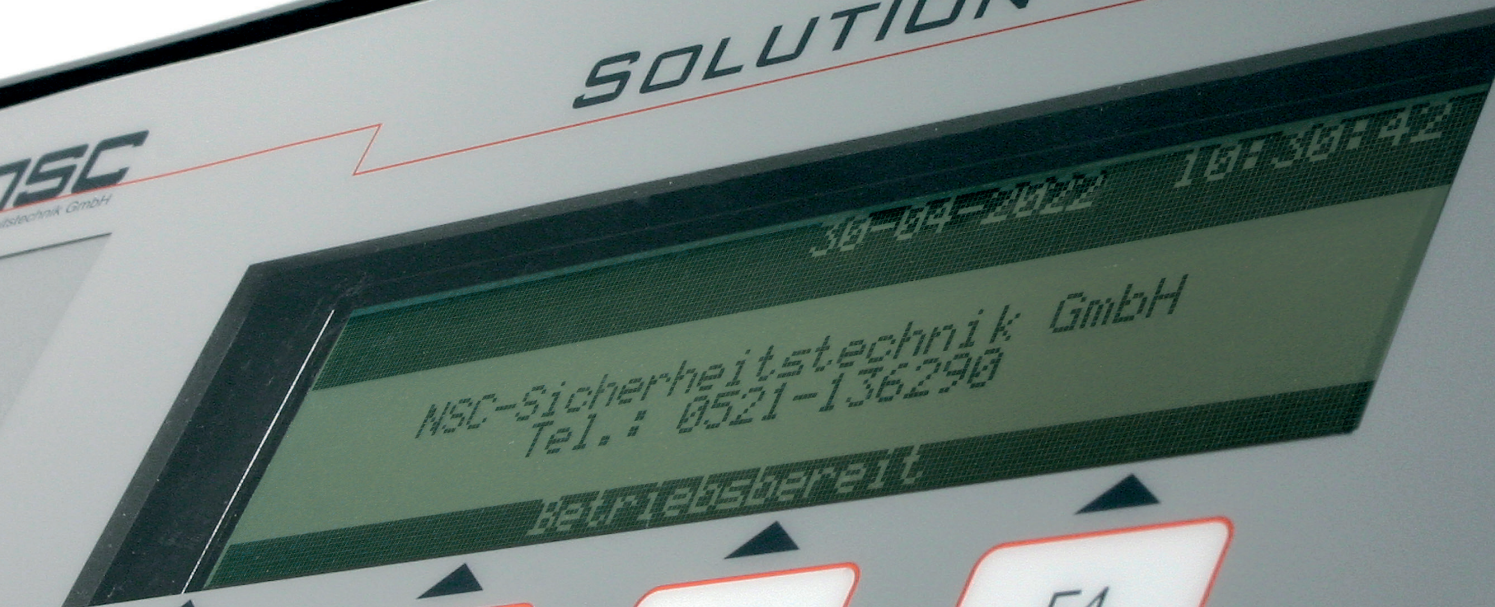
The Fire Alarm Control Panel Solution F1

Solution F1-6
- in A1 enclosure

Solution F1-18
- in B2 enclosure

Solution F1-18
- in C1 enclosure

The Concept

Solution F1 Fire Alarm Control Panels are impressively modular and offers an ideal solution for every application. The control panels convinces with many innovations, some are unique in the security business. National and international standards as well as multiple market requirements are fulfilled and as a result the F1 fire panels can be easily adjusted to high complex projects. Without any compromises and at the highest level of safety technology.

The front panel design with a wear-free touch control panel is durable, user-friendly, maintenance-free and unique with its glass-like appearance.

Flexibility also in the product range of detectors - The Solution F1 control panels are compatible with the latest, addressable detectors from Hochiki and Apollo - two of the largest and best-known detector manufacturers worldwide. Of course, almost all common conventional detectors on the market can be connected.

If increased reliability according to EN54 or VdS is required, a fully redundant central processing unit is used in conjunction with redundant system modules. In this way, increased security requirements are reliably covered.

Key-Features

- Modular, intelligent hybrid Fire Control Panel series with 2 to 18 loops in a NSC standard housing.

- For Hochiki ESP detectors and Apollo Soteria / XP95 / Discovery detectors.

- Basic configuration already with touch control panel and graphic LC display 240 x 64 dots.

- Integral Power supply 24 V DC with max. 6.7 A or 4.2 A as standard included.

- 32-bit high-performance CPU

- 3 monitored control lines for main detectors / visual alarm devices / key deposit box - separate adapter for FSD is not required.

- Redundant RS-485 interface (e.g. FAT)

- 3 x RS-232 interface

- PC programming (configuration/diagnostics) per USB interface.

- Fully redundant CPU and fully redundant loop -or conventional cards as an option.

The Product Range

The „Solution F1-6" can manage 2-6 loops with up to 762 addressable devices in 512 detector zones. The required batteries and the 24V DC / 4.2 A power supply can also be placed in three standard housings.

The „Solution F1-18" can handle 2-18 loops with up to 2286 loop devices in 1024 programmable zones. The biggest standard housing, the C-housing, is capable of uptaking batteries up to 65 Ah and a 24V DC / 6.7 A power supply.

Alternatively, both models can be supplied in a 19" housing. This requires no conversion kits, mounting frames or similar, because Solution F1 is generally compatible to 19" housings. The pluggable, wiring terminals are ideal for the technician, so that installation and assembly can be carried out effectively and very quickly.

Technical sepcifications F1

Supply voltage	230 V AC +10 / -15 %, 50 / 60 Hz
Output voltage	24 V DC
Power supply	4.2 A ("F1-6") / 6.7 A ("F1-18")
Operating temperature	-5°C to +40°C
Battery charging	10 Ah–65 Ah (24 V DC)
Humidity	Max. 95 %
Loops	2–18
Detector cable	JY-(ST)Y 2 x 2 x 0.8 / max. 3,500 m
Detectors / modules per loop	up to 254 Hochiki / 340 Apollo
Graphics display	240 x 64 dots
Event log	10.000 messages
Relay outputs	Max. 30 V DC / 1 A
Open Collector outputs	Max. 30 V DC / 60 mA
Monitored power outputs	3 x 24 V DC / 500 mA
Dimensions housing A	540 x 490 x 158 mm
Dimensions housing B	540 x 540 x 243 mm
Dimensions housing C	760 x 540 x 265 mm

WxHxD

Approvals

- EN54-13
- VdS G 205 024
- VdS S 205 024
- 0786-CPD-20907
- ÖNORM
- BOSEC
- CNBOP
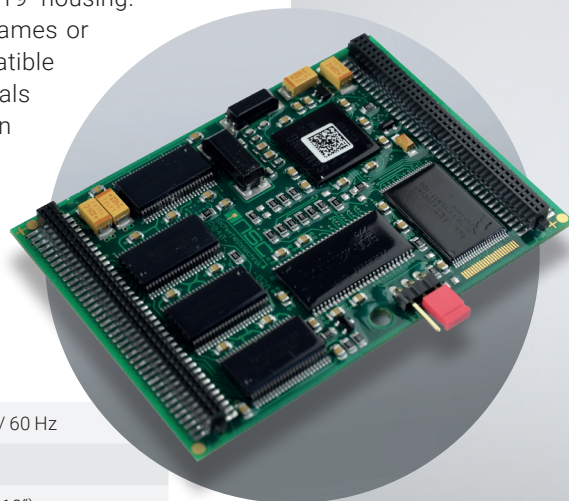- EAC
- SIL2 - IEC 61508

CPU Board

Additional plug-in module to achieve a full redundant main board
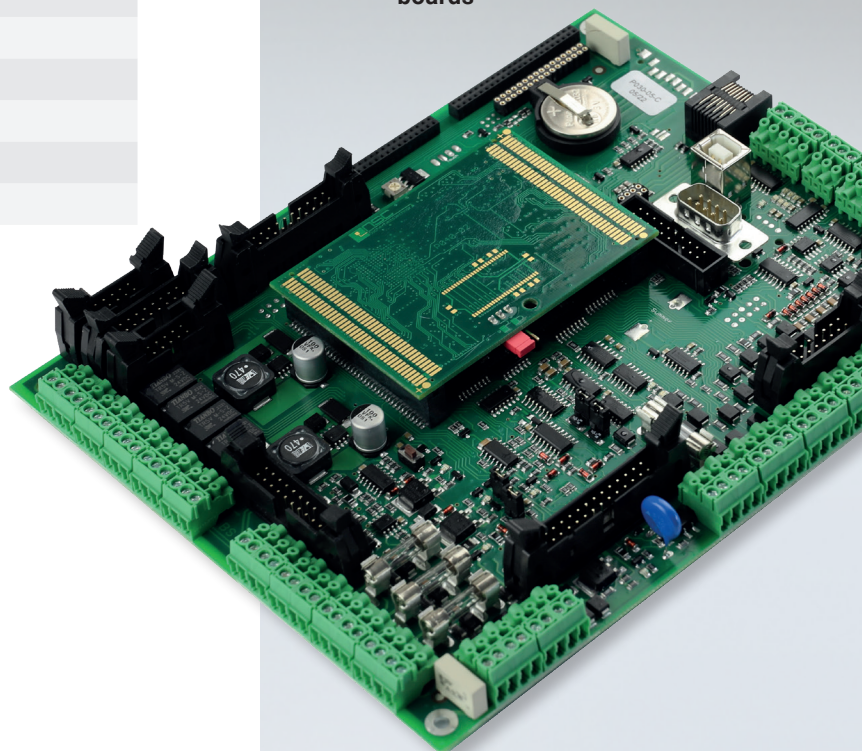
VdS approval G 205 024

Attention
According to EN54 standard necessary if more than 512 detectors are connected

SIL2 Approval

- According to IEC 61508
- 100% redundant CPU and loop cards required
- Remote monitoring of the operation of the FCP must be guaranteed
- **Fully protective coated circuit boards**

■ Most Important Features

■ All housings are very connecting- and installer-friendly by the swiveling front panel. By that the technician gets free access to the connection terminals.

■ 3 compact wall housings accommodate 2 - 18 loops. Mixed operation of addressable and non-addressable detectors in one fire panel is also possible.

■ Multiprotocol loop cards allows the use of different addressable detector types. Monitoring the loops for short circuits, wire break, and checking the shielding for a possible earth fault.

■ Various modes and detection algorithms can be programmed in conjunction with analogue addressable detectors. Combined with extensive time controls, the control panels can be perfectly adapted to any application.

■ Auto dynamic user guidance by the graphic display with assigned functional push buttons.

■ 8 freely programmable buttons to permanently program operating processes by storing the individual operating steps in the memory and then assigning them to a specific button.

■ USB interface for programming

■ Generous flash- and main memory (8 MB in the F1-18) offer unlimited programming options and extensive additional texts for each detector.

■ NSC webserver for communication per any standard internet browser (router / internet required on-site)

■ Network-capable through ARCnet network cards. This bus system is characterized by its multi-master capability, so that if one master fails, the rest of the network continues to run at 100%.

■ Up to 128 panels in one network possible – redundant if required!

CLEAR ANNOUNCEMENTS THROUGHOUT

■ Evacuations with NSC safety systems

Fire Control Panel Solution F1 and the NSC Voice Alarm System MILO combined - with interface according to VDE 0833-4 in a 19" rack.

The main components for the Solution F1

## Loop Technology

Loop card Multiprotocol
NSC order-no.: B01266-00

- Supports Hochiki´s Enhanced System Protocol and Apollo Core, Soteria, XP95, Discovery

- Protocol selected per Installer menu (FCP)

- 2 loops or 4 spurs, each loop with up to 252 detectors / modules / sounders*

- Topology detection when using components with smart isolator

- Auto-addressing possible for the first time*

- Storage of the detector addresses on the module

- Extended configuration and advanced functions for detectors and modules

- 8 freely programmable O/C alarm outputs

- Max. current per loop: 400 mA (Hochiki) / 450 mA (Apollo)

- Loop cable length max. 3,500m

Loop card Multiprotocol redundant
NSC order-no.: B01276-00

- 2 loops or 8 spurs

- Up to 340 participants per loop*
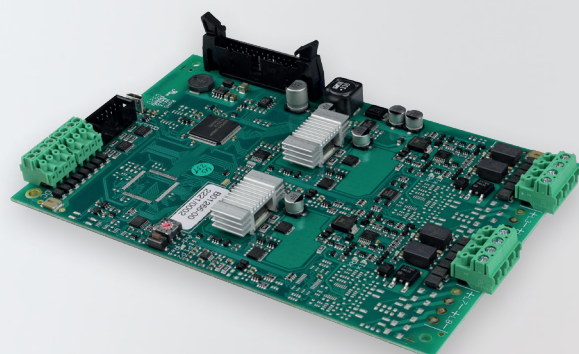
* Apollo Core Protocol only

Conventional Detector Card

NSC order-no. B01330-00

- Compatible with almost all conventional detectors on the market

- 8 stubs / 32 detectors per stub

- 8 freely programmable O/C alarm outputs

- Ground fault monitoring of the signaling lines

- Emergency operation in the event of a central computer failure

- Also available as fully redundant version (B01310-00)
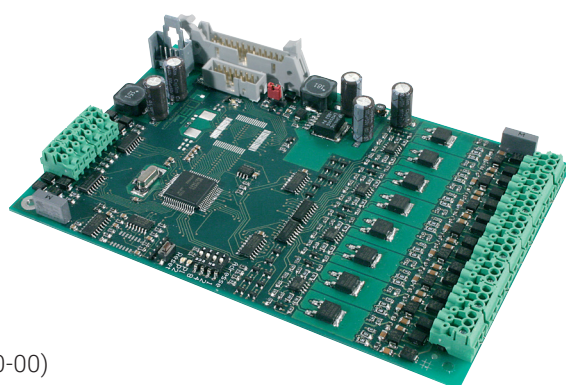
Relay Card

NSC order-no. B01330-00

- 8-way changer, universal

- Compatible with F1 fire alarm control panels but can also be used universally

- 8 freely programmable relay outputs 250 V AC / 5 A
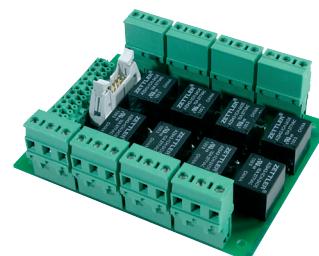
Software / Apps

NSC FAS-Tool
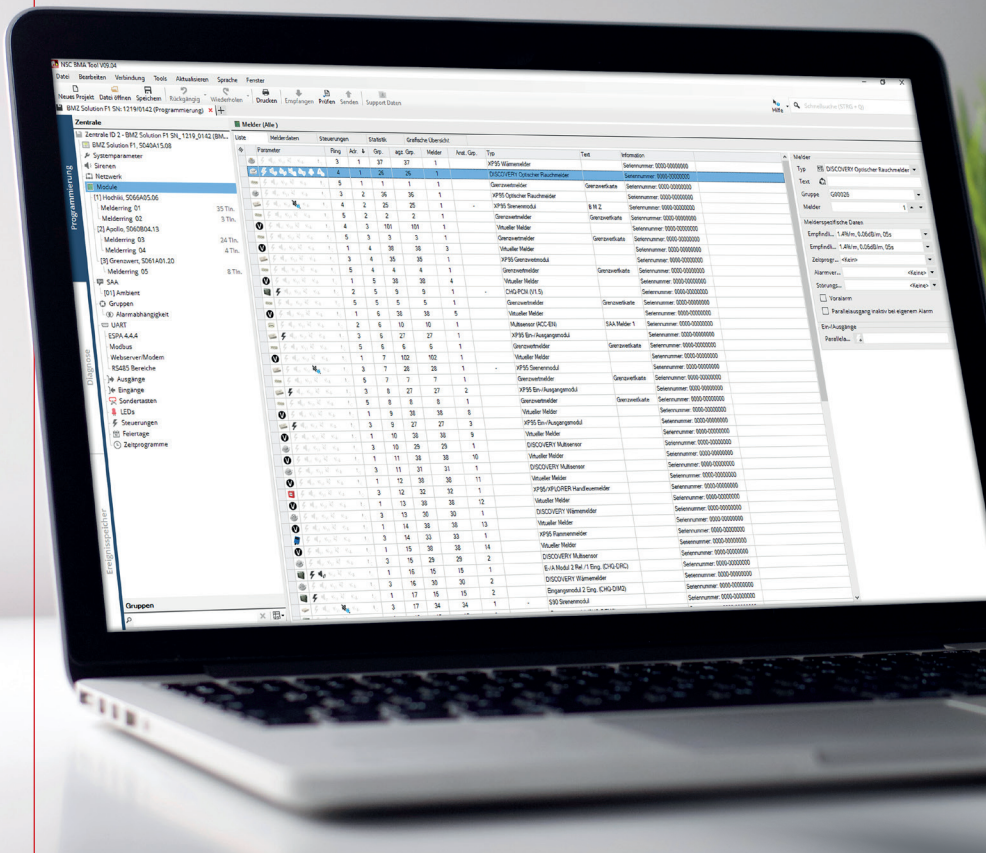
Configuration software for Solution F1 & F2 panels

- Modern user interface.
- To configure settings in case of fire alarms and for alarm organization.
- Diagnostic data and event logs from multiple projects can be managed parallel.
- Online updateable!
- For analyzing detector values, loops, statistics, event logs.
- Graphical representation of the loop-topology with position number.
- Parameterization of the extended Functionalities of the Apollo Core® protocol.
- Negated inputs & FailSafe functionality as well as group control for modules.
- For programming texts, zones and automatic controls.
- Automatic generation of the entire system documentation

NSC SmartRevision

One man maintenance app for NSC Fire Alarm Systems

- Using the NSC SmartRevision as inspection and maintenance support including maintenance log.
- Maintenance app to maximize efficiency of the classical maintenance.
- Enables a legally secure 1-man revision on site (depending on network and on-site cellular resources).
- Voice output of the detector designation
- Immediate feedback from triggered detector

Available in the common app stores!
Scan the QR code with your mobile phone.

Download on the **App Store**

GET IT ON **Google Play**

Maximum Efficienzy

Commissioning of a fire alarm system

According to DIN, a complete test of all detectors is required when the fire alarm system is first commissioned. Only then the facilty is able to presented to an expert for necessary acceptance. This requires a considerable amount of work and time, even in the case of small and medium-sized systems. In most cases, mix-ups in the programming or in the detector labeling are not reliably determined.

The smart inspection

Two technicians are often required on site to ensure compliant maintenance. SmartRevision now offers the possibility of maintaining NSC fire alarm systems much faster, easier and more cost-effectively. The additional technician who has to keep an eye on the messages of the control panel with the conventional test method is no longer necessary. In addition, maintenance becomes much more pleasant for the technician!

SmartRevision

With the NSC SmartRevision app, the maintenance technician receives a real-time voice output of all messages from the fire alarm control panel (FCP) on his smartphone. This means he can immediately compare the voice message with the labeling on the detector on site! In objects with a lot of ambient noise, wearing headphones that output the audio signal of the mobile phone reduces the noise exposure.

Step by step:
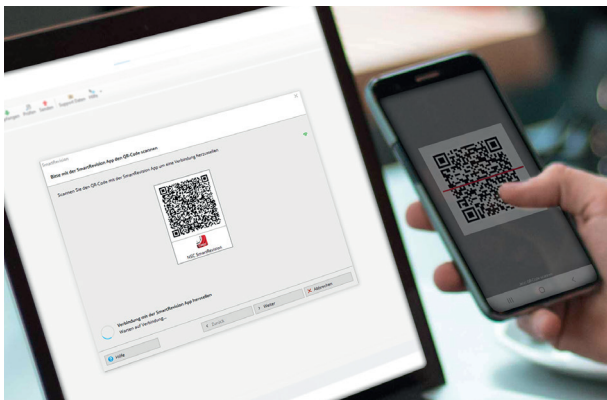
1 Before starting the maintainence, connect the NSC Fire Panel to the NSC FAS-Tool.

2 Put alarm zones to be maintained at the FCP in revision.

3 Activate SmartRevision in the NSC FAS-Tool with Menu „Tools".

4 Start the SmartRevision app on your smartphone and scan the QR code for coupling.

5 Perform one-man maintenance!

Building Management Solution

NSC Building Management Solutions is a management software for the NSC Solution F1. The NSC application can be operated as a single-user system (the server also serves as the only operator station) or as a distributed system with one server and up to five additional operator stations. In addition, the application can be expanded to include additional user licenses for the mobile application based on iOS and Android as well as the web-based user interface.

The basic package of the NSC Building Management Solutions is already perfect for the cost-effective visualization and control of an NSC Solution F1 Fire Alarm System including mobile alarming via the sup-plied mobile app for up to 100 included detector points.

- A software license for single-user system operation or as a mobile app server.
- One mobile app license for one user
- 100 data point units inclusive
- The NSC Solution F1 software interface to logical device connection of the hardware components to the software.

Network Technology

Operating state

Web server
— S128A04.01-001 - Ready

Fire control panel
— FCP Solution F1 - S040A14.32 - DE

- In operation
- Delayed
- Testmode
- Main alarm
- Internal alarm
- Pre alarm
- Transmission device activated
- Fire protection equipment outputs activated
- Fault
- Fault power supply
- System fault
- Fault transmission device
- Fault sounders
- Switch off
- Switch off transmission device
- Switch off sounders
- Switch off fire prot. outputs

NSC Webserver Module

- Plug-in module for Solution F1 main board
- Allows access to any NSC Fire Control Panel via the Internet using a standard browser
- User management with username and password, email address and 9 different access rights
- Displaying of all FCP messages in real time
- Event memory and log file with 10,000 entries each
- Online display of the control panel of the FCP with all status information
- Entire operation of the FCP, also within network
- Email notification in the event of an alarm / fault
- Encrypted connection via SSL
- Creation of support data via webserver for remote diagnosis or data backup

NSC Order-No.: B01380-00	
Operating system: Linux O/S Software (2.6.24 kernel)	
LAN: 10/100 Mbps Ethernet LAN-Schnittstelle	
Prozessor: ARM9 CPU 192 MH	
Storage: 32 MB SDRAM, 32 MB NOR Flash	
Power supply: 3,3 V / 300 mA	
Current consumption: 38 mA (24 V DC)	
Dimensions: 56 x 56 mm	

ARCnet Interface Card

- For networking of the FCP Solution F1
- To plug into a slot of FCP main board
- Connection to the multi-master communication system with a maximum of 128 participants
- Can be implemented redundantly through two separate slots in the FCP
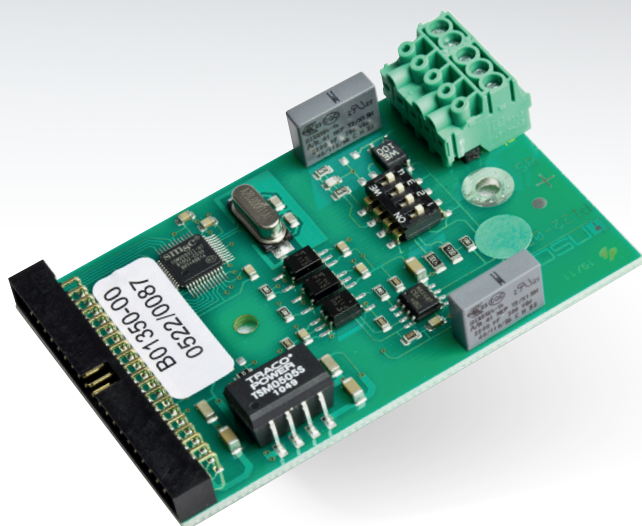
NSC Order-No.: B01350-00	
Operating voltage: 24 V DC	
Current consumption: 30 mA	
Weight: 0,4 kg	
Dimension: 80 x 48 x 20 mm	

Full operational Remote Control Panel for the Solution F1

- As a separate, multifunctional display and control device for the „Solution F1" network with touch control panel and graphic LCD

- Full operation and indication of the network (restriction programmable)

- Password-protected operating levels according to EN54

- 8 freely programmable function keys

- Control for fire routing (HFM)

- Integrated adapter for fire brigade key depot

- 2 x RS-232 interface, freely programmable / 1 x RS485 interface, freely programmable

- 16 freely programmable inputs and outputs

- Interface for NSC web server for communication via any standard internet browser (router / internet on site)

- including ARCnet network card

- Supplied in a flat, elegant surface-mounted housing

NSC Order-No.: B01500-00

Operating voltage: 24 V DC

Current consumption: 100 mA

ARCnet interface: up to 128 devices in one network

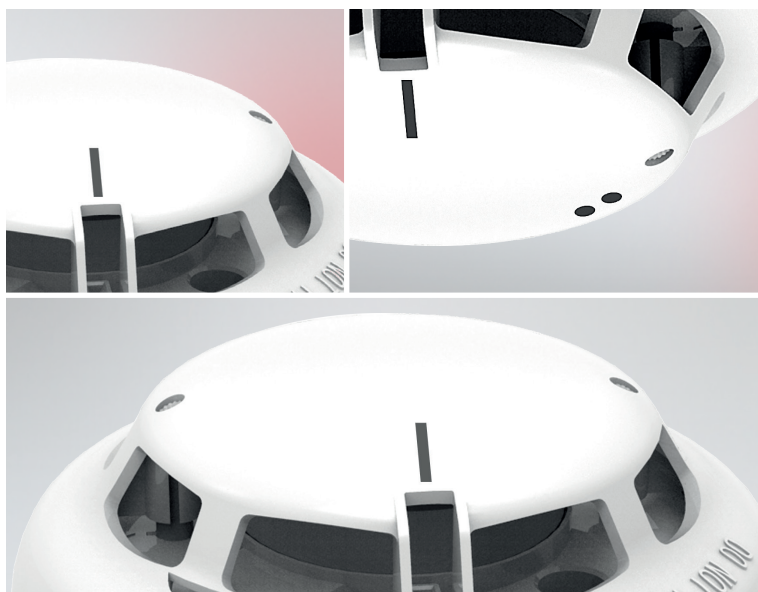Max. cable length: 1,200 m

Weight: 4.9 kg

Dimensions (WxHxD): 495 x 176 x 75 mm

Ordering information

Description	Order-No.	Description	Order-No.
Fire Control Panel "Solution F1-6" for 2 to 6 loops	B01050-00	ARCnet interface card	B01350-00
Fire Control Panel "Solution F1-6" for 2 to 18 loops	B01060-00	Webserver Module	B01380-00
4U front plate to keep Zone LED PCBs	B01200-00	Configuration software	B01395-00
PCB with 32 Zone LEDs	B01220-00	Housing A1, 490 x 540 x 158 mm (HxWxD)	B01400-00
Built-In Printer	B01230-00	Housing A2, 490 x 540 x 158 mm (HxWxD)	B01405-00
Loop card Multi-Protocol 2 Loops / 4 Spurs	B01266-00	Housing B1, 540 x 540 x 243 mm (HxWxD)	B01410-00
Loop card Multi-Protocol - redundant 2 Loops / 8 Spurs	B01267-00	Housing B2, 540 x 540 x 243 mm (HxWxD)	B01415-00
Conventional detector card with 8 stub lines	B01300-00	Housing C1, 760 x 540 x 265 mm (HxWxD)	B01420-00
Redundant conventional detector card with 8 stub lines	B01310-00	Housing C2, 760 x 540 x 265 mm (HxWxD)	B01425-00
Relay card with 8 change over contacts	B01330-00	Remote Control Panel incl. ARCnet card	B01500-00

Compatible analogue addressable detectors

Hochiki ESP-Top-Loop detectors with integrated isolator

Optical smoke detector ALN-EN

- 3 modes can be switched automatically or depending on time or event.

NSC Order-No.:	B02003-00
VdS-No.	G 218026
CE-Certificate	2831-CPR-F1927

Multi sensor ACC-EN

- Contains optical and heat sensors
- 4 automatic detection modes or timed by cause and effect events

NSC Order-No.:	B02012-00
VdS-No.	G 218018
CE-Certificate	2831-CPR-F2015

Key Features

- Programmable detection algorithm (operation mode TM)
- With ESP protocol and so immune against EMC interferences
- Flat-Response-Technology for optimized smoke detection. This provides a considerably extended range of response to combustible materials (broadband detectors)
- Automatic drift compenastion at contamination => constant sensitivity
- The sensitivity can be adjusted by software to the environmental conditions
- Low Power Mode in case of Mains AC fault
- Electronic addressing (Flash)
- Twin fire alarm LEDs give 360° view in case of alarm condition

Multi heat sensor ATJ-EN

- Contains both fix temperature and rate of rise temperature heat elements

| NSC Order-No.:	B02023-00
VdS-No.	G 218019
CE-Certificate	2831-CPR-F1929

Multi sensor ACD-EN

- NSC Order-No.: B02015-00
- contains optical, carbon monoxide (CO) and multi-heat-detector
- provides 24 different modes: automatic, manual or time-/event dependent switchable
- 10 years operational lifetime of CO-Sensor
- VdS approved according to EN54-5, EN54-7 and EN54-29
- LPCB tested and approved according to EN54-26, EN54-30 and EN54-31
- CE-Certificate: 2831-CPR-F1761

Apollo SOTERIA detectors
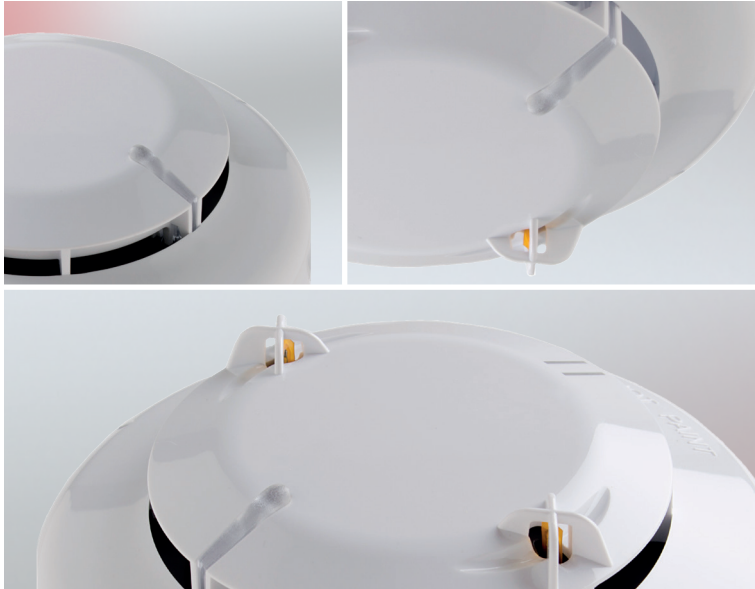
Key Features

- Addressable via XPERT8-card or through Soft-Addressing via the control panel**

- FasTest function reduces service time for detector maintenance significantly*

- Up to 254 detectors (+ 254 base alarm devices) per Loop**

- Dual-Isolator integrated

- Connector for remote indicator

- Locking mechanism (grub screw)

- PureLight technology reduces the risk of false alarms and increases significantly the reliability of the fire detection.

- Tri-coloured 360° LED status indicator (alarm, fault rsp. isolator activated, polling)

*** use of CoreProtocol is mandatory*

Optical Smoke Detector

- Protection class: IP44

- 5 different EN54-approved operation modes (sensitivities, etc.) on board and selectable via the control panel

NSC Order-No.:	B02900-00
VdS-No.	G 216027
CE-Certificate	2531-CPR-CSP10983

Multisensor (Smoke/Heat)

- Offers a combination of a smoke detector with a dual heat sensor. It can be switched to detect smoke, heat or a combi nation of both offering the highest degree of flexibilit

- 5 different EN54-approved operation modes (sensitivities, etc.) on board and selectable via the control panel.

- Can also be used as a single-criteria detector

NSC Order-No.:	B02904-00
VdS-No.	G 216028
CE-Certificate	2531-CPR-CSP10987

Heat Detector

- 8 different EN54-approved operation modes (A, B, C class acc. to EN54-5) on board and selectable via the control panel.

NSC Order-No.:	B02906-00
VdS-No.	G 216026
CE-Certificate	2531-CPR-CSP10979

Dimension – Flush mounted smoke detection

- NSC Order-No.: B02920-00

- Optical detector

- Flat design (almost invisible)

- Supports XP95, Discovery and CoreProtocol

- High-end smoke detection without smoke chamber via infrared LEDs and photcells

- Integrated short-circuit isolator

- Addressable via 8-Bit DIL switch

- Approved according to EN 54-7, EN54-17 and VdS

- VdS G 218020

- CE 2531-CPR-CSP10950