Technical Manual

Smart Fire Control Panel Rail (SFCP Rail)

Table of Contens

Important Notes — PLEASE READ CAREFULLY

- This manual should be thoroughly read and understood before Installation and commissioning is undertaken.

- The SFCP Rail and its associated connections must be installed, commissioned and maintained by a suitably Irained, skilled and competent person.

- It is assumed that the person commissioning the system is aware of RSI Austria GmbH equipment terminology and terrns of reference.

- This equipment must be earthed and earth contInulty must be preserved on broken segments of screened cable used anywhere in the system installation.

- This equipment is not guaranteed unless installed and commissioned in accordance with current national standards.

- This equipment is not suitable as part of an I.T. type power distribution system as defined in IEC 603644.

- A competent person tralned to undertake such work MUST carry out any internal malntenance. There are no user serviceable parts inside the SFCP Rail. Opening the moulded PCB will immediately invalidate the warranty.

- The SFCP Rail complles wlth EMC-directive 2014/30/EU as well as FCC Regulation In accordance wlth the following standards:
    - EN 50130-4:2011
    - EN61000-6-3:2007 / A1:2011 / AC:2012
    - FCC CFR 47 part 15:2013
    - EN61000-4-2
    - EN61000-4-3
    - EN61000-4-4
    - EN61000-4-5
    - EN61000-4-6
    - EN61000-4-8
    - EN 50155
    - EN 50121-3
    - EN 60068
    - En 61373

CE

The policy of RSI Austria GmbH is one of continuous improvement and as such we reserve the right to make changes to product specifications at any time and without prior notice.

Errors and omissions excepted.

1. Introduction and Key Features

The SFCP Rail is designed to be a stand-alone fire-detection and extinguishing unit and is often found in e.g. bobcats, ships or other equipment/vehicles in which the user should be able to extinguish a fire rapidly. This is done by pressing two buttons or by the use of sensor inputs. The device continuously senses its inputs and in case of fire it gives the correct output to enable a product-specific fire-extinguisher (e.g. the Stat-X fire extinguisher).

The key features include.

- Able to set to manual, single stage or double stage detection, alarm and extinguishing.
- Separate outputs for Fire, Fault and VFC.
- Two Zone for linear heat or spot detection with fault monitoring.
- The device works an Input voltages ranging from 11 to 32 Volt DC.
- Low power mode is enabled by switching off the ignition.
- Double extinguisher release buttons to prevent unwanted releases.
- The unit is water proof IP68, reverse polarity, transient and EMC protected.
- Watchdog timer for additional safety.
- Additional functionality regarding separated external hold-off functions.
- Additional functionality regarding separated external release extinguishing functions.
- Improved fault monitoring and fault identifying.
- Additional option to override the release extinguishing delay after manual release

2. SFCP Rail Features

2.1. General

Dual Linear Heat Sensors up to 50 meter or conventional detectors can be used. Each are continuously monitored for alarms, open and short circuit. LED flash codes indicate the location of an alarm or fault condition.

The SFCP Rail has an internal alarm sounder and an output to drive additional external audible alarm units up to 2Amps. Also a Voltage Free Contact (1/FC), switched in case of fire, e.g. for fuel shutoff, engine/fan shutdown etc.

2.2. Zones

The SFCP Rail is equipped with two conventional detection lines. The monitored inputs are continuously scanned for fire or fault detection. The lines are set to the following values:

- RESISTANCE of less than 190 Ohm: FAULT
- RESISTANCE of more than 190 Ohm and less than 1k2 Ohm: FIRE
- RESISTANCE of more than 10k Ohm and less than 12k / 27k Ohm: NORMAL
  <10k Ohm or >12k Ohm. – for 1 fire switches connected on one zone
  <10k Ohm or >27k Ohm. – for 2 fire switches connected in parallel on one zone
- RESISTANCE of more than 27k Ohm: FAULT

Note: When a low resistance (lass than 190 Ohms) linear heat cable is used, a 1k Ohms resistor <u>must</u> be installed in series at the beginning of the line and one of the wires. Otherwise the wires of a convetional point detector or a linear heat cable which melt together will give a fault instead of a fire alarm.
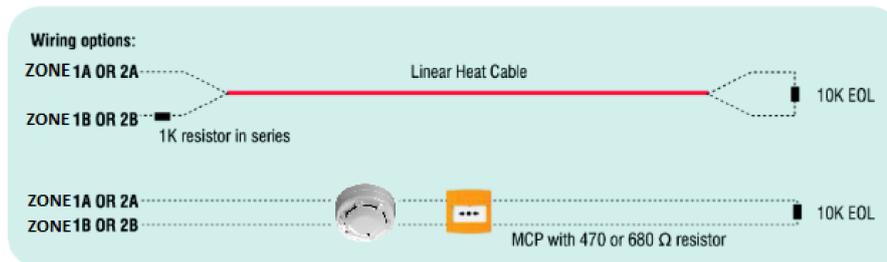
The SFCP Rail zones use dedicated logics to manage the above-stated resistance levels, together with the use of ADC inputs. The zone circuits output the input voltage (-0.6 volt, power multiplex spec.), with a current fuse-limited at 50 mA.

The detector zone circuit will be reset upon initialization (ground connection will be intermittent during led-test). Resistor levels are depending on the input voltage; therefore high fluctuations on the input voltage of the SFCP Rail should be avoided by using screened cable.

The commissioner should ensure to be using detectors with corresponding specifications and the correct input voltage for the SFCP Rail. The maximum amount of detectors in 1 zone is determined by the voltage/amperage usage of the detectors and the input voltage. Devices which are supported by the SFCP Rail are described in Appendix 2 of the manual.

Every detector zone needs a 10k Ohm resistor as End-Of-Line (EOL) resistor, even when the input(s) will not be used. This to prevent a detection fault on the input(s).

2.3. Extemal Release Extinguishing Input

The SFCP Rail has a separate input for an external release extinguishing button. The extemal release extinguishing button has the same function as the dual release extinguishing buttons (fire buttons) on the front of the panel. By pressing the extemal release extinguishing button the fire extinguishing devices will be released. Depending on the dip-switch (time) settings it is possible the release is delayed. The delayed can be set from 0 to 30 seconds in steps of 5 seconds. The zone inputs are continuously scanned for fire or fault detection.

The Input of the external release extinguishing Input is set to the following values:

- RESISTANCE of less than 190 Ohm: FAULT
- RESISTANCE of more than 190 Ohm and less than 1k2 Ohm: RELEASE
- RESISTANCE of more than 10k Ohm and less than 12k Ohm: NORMAL
- RESISTANCE of more than 12k Ohm: FAULT

The external release extinguishing Input needs a 10k Ohm resistor as End-Of-Line (EOL) resistor, even when the input will not be used. This to prevent a detection fault on the input(s).

2.4. External Hold Input

The SFCP Rail has a separate input for an external hold-off button. The external hold-off button has the same function as the internal hold-off button. When an alarm is active and this button is pressed, the extinguisher enabling is delayed. When the button is released, the system will wait 5 seconds. After these 5 seconds, the count-down timer will reset and start from the set delay time. The monitored inputs are continuously scanned for fire or fault detection.

The Input of the external release extinguishing Input is set to the following values:

- RESISTANCE of less than 190 Ohm: FAULT
- RESISTANCE of more than 190 Ohm and less than 1k2 Ohm: HOLD-OFF
- RESISTANCE of more than 10k Ohm and less than 12k Ohm: NORMAL
- RESISTANCE of more than 12k Ohm: FAULT

The external hold-off input needs a 10k Ohm resistor as End-Of-Line (EOL) resistor, even when the input will not be used. This to prevent a detection fault on the input(s).

If the external hold-off button is pressed during normal state (no fire / alarms), the SFCP Rail will give on fault on the front. Which can be recognized by the blinking of the yellow detection fault LED. The detection fault will lit up for 3 seconds and then flash five times, which indicates the external hold-off button is pressed.

2.5. Direct Fire

When the timer settings are set to a delay (between 5 — 30 seconds), the direct fire dip-switch gives the choice to override the delay in case of a fire event. If a fire alarm is detected by the SFCP Rail and the count-down timer is started you can override the timer. By pressing the dual release extinguishing buttons (fire buttons) on the front of the panel or the external release extinguishing button (when commissioned) in the fire state you start the extinguishing releasing process.

Note: Make sure the fire-extinguisher is safe to release. Any delay on the extinguishing release system will be override immediately, and start the fire-extinguisher!

2.6. Dual/Single Mode

A single or dual FIRE indication can trigger the VFC relay, fire-extinguisher and fire-relay. Single or dual mode is configurable with two dip-switches.

Any detection zone alarm condition will operate audible and visual alarm indications as follows:

- A single alarm condition on a detection line causes an internal pulsing alarm sound. The VFC and Fire relay and extinguisher are operated according to the dip-switch settings.

- A double alarm condition on a detection line causes a fast pulsing internal alarm sound. The VFC relay, Fire relay and extinguisher are operated according to the dip-switch settings.

- The alarm led flashes to indicate the activated alarm zone (1 flash per second indicates zone 1, 2 flashes per second indicates zone 2 and 3 flashes per second indicates both zones).

2.7. Timer Settings

A count-down timer is used to wait a certain amount of time before extinguisher enabling in case of aFIRE alarm. This timer can be set with the use of the TIME-SWITCH dip-switches. The timer is changeable between 0 and 30 seconds, with steps of 5 seconds.

The TIME-SWITCH dip-switches can also be used to set the device in No-AUTO release state. In this state, only pressing the fire-buttons on the device or the external extinguishing release button can (immediately) enable the fire-extinguisher. In this case, FIRE alarms from the detector zones will only trigger the FIRE and VFC relays (and not the release the fire-extinguisher).

2.8. Ignition Mode

When the system is supplied with power on the normal inputs, it also monitors the ignition input (if not chosen otherwise with the dip-switch settings). In normal usage, the ignition line feeds the system with roughly the same voltage as the input lines. This means the ignition is engaged.

Upon disengaging of the ignition, the on LED will start to blink and the VFC contact is operated (spin-off). The system will wait for the delay time to pass, before entering parked mode. When parked mode is enabled, the on LED will blink as a `heartbeat.

In PARKED mode, a single or dual (depending on the dip-switches) FIRE alarm immediately triggers the extinguishers. When the ignition is re-enabled (even for a very short time), the system returns to normal mode and the count-down timer is reset.

When the ignition is disabled, and within the spin-off time a FIRE alarm is raised, the complete spin-off time is waited before the extinguishers are activated.

When the ignition mode is disabled and there is no external backup battery/power supply, connect the battery input to the main input of the SFCP Rail to suppress a battery fault.

2.9. Battery Mode

Additionally on the normal power input, the SFCP Rail can be used with an external backup battery/power supply. The user can choose to either use backup power, or use low-power mode when the ignition disabled.

The battery power should be in the same range as the input power. Upon initialisation, the device will check the normal power supply and note the nominal voltage. When the backup power supply gets 30% below the nominal Input power, the fault state is triggered and the fault LED and relay will be activated.
This means that if the system normally uses a 12VDC Input, the battery should also supply 12VDC input, or if the normal voltage is 24VDC, the battery should also supply 24VDC. If the SFCP Rail is set to battery mode and the continuous power supply would fall off, the on LED will blink to warn the user.

2.10. Extinguishing Output Monitoring

The extinguishing output of the SFCP-Rail is polarised to monitor the output on short circuit and open circuit. With an end-of-line resistor (10k Ohm) and a suppressor diode (e.g.: SB260 - 2A and 60V by 24 VDC input voltage) the extinguisher units will be monitored.

Stat-X Units Wired in Series: Input voltage 12Vdc max. 2 units / 24Vdc max. 4 units

FIRE-EXTINGUISHER +

FIRE-EXTINGUISHER -

10K EOL and diode must be installed

SB260

Note: The installation of the diode is critical and therefore the extinguishing output must be tested with an extinguishing test unit (at least 24VDC / 1A, for examable a light bulb).
The amount of extinguishing unit scan be triggered depends on the input voltage of the system, the lengh of the extinguishing line and the specifiic resistance of the cable used. The table shows the maximum amount of units that can be connected to and released be the SFCP-Rail.

Maximum amount of extinguishing units to be connected to the SFCP-Rail:

	Loop Length [m]	50	100	150	200	250	300	350
Power Supply [VDC]	Cable Length [m]	25	50	75	100	125	150	175
24		8*	7*	6*	4*	3*	2*	1*
12		3*	2*	1*	-*	-*	-*	-*

* The amounts mentioned in the table above are only valid under the follwing conditions:

• Specifics resitance of connaction cable: max. 73.2 Ohm/km

• The SFCP-Rail can be supplied with either 12 or 24 VDC. The maximum amount of extinguishing units depends on the supply power of the SFCP-Rail.
• A diode with the type specification (e.g.: SB260 - 2A and 60V by 24 VDC input voltage) is applied in the loop (see connection diagram)

3. SFCP Rail Controls and Indications

The SFCP Rail has a clear front panel display enabling the current state of the SFCP Rail to be rapidly determined. Figure 3.0 shows the controls and indications.

Figure 3M   SFCP Rail front panel controls and indications

3.1 Controls

The top view of the SFCP Rail consists a special foil which includes buttons and LEDs and is water-proof.

Mute / Reset Button

The mute / reset button has a dual function:
- A single press by a fault event: disables internal buzzer.
- A single press by an alarm event: disables external alarm.

Or

Mute / Reset Button

- Hold the mute / reset button for 3 seconds: Reset device.

Upon reset, a LED/buzzer test is completed. All LEDs will be lit for 3 seconds and the buzzer will 'beep' two times.

Hold Extinguishing Release

- Hold the 'hold extinguishing release' button when an alarm is active: hold off fire-extinguishing while this button is pressed. Upon button release, the device will revert to countdown and release after a 5 second delay.

Fire Buttons

- When a fire emerges, press both extinguishing release buttons, this will trigger an alarm. The fire extinguishing device will be released, depending on the dip-switch (time) settings.

If the SFCP Rail is set up in the direct fire mode, pressing both extinguishing release buttons will override the extinguishing delay at start the extinguishing release immediately.

3.2 Indications

The layout of the SFCP Rail has five LEDs divided in three sections to indicate power, detection and extinguishing status with separate LED flash pattern indications.

The On LED

This green LED indicates the power status of the SFCP Rail, which can have different states:
- In normal state the LED will continues lit up.
- If the ignition mode is chosen and the system is set to the PARKED mode the LED will blink as a 'heartbeat'.
- If the battery mode is chosen and the continuous power supply would fall off, the On LED will blink to warn the user.

The Fire LED

The red Fire LED is lit when a Fire alarm is tripped. The extinguisher release buttons are pressed or one of the detector zones have a resistance of <1k2 Ohm and >190 Ohm for more than 1 second.

The fire led flashes to indicate the activated alarm zone:
- 1 flash per second indicates zone 1.
- 2 flashes per second indicates zone 2.
- 3 flashes per second indicates both zones.

The Detection Fault LED

The yellow detection Fault detector zone LED indicates a fault in the detector zone, the External Release Extinguishing button or the External Hold Input. If the resistor value of one or more of the monitored zones is >12k Ohm or <190 Ohm, a fault event is generated. If the detector zones, external release extinguishing input or external hold input will not be needed, still a 10k Ohm resistor must be installed to prevent a detection fault.

The Detection Fault LED can indicate different kinds of faults, by flashing the LED. After a start pulse of 3 seconds, the amount of flashes will indicate the kind of fault:
- 1 flash   : Open circuit or short circuit in zone 1.
- 2 flashes : Open circuit or short circuit in zone 2.
- 3 flashes : Open circuit or short circuit at the external release extinguishing input.
- 4 flashes : Open circuit or short circuit at the external hold-off Input.
- 5 flashes : External hold-off is active (> 3 sec.) in normal state.
- 6 flashes : Battery fault/disabled.

In case of a Fault, the FAULT relay is triggered. The VFC and FIRE relays remain untouched.

The Extinguish Release LED

The red extinguishing release LED will lit up when the extinguishers are activated.

The Extinguish Fault LED

The yellow Fault (Fire suppression) LED is lit when a fault is detected in the fire-extinguisher line. In normal state (no fire) a monitoring current of <4 mA is supplied to the extinguishers. If R>300 Ohm, the Extinguish Fault is triggered.

In case of a Fault, the FAULT relay is triggered. The VFC and FIRE relays remain untouched.

4. Connections of the SFCP Rail

The SFCP Rail has the connections on the back of the control panel. It´s components, except the connections and the dip-switches are moulded in plastic for a IP protection.
Figura 4.0 shows the controls and indications.

Figure 4.0   The back of the SFCP Rail front panel connections and dip-switches.
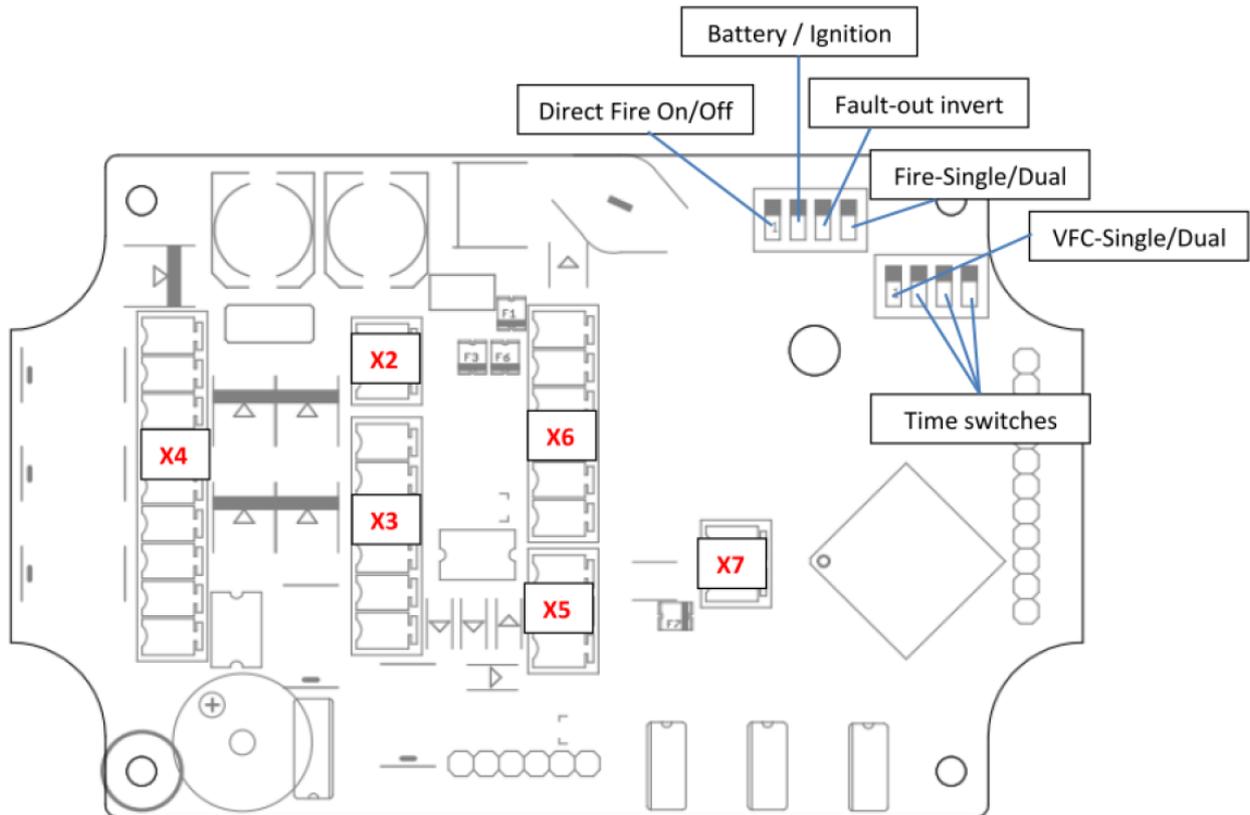
The rear of the SFCP Rail will have the following connections:

CONNECTOR X4:

1. FAULT Normally-closed connection
2. FAULT Normally-open connection
3. FAULT Common (engaged an any fault condition)
4. FIRE Normally-closed connection
5. FIRE Normally-open connection
6. FIRE Common (indicates upcoming extinguisher activation)
7. VFC Normally-closed connection
8. VFC Normally-open connection
9. VFC Common (engaged an single/dual* alarm)

(* = dipswitch setting)

CONNECTOR X3:

11. ALARM-   : system ground
12. ALARM +   : switched alarm output, same voltage as input +
13. IGNITION   : 11-32 VDC switched ignition voltage +
14. INPUT-   : input ground
15. INPUT +   : 11-32 VDC input voltage
16. GND   : system ground

CONNECTOR X2:

17. BATTERY -   : battery ground
18. BATTERY +   : same target voltage as Input +

CONNECTOR X7:

19. EXT HOLD-   : external hold off Input -
20. EXT HOLD +   : external hold off Input +

CONNECTOR X5:

21. GND   : system ground
22. FIRE-EXTINGUISHER -   : output -
23. FIRE-EXTINGUISHER +   : regulated output + for monitoring
                             and activation of the extinguisher

CONNECTOR X6:

24. EXT RELEASE-   : external release extinguishing Input
25. EXT RELEASE +   : external release extinguishing Input
26. ZONE2B   : detector zone2 sense and GND
27. ZONE2A   : detector zone2 +, input power output, 50mA max.
28. ZONE1B   : detector zone1 sense and GND
29. ZONE1A   : detector zone1 +, input power output, 50mA max.

5. Dip-Switches Settings

The SFCP Rail can be commissioned in a basic manner by using the settings of the dip-switches. Figure 4.0 shows the location of the dip-switches.

5.1 Direct fire Dip-switch
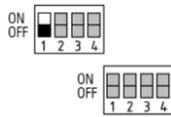
Position up:
In the direct fire mode the dual release extinguishing buttons (fire buttons) on the front of the panel or the external release extinguishing button (when commissioned) will override the any extinguishing release delay and start the extinguishing releasing process immediately.
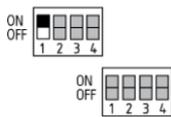
Position down:
The direct fire mode will not be used.

More information about this setting see paragraph 2.5.

5.2 Battery or Ignition Dip-switch
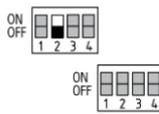
Position up:
In ignition mode the extinguishers will immediately be released when a single or dual (depending on the dip-switches) FIRE alarm occurs during shutdown of the engine.
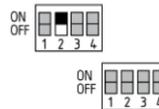
Position down:
In battery mode the SFCP Rail can be used with an external backup battery/power supply, which allows the SFCP Rail keep running when main supply is shut down.

More information about this setting see paragraph 2.8 and 2.9.

5.3 Fault-Out Innert Dip-switch
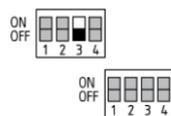
Position up:
The fault relay will be energized during normal state. During total power lass or a fault condition the fault relay will always fall off, in case a fail-safe condition is wanted.
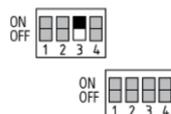
Position down:
The fault relay will be energized on a fault, so the current during normal state will lower.

5.4 Single or Dual Fire Alarm Dip-switch
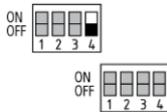
Position up:
In single mode the extinguisher(s) will be released when one of the zones will have a fire alarm condition.
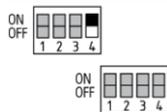
Position down:
In dual mode the extinguisher(s) will be released after both zones will have a fire alarm condition.

More information about this setting see paragraph 2.6.

5.5 Single or Dual VFC Dip-switch
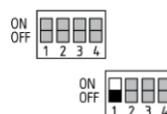
Position up:
In the single mode the Voltage Free Contact (VFC) will be activated when one of the zones will have a fire alarm condition.
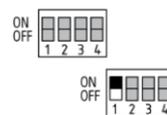
Position down:
In the dual mode the Voltage Free Contact (VFC) will be activated after both zones will have a fire alarm condition.

5.6 Timer Dip-switches

For the timer settings we have 3 dip-switches, which can be set between 0 and 30 seconds, with steps of 5 seconds.
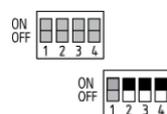
The table below shows the dip-switch settings for each step of 5 seconds is.

Dip-switch			Time
2	3	4	
On	On	On	Immediate Release
On	On	Off	5 sec.
On	Off	On	10 sec.
On	Off	Off	15 sec.
Off	On	On	20 sec_
Off	On	Off	25 sec.
Off	Off	On	30 sec_
Off	Off	Off	No auto-release

More information about this setting see paragraph 2.7.

6. SFCP Rail Technical Specification

Power Supply Specification

Rated Voltage	11 to 32 Volt DC
Battery Voltage	This means that if the system normally uses a 12VDC input, the battery should also supply 12VDC input, or if the normal voltage is 24VDC, the battery should also supply 24VDC.
Maximum Quiescent Current Ign. Off	26 mA (set up with 4 detectors an the zones, without external load)
Maximum Quiescent Current Ign. On	41 mA (set up with 4 detectors an the zones, without external load)
Maximum Quiescent Current Battery mode	25 mA (set up with 4 detectors an the zones, without external load)
Maximum Alarm Current	75mA (set up with 4 detectors on the zones, without external load)
Extinguish Current	The fire-output signal to the extinguisher(s) will be 1A to 4A depending on voltage and number of suppressors (Stat-X = 1.8 Ohms nominal each unit), up to 2 units on 12V, 4 units max on 24V. Upon extinguisher activation, the input power is latched to the fire-output. Connect in series with bi-directional catch diodes across each element (see Stat-X manual).
Extinguish Monitoring End of Line Resistor and Diode	10k Ohms and suppressor-diode 2A and 60V by 24 VDC input voltage
Extinguish Monitoring Current	In normal state (no fire) a monitoring current of <4 mA is supplied to the extinguishers.
Max. zone Output Voltage	The zones output is the input voltage (-0.6 volt, power multiplex spec.).
Max. zone Output Current	A current fuse-limited at 50 mA.
Zone Alarm Condition Threshold	>190 Ohm and <1k2 Ohm for more than 1 second. When a low resistance (less than 50 Ohms) linear heat cable is used, a 1 k Ohms resistor need to be installed in series at the begin of the loop on one of the wires.
Zone Fault Condition Threshold	<190 Ohm or >10k Ohm. – for 1 fire switches connected on one zone <190 Ohm or >27k Ohm. – for 2 fire switches connected in parallel on one zone
Zone End Of Line Resistor	10k or 30k Ohms – 1 or more fire switches
External Hold-off External Release Extinguishing Alarm Condition Threshold	>190 Ohm and <1k2 Ohm for more than 1 second.
External Hold-off External Release Extinguishing Fault Condition Threshold	<190 Ohm or >12k Ohm.
External Hold-off External Release Extinguishing EOL-resistor	10k Ohms
Alarm Output Voltage	Same as input voltage (11 to 32 Volt DC)
Alarm Output Current	Max. 2A
VFC Output Relay Maximum Load	1A @ 24 Volt DC
Fire Output Relay Maximum Load	1A @ 24 Volt DC
Fault Output Relay Maximum Load	1A @ 24 Volt DC

General System Spezification

Ambient Temperature Range	-40 to 70 degrees Celsius
Environment	Waterproof IP68
Dimensions	See figure below.
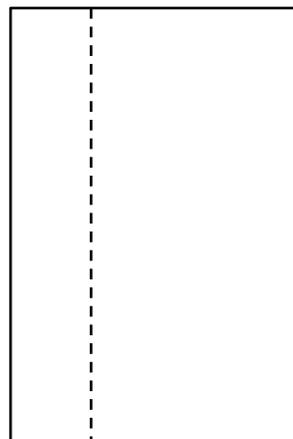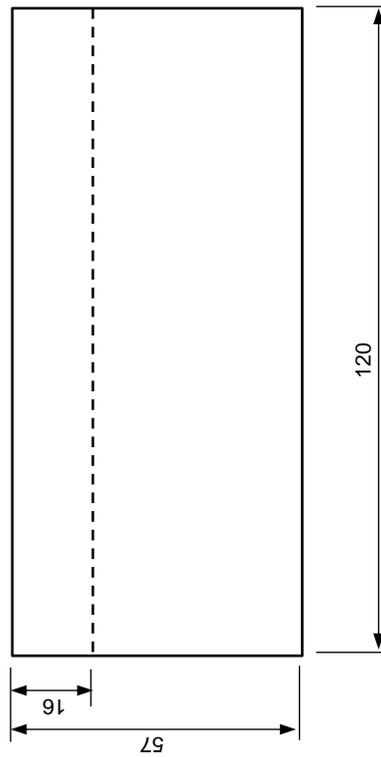
Appendix 1   SFCP Rail Wiring Diagram

The diagram below shows the SFCP Rail connections and dip-switches

Wiring diagram: Detection

24V DC

F1

Smart Fire Control Panel (SFCP)

Optical and acustic signalling device

Detection Zone 1

Smoke/Multisensor Detector

Detection Zone 2

Line heat detector

10K

Note: Type of detector can be changed in any desired variation. If no detector is connected, 10k Resistor has to be mounted directly between the clamps 26/27; 28/29

Smart fire control panel wiring diagram-3

220-639-42198

Detection

CONNECTOR X4:

1. FAULT Normally-closed connection
2. FAULT Normally-open connection
3. FAULT Common (engaged on any fault condition)
4. FIRE Normally-closed connection
5. FIRE Normally-open connection
6. FIRE Common (indicates upcoming extinguisher activation)
7. VFC Normally-closed connection
8. VFC Normally-open connection
9. VFC Common (engaged on single/dual* alarm)

(* = dipswitch setting)

CONNECTOR X3:

11. ALARM − : system ground
12. ALARM + : switched alarm output, same voltage as input +
13. IGNITION : 11−32 VDC switched ignition voltage +
14. INPUT − : input ground
15. INPUT + : 11−32 VDC input voltage
16. GND : system ground

CONNECTOR X2:

17. BATTERY − : battery ground
18. BATTERY + : same target voltage as input +

CONNECTOR X7:

19. EXT HOLD − : external hold off input −
20. EXT HOLD + : external hold off input +

CONNECTOR X5:

21. GND : system ground
22. FIRE-EXTINGUISHER − : output −
23. FIRE-EXTINGUISHER + : regulated output + for monitoring and activation of the extinguisher

CONNECTOR X6:

24. EXT RELEASE − : external release extinguishing input
25. EXT RELEASE + : external release extinguishing input
26. ZONE2B : detector zone2 sense and GND
27. ZONE2A : detector zone2 +, input power output, 50mA max.
28. ZONE1B : detector zone1 sense and GND
29. ZONE1A : detector zone1 +, input power output, 50mA max.

Fuses:

F1: 2A − delayed
F2: 0,5A − delayed

Wiring diagram: Detection and extinguishing

24V DC

F1

Smart Fire Control Panel (SFCP)

Optical and acustic signalling device

Smoke/Multisensor Detector

Detection Zone 1

Detection Zone 2

180°C Line heat detector 1

aerosol generator

Note: activated state of the monitored output is shown.

Note: Type of detector can be changed in any desired variation. If no detector is connected, 10k Resistor has to be mounted directly between the clamps 26/27; 28/29

CONNECTOR X4:
1. FAULT Normally-closed connection
2. FAULT Normally-open connection
3. FAULT Common (engaged on any fault condition)
4. FIRE Normally-closed connection
5. FIRE Normally-open connection
6. FIRE Common (indicates upcoming extinguisher activation)
7. VFC Normally-closed connection
8. VFC Normally-open connection
9. VFC Common (engaged an single/dual* alarm)
(* = dipswitch setting)

CONNECTOR X3:
11. ALARM - : system ground
12. ALARM + : switched alarm output, same voltage as input +
13. IGNITION : 11-32 VDC switched ignition voltage +
14. INPUT - : input ground
15. INPUT + : 11-32 VDC input voltage
16. GND : system ground

CONNECTOR X2:
17. BATTERY - : battery ground
18. BATTERY + : same target voltage as input +

CONNECTOR X7:
19. EXT HOLD - : external hold off input -
20. EXT HOLD + : external hold off input +

CONNECTOR X5:
21. GND : system ground
22. FIRE-EXTINGUISHER - : output -
23. FIRE-EXTINGUISHER + : regulated output + for monitoring and activation of the extinguisher

CONNECTOR X6:
24. EXT RELEASE - : external release extinguishing input
25. EXT RRELEASE + : external release extinguishing input
26. ZONE2B : detector zone2 sense and GND
27. ZONE2A : detector zone2 +, input power output, 50mA max.
28. ZONE1B : detector zone1 sense and GND
29. ZONE1A : detector zone1 +, input power output, 50mA max.

Fuses:
F1: 4A – delayed
F2: 2A – delayed

Smart fire control panel wiring diagram-3

220-639-42200

Detection and ext.

Appendix 2   Devices Supported by the SFCP Rail

Detection Device Support

Type	Brand
Orbis Optical Detector	Apollo
Orbis Mulitsensor Detector (optical/thermo)	Apollo
Orbis Heat Detector A1R	Apollo
Orbis Heat Detector CR	Apollo
Orbis Heat Detector BR	Apollo
Orbis Standard Base	Apollo
Manual Call Point / Extinguishing Releas Button yellow	NSC
Line Heat Detector Cable – *different temperatures*	Protectowire
Heat Detector with automatic Reset HDL-3	Lico

Sounder/ Beacon Device Support

Type	Brand
Fire Alarm Sounder RoLP 32 red	Cooperfulleon
Fire Alarm Sounder Beacon combined RoLP LX Wall	Cooperfulleon
Flashing Sounder PA X 1-05	Pfannenberg

Always check the specification of the devices before installing them on the SFCP Rail.