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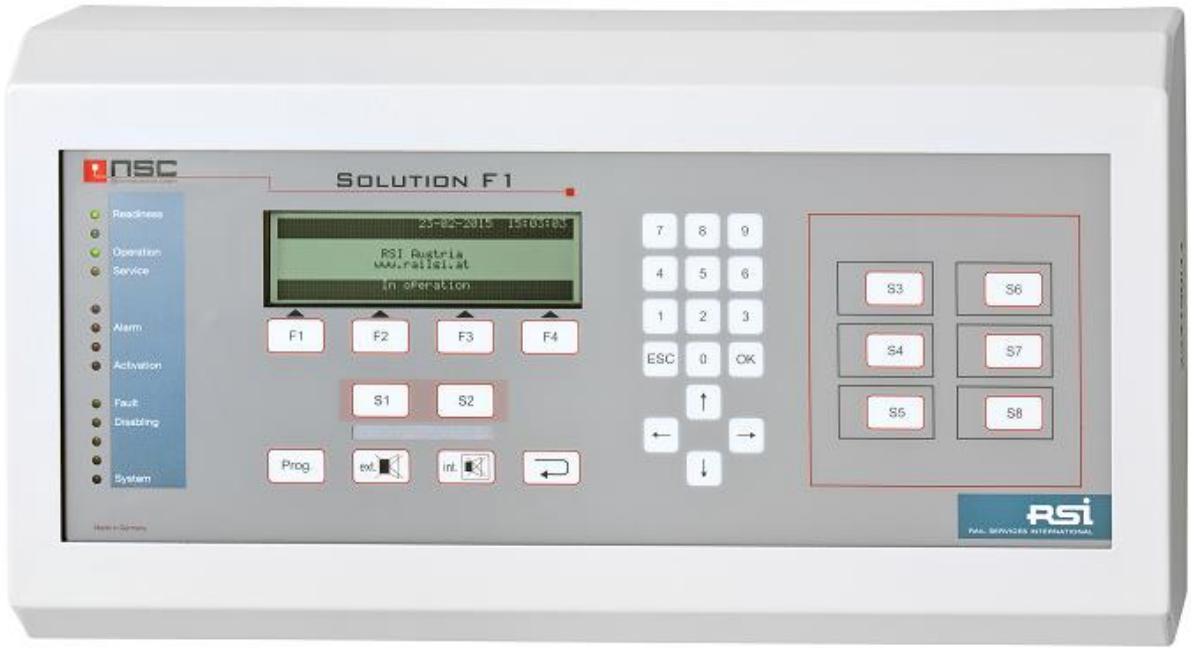
Description

Fire control panel „Solution F1“- Rail



The fire detection system is a system with central algorithm-controlled intelligence for which the decisive evaluations occur in the fire control panel.

The permanent data transfer between control panel and ring-bus components ensures that the fire control panel is informed of the determined measured values at all times

The data exchange on the ring line occurs in both directions, so that full function is guaranteed in case of interruption of the ring. The segment-wise protection against short-circuits in one ring occurs via integrated short-circuit isolators.

The software can divide the ring lines into as many alarm groups as necessary.

The fire detection system disposes of the possibility of a large connection matrix with up to **2.048 output connections** in order to be ready for all possibilities.
An additional text of max. 40 characters is programmable for each addressable participant on the rings.

The feed and feedback of the rings respectively occurs via individual fire detection cables with a minimum cross-section of 2 x 0,75 mm². These lines can optionally also supply addressable signal devices. The fire control panel is capable of controlling maximum **63** addressable, ring-

bus supplied signal sounders in combination with 63 detectors simultaneously with min. **85dB(A)** per ring line.

The maximum extension can comprise 18 ring lines. As a rule in the railway sector, the standard version (2 loop lines) is sufficient.

The fire control panel has a modular structure, basically allowing for expansions. A maximum of 127 fire control panel in one system can be networked as a multi-master-network, so that if the master fails, this function can be assumed by another participant at 100% functionality and the remaining participants can continue to communicate.

Displaying, operating and controlling from and towards each participant is possible within the entire network.

Depending on the local conditions, individual operating fields can be severely limited by the switching authorization, so that the complete operation is possible e.g. only at the "Main fire control panel".

The fire control panel is fully redundantly designed both for ring-bus circuit boards and for central processing units (CPU) in order to ensure highest possible failure safety. This means that in the event of a CPU failure, another parallel CPU can take over 100% of the functionality of the fire control panel and the loop controller.

The fire control panel offers sufficient interfaces so as to be configurable directly from a PC / laptop (USB interface) and via a remote maintenance/diagnosis and control (Analog/ISDN/Ethernet).

Additionally, a web-server can be integrated in the FCP, allowing for remote operation from any internet browser.

General requirements :

- Design in a solid and EMC-protected metal housing
- modular system structure with 12 component group slots (different variations of housings)
- expandable up to 18 ring lines or 72 conventional detection lines
- for each ring, automatic detectors, button alarms, ring-bus sounders and modules can be connected to the fire control panel. It is able to process both analog/dialog detectors as well as limit value detectors simultaneously
- Integrated operating field with ten-key keyboard and **auto-dynamic function keys** that change their function depending on operation
- Graphical LC display as per EN54-part 4 (depending on the applicable guideline, no additional LED indicators may be required)
- Menu-guided operation and protected against unauthorized access thanks to 4 access levels
- **16 languages** can be changed during operation
- Central micropocessor unit, fully monitored and freely programmable.

- Clear-text programmable for all connected devices
- In series complete fine surge protection
- Up to 192 alarm group indications can be integrated per LED.
- Single switch-off of detector zones
- Single switch-off of addressable detectors
- Possibility of switching each detector group in 2-detector dependency
- Possibility of switching each detector group in 2-detector zone dependency.
- 2 "ARCNET" network cards groups can be integrated so as to create a fully redundant multi-master system network with 128 participants.
- Ring-overreaching free attribution of detectors to detector zones
- Ring-overreaching free attribution of the ring-fed alarm sounders / visual indicators
- Ring-overreaching parametrization of connected operating repeater panels
- Possible detector exchange without modifications of the fire control panel software configuration
- Highest system availability through signal evaluation in the fire control panel and in the detectors
- Regeneration time after short-circuit or interruption on the ring better than EN54-13
- Continuous self-test for detector and fire control panel with the possibility of remote diagnostics via web-server or modem
- Flexible programming of complex, cascading controls - even panel-overreaching - with formulas as per boolean algebra (AND,OR,NOT)
- Complex controls can be freely expanded with various timing functions such as e.g. day program, start and end delays
- Automatic recognition and import of all addressable detectors for immediate operational readiness
- Parametrization of various application algorithms for the detectors from the fire control panel or service-PC through support of a software tool
- Event memory (non-volatile) with clear-text notifications up to 10.000 events (theoretically expandable via integrated flash memory slot)
- Real-time clock with automatic summer/winter time switching
- Possibility of firmware updates via USB interface

Contained in the basic set-up

- DC/DC converter 24/36/75/110 V DC
- Steel sheet housing with pivoting operating field for simplified access to the connections
- Power and emergency power supply in the fire control panel housing
- Individually inscribable foil front (different languages)
- Touch control field without wear keys, even after several years
- Graphical display with 240 x 64 pixels for clear representation of all events
- 8 freely programmable keys for macro programming
- 4 potential-free relays, freely programmable
- Control of 3 separate, monitored control lines for conventional signal emitters
- Standard interface "Extinguishing"
- 16 freely programmable outputs for controls in the event of fire (can be extended by I / O modules on the loop line)
- 3 freely programmable optocoupler outputs
- 8 freely programmable, resistance monitored inputs (can be extended by I / O modules on the loop line)
- 1.024 alarm groups programmable
- 3 x variable RS-232 interfaces (Printer-, ESPA- and Modbus-protocol-capable)
- Redundant RS 485 interface for switching on and simultaneous operation of LCD fire detection repeater panels and the basic functions "Acoustic mute" and "Reset fire detection panel" as well as redundant transmission path
- USB interface for remote maintenance/diagnosis and operation via PC / laptop via analog modem, ISDN, Ethernet or web-server
- As option: multiprotocol Gateway (MVB, WTB, ETH, CAN).
  All data (alarm/fault/disable/activations) can be transmitted; remote control via vehicle control system
- Adjustable threshold values for earth fault detection

Ring-bus operation :

- 100% compatible with Apollo XP95 or Discovery
- Addressable ring-bus detectors can be operated both with ring lines as well as with conventional lines.
- Auto-scan function in real time with verification of the programmed data.
- Connection of max. 126 addressable alarms/modules/loop-sounders per ring (addressing occurs manually in the socket, therefore the alarm exchange e.g. in case of pollution can be done as „Plug&Play“ without any particular expert knowledge and without reprogramming

- Loop-sounder adjustable in volume and sound type from the fire control panel.
- Control modules and alarm modules freely programmable on any alarm groups.
- Ring-overreaching projecting and programming.
- maximum 63 pcs. loop-sounder and addressable visual indicator lights may be activated simultaneously and per ring.
- Alarm evaluation and analog alarms with or without automatic drift compensation (adjustable).
- Self-test of the analog/dialog alarms through cyclic, continuous "Question and answer"-mode.
- Multiple query with plausibility verification for fault suppression and avoidance of false alarms.

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Normen

- EN 54-2, EN 54-4
- System certification as per EN 54-13
- ÖNORM F 3000 „Fire alarm systems“
- EN 50155, EN 50125, EN 61373