FIRE WATCH

Safety is our world

ABOUT US

MISSION STATEMENT

We would like to introduce our company - FIRE WATCH. FIRE WATCH provides complete solutions for fire detection, fire suppression, and life-safety. We are based in California, USA, with an active MENA operations office in Dubai, UAE.
Our aim is to grow globally and continue to build on our reputation for quality, value, and integrity that has established FIRE WATCH as one of today's global leaders in the Fire and Life-Safety Industry. Our manufacturing facility and technologies are among the most advanced in the industry, but we continue to evaluate and innovate our products and processes, always ensuring that we are operating efficiently and complying with rigorous international quality, safety, and environmental standards.

FIRE WATCH continues to thrive and build a stronger and more agile company. We push the boundaries of what is possible to create and develop new solutions and technologies. This allows us to provide a holistic approach for our customers, enabling them to establish the right fire protection system to combat fire risks effectively and innovatively. Performance is in demand internationally, and FIRE WATCH is in the forefront of the life-safety industry, providing solutions that meet rigorous worldwide agency standards for projects of all types - from small conventional systems to large multi-site fire alarm system networks.

WHO ARE WE?

FIRE WATCH is an American company based in California USA. We supply fire protection and life-safety equipment solutions for the international market. We have a team of highly-qualified engineers on-staff to support you with all aspects of your project — from product training to system design to installation and maintenance technical support. Our infrastructure and engineering team are in-place and ready to support you and your team as you provide FIRE WATCH fire protection and life-safety systems to your valuable customers.

ABOUT US

OUR VISION

- Be a Worldwide Leader of Life-Safety Engineering Solutions

- Expand our corporate portfolio through green projects and by acquiring existing companies

- Expand our business opportunities in the MENA region

- Be a leader in the use of technology to provide creative and innovative engineering solutions

- Offer all of our clients a wide range of effective solutions for their projects

- Provide meticulous project analysis, planning, implementation and after-service support for all of our elite internal and external clients

- Create satisfied customers through trust, professionalism, and technical aptitude

- Become the largest hub of manufacturing, contracting, and trading regionally

- Ensure that our products and services satisfy and fulfill market requirements in a manner that reflects positively on our image and that adds value to our brand by adopting and maintaining the highest business standards within our corporate group

Our Core Values

Finding and recruiting world leaders in the fire alarm, fire suppression, and life-safety field, creating a unique team to consult and collaborate with our clientele.

Empowering employees to reach their maximum potential, every day.

Precise and detail-oriented teamwork with you, our valued partner.

Complete customer satisfaction through connecting our customer's needs to our resources and expertise.

INFINITY UL FIRE

Analogue Addressable Control Panel 2-16 loop

- UL864 (10th edition) Listed and FM Approved
- 2 to 8 loop or 2 to 16 loop versions
- 400mA loop current
- 4 programmable NACs; Class B or 2 Class A with internal synchronization
- 5.25 A or 10.25 A power supply options
- 3 programmable inputs and 5 programmable relay outputs
- 7 inch, full-color resistive touch screen with intuitive user interface
- Up to 24 programmable soft "function keys"

- Hard-wired fire and trouble routing inputs and outputs
- Modular and expandable electronics
- 400 subaddress points per loop (800 per loop module)
- Option to "invert" inputs and outputs
- 5000 programmable cause and effects; over 50,000 inputs and outputs
- Can be networked with programmable functionality
- Programming via USB port to PC or memory stick
- Ockular graphical fire management system

INFINITY is FIREWATCH's most powerful and sophisticated analogue addressable fire panel. Intelligent and technically robust, it has enhanced integration and networking capabilities to meet the current and future needs of small to larger buildings and installations.

Initially configured as a fire detection and alarm system, the flexibility of Taktis is such that it can be re-configured to realise many other control and indication applications, with direct integration into intelligent buildings.

Available in four and eight slot variants, INFINITY fire control panel ranges from two to 16 detection loops. INFINITY can network up to 128 panels, making it ideal for the largest sites such as schools, hospitals, multi-site retail/supermarkets, critical infrastructure and major commercial and industrial facilities.

FIREWATCH protocol can be supported on each panel

of the product provides the highest level of future-proofing and networking possibilities.

The modular nature of INFINITY allows all field wiring to be connected to a passive motherboard enabling addition, re-configuration or replacement of all electronic hardware without the need to disconnect any field wiring. This modularity also allows each panel to be customised with addressable loop detection circuits, conventional detection circuits, relaycards, additional sounder outputs or programmable I/O modules as required.

As a truly open protocol panel it offers installers and their customers maximum flexibility in systems' design, site-customisation and in the third-party devices that they use. Not only does INFINITY provide solutions to the most technically challenging applications in life safety, it will also deliver added value, market advantage and a competitive edge to your business.

The Dual Loop Panel Module monitors loop device status and provides status to the panel processor. It holds device configurations and operates in a standalone manner when catastrophic failures occur.

The 16 Channel I/O Interface enhances the versatility of the alarm system by providing additional input and output capabilities to the INFINITY Fire Alarm Control Panel. Inputs or outputs can be selected for up to 16 individual channels, and are configured in the same way as devices connected to addressable loops of the panel. The 16 Channel I/O Interface can be configured to contribute or act upon cause and effect logic.

The Media Gateway Panel Module provides connectivity to monitoring centers using IP (Sur-Gard), or dial-up connectivity. The Media Gateway may also be used to meet integration application requirements.

The 8 Channel Relay Panel Module has 8 voltage-free changeover relay contacts, each of which can be individually programmed. All outputs are configurable in the same way as devices connected to the loops and all may be acted upon by cause and effect logic. These boards are typically used in applications which require more than the five standard relay outputs, such as signaling to other systems or plant control.

The INFINITY Network Module provides enhanced highspeed communication for networking fire control panels. The network provided by this module can support combinations of INFINITY Fire Alarm Control Panels INFINITY Vision INFINITY Fire Alarm Control Panels can receive events from other panels in the network. The Class X networking used in conjunction with the Network Module provides tolerance against open and short circuit trouble conditions.

The INFINITY Printer is an optional feature for printing fire system events as they occur. The printer is located on the fascia, below the Zone LEDs (if present). It is a thermal printer and never requires replacement ink. Printing is performed on heat-sensitive paper rolls. A trouble message is reported when the paper runs out. The printer includes a front-loading feature for replacing paper rolls.

The Zone LED module contains 48 LEDs and is connected to the LCD Main Processor Board of the INFINITY Fire Alarm Control Panel. A maximum of three Zone LED modules can be connected to provide the fascia with 144 Zone LED indicators.

(Future enhancement)

Additional NAC output capability can be added to by using 4 Channel NAC Modules. These boards have 4 supervised NAC outputs, each of which can be individually programmed. The circuits can be configured for class A or B operation. These circuits can be configured to act upon cause and effect logic.

(Future enhancement)

The 8 Channel Conventional Zone Panel Module has 8 supervised detection circuits (Class B). Each circuit can support up to 20 conventional detectors and approved devices. Individual circuits may be configured for trigger resistor or short circuit activation. These circuits may be used for any of the standard input actions and can be configured to contribute to cause and effect logic. Each pair of circuits (e.g., 1 and 2, 3 and 4, etc.) can be joined to form a single Class A configuration.

(Future enhancement)

The 16 Channel I/O Interface Panel Module will provide the same functionality as the 16 Channel I/O Interface Card, with the convenience of a plug-in-module.

Specification 2-8 loop (4 slot) Enclosure

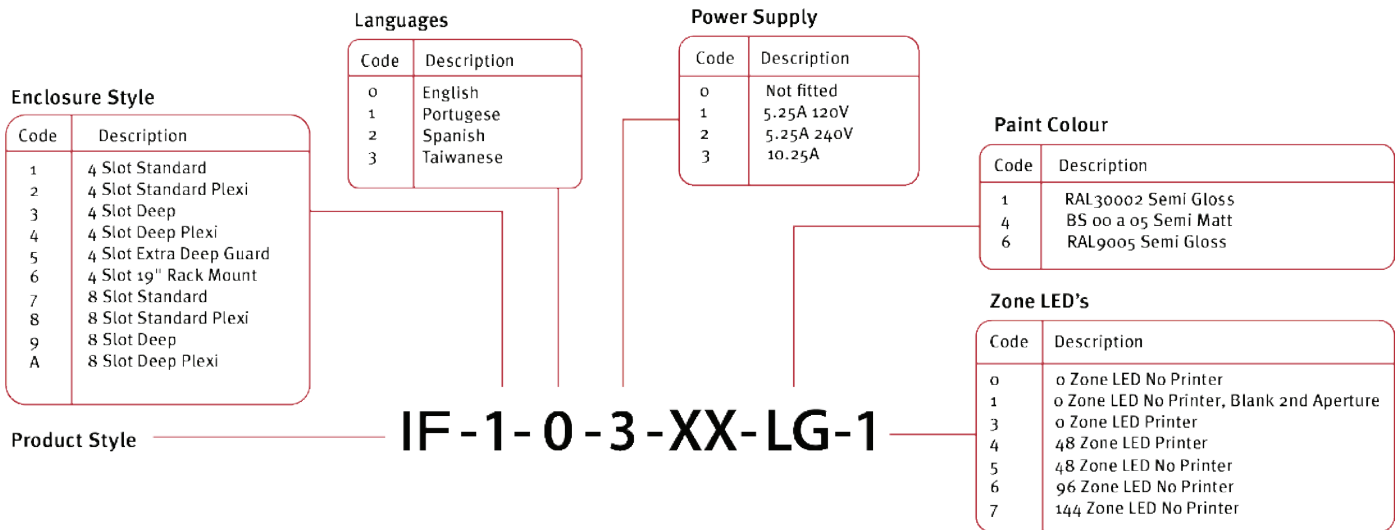|	
Size	Standard - 420mm (W) x 590mm (H) x 153mm (D), or 16.5in (W) x 23.2in (H) x 6in (D) Deep - 420mm (W) x 590mm (H) x 203mm (D), or 16.5in (W) x 23.2in (H) x 8in (D)
Construction	1.5mm mild sheet steel
Cable entry	Standard - 28 knockouts top, 19 knockouts back, 1 knockout each side, 2 knockouts bottom Deep - 38 knockouts top, 19 knockouts back, 1 knockout each side, 2 knockouts bottom
Optional Semi-Flush Mounting Kit	Semi-Flush Mounting Collar Kit KM5FCRD - Red KM5FCGY - Gray KM5FCBS - Black
Battery capacity	Standard - Up to 28 Ah (Power Sonic PS-12280) Deep - Up to 40 Ah (Power Sonic PS-12400)

Specification 2-16 loop (8 slot) Enclosure

Size	Standard - 540mm (W) x 720mm (H) x 160mm (D), or 21.3in (W) x 28.3in (H) x 6.3in (D) Deep - 540mm (W) x 720mm (H) x 212mm (D), or 21.3in (W) x 28.3in (H) x 8.3in (D)
Construction	1.5mm mild sheet steel
Cable entry	Standard - 38 knockouts top, 25 knockouts back, 2 knockouts each side, 2 knockouts bottom Deep - 50 knockouts top, 25 knockouts back, 2 knockouts each side, 2 knockouts bottom
Battery capacity	Standard - Up to 28 Ah (Power Sonic PS-12280) Deep - Up to 40 Ah (Power Sonic PS-12400)

Specification

Finish	Epoxy powder coated
Colour - Lid & Box	Red (RAL3002) Gray (BS 00 A 05) Black (RAL9005)
Colour - Controls Plate	Signal White (RAL9003)
Power supply voltage	120V AC or 240V AC
Power supply rating at 24V DC	5.25A (charges up to 60Ah) or 10.25A (charges up to 100Ah)
Display	Full colour 800 x 480 LCD with resistive touch screen and automatic backlight dimming
Printer	40 column, front loading thermal (optional)
Zone LED indicators	Up to 3 banks of 48 (144) (optional)
Software zones	2000
Software groups	Up to 5000 including upto 40,000 inputs or outputs (Dynamically assigned)
Cause and Effects	5000
Event log	10,000 events, 1 second resolution. Filterable and printable
Detection loops	2 to 16 added 2 at a time (S758 dual loop cards)
Detection loop current	400 milliamps each
AUX 24V Output	2; each rated at 900 mA
NACs	4; each rated at 2.5 A. Class B or 2 Class A
Programmable Relay Outputs	5; 30 V DC 1 Amp
Programmable Inputs	3; designed to be activated by voltage-free contacts
Network Connection	Optional network card provides communication for networking 127 fire control panels
NAC Synchronization	Internal Support of System Sensor, Wheelock, Gentex, and Amseco protocols
Operating Temperature	23°F to 120°F (-5 °C to 49°C)
Operating Humidity	to 95% (non condensing)

Languages

Code	Description
0	English
1	Portugese
2	Spanish
3	Taiwanese

Power Supply

Code	Description
0	Not fitted
1	5.25A 120V
2	5.25A 240V
3	10.25A

Enclosure Style

Code	Description
1	4 Slot Standard
2	4 Slot Standard Plexi
3	4 Slot Deep
4	4 Slot Deep Plexi
5	4 Slot Extra Deep Guard
6	4 Slot 19" Rack Mount
7	8 Slot Standard
8	8 Slot Standard Plexi
9	8 Slot Deep
A	8 Slot Deep Plexi

Paint Colour

Code	Description
1	RAL30002 Semi Gloss
4	BS 00 a 05 Semi Matt
6	RAL9005 Semi Gloss

Zone LED's

Code	Description
0	0 Zone LED No Printer
1	0 Zone LED No Printer, Blank 2nd Aperture
3	0 Zone LED Printer
4	48 Zone LED Printer
5	48 Zone LED No Printer
6	96 Zone LED No Printer
7	144 Zone LED No Printer

Product Style — IF - 1 - 0 - 3 - XX - LG - 1

ORCA FW

Analogue Addressable 1 or 2 Loops Fire Control Panel

Features

- One full SLC circuit expandable to two
- Three programmable relays
- 5.25A power supply
- Compatible with eMatrix graphics annunciator
- Powerful, network wide cause and effects (500 total). Fully user programmable by point or zone
- Can be networked with additional ORCA Control panels

- Compatible with eView annunciator

- Programmable through a PC connection to the panel
- Stores 1000 last events in history log
- Two programmable NAC circuits with internal synchronization support
- UL 864 listed
- EN54 Approved versions also available

Description

ORCA RS is a versatile range of UL/FM approved open protocol fire alarm control panels.

Available with one or two detection loops capable of hosting FIREWATCH UL devices. Elite RS uses microprocessor-based electronics to provide a flexible control system with high reliability and integrity.

Suitable for all small to medium sized fire detection systems, ORCA FW control panels can be expanded and networked to become part of significantly larger systems if the need arises, therefore providing a future-proof solution for any installation.

With its large graphical display and ergonomic button and indicator layout, the ORCA FW control panel is simple and straightforward to understand for installers, commissioning engineers and end users alike.

Panels

Product Code	Loops	Protocol	Colour	Size (mm)
FW0850-10	1	FIREWATCH	Red	369 x 481 x 110
FW0850-40	1	FIREWATCH	Grey	369 x 481 x 110
FW0860-10	2	FIRWATCH	Red	369 x 481 x 110
FW0860-40	2	FIREWATCH	Grey	369 x 481 x 110

Specification

Construction	1.5mm mild sheet steel
Weight (without batteries)	9kg
Finish (lid & box)	RAL3002 (Red) or BS 00 A (Grey)
Finish (product labels)	BS 00 A 05 (Grey)
Mains voltage supply	110 or 230V AC 50 or 60 Hz. (specify when ordering, default is 110v)
Mains supply fuse	1.6A 250V
Power supply DC rating	24V 5.25 Amps
Aux 24V supply	Fused at 500 milliamps
Battery (24 hour standby)	9Ah 12V (2 per panel) (non-networked)
Fault contact rating	30V DC 1 Amp
Fire contact rating	30V DC 1 Amp
Alarm contact rating	30V DC 1 Amp
NAC output rating	3.1A across both channels, 2.3A across any one
Detection loop	250 milliamp output
Printer port	Serial RS232
Serial expansion port	Serial RS485
PC port	Serial RS232
Network Connection	Optional network cards allow the use of eNet networking
NAC Synchronization	Internal support
NAC Protocols	FIREWATCH

ORCAVIEW

Analogue Addressable Serial Annunciator

Features

- Available in Red or Grey
- Up to 15 annunciators can be connected to each
- ORCA fire control panel
- Large liquid crystal display (240 x 64 pixels)
- High brightness LED indications
- Internal sounder
- Replicates all panel controls (ORCA)

- Simple two-wire serial connection
- Small, ORCA style enclosure
- Removable electronics for easy installation
- 24V DC powered
- Low power consumption
- Multi language options
- Connection supervised by ORCA fire control panel

Description

The ORCAVIEW fire alarm annunciator provides a simple and convenient method of extending the controls and indications of the ORCA fire alarm control panel to other locations.

The large, graphic LCD and high brightness LED indicators duplicate the indications on the ORCA fire alarm control panel at up to 15 additional locations via a simple, two-wire serial data connection.

Housed in a small enclosure, it is ideal for installations where a large control panel would be detrimental to decor such as entrance halls.
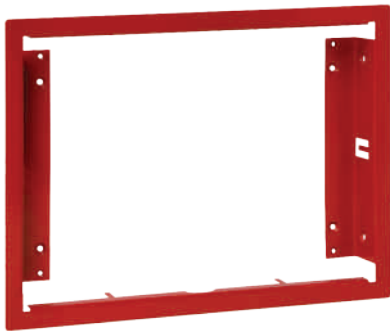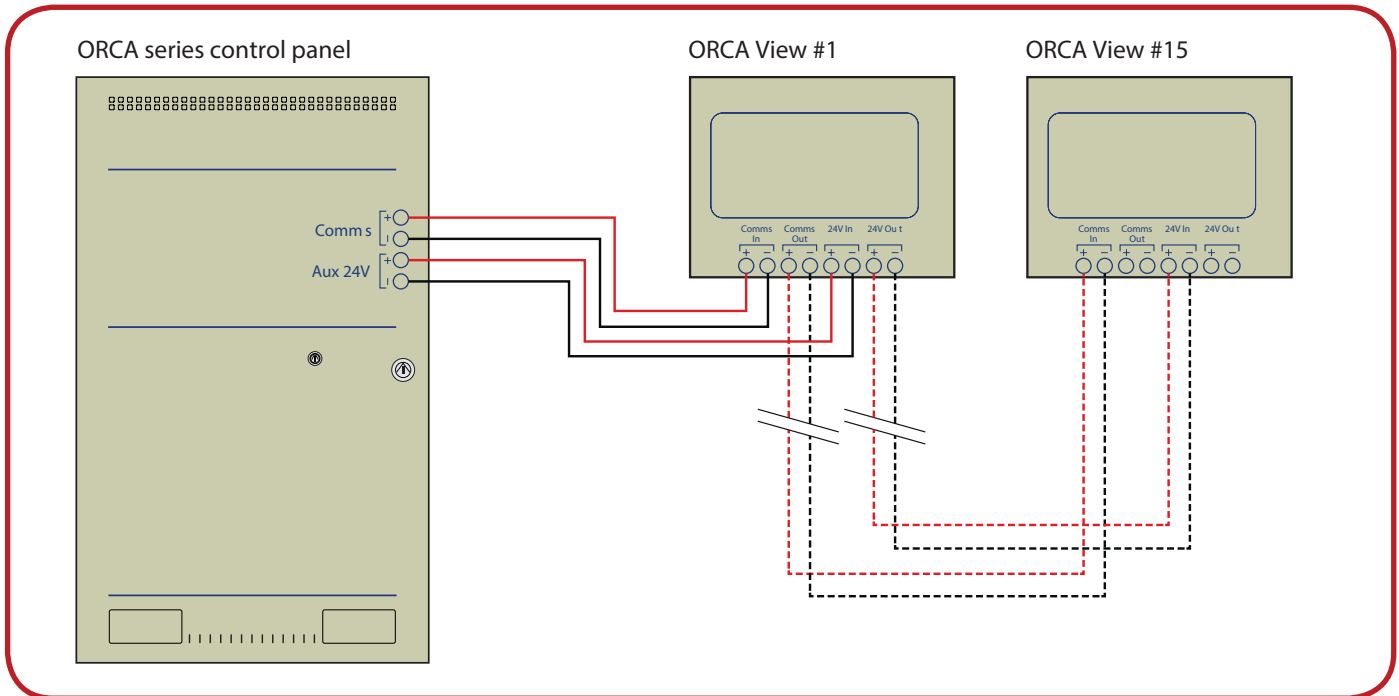
Up to 15 **ORCAVIEW** annunciators can be connected to each control panel on the

Elite network making ORCAVIEW ideal where multiple points of indication and/or control are required, such as nurse's stations or retail units.

Panels

Product Code	Description	Size (mm)
FW1172-10	FIREWATCH Repeater Panel	263 x 191 x 42
FW1172-40	FIREWATCH Repeater Panel	263 x 191 x 42

Specification

Construction	1.2mm mild sheet steel
Cable entry	4 knockouts in back of box and 1 in left and right sides
Weight	1.6kg
Finish	RAL3002 (Red) or BS 00 A 05 (Grey)
24V supply	21 to 30V DC
Maximum Ripple Current	200 Millivolts
Quiescent current of panel in mains fail	0.03 Amps
Serial data connection	2 core RS485 (Up to 1200 meters total cable length)
Maximum terminal capacity	12AWG

ORCA series control panel

ORCA View #1

ORCA View #15

Comm s

Aux 24V

Comms In	Comms Out	24V In	24V Ou t

Comms In	Comms Out	24V In	24V Ou t

Flushing Collar

The ORCAVIEW semi flushing collar allows the eView annunciator to easily be recess mounted. Flushing collars provides placement tabs that fold behind dry wall. Traditional screw mounting is available by 2 openings in each of the vertical frames. Conduit entry is not blocked by collar.

| Equipment			
Product Code	Outer Dimensions	Inner Dimenstions	Colour
FW1173-10	288mm W x 220mm H x 34mm D	263mm W x 191mm H	Red
FW1173-40	288mm W x 220mm H x 34mm D	263mm W x 191mm H	Grey

ORCA MATRIX

Analogue Addressable Fire Repeater UL/FM Approved

- Available in Red or Grey
- Up to 504 LED's can be controlled from any ORCA panel
- Select up to 12 printed colours (not including background and building outline)
- Available in a range of standard enclosures to suit any applications.

- Custom sized units can be made upon request
- Choice of Red, Green or Yellow LED's
- ORCAMATRIX can easily be upgraded on site with minimal cost and effort
- UL 864 edition listed
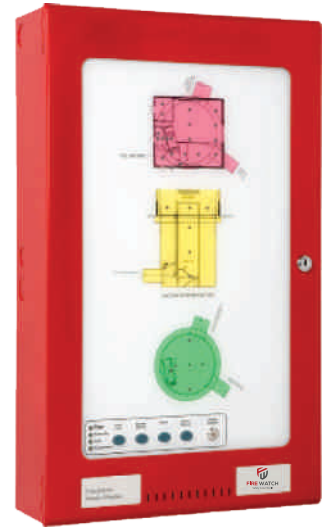
The ORCAMATRIX system uses flexible, optic light guides to illuminate areas on a floor plan, laid over a high-resolution grid. This unique system enables indicators to be moved, removed or added on site without the need for any wiring.

All indicators can be configured to operate upon any event type and at point, zone or group level via the powerful and intuitive Loop Explorer configuration programme. ORCAMATRIX can be supplied with or without common LEDs and controls. Optional LED's indicate Power on, Fire, Trouble and Disablement and optional controls are for Alarm Silence, Buzzer Silence, Lamp Test and Reset.

Housed in attractive, slimline enclosures to match Elite fire alarm panels and with high quality, full colour or monochrome floor plans, ORCAMATRIX provides a clear, geographical indication of fire alarm activation enabling speedy identification of the source of an alarm.

Panels				
No. LED's	Standby Current	Full Alarm Current	Batteries for 24 hours	Batteries for 48 hours
40	0.026	0.09	0.88Ah	1.76Ah
72	0.052	0.18	1.75Ah	3.5Ah
88	0.078	0.36	2.8Ah	5.2Ah

View showing mimic mounted on inner door

View showing LED grid

View showing internal layout

Specification

Construction	**1.5mm mild steel**
Finish	Expoxy powder coat
Mimic	3mm Clear Anti-Glare Acrylic
Supply voltage	21 to 30V DC
Supply current	See above
Terminal capacity	22 AWG to 12 AWG solid or stranded
Enclosure size & mimic area	See 'Enclosure size options'
Cabinet locks	CAT30 Key
Communications interface	RS485- ORCA Serial I/O bus protocol
Maximum distance from control panel	4000 feet using RS485 data cable
IP rating	IP30
Operating Temperature	-5c to 50c
Number of indicators (standard models)	AM2 size- up to 40 LED's, AM3 size- up to 72 LED's. AM4 size- up to 88 LED's.

AM 4

AM 3

472
280

AM 2

343
280

185
292
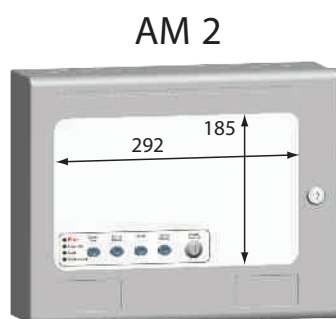
Max. number of LED's = 40
Will house 1 x 8 Red LED driver PCB and 3 x 16 LED extension PCB's (Red, Green or Yellow)
369mm wide x 310 mm high x 90mm deep
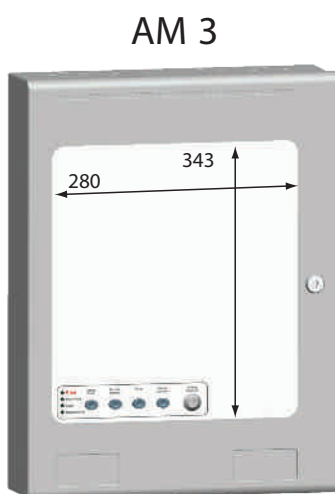
Max. number of LED's = 72
Will house 1 x 8 Red LED driver PCB and 4 x 16 LED extension PCB's (Red, Green or Yellow)
369mm wide x 480 mm high x 110mm deep
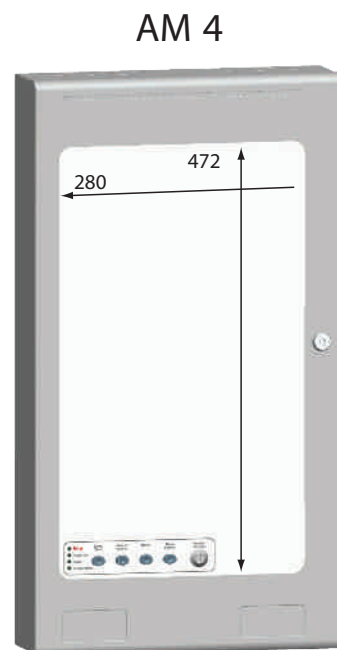
Max. number of LED's = 88
Will house 1 x 8 Red LED driver PCB and 5 x 16 LED extension PCB's (Red, Green or Yellow)
369mm wide x 610 mm high x 127mm deep

PLUS FW-CP

Conventional Control Panel

Features

- Two, four or eight initiating circuits
- Initiating circuits individually configurable as Fire, Water Flow or Supervisory
- Two 2A notification appliance circuits
- Selectable NAC sync protocols
- 6.5A power supply
- Alarm verification selectable by zone
- Resettable aux power output rated at 0.3A
- Aux power configurable to power off on Fire condition
- Fire, trouble and supervisory relays
- Single person walk test function
- Advanced configuration options
- 72 hour standby with 7Ah batteries
- Compact enclosure
- UL864 listed

Description

The PLUS FW-CP is a range of conventional fire control panels with an optional built-in communicator.

With two, four or eight initiating circuits all panels can be extensively configured via a somple front panel operated programming method.

The low standby power requirements and cost effective small batteries allow the panel to be mounted in a discrete enclosure which is available in red or grey.

A simple programming method using just 3 front panel buttons allows an extensive list of configuration options to be set and reviewed.

Single board construction enables easy removal of all electronic parts by removing just two screws, and ample provision of cable entry knockouts simplify installation.

4 Amp notification appliance power and built-in selectable sync protocols provide ample power and control for a wide range of standard notification applianaces.
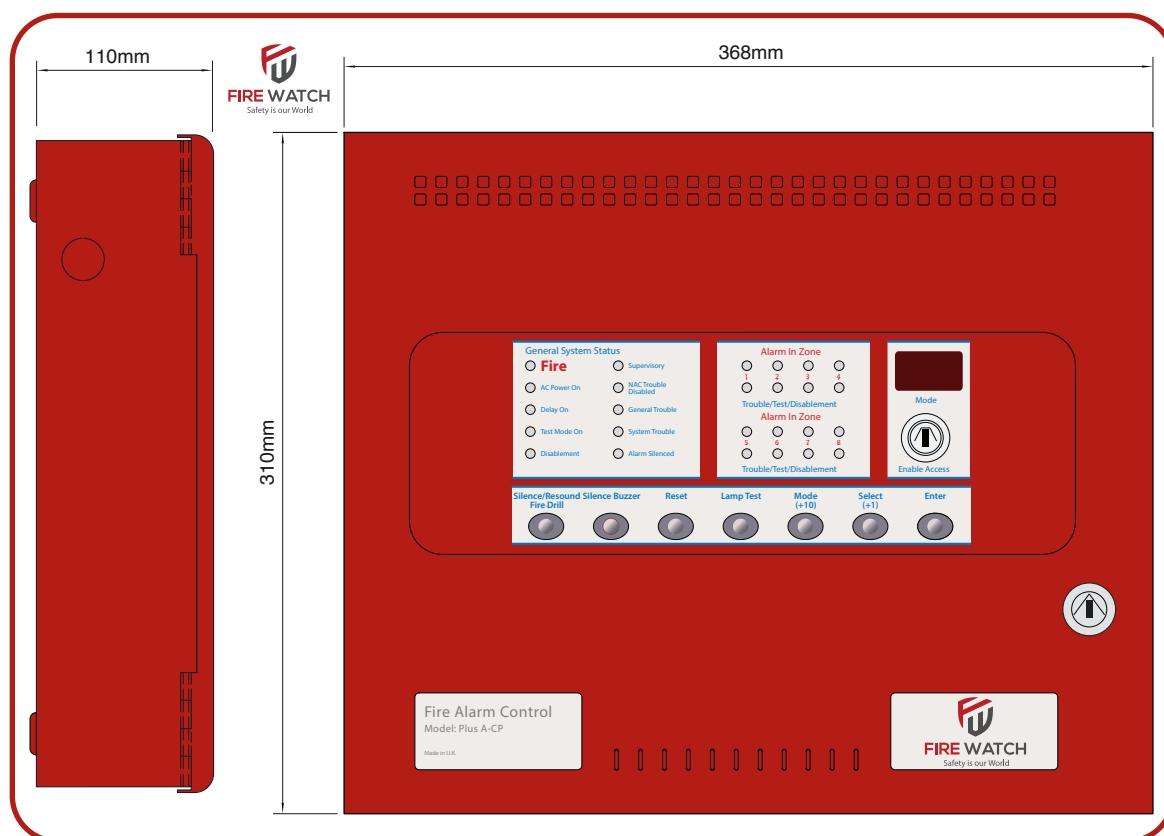
The built-in RS485 communications bus provides the facility to connect 4 wire annunciators or ancillary relay boards to provide further indication and control options throughout a premises.

Panels

Product code	Zones	Dialer	Colour	Size (mm)
FWI842-11	2	No	Red	368 x 310 x 110
FW1842-41	2	No	Grey	368 x 310 x 110
FW1844-11	4	No	Red	368 x 310 x 110
FW1844-41	4	No	Grey	368 x 310 x 110
FW1848-11	8	No	Red	368 x 310 x 110
FW1848-41	8	No	Grey	368 x 310 x 110

Specification

Construction	**1.2mm mild sheet steel**
IP rating	IP30
Colour - lid & box	Red RAL 3002 (optional grey BS 00 A 05 semi-matt)
Supply voltage	115V AC or 230V AC
Mains supply fuse	3 Amp 250V 20mm SB
Power supply DC rating	24V 6.5 Amps
Maximum battery size	12Ah 12V (2 per panel)
Trouble contact rating	30V DC 1 Amp
Supervisory contact rating	30V DC 1 Amp
Fire contact rating	30V DC1 Amp
NAC rating	2A per circuit 4A Total
Detection zone current	1.6 milliamps
Detection zone EOL resitor	6k8 5%
NAC ROL resistor	10k 5%
Cable capacity	12 AWG
Operating temperature	-5c to 50c
Operating humidity	<95% (non condensing)

110mm   368mm

310mm

FIRE WATCH
Safety is our World

General System Status
○ **Fire** ○ Supervisory
○ AC Power On ○ NAC Trouble Disabled
○ Delay On ○ General Trouble
○ Test Mode On ○ System Trouble
○ Disablement ○ Alarm Silenced

Alarm In Zone
○ 1 ○ 2 ○ 3 ○ 4
○ ○ ○ ○
Trouble/Test/Disablement
Alarm In Zone
○ 5 ○ 6 ○ 7 ○ 8
○ ○ ○ ○
Trouble/Test/Disablement

Mode

Enable Access

Silence/Resound Silence Buzzer   Reset   Lamp Test   Mode   Select   Enter
Fire Drill   (+10)   (+1)

Fire Alarm Control
Model: Plus A-CP
Made in U.K.

FIRE WATCH
Safety is our World

CONVENTIONAL ANNUNCIATOR

PLUS FW-CP

- ▸ UL 864 Approved
- ▸ Red or Grey
- ▸ 8 zone indicators
- ▸ Fire, Trouble and Supervisory annunciation
- ▸ Internal Buzzer
- ▸ Internal Trouble diagnosis indicators
- ▸ Easy access to terminals
- ▸ Four wire connection (data and power)
- ▸ Supervised data connection
- ▸ Up to 7 annunciators per system
- ▸ Compatible with flush mount collar

Model No. FW1885-18

The PLUS FW-CP Annunciator provides remote status indications of the PLUS FW-CP Fire Control Panel for fire, trouble and supervisory conditions. Status indications for 8 zones are provided on the annunciator, but it is also compatible with 2 and 4 zone control panels. Zone LED indicators and Status LED indicators are synchronized to light at identical rates. The PLUS FW-CP Annunciator includes an internal sounder and an automatic control for adjusting the lamp intensity of the Power and Trouble LEDs on the fascia of the unit.

The annunciator provides connections for 24 VDC power and RS 485 communication. The RS 485 Bus supports maximum of 7 PLUS FW-CP Annunciators. The PLUS FW-CP Annunciator includes a dip switch for addressing and an End Of Line Resistor (EOLR). LEDs are included inside the annunciator for monitoring heart beat, error, transmit and receive conditions. The fascia and back- box of the PLUS FW-CP Annunciator is provided in colors of grey or red.

The user can write specific zone description on the labels to the right of the zone LED's.

Product not suitable for EU markets.

Specification

Specification	
Construction	1.2mm mild sheet steel
IP Rating	IP30
Enclosure Finish	Polyester powder coat
Enclosure Colour Lid & Box -	Red RAL 3002 (optional grey BS 00 A 05 semi-matt)
Weight	1Kg
Input Voltage	40mA max @ 24VDC
Alarm Current	14mA max @ 24VDC
Maximum no. of units	Maximum of 7 Annunciators on the Aux 24V output and the RS485 serial bus
Connector Terminals	14-24 AWG
RS485 Serial Bus	RS485 two-wire. Maximum distance from control panel: 3900 feet (1200 metres) Belden 9271 cable
Operating Temperature	0°C to +49°C
Relative Humidity	<93% (non condensing)

Equipment			
Product Code	Zones	Colour	Size (mm)
FW1885-18	8	Red	190 x 136 x 55
FW1885-48	8	Grey	190 x 136 x 55

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Laguna Hills, CA 92653, USA
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info@fire-watch.co
www.fire-watch.co

PLUS-XT

Extinguishant Control Panel UL/FM Approved

Features

- UL864 and FM Listed
- Three initiation circuits as standard
- Any single zone or any combinations of zones can be configured to release
- Configurable first stage NAC delays
- Configurable detection delays
- Zero time delay upon manual release option
- Supports up to seven, four wire status indicators
- Built in Extract Fan control

- Compatible with I.S. barriers
- Non-latching zone input option to receive signals from other systems such as aspirating equipment
- Configurable releasing delays up to 60 seconds in 5 second stops
- Configurable releasing duration up to 5 minutes in 5 second steps.
- Countdown timer shows time remaining until release

Description

FW PLUS-XT releasing panel offers outstanding value and performance for all small to medium fixed firefighting installations.

With three initiating circuits as standard, release can be configured to activate from any combination of detection zone inputs to allow (among other combinations) any two from three types of activations for detection in ceiling void, room and floor void applications.

The extensive configuration options of the PLUS-XT allow the functionality of the system to be extensively modified. The panel contains a large LED display to enable easy configuration and control which also displays the time remaining until release for added user safety.

The countdown time is duplicated on up to seven remote status units to provide local indication of the system status.

With all the electronics mounted on a single, easily removable, steel plate PLUS-XT panels are both robust and easy to install. PLUS-XT is supplied in an enclosure that matches the design and color of the Elite RS range and is available in standard red or optional grey

Panels

Product Code	Description	Size (mm)
FW1810-12	Surface mounting panel- Red 115V	368 x 310 x 90
FW1810-12	Surface mounting panel- Grey 115V	368 x 310 x90
FW1810-13	Surface mounting panel- Red 230V	368 x 310 x 90
FW1810-43	Surface mounting panel- Grey 230V	368 x 310 x 90

Specification

Construction	1.2mm mild sheet steel
IP rating	IP30
Finish	Epoxy powder coated
Colour- lid & box	Red RAL 3002 (optional grey BS 00 A 05 semi-matt)
Mains supply	230V AC or 115V AC
Mains supply fuse	1.6Amp (FL.6A L250V)
Power supply rating	3 Amps total including battery charge 28V +/- 2V
Maximum ripple current	200 millivolts
Battery Type (Yuasa NP)	Two 12 Volt 7Ah sealed lead acid in series
Battery charge voltage	27.6VDC nominal (temperature compensated)
Battery charge current	0.7A maximum
Battery fuse	20mm, 3.15A glass
Maximum current draw from batteries	3 amps
Quiescent current of panel in mains fail	0.095A
R0V output	Fused at 500mA with electronic fuse
Sounder outputs	24V Fused at 500mA with electronic fuse
Fault relay contact rating	30VDC 1A Amp maximum
Fire relay contact rating	30VDC 1A Amp maximum
Local fire relay contact rating	30VDC 1A Amp maximum
First stage contact rating	30VDC 1A Amp maximum
Second stage contact rating	30VDC 1A Amp maximum
Extract contact rating	30VDC 1A Amp maximum
Zone quiescent current	2mA maximum
Terminal capacity	12 AWG
Number of detectors per zone	Dependent on type (maximum 32)
NAC rating	0.5A per circuit
Detection circuit end of line	6K8 5% 1/2 Watt resistor
Monitored input end of line	6K8 5% 1/2 Watt resistor
Sounder circuit end of line	10K 5% 1/4 Watt resistor
Extinguishant output EOL	1N4004 Diode
No. of initiating circuits	3
No. of NAC circuits	2 x 1st stage, 1 x 2nd stage
Extinguishant release output	Fused at 1 Amp
Extinguishant release delay	Adjustable 0 to 60 seconds (in 5 second steps)

Specification

Extinguishant release duration	Adjustable 60 to 300 seconds (in 5 second steps)
SIL, AL, FLT, RST inputs	Switched -ve, max resistance 100 ohms
Zone normal threshold	8K ohms to 1k ohm
Detector alarm threshold	999 ohms to 400 ohms
Call point alarm threshold	399 ohms to 100 ohms
Short circuit threshold	99 ohms to 0 ohms
Monitored inputs normal threshold	8K ohms to 1k ohm
Monitored inouts alarm threshold	999 ohms to 100 ohms
Monitored inputs short circuit threshold	99 ohms to 0 ohms
Status unit/ Ancillary board connection	Two wire RS485 connection
Status unit power output	Fused at 500mA with electronic fuse

Programmable Functions

Access Level 2	Access Level 3
Test Zones 1 to 3	Sounder delay
Disable Zones 1 to 3	Conincidence detection
Disable 1st stage alarms	Disable panel features
Disable pre-activated 1st stage relay	Zone alarm delays (detectors)
Disable pre-activated 2nd stage replay	Zone alarm delay (call stations)
Disable extract fan output	Configure zone for I.S barrier use
Disable manual release input	Zone short circuit alarm
Disable releasing sub system	Zone non latching
Activate extract fan output	Zone inputs delay
Activate alarm delays	Extinguishant release time delay
	Extinguishant release duration timer
	Extinguishant resey delay timer
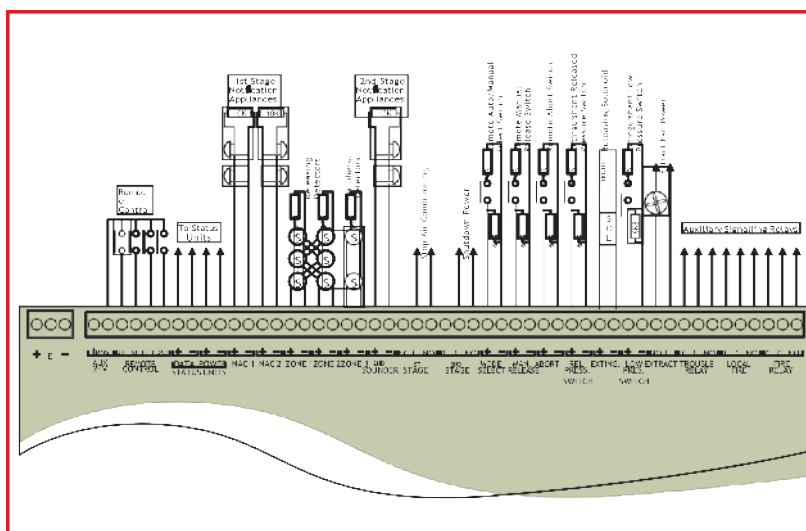
PLUS FW-SI

Extinguishant Status & Ancilliary Units UL/FM Approved

- High brightness LED's
- Detailed indication of the status of the Control Panel
- Supervised data connection
- Countdown shows time remaining until release
- Manual only and Automatic & Manual mode select
- Four-wire connection (data and power)
- Protected dual action manual release switch option
- Option for zonal fire and trouble indication with buzzer
- Robust, high quality enclosure
- Easy access to terminals
- Remote Auto/Manual door interlock input (supervised)
- Remote Abort input (supervised)
- Internal trouble diagnosis indicators

- High brightness LED's
- Detailed indication of the status of the Control Panel
- Supervised data connection

The PLUS FW-SI range of status indicators provides detailed status information for PLUS FW-XT releasing control equipment.

All models provide high brightness, LED indication of Manual Only, Automatic and Manual, Abort Operated, Disabled, Imminent and Released conditions. Models are also available with zonal fire indicators and a common trouble indicator.

For systems where local control of the Automatic/Manual mode and or a Manual extinguishant release control are required, units are available with these controls fitted. All models have supervised inputs for the remote connection of Automatic/Manual mode and abort switches.

All units contain a large, LED display that shows a countdown of the time remaining until release in seconds.

Up to seven PLUS FW-SI status units can be connected to the FW PLUS -XT serial bus and require just two cores for data and two cores for power. Once connected, status units are supervised, and the PLUS FW -XT control panel will indicate a trouble condition should any unit become disconnected.

FW1821-11   FW1821-13   FW1821-15

FW1821-17   FW1821-19   FW1823-10   FW1832-10

Equipment

Product Code	Description	Size (mm)
FW1821-11	6 lamp status unit surface mount - red	190 x 136 x 50
FW1821-41	6 lamp status unit surface mount - grey	190 x 136 x 50
FW1821-13	6 lamp status unit with mode select keyswitch surface mount - red	190 x 136 x 50
FW1821-43	6 lamp status unit with mode select keyswitch surface mount - grey	190 x 136 x 50
FW1821-15*	6 lamp status unit with manual release surface mount - red	190 x 136 x 50
FW1821-45*	6 lamp status unit with manual release surface mount - grey	190 x 136 x 50
FW1821-17*	6 lamp status unit with mode select keyswitch & manual release surface mount - red	190 x 136 x 50
FW1821-47*	6 lamp status unit with mode select keyswitch & manual release surface mount - grey	190 x 136 x 50
FW1821-19*	10 lamp status unit with mode select keyswitch & manual release surface mount - red	190 x 136 x 50
FW1821-49*	10 lamp status unit with mode select keyswitch & manual release surface mount - grey	190 x 136 x 50

Equipment

Product Code	Description	Size (mm)
FW1823-10	Elite Extinguishing Abort switch surface mount - red	102 x 102 x 59
FW1823-40	Elite Extinguishing Abort switch surface mount - grey	102 x 102 x 59
FW1832-10	Elite Disablement switch surface mount - red	102 x 102 x 59
FW1832-40	Elite Disablement switch surface mount - grey	102 x 102 x 59

PLUS FW - SI Specifications

Construction	1.2mm mild sheet steel
IP Rating	IP30
Colour - lid & box	Red (optional grey)
Power supply	21 to 30 V DC
Maximum current draw	0.07A
Max. number of status units	7
Quiescent current	0.033A
Cable capacity	2.5mm² per terminal
Monitored inputs end of line resistor	6K8 0.5W Resistor
Monitored inputs normal threshold	8K ohm to 1K ohm
Monitored inputs trigger threshold	700 ohms to 100 ohms
Monitored inputs short circuit threshold	99 ohms to 0 ohms
Data connection	Two wire RS485 connection (max 1200 metres)

Fire Zone 1

Fire Zone 2

Fire Zone 3

Abort Switch Specifications

Construction	1.2mm mild sheet steel
IP Rating	IP30
Colour - lid & box	Red (optional grey)
Switch rating	1A at 30V DC
Trigger resist	470R 1W
End of line resistor	6K8 1/2W

FW-XT+

FW Multi-Area Addressable Releasing Control Units

- ► UL 864 10th Edition Listed
- ► Up to 2 releasing areas / hazards per FWXT+ unit
- ► Dual releasing outputs for each area (configurable as Main/Reserve)
- ► First and second stage NAC outputs for each area
- ► First and second stage volt free changeover relays for each area
- ► Released volt-free relay per area
- ► Trouble volt-free relay per area

- ► Programmable output duration
- ► Countdown indicator shows time until release in seconds
- ► Mode select and manual release controls per area
- ► Monitored remote manual release input
- ► Monitored remote abort input
- ► Monitored remote mode select input
- ► Monitored remote released pressure switch input
- ► Serial connections for status units and ancillary boards

FWXT+ releasing control units are multi-area releasing control units containing **one or two releasing modules complying with UL 864 10th edition.**

Up to 15 releasing modules may be connected to a ORCA fire alarm control panel. Each releasing module can accommodate a separate hazard defined by two specific zones.

Each FWXT+ unit is equipped with a 5.25 A power supply (120 VAC or 240 VAC) to power releasing modules and attached solenoids / actuators or sequential activators.

Each releasing module has a comprehensive set of inputs and outputs and is configurable via a simple programming interface provided by Loop Explorer 2.

Each releasing module may have up to 7 serially connected PLUS FW-SI status units or PLUS FW-XT ancillary boards.

Panels

Product Code	Description
FW1711-10	FWXT+ 1 Area Releasing Module w/ Cabinet Red (230V)
FW1711¬10	FWXT+ 1 Area Releasing Module w/ Cabinet Red (110V)
FW1711-40	FWXT+ 1 Area Releasing Module w/ Cabinet Gray (230V)
FW1711¬40	FWXT+ 1 Area Releasing Module w/ Cabinet Gray (110V)
FW1712-10	FWXT+ 2 Area Releasing Module w/ Cabinet Red (230V)
FW1712¬10	FWXT+ 2 Area Releasing Module w/ Cabinet Red (110V)
FW1712-40	FWXT+ 2 Area Releasing Module w/ Cabinet Gray (230V)
FW1712¬40	FWXT+ 2 Area Releasing Module w/ Cabinet Gray (110V)

Specification

Construction	1.2mm mild sheet steel
Dimensions	14.5"W x 18.9"H x 4.25" D
IP Rating	IP30
Finish	Epoxy powder coated
Colour	Lid & Box: Gray - BS 00 A 05 or Red - RAL 3002 Fascia: RAL7016

FIRE WATCH
Safety is our World

Specification

Weight	**17.6 lbs (Standard Configuration)**
Cabling	FP200 or equivalent (max capacitance 1uF max inductance 1 mH) **Connect 18 to 14 AWG wiring for all field terminations except AC input** Connect 14 AWG wiring for line, neutral, and ground terminations of the AC input
Power Supply	1.83 Amps Max @ 120 V, 50/60 Hz 0.915 Amps Max @ 240 V, 50/60 Hz
Power Supply Fuse	**3A (field-replaceable)**
Power Supply Rating	1 and 2 Area Units: Regulated 24V DC @ 4A
Maximum Ripple Current	1V Maximum
Standby Battery Type	Two 12 VDC, valve-regulated lead acid
Battery Size	**Recommended battery size is 12 Ah for a typical configuration. Required battery size is mainly** dependent on standby current. To determine the most appropriate battery size, use the battery calculator in LE2
Battery Charge Voltage	27.6VDC nominal (temperature compensated)
Battery Fuse	**10A 3AG (field-replaceable)**
Current Draw in Power Fail Condition	54mA per releasing module
Max Current Draw from Batteries	4A
Ground Fault Impedance Value	100 Ohms
Temperature Range	32°F (0°C) - 120°F (49°C)
Relative Humidity	up to 93%, non-condensing
Releasing Delay	Adjustable 0 to 60 seconds (+/- 10%)
Releasing Duration	Adjustable 60 to 300 seconds
Fire Alarm Control Panel	ORCA with Firmware Version 07.002.005 or higher

Top Terminals Specification

24V Power	24V Regulated, continuous (power input)
Aux 24V	24V Regulated @360mA Max, Power-limited
Trouble 1st Stage 2nd Stage 3rd Stage (Released) Supv. / Abort Extract	Volt-free contact rated at 30V DC, 1A, Resistive
3rd Stage Alarm 2nd Stage Alarm	24V Regulated @ 850mA Max, Power-limited
Exting. 1 (Main) Exting. 2 (Reserve)	24V Regulated @ 1A Max, Power-limited

Bottom Terminals Specification

Man. Rel Abort Disable Mode Rel P. Sw Low Press.	Class B Supervised for opens, shorts, and grounds End-of-Line device: 6.8K Ohm resistor (S2027) Activation device: 470 Ohm resistor (S2051) Maximum Voltage / Current: 24V DC / 50 mA Maximum Wiring Impedance for Each Circuit: 50 Ohms Power-limited
CIE Serial	Two wire, RS485 connection, Data 3.3 V, current-limited, Class B, supervised Maximum Line Impedance: 120 Ohms
Status Serial	Two wire, RS485 connection, Data 3.3 V, current-limited, Class B, supervised Maximum Line Impedance: 120 Ohms
Status Pow	24V Regulated @ 360mA Max, Power-limited

Multi-Criteria Detector (Smoke + Heat)

Product Overview

Product	FW Multi-Criteria Detector (Smoke + Heat)
Part No.	FW5050-350

Approvals

UL   FM

Product Information

The Fire Watch Multi-Criteria Detector (Smoke + Heat) uses new photoelectric sensing technology, Purelight®, to detect smoke particles entering the chamber. It reduces the possibility of false alarms while increasing the reliability of detecting a real fire.

- Approved to UL 268 7th edition and UL 521
- Internal drift compensation
- Easy installation
- Compatible with XP95 systems
- XPERT card addressing
- Built-in self-test
- Dual heat sensors
- Purelight® optical technology provides enhanced smoke detection and false-alarm management

Technical Data

⚠️ **CAUTION**: the Fire Watch Multi-Criteria Detector, part # FW5050-350, can only be used on systems operating with FW protocol.

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Detection Principle:
  Smoke - Light-scattering
  Heat - Thermistor
Sensor configuration:
  Smoke - Chamber with surface-mount IR emitter and prism. Solid-state integrated PD and amplifier.
  Heat – Dual exposed heat-sensing elements
Digital communications protocol: *FW* Protocol
Supply wiring: Two-wire supply, polarity insensitive
Sampling frequency: One time per second
Sensitivity: 1.2 – 2.1 %/ft.
Supply Voltage (Vmin – Vmax): 17 – 28 VDC
Modulation voltage: 5 – 9V, peak to peak
Supervisory current: 340 µA
Switch-on surge current: 1.0 mA
Alarm LED current, ON: 4.0 mA
Additional remote LED current: 5 mA maximum
Status indicator: Alarm (Red)
Operating Temperature: 32 - 131°F (0 - 55°C)
Humidity: 0 to 95% RH (no condensation or icing)
Air velocity: 0 – 300 fpm
IP rating: IP 44
Standards and approvals: UL / FM
Effect of atmospheric pressure: None
Weight: 2.93 oz. (83 g)
Dimensions:
  4" (100mm) diameter x 1.50" (38mm) high

Electrical Description

The FW Multi-Criteria Detector is designed to be connected to a two-wire SLC loop that provides both data and 17 - 28 VDC power. The detector is connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base. A remote LED indicator may be connected between the +R and -R terminals. A ground connection terminal is also provided.

Operation

The low profile design of the FW Multi-Criteria Detector is sleek and evolutionary, with a 360° LED indicator which illuminates red when in alarm.

At the heart of the photoelectric smoke sensor is Purelight® Sensing Technology which incorporates:

Cone technology combined with a high-intensity infrared LED to provide stability and accurate sensitivity to smoke.
A sophisticated dynamic algorithm, providing transient rejection and compensation for drift while maintaining accurate sensitivity.

Signals from the photoelectric smoke chamber and temperature sensors are independent and represent the smoke level and air temperature respectively in the vicinity of the detector; the detector micro-controller processes both signals. The temperature signal processing extracts only rate-of-rise information for use in-combination with the smoke signal.

The optical sensor will trigger an alarm at 1.2 %/ft. and the heat sensor at 69.8 ºF (21 ºC) rise. The minimum time to alarm is ten seconds.

The detector will not respond to slow increases in temperature, but a large, sudden change can cause an alarm without the presence of smoke.

The detector will respond to smoke or heat, or a combination of both.

System Compatibility

The FW detector has been designed to operate with FW XPERT bases, control panels, and SLC loops. Note that the eighth bit of the address on the XPERT card will be ignored.

The detector will compensate for drift internally but does not report drift values to the fire alarm control panel. When the internal drift compensation limit is reached, the FW control panel will indicate a fault along with the address of the detector.

Maintenance and Service

Maintenance shall be performed in accordance with all applicable codes and standards. The exterior of the detector may be cleaned using a soft damp cloth.

Compatible Bases

Part Number	Product Name
FW5000-210	FW UL Base – 4" diameter
FW5000-230	FW UL Base – 6" diameter

Other FW Detector Models

Part Number	Product Name
FW5050-250	FW Smoke Detector
FW5500-450	FW Heat Detector

Fire Watch

Smoke Detector

Product Overview

Product	FW Smoke Detector
Part No.	FW5050-250

Approvals

UL FM

Product Information

The Fire Watch Smoke Detector uses new photoelectric sensing technology, Purelight®, to detect smoke particles entering the chamber. It reduces the possibility of false alarms while increasing the reliability of detecting a real fire.

- Approved to UL 268 7th edition
- Internal drift compensation
- Easy installation
- Compatible with XP95 systems
- XPERT card addressing
- Built-in self-test
- Purelight® optical technology provides enhanced smoke detection and false-alarm management

Technical Data

⚠️ **CAUTION**: the Fire Watch Smoke Detector, part # FW5050-250, can only be used on systems operating with FW protocol.

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Detection Principle:
   Photoelectric Light-scattering
Sensor configuration:
   Chamber with surface-mount IR emitter and prism.
   Solid-state integrated PD and amplifier.

Digital communications protocol: *FW* Protocol
Supply wiring: Two-wire supply, polarity insensitive
Sampling frequency: One time per second
Sensitivity: 1.2 – 2.1 %/ft.
Supply Voltage (Vmin – Vmax): 17 – 28 VDC
Modulation voltage: 5 – 9V, peak to peak
Supervisory current: 340 µA
Switch-on surge current: 1.0 mA
Alarm LED current, ON: 4.0 mA
Additional remote LED current: 5 mA maximum
Status indicator: Alarm (Red)
Operating Temperature: 32 - 131°F (0 - 55°C)
Humidity: 0 to 95% RH (no condensation or icing)
Air velocity: 0 – 300 fpm
IP rating: IP 44
Standards and approvals: UL / FM
Effect of atmospheric pressure: None
Weight: 2.93 oz. (83 g)
Dimensions:
   4" (100mm) diameter x 1.41" (36mm) high
   1.88" (48mm) high with XPERT mounting base
Material: White flame-resistant polycarbonate with tin-plated stainless steel terminals

Electrical Description

The FW Smoke Detector is designed to be connected to a two-wire SLC loop that provides both data and 17 - 28 VDC power. The detector is connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base. A remote LED indicator may be connected between the +R and -R terminals. A ground connection terminal is also provided.

Operation

The low-profile design of the FW Smoke Detector is sleek and evolutionary, with a 360° LED indicator which illuminates red when in alarm.

At the heart of the FW photoelectric smoke sensor is Purelight® Sensing Technology which incorporates:

Cone technology combined with a high-intensity infrared LED to provide stability and accurate sensitivity to smoke.
A sophisticated dynamic algorithm, providing transient rejection and compensation for drift while maintaining accurate sensitivity.

The chamber of the FW smoke detector has a unique cone-shape that serves to reduce any stray reflections. This ultra-dark internal light chamber and utilizes a high-intensity infrared (IR) LED that is highly sensitive to smoke particles. When smoke enters the chamber, the IR light is scattered and detected by the photodiode and amplifier in an application-specific integrated circuit (ASIC). This circuit ensures long-term reliability and high performance, even in extreme conditions.

System Compatibility

The FW smoke detector has been designed to operate with FW XPERT bases, control panels, and SLC loops. Note that the eighth bit of the address on the XPERT card will be ignored.

The detector will compensate for drift internally which the FW panel will see as an increase in the analog value. When the internal drift compensation limit is reached, the FW control panel will indicate a fault along with the address of the detector.

Maintenance and Service

Maintenance shall be performed in accordance with all applicable codes and standards. The exterior of the detector may be cleaned using a soft damp cloth.

Compatible Bases

Part Number	Product Name
FW5000-210	FW UL Base – 4" diameter
FW5000-230	FW UL Base – 6" diameter

Other FW Detector Models

Part Number	Product Name
FW5050-350	FW Multi-Criteria Detector (Smoke/Heat)
FW5500-450	FW Heat Detector

Optical Smoke Detector

Product Overview

Product	Optical Smoke Detector w/Flashing LED and Magnet Test Switch
Part No.	FWC55000-316

Approvals

UL   FM

Product Information

The Series 65 Optical Smoke Detector uses the scattered light principle to detect smoke entering the chamber located inside of the detector housing.

- Responds well to slow-burning, smoldering fires
- Well-suited for bedrooms and escape routes
- Unaffected by atmospheric pressure
- Flashing LED and magnet-operated test switch option on selected detector models
- Operating Temperature: -20 to 60°C
- Humidity: 0 to 95% RH, no condensation or icing

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Detection Principle:
  Photoelectric detection of light scattered in a forward direction by smoke particles

Chamber configuration:
  Horizontal optical bench containing an infrared emitter and PD sensor arranged radically to detect scattered light

Sensor: Silicon PIN Photodiode

Emitter: GaAs infrared light emitting diode

Sampling frequency: One time every 3 seconds

Confirmation frequency: One time every two seconds

Supply Wiring: Two-wire supply, polarity insensitive

Terminal functions:
  L1 and L2 IN – Supply IN connections
  L1 and L2 OUT – Supply OUT connections
  -R – Remote indicator negative connection

Supply voltage: 9 – 33 VDC

Ripple voltage: 2 V peak to peak maximum at 0.1 Hz to 100 kHz

Standby current: 30 - 50 µA @ 24 V

Power up surge current: 115 µA 24 V

Alarm voltage: 6 – 28 V

Normal alarm current: 61 mA @ 28 V
                      52 mA @ 24 V
                      18 mA @ 10 V

Alarm indicator: Red LED

Alarm LED current: 4 mA

Remote output operation: Remote is a current sink to the negative line, maximum remote current is 17 mA

IP rating: IP 23D

Standards and approvals: EN 54-7, LPCB

Dimensions: 100 mm D x 42 mm H. 50 mm high with mounting base

Operating Principles

The FW Optical Smoke Detector has a molded white polycarbonate case with wind resistant smoke inlets. Inside the case, a printed circuit board has the optical system mounted on one side and the signal processing electronics on the other. The sensing chamber is configured as a labyrinth which prevents penetration of ambient light. The labyrinth has a fine gauze insect-resistant cover. The chamber houses an infrared light emitting diode (LED) and a photodiode which has an integral visible-light filter as an extra precaution against ambient light.

Every three seconds the IR LED emits a burst of collimated light modulated at 4 Hz. Under clean-air conditions light from the LED does not fall directly on the photodiode, because the LED is positioned at an obtuse angle to the diode.

When smoke enters the chamber, a fraction of the collimated light is scattered onto the photodiode. If the signal from the scattered light is above a preset threshold, the LED emits two bursts of light at two-second intervals. If light is scattered onto the photodiode by these pulses due to the presence of smoke, the detector signals an alarm to the FW fire alarm control panel.

The detector may be reset when the smoke in the detection chamber has cleared. Power to the detector must be interrupted for at least one second to return the detector to the normal standby condition.

Environmental Characteristics

The FW Optical Smoke Detector operates over a temperature range of -20 to +60°C.

Maintenance and Service

Maintenance shall be performed in accordance with all applicable codes and standards. The exterior of the detector may be cleaned using a soft damp cloth.

Construction Products Regulation 305/2011/EU

The FW Optical Smoke Detector (Series 65) complies with the essential requirements of the Construction Products Regulation.
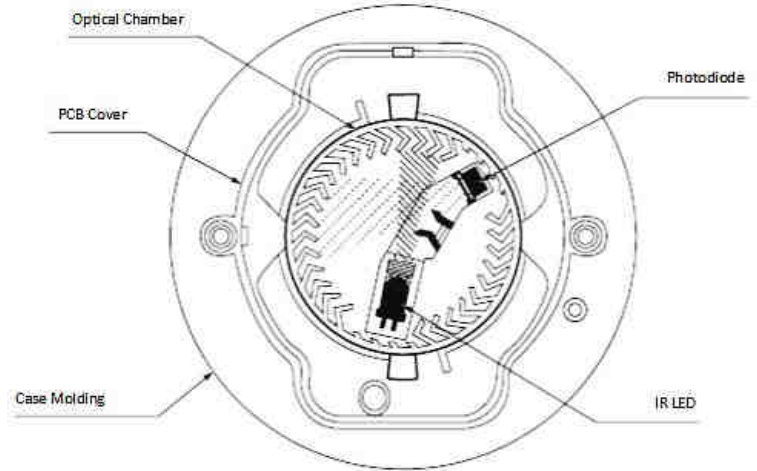
Response Characteristics of FW Optical Smoke Detector	
Type of Fire	FW Optical Smoke Detector
Overheating	Very Good
Thermal Combustion	Very Good
Smoldering	Moderate/Good
Glowing Combustion	Moderate/Good
Flaming Combustion	Very Good
Flaming with High Heat	Very Good
Flaming Clean Burning	Poor

EMC Directive 2014/30/EU

The FW Optical Smoke Detector (Series 65) complies with the essential requirements of the EMC directive 2014/30/EU provided that it is installed and used as described in this datasheet. A copy of the Declaration of Conformity is available from Apollo on request. Conformity of the FW Optical Smoke Detector with the EMC Directive does not confer compliance with the directive on any apparatus or systems connected to it.

Fire Watch

Heat Detector

Product Overview

Product	Heat Detector A1R with Flashing LED
Part No.	FWC55000-121

Approvals

LPCB
LOSS PREVENTION CERTIFICATION BOARD

Product Information

FW Heat Detectors monitor temperature by using either a dual-thermistor network or a single thermistor (CS versions) which provides a voltage output proportional to the external air temperature.

- Ideal for environments that are dirty or smoky under normal circumstances
- Can be used for applications where smoke detectors are unsuitable
- Wide operating voltage

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Supply Wiring: Two-wire supply, polarity insensitive
Terminal functions:

    L1 and L2 IN – Supply IN connections

    L1 and L2 OUT – Supply OUT connections

    -R – Remote indicator negative connection

Supply voltage: 9 – 33 VDC
Ripple voltage: 2 V peak to peak maximum at 0.1 Hz to 100 kHz
Standby current: See Table 1
Alarm indicator: Red LED
Design alarm load: 420 Ω in-series with a 2 V drop
Holding voltage and current: 6 volts @ 10 mA
Min voltage required to light alarm indicator: 12 V
Remote output operation: Remote is a current sink to the negative line, maximum remote current is 17 mA
Storage temperature: -30°C to +80°C
Operating temperature:

        AQ1R: -20°C to +50°C

        BR: -20°C to +65°C

        CS/CR: -20°C to +80°C

Humidity: 0 to 95% RH, no condensation or icing
IP rating: Designed to IP54
Standards and approvals: LPCB
Dimensions: 100 mm D x 42 mm H
Weight: 80 g
Material: White flame-retardant polycarbonate, terminals are nickel-plated stainless steel

Operating Principles

The FW Heat Detector has a molded white polycarbonate case with wind resistant smoke inlets. Inside the case, a printed circuit board holds the signal processing electronics.

The A1R, BR, and CR variants contain a pair of matched negative temperature coefficient (NTC_ thermistors that are mounted to the PCB in a way that one thermistor is exposed to give good thermal contact with the surrounding air while the other thermistor is thermally isolated.

Under stable conditions both thermistors are in thermal equilibrium and have the same value of resistance. If the air temperature increases rapidly the resistance of the exposed thermistor becomes less than that of the insulated thermistor. The ratio of the resistance of the thermistors is monitored electronically and an alarm is initiated if the ratio exceeds and factory pre-set level. This feature determines the rate of rise response of the detector.

CS variants use a single thermistor which, as in the dual-thermistor versions, provides a voltage output proportional to the external air temperature.

EMC Directive 2014/30/EU

The Fire Watch Heat Detector complies with the essential requirements of the EMC directive 2014/30/EU provided that it is installed and used as described in this datasheet. A copy of the Declaration of Conformity is available from Apollo on request. Conformity of the FW Heat Detector with the EMC Directive does not confer compliance with the directive on any apparatus or systems connected to it.

Construction Products Regulation 305/2011/EU

The FW Optical Smoke Detector (Series 65) complies with the essential requirements of the Construction Products Regulation. A copy of the Declaration of Performance is available on request.

Maintenance and Service

Maintenance shall be performed in accordance with all applicable codes and standards. The exterior of the detector may be cleaned using a soft damp cloth.

Table 1: FW Heat Detector Typical Current / Voltage Characteristics for Quiescent and Alarm State						
Supply voltage (V)	A1R Standard		A1R flashing LED		A1R flashing LED/magnetic test switch	
	Quiescent	Alarm	Quiescent	Alarm	Quiescent	Alarm
24	45 µA	52 mA	55 µA	52 mA	55 µA	52 mA
9	40 µA	17 mA	50 µA	17 mA	50 µA	17 mA

Table 1: FW Heat Detector Temperatures and Part Numbers				
Class	Max application temperature OC	Max static response temperature OC	Part Number	
			Standard	Flashing LED
A1R	50	65	FWC55000-122	FWC55000-121
BR	65	85		
CR	80	100		
CS	80	100		

Fire Watch

Heat Detector

Product Overview

Product	Fire Watch Heat Detector
Part No.	FW5500-450
Digital Communication	FW Protocol

Approvals

Product Information

The FW Heat Detector monitors temperature by using a single thermistor which provides a voltage output proportional to the external air temperature. It is classified as an ordinary detector by UL.

- Compatible with all devices from the UL 268 7th Edition approved FW range
- Electronic temperature sensing
- Alarm flag for fast alarm reporting
- Automatic addressing with the EXPERT 7 card
- Electronics-free 4" and 6" bases
- Easy installation and elegant design
- Ideal for environments that are dirty or smoky under normal circumstances

Technical Data

⚠️ **CAUTION**: the Fire Watch Heat Detector, part # FW5050-450, can only be used on systems operating with FW protocol.

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Sensor: Single NTC thermistor
Sampling frequency: one time per second
Digital communication: XP95
Supply voltage: 17 – 28 VDC
Modulation voltage at detector: 5 – 9 V, peak to peak
Standby current: 250 µA
Surge current: 1 mA
Alarm current: 3 mA maximum
Operating temperature range: 32 to 151°F
Humidity: 0 to 95% RH, no condensation or icing
Standards and approvals: UL, FM
Dimensions: 3.93" diameter x 1.65" high
Weight: 3.7 oz.
Material: White flame-retardant polycarbonate, terminals are tin-plated stainless steel
Test method: hair dryer
Spacing:
      Smooth ceiling: 60 feet
      To a wall or partition: 25 feet

Operating Principles

The FW Heat Detector has a low airflow resistant case made of white polycarbonate. The detector monitors heat by using a single thermistor which provides a voltage output proportional to the external air temperature.

Electrical Description

The FW Heat Detector is designed to be connected to a two-wire SLC loop carrying data and 17 – 28 VDC power. The detector is connected to the incoming and outgoing supply using terminals L1 and L2 on the mounting base. A remote LED indicator requiring not more than 1 mA maximum may be connected between the "R" and L2 terminals. An Earth connection terminal is also provided. The detector is calibrated to give an analog value of 25, ± 5 counts, at 70°F. This value increases with rising temperature. A count of 55 corresponds to the UL alarm sensitivity of 135°F.
When the detector is energized the ASIC regulates the flow of power and controls the data processing. The thermistor provides an output over the normal operating range that is proportional to the external air temperature. The voltage output is processed in the analog to digital converter and stored by the communications ASIC. It is transmitted to the control equipment with the detector is interrogated. When a count of 55 is exceeded the alarm flag is initiated and the device address is added to the data stream every 32 polling cycles from its last polling for the direction of the alarm level condition, except for when an alarming device is being interrogated. This sequence provides the location of the device in alarm in approximately two seconds.

Maintenance and Service
Maintenance shall be performed in accordance with all applicable codes and standards. The exterior of the detector may be cleaned using a soft damp cloth.

Response Characteristics of the FW Heat Detector

| Type of Fire	FW Heat Detector
Overheating	Very Poor
Thermal Combustion	Very Poor
Smoldering	Very Poor
Glowing Combustion	Very Poor
Flaming Combustion	Poor
Flaming with High Heat	Moderate/Good
Flaming Clean Burning	Moderate/Good

Compatible Bases

Part Number	Product Name
FW5000-210	FW UL Base – 4" diameter
FW5000-230	FW UL Base – 6" diameter

Other FW Detector Models

Part Number	Product Name
FW5050-350	FW Multi-Criteria Detector (Smoke/Heat)
FW5050-250	FW Smoke Detector

FW Heat Detector Diagram
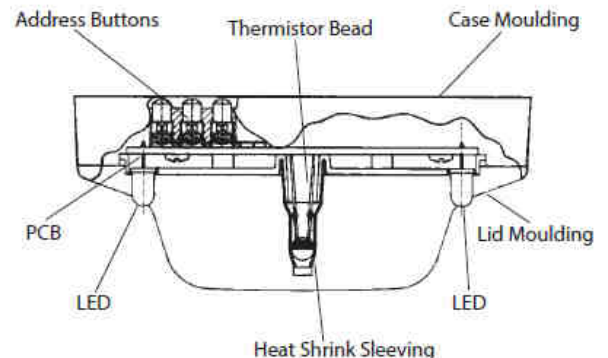
FW Detector Base

The FW Detector base has been designed for easy installation of the detector to the base, without the need of force which can be useful when mounting detectors to suspended ceilings. The detectors have a one-way fit to the base, and the FW detectors can be locked into place by a 1.5 mm hexagonal grub screw.

Part number: 45681-200

Detector locking mechanism
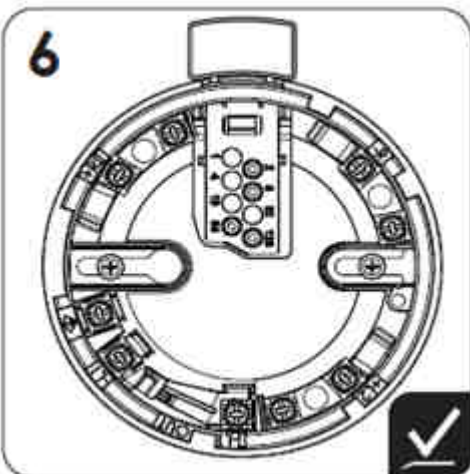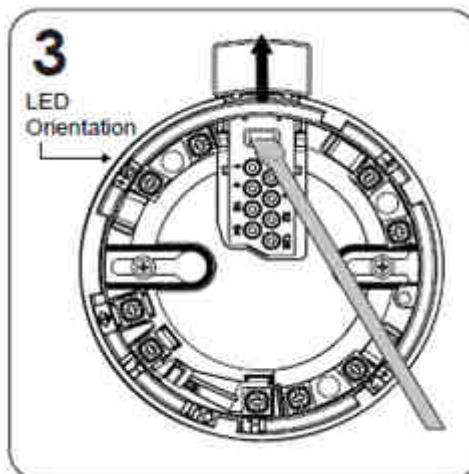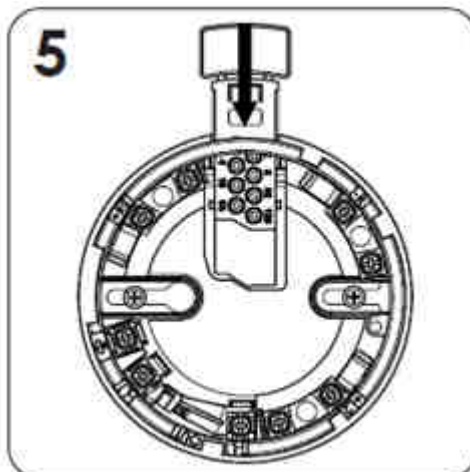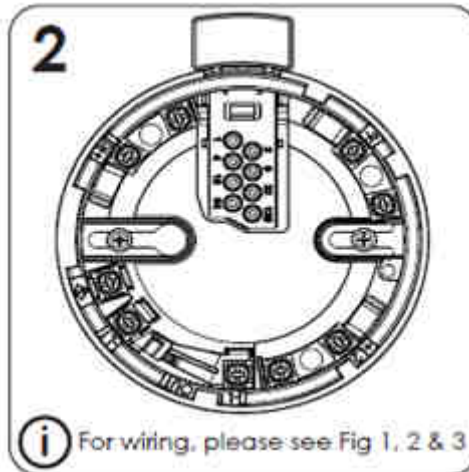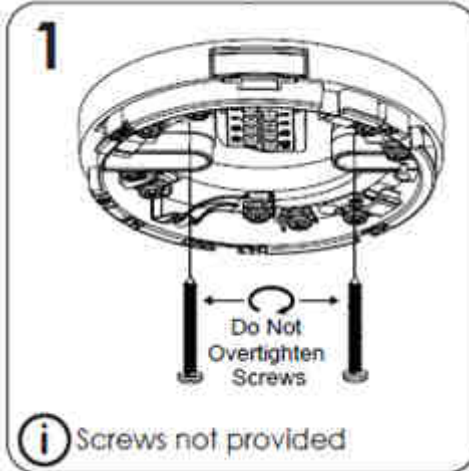
One-way fit

Easy to wire

Contains an Earth connector

Contains no electrical parts

Terminal for Remote Indicator

Fire Watch

7th Edition Detector Installation Instructions

1
Do Not Overtighten Screws
ⓘ Screws not provided

2
ⓘ For wiring, please see Fig 1, 2 & 3

3
LED Orientation

4
4 16 64
2 8 32 128

5

6

7
1
3
2
4
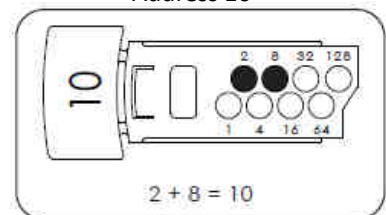ⓘ 1.5mm A/F Hex Grub Screw for use as anti-tamper / locking mechanism
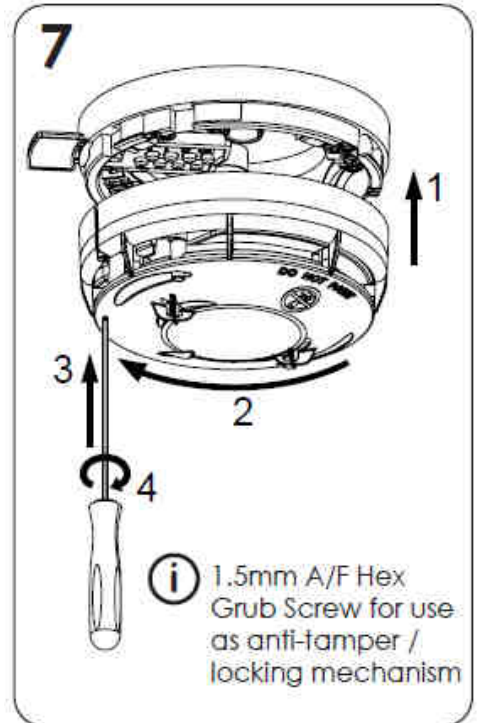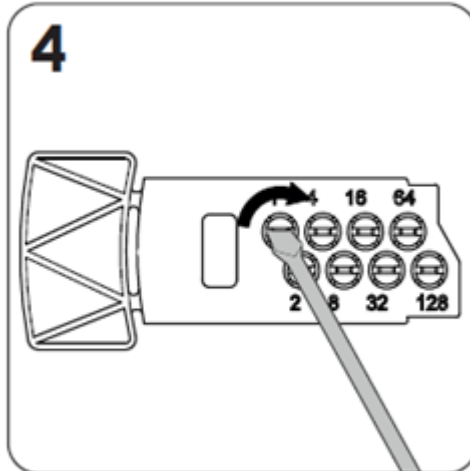
XPERT 8 Card Addressing
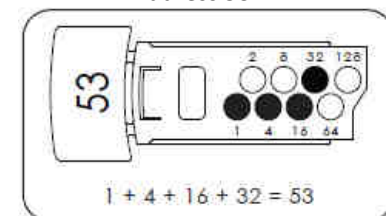
Remove the pips to set the desired device address. The pip numbers are added together to set the address.

For example:

Address 10
2 8 32 128
1 4 16 64
10
$2 + 8 = 10$

Address 53
2 8 32 128
1 4 16 64
53
$1 + 4 + 16 + 32 = 53$

Wiring

CAUTION: Do not use looped wire under wiring terminals. Break wire run to provide supervision of connections. Terminals L1 and L2 are polarity sensitive. It is recommended the wiring be no smaller than 18AWG ($0.8mm^2$). Wire sizes up to 14 AWG ($3.3mm^2$) may be used.

Warning: Check the base compatibility before installing
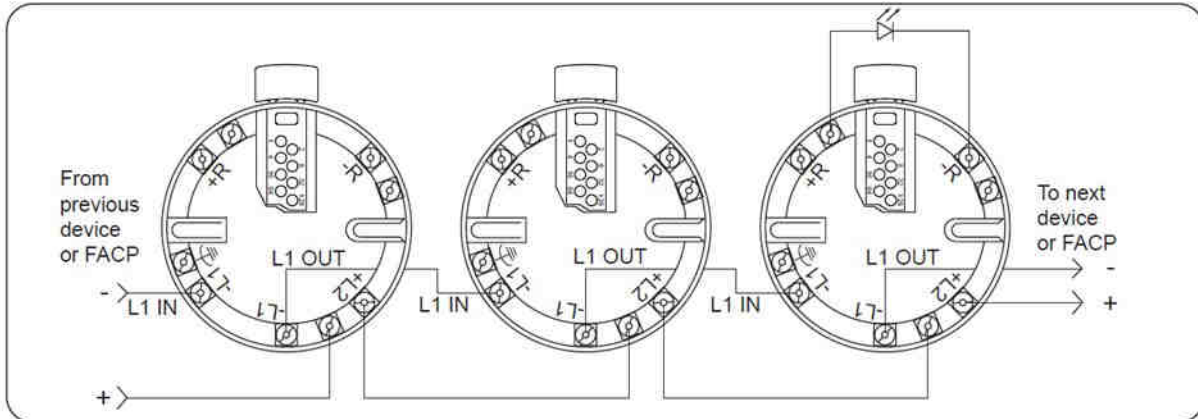**Check the polarity for FW UL detector installation**

Fig. 1 Schematic Wiring Diagram: FW UL Base wiring with remote LED connection. To be used with new installs for FW UL detectors
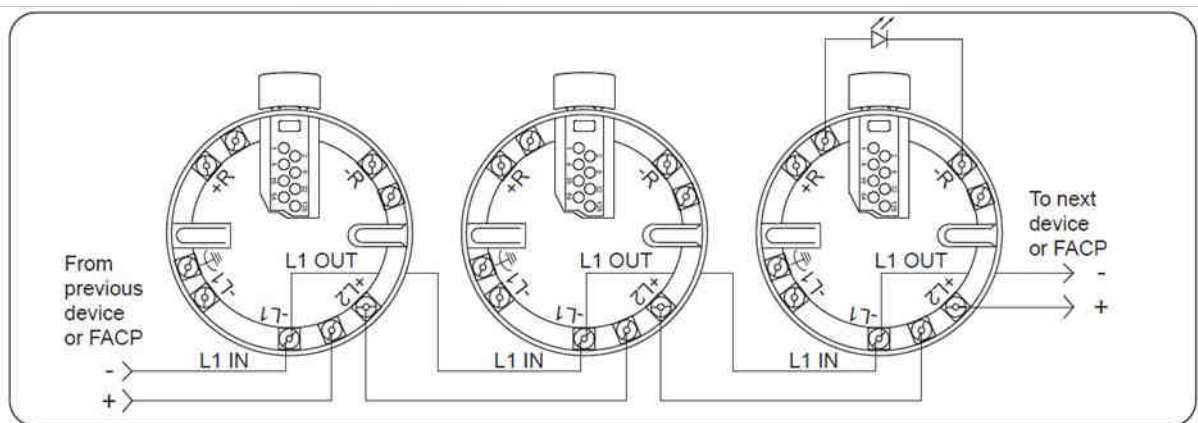
Fig. 2 Schematic Wiring Diagram: Soteria UL Base Detector to bypass isolator with remote LED connection. Can also be used when the isolator feature is not
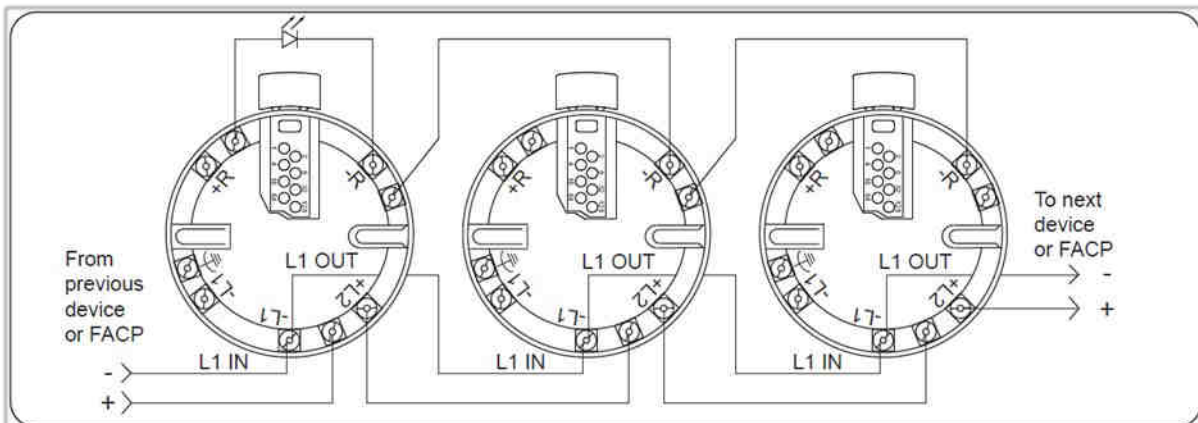
Fig. 3 Schematic Wiring Diagram: FW UL Base to bypass isolator with a Common Remote LED.Can also be used when the isolator feature is not required

General

These instructions apply to the Fire Watch UL bases. Please refer to the table and other information below on how to install the bases.

Applicable Wiring Diagram (page 3)	Applicable Products
Fig. 1 - New Installs (supports isolation)	SA5000-210 – FWUL Base - 4" FW5000-230 - 6"
Fig. 2 - Retrofits or Isolator bypassed with a Remote LED	FW5000-210 - 4" FW5000-230 - 6"
Fig. 3 - Retrofits or Isolator bypassed with a Common Remote LED	FW5000-210 - 4" FW5000-230 - 6"

Installation

These products must be installed in accordance with the applicable NFPA standards, local codes and jurisdictional authorities. Failure to follow these instructions may result in failure of the detectors to report an alarm condition. Fire Watch Detectors Limited is not responsible for detectors which are improperly installed, maintained or tested.

Before installing these products, check the continuity, polarity and insulation resistance of all wiring. Check that installation is in accordance with the re system drawings and conforms to all applicable local codes such as NFPA 72.

Use 3" octagonal box for direct connection to the base. 4" octagonal and 4" square boxes may be used with compatible UL listed mounting brackets. When mounting on a wall, install 4" to 12" from the ceiling. Secure the base to the electrical box with appropriate screws.

Do not overtighten the screws. For information on how to set the address of each device correctly refer to the section 'XPERT 8 Card Addressing'.

If you are using shielded cable, please follow these additional instructions:

Connect the shield to the Earth Ground terminal on the base

When shielded cable is used, the shield must be terminated according to the instructions provided with the Fire Watch fire alarm control panel.

Unless instructed otherwise, ensure that all segments of the shield has functional Earth continuity and ensure that it is isolated from building Earth (also known as protective Earth (PE) points such as metalwork, cable trays, and junction boxes.

Please note:

Smoke detectors are NOT to be used with detector guards unless the guard is listed for use with the detector.

Where detectors are installed for signal initiation during construction, they shall be cleaned and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final acceptance test of the system. Where detectors are installed but not operational during construction, they shall be protected from construction debris, dust, dirt, and damage in accordance with the manufacturer's recommendations and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final acceptance test of the system. Where detection is not required during construction, detectors shall not be installed until after all other construction trades have completed cleanup.

Fire Watch

Fire Watch - UL NAC Module

Product Overview

Product	NAC Module
Part No.	FW4705-706
Digital Communication	FW Protocol

Approvals

Product Information

The FW NAC Module enables notification appliances to be operated continuously or in a pulsing pattern. Appliances may be operated individually or in groups.

- Built-in isolator and visible LED
- Loop Powered
- Can be used for PA speakers
- Power supply monitoring and polarity detection
- Active short-circuit detection (panel/power supply dependent)
- Improved design for ease of wiring

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 120°F
Humidity: 10 to 93% RH, no condensation or icing
Standards/Approvals: UL and FM
Dimensions: 4.9" W x 4.9" H x 1.175" D
Housing material: UL94 V-0 polycarbonate
Wire size: 12 – 24 AWG
LED status:

      Green: Polling

      Yellow: Isolation

      Red: Alarm

Signaling Line Circuit (SLC): Supervised, Power Limited
Supply Voltage: 17 to 28 VDC
Modulation Voltage: 5 to 9 VDC, peak to peak
Supervisory Current: 500 µA
Switch-on Surge Current: 900 µA
Alarm Operated Current, LED ON: 1.6 mA per LED
Maximum Loop Current: 1A
Notification Appliance Circuit:

      Wiring Style: Class A / Class B

      Class B EOL Resistor: 47k Ω

      Maximum Output: Regulated 24 VDC @ 2 A*

      Maximum Output Speakers: 70.7 volts RMS @ 500 mA with wire supervision capability as per NFPA requirements. The speakers used must be listed for fire protection applications.

Refer to the fire alarm control panel literature for details on how to achieve audio and visual synchronization.

*A regulated, power-limited supply that is listed for fire protection applications shall be used for powering audible and visual notification appliances. The maximum number of connected devices must be within the output rating of the power supply.

Fire Watch

Fire Watch - UL Input/Output Module

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 120°F
Humidity: 10 to 93% RH, no condensation or icing
Standards/Approvals: UL and FM
Dimensions: 4.9" W x 4.9" H x 1.175" D
Housing material: UL94 V-0 polycarbonate
Wire size: 12 – 24 AWG
LED status:

   Green: Polling

   Yellow: Isolation

   Red: Alarm

Signaling Line Circuit (SLC): Supervised, Power Limited
Supply Voltage: 17 to 28 VDC
Modulation Voltage: 5 to 9 VDC, peak to peak
Supervisory Current: 500 µA
Switch-on Surge Current: 900 µA
Alarm Operated Current, LED ON: 1.6 mA per LED
Maximum Loop Current: 1A
Initiating Device Circuit (IDC):

   Wiring Style: Class A / Class B

   Class B EOL Resistor: 47k Ω

   Voltage: 3.3 VDC

   Line Impedance: 100 Ω maximum

   Output Circuit: Programmable dry contact relay, programmable. 30 VDC @ 4 amps, resistive, 240 VAC, 4 amps resistive

Product Overview

Product	Input/Output Module
Part No.	FW4705-703
Digital Communication	FW Protocol

Approvals

Product Information

The FW Input / Output Module is a loop-powered device that combines a monitored input circuit for connection to remote switches, and a 240 volt-rated dry-contact relay output.

- Built-in isolator and visible LED
- Loop Powered
- Ground Fault detection
- Improved design for ease of wiring

Fire Watch - UL Relay Output Module

Product Overview

Product	Relay Output Module
Part No.	FW4705-701
Digital Communication	FW Protocol

Approvals

Product Information

The FW Relay Output Module is a loop-powered device that incorporates a 240 VAC-rated dry contact output. The module can be used outdoors if mounted in a suitable weatherproof enclosure.

- Built-in isolator and visible LED
- Loop Powered
- Improved design for ease of wiring

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 120°F
Humidity: 10 to 93% RH, no condensation or icing
Standards/Approvals: UL and FM
Dimensions: 4.9" W x 4.9" H x 1.175" D
Housing material: UL94 V-0 polycarbonate
Wire size: 12 – 24 AWG
LED status:

      Green: Polling

      Yellow: Isolation

      Red: Alarm

Signaling Line Circuit (SLC): Supervised, Power Limited
Supply Voltage: 17 to 28 VDC
Modulation Voltage: 5 to 9 VDC, peak to peak
Supervisory Current: 500 µA
Switch-on Surge Current: 900 µA
Alarm Operated Current, LED ON: 1.6 mA per LED
Maximum Loop Current: 1A
Output Circuit:

      Programmable dry contact relay, programmable. 30 VDC @ 4 amps, resistive, 240 VAC, 4 amps resistive

Fire Watch

Fire Watch - UL Input Monitor Module

Product Overview

Product	Input Monitor Module
Part No.	FW4705-700
Digital Communication	FW Protocol

Approvals

Product Information

The Input Monitor Module is a loop-powered device that incorporates a monitored input circuit for connection to remote switches. For indoor use only.

- Built-in isolator and visible LED
- Loop Powered
- Improved design for ease of wiring
- Ground Fault Detection
- Selectable Interrupt Priority for fast response

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 120°F
Humidity: 10 to 93% RH, no condensation or icing
Standards/Approvals: UL and FM
Dimensions: 4.9" W x 4.9" H x 1.175" D
Housing material: UL94 V-0 polycarbonate
Wire size: 12 – 24 AWG
LED status:

> Green: Polling

> Yellow: Isolation

> Red: Alarm

Signaling Line Circuit (SLC): Supervised, Power Limited
Supply Voltage: 17 to 28 VDC
Modulation Voltage: 5 to 9 VDC, peak to peak
Supervisory Current: 500 µA
Switch-on Surge Current: 900 µA
Alarm Operated Current, LED ON: 1.6 mA per LED
Maximum Loop Current: 1A
Initiating Device Circuit (IDC):

> Wiring Style: Class A / Class B

> Class B EOL Resistor: 47k Ω

> Voltage: 3.3 VDC

> Line Impedance: 100 Ω maximum

Fire Watch - UL Dual Input Monitor Module

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 120°F
Humidity: 10 to 93% RH, no condensation or icing
Standards/Approvals: UL and FM
Dimensions: 4.9" W x 4.9" H x 1.175" D
Housing material: UL94 V-0 polycarbonate
Wire size: 12 – 24 AWG
LED status:

>>Green: Polling
>>Yellow: Isolation
>>Red: Alarm

Signaling Line Circuit (SLC): Supervised, Power Limited
Supply Voltage: 17 to 28 VDC
Modulation Voltage: 5 to 9 VDC, peak to peak
Supervisory Current: 500 µA
Switch-on Surge Current: 900 µA
Alarm Operated Current, LED ON: 1.6 mA per LED
Maximum Loop Current: 1A
Initiating Device Circuit (IDC):

>>Wiring Style: Class A / Class B
>>Class B EOL Resistor: 47k Ω
>>Voltage: 3.3 VDC
>>Line Impedance: 100 Ω maximum

Product Overview

Product	Dual Input Module
Part No.	FW4705-720
Digital Communication	FW Protocol

Approvals

Product Information

The Dual Input Monitor Module is a loop-powered device that incorporates dual monitored input circuits for connection to remote switches. For indoor use only.

- Built-in isolator and visible LED
- Loop Powered
- Improved design for ease of wiring
- Ground Fault Detection
- Selectable Interrupt Priority for fast response

Fire Watch

Fire Watch - UL Mini Monitor Module

Product Overview

Product	Mini Input Monitor Module
Part No.	FW705-600
Digital Communication	FW Protocol

Approvals

Product Information

The Mini Input Monitor Module is a loop-powered device that incorporates a monitored input circuit for connection to remote switches. For indoor use only.

- Built-in isolator and visible LED
- Loop Powered
- Fits into equipment that has limited space
- Ground Fault Detection
- Selectable Interrupt Priority for fast response
- Improved design for ease of mounting

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 120°F

Humidity: 10 to 93% RH, no condensation or icing

Standards/Approvals: UL and FM

Dimensions: 1.9" W x 3.0" H x 0.6" D

Housing material: UL94 V-0 polycarbonate

Wire size: 18 AWG

LED status:

     Green: Polling

     Yellow: Isolation

     Red: Alarm

Signaling Line Circuit (SLC): Supervised, Power Limited

Supply Voltage: 17 to 28 VDC

Modulation Voltage: 5 to 9 VDC, peak to peak

Supervisory Current: 500 µA

Switch-on Surge Current: 900 µA

Alarm Operated Current, LED ON: 1.6 mA per LED

Maximum Loop Current: 1A

Initiating Device Circuit (IDC):

     Wiring Style: Class A / Class B

     Class B EOL Resistor: 47k Ω

     Voltage: 3.3 VDC

     Line Impedance: 100 Ω maximum

Fire Watch - Soteria UL Dual Input Module

Product Overview

Product	Dual Input Monitor Module
Part No.	FW4705-720
Digital Communication	FW Protocol

Approvals

Product Information

The Dual-Input Monitor Module is a loop-powered device incorporating two monitored input circuits for connection to remote switches. For indoor use only.

- Built-in isolator and visible LED
- Loop Powered
- Ground Fault Detection
- Selectable Interrupt Priority for fast response
- Improved design for ease of mounting

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 120°F
Humidity: 10 to 93% RH, no condensation or icing
Standards/Approvals: UL and FM
Dimensions: 4.9" W x 4.9" H x 1.175" D
Housing material: UL94 V-0 polycarbonate
Wire size: 12 - 24 AWG
LED status:
      Green: Polling
      Yellow: Isolation
      Red: Alarm
Signaling Line Circuit (SLC): Supervised, Power Limited
Supply Voltage: 17 to 28 VDC
Modulation Voltage: 5 to 9 VDC, peak to peak
Supervisory Current: 500 µA
Switch-on Surge Current: 900 µA
Alarm Operated Current, LED ON: 1.6 mA per LED
Maximum Loop Current: 1A
Initiating Device Circuit (IDC):
      Wiring Style: Class A / Class B
      Class B EOL Resistor: 47k Ω
      Voltage: 3.3 VDC
      Line Impedance: 100 Ω maximum

Fire Watch - Mini Monitor Module

Product Overview

Product	Mini Monitor Module
Part No.	FW55000-765
Digital Communication	FW Protocol

Approvals

UL   FM

Product Information

The FW Mini Monitor Module is a loop-powered device that provides a monitored input circuit for connection to switches. The module is supplied in a small housing designed to fit into an electrical box or to be DIN-rail mounted.

The Mini Monitor Module has an optional priority interrupt function providing a faster response to input activations.

- Three color LEDs
- Selectable Interrupt / Non-Interrupt status

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 100°F
Humidity: 10 to 95% RH, no condensation or icing
Standards/Approvals: UL and FM
Dimensions: 1.53" W x 1.53" H x 0.7" D
Weight: 1.05 oz. (30 g)
Housing material: White flame-resistant polycarbonate / terminals nickel-plated stainless steel
Signaling Line Circuit (SLC): Supervised, Power Limited
Supply Voltage: 17 to 28 VDC
Current Consumption @ 24 VDC:
  Supervisory Current: 200 µA
 Alarm Operated Current, LED ON: 3.4 mA + standby
  Maximum Alarm Current with Remote LED: 6.2 mA + standby

Operation

The mini-module uses FW protocol and provides 'normal', 'pre-alarm', and 'alarm' status to the fire alarm control panel. These states are derived from switched resistive values. The maximum line resistance is 50Ω and it requires a 20 KΩ end of line resistor.

The modules has three status LEDs; green indicates normal polling, yellow indicates a fault condition, and red indicates an alarm and is controlled by the fire alarm panel. The module can operate a remote LED located no more than 15 feet from the module.

Mini Monitor Module - wiring diagram
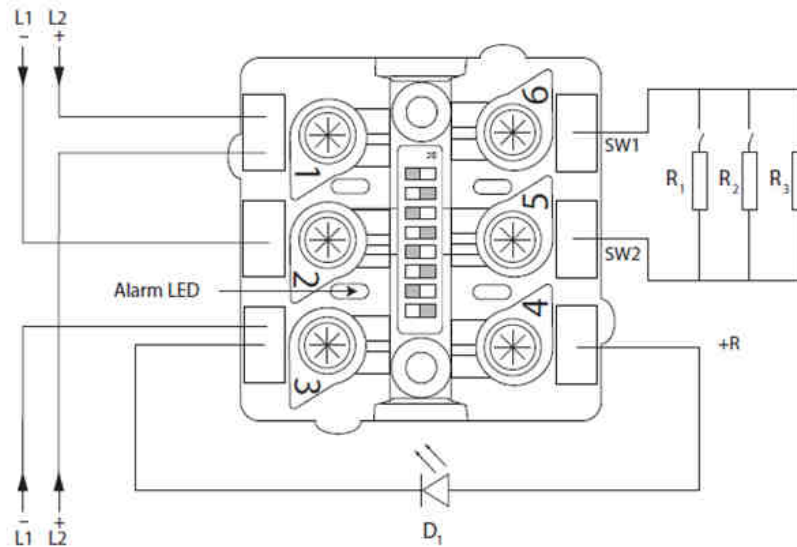
Key to resistors

R1 - Alarm	1 kΩ
R2 - Pre-alarm	10 kΩ
R3 - End-of-Line	20 kΩ
D1 - Optional remote LED	Max 3 m cable length

Analog values related to circuit status and zone load

Status	Analogue value	Mini Monitor Module
Short-circuit fault	4	<0.1 kΩ
Indeterminate	4 or 64	0.1 kΩ to 0.2 kΩ
Alarm	64	0.2 kΩ to 2 kΩ (1 kΩ)*
Indeterminate	45 -51 or 64	2 kΩ - 3 kΩ
Pre-alarm	45 - 51	3 kΩ - 11 kΩ (10 kΩ)
Indeterminate	16 or 45 - 51	11 kΩ - 15 kΩ
Normal	16	15 kΩ - 25 kΩ (20 kΩ)*
Indeterminate	4 or 16	25 kΩ - 30 kΩ
Open circuit fault	4	>30 KΩ

*Note: * The values shown in brackets are recommended values, recommended value resistors supplied with the unit.*

Fire Watch - Dual Action Addressable Manual Pull Station

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 100°F
Humidity: 10 to 95% RH, no condensation or icing
Standards/Approvals: UL38
Dimensions: 4.13" W x 5.5" H x 1.14" D
Weight: 7 oz. (199 g)
Housing material: Red polycarbonate / ABS
Signaling Line Circuit (SLC): Supervised, Power Limited
Supply Voltage: 17 to 28 VDC
Supervisory Current: 500 µA
Alarm Operated Current, LED ON: 1.6 mA per LED
Maximum Loop Current: 1A

Product Overview

Product	Addressable Pull Station
Part No.	56000-005
Digital Communication	FW Protocol

Approvals

Product Information

The FW Dual-Action Addressable Manual Pull Station features a translucent plastic panel at the center enabling visibility of an internal LED that indicates polling and alarm status. For indoor use only.

The pull station may be flush mounted on a single-gang backbox of by using the optional backbox.

- Visible LED indicates polling and alarm status
- Key lock, easily reset
- Lightweight polycarbonate housing
- Optional backbox part # - 56000-006

Operation

The address of each pull station is set at the commissioning stage by means of a seven-segment DIP-switch.

Pushing in and then pulling down on the handle causes it to latch in the down/activated position.

Once activated the yellow activated flag appears at the bottom of the panel station face. The pull station is reset by inserting and turning the reset key into the top of the unit. This opens the door of the pull station allowing the handle to return to the normal position. Closing the door automatically resets the switch.

Fire Watch

Fire Watch - UL Manual Pull Station Backbox

Technical Data

All specifications are subject to change without notice.

Color: Red
Weight: 88 g
Length: 5.51" (140 mm)
Width: 4.25" (108 mm)
Depth: 1.77" (45 mm)
Warranty: 10 years

Product Overview

Product	Pulll Station Backbox
Part No.	56000-006USA

Approvals

Product Information

The FW Manual Pull Station Backbox is used to allow surface mounting of the FW UL Manual Pull Station.

FW-NeT-PluS Network Module

The Fire Watch FW-NC-4 and FW-NC-7 network modules provide superior flexibility and customization to your system, providing the benefits of distributed intelligence and reduced installation costs – all while meeting the smallest to largest network demands.

The network can be fully fault-tolerant by using the FW-NC-7 module. Ground fault monitoring is standard with both network types.

The Fire Watch network, FW-NeT-PluS, operates as a true peer-to-peer network with full cross-node reporting. The network allows information from any input or output device to be passed over the network and be displayed on any Fire Watch FW-Series Intelligent Fire Alarm Control Panel or remote Graphical LCD Annunciator. Details include Fire Alarm, Mass Notification, Supervisory, Warning, Trouble, Control Events and Disabled zone/points as well as analog values, test instructions and status information.

For more complex networked systems, the Windows-based PC-NeT configuration software allows sector based programming for such functions as Drill, Acknowledge, Silence, Resound and Reset control keys. All panels within the same sector can share common controls and each fire alarm panel or remote annunciator can also be programmed to show specific network information on a zone/point basis.

The level of information displayed and the control capabilities of each network node is fully field programmable. Individual nodes can be configured to vector information and control, allowing specific nodes to be dedicated to alarms, mass notification, troubles, supervisory or other status events.
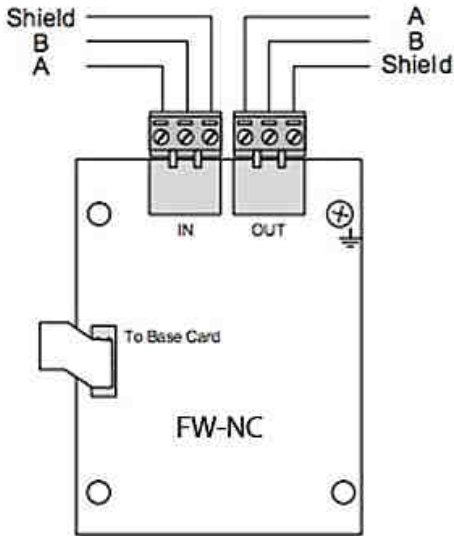
Features

- Style 4 or 7 Network Communications
- FW-NeT-PluS Peer-to-Peer Network
- Fully Fault-Tolerant Network
- Up to 5,000 Feet Between Nodes
- Full Network Analysis From Any Node
- 200 Nodes Per Network
- Up To 1,000 Shared Network Zones
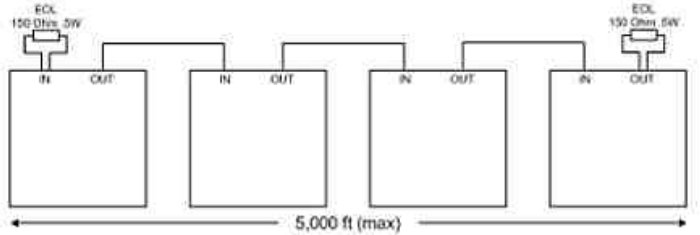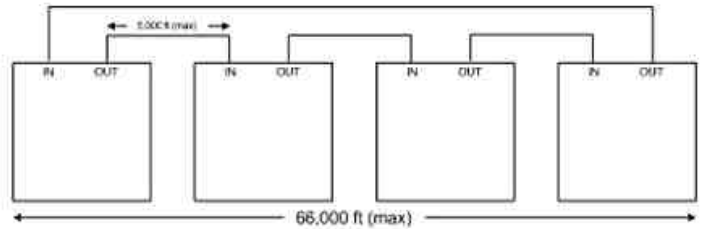- Uncomplicated, Simple Installation

Approvals

Wiring Diagram

FW-NC-4 & FW-NC-7 Wiring Diagram

FW-NC-4 Network Wiring Diagram

FW-NC-7 Network Wiring Diagram

Specifications

Operating Current (FW-NC-4 and FW-NC-7)	62 mA (quiescent and alarm)
Environment	Indoor, Dry
Operating Temperature	32 - 120° (0 - 48°C)F
Humidity	10 – 95%, Non-Condensing
Dimensions	3.5" H x 2.5" W x 0.5" D
Weight	1.7 oz.
Nodes / Distances FW-NC-4 FW-NC-7	32 Nodes, 5,000 Feet Maximum (EOL 150 ohm, 0.5 Watt [both ends]) 200 Nodes, 5,000 Feet Between Nodes, 66,000 Feet Maximum
Wiring	Twisted Pair 18 – 20 AWG Minimum, Recommended Twisted Shielded (Belden 8760, 8762)

Ordering Codes and Options

FW-NC-4	Style 4 Network Module
FW-NC-7	Style 7 Network Module
712-1049	Remote Annunciator Style 7 Module Replacement

Fire Watch - Conventional Open Area Sounder VAD

Technical Data

All specifications are subject to change without notice.

Color: Red
Weight: 240 g
Housing Material: Polycarbonate
Diameter: 3.94" (100 mm)
Depth: 3.39" (86 mm)
Conforms to EN 54-23
Warranty: 10 years
Supply Voltage: 17 - 60 volts (Vmin – Vmax)
Maximum Operating Temperature: 131°F (55°C)
Minimum Operating Temperature: 14°F (-10°C)

Product Overview

Product	Conventional Open Area VAD
Part No.	FWC 29600-807

Product Information

The conventional wall-mounted sounder visual alarm device (VAD) is available with a white or red beacon. The white flash variant is EN-54-23 approved for a coverage pattern of W-3.1-11.3. The red flash variant has a coverage pattern of W-2.4-7.5. The sounder has a SPL up to 97dB.

- Red or Clear Lens

- Synchronized Flash

- IP21 (shallow base) or IP65 (deep base)

Fire Watch - Conventional Fire Bell, 6"

Product Overview	
Product	Conventional 6" Fire Bell
Part No.	FWC 29600-400

Product Information

The conventional 6" Fire Bell a motorized bell for fire alarm applications. Its low current consumption and universally-recognized alarm sound make it an ideal choice for many fire alarm systems. Designed for ease of installation, it features a robust steel gong.

Fire Watch - Open Area Sounder / Visual Indicator

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 32 to 100°F
Humidity: 10 to 93% RH, no condensation or icing
Standards/Approvals: UL
Dimensions: 3.85" (98 mm) Diameter x 4.09" (104 mm) High
Weight: 3.7 oz. (105 g)
Housing material: Red Flame-Retardant Polycarbonate
Signaling Line Circuit (SLC): Supervised, Power Limited
Operating Voltage: 17 to 28 VDC
Supervisory Current: < 750 µA
Switch-On Current: < 2.6 mA for 1 second

Product Overview

Product	Open Area VAD
Part No.	FW 58000-011
Digital Communication	FW Protocol Compatible

Approvals

Product Information

The Fire Watch UL Open-Area Sounder / Visual Indicator (VAD) is an alarm devices made up of a sounder, visual indicator, and short-circuit isolator. It is used to provide audible and visual indication of a fire emergency, and is controlled by the fire alarm panel.

- 15 Evacuation Tones + 15 Secondary or Alert Tones
- Seven Volume Levels
- Independent Control of Sounder and Light
- Indication of Isolator Status

The Right Tone for your Installation

The FW Open-Area VAD offers a choice of 15 evacuation tones. Seven volume levels are available and is set during commissioning of the fire alarm system. Sounder and Visual can be independently controlled as required, and a secondary tone may be configured for alerting or warning of a possible evacuation.

Fire Watch - Open Area Sounder

Technical Data

All specifications are subject to change without notice. Specifications are typical at 24 VDC, 73°F, and 50% RH unless otherwise stated.

Product Operating Temperature: 14 to 131°F
Humidity: 10 to 95% RH, no condensation or icing
Standards/Approvals: UL
Dimensions: 4.09" (104 mm) Diameter x 3.84" (97.5 mm) High
Weight: 3.7 oz. (105 g)
Housing material: Red Flame-Retardant Polycarbonate
Signaling Line Circuit (SLC): Supervised, Power Limited
Operating Voltage: 17 to 28 VDC
Max Alarm Current: 8.2 mA @ 28 V (highest audibility)
Modulation Voltage: 5 – 9 V, peak-to-peak
Supervisory Current: < 310 µA
Switch-On Current: < 6 mA for 1 second

Product Overview

Product	Open Area Sounder
Part No.	FW 55000-041 (Red)
Digital Communication	FW Protocol Compatible

Approvals

Product Information

The Fire Watch UL Open-Area Sounder is loop-powered and used to provide audible warning of fire. It is suitable for indoor and outdoor use.

- Two Volume Levels
- Synchronization of Tones
- Built-In Isolator
- SLC Loop-Powered

Features

The FW loop-powered Open-Area Sounder requires a nominal current of 8.2 mA per device. The maximum number of loop-powered sounders per SLC will depend on the total SLC loop load. A loop-loading calculator is available from Fire Watch. The SLC loop connections are polarity-sensitive.

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Tone Frequency and Volume Control

The tone and volume can be adjusted as per the tables shown below.

Synchronization

The sounder allows for synchronization of the pulsed tones. This ensures that the integrity of the audible signal is maintained during alarm and clearly recognizable.

Addressing

The sounder respond to their own individual addresses as set using the DIP switch.

They can also respond to a "group" address which enables multiple sounders to be controlled simultaneously. A group address may be any spare address between 112 and 126 and is selected by means of a four-segment DIP switch. A device under group address control must have an individual address between 1 and 111, otherwise a fault value of 4 is transmitted. Devices not using group addressing may be set to any address (1 to 126).

Protocol Compatibility

The Open Area Sounder is compatible with Fire Watch SLC Protocol.

Tone Settings

Low Volume (DIP 8 = ON)							
Output Bit 1	Output Bit 2	DIP 5	DIP 6	Tone Description	Tone	Tone Type	Output dBA @ 10 feet
0	1	0	0	UL	Continuous 2900 Hz	Alert	70.6
1	0	0	0	UL	ANSI 2900 Hz	Evacuate	67.8
0	1	0	1	New Zealand	Pulsed 420 Hz	Alert	71.8
1	0	0	1	New Zealand	500-1200 Hz Slow Whoop	Evacuate	70.0
0	1	1	0	Australian	Pulsed 420 Hz	Alert	71.6
1	0	1	0	Australian	500-1200 Hz Slow Whoop	Evacuate	67.3
0	1	1	1	Standard	Pulsed	Alert	72.9
1	0	1	1	Standard	Continuous Alternating	Evacuate	75.0

High Volume (DIP 8 = OFF)							
Output Bit 1	Output Bit 2	DIP 5	DIP 6	Tone Description	Tone	Tone Type	Output dBA @ 10 feet
0	1	0	0	UL	Continuous 2900 Hz	Alert	79.1
1	0	0	0	UL	ANSI 2900 Hz	Evacuate	75.3
0	1	0	1	New Zealand	Pulsed 420 Hz	Alert	75.9
1	0	0	1	New Zealand	500-1200 Hz Slow Whoop	Evacuate	75.5
0	1	1	0	Australian	Pulsed 420 Hz	Alert	75.2
1	0	1	0	Australian	500-1200 Hz Slow Whoop	Evacuate	71.7
0	1	1	1	Standard	Pulsed	Alert	78.3
1	0	1	1	Standard	Continuous Alternating	Evacuate	80.0

Technical Data—Fire Watch Detectors

Detector Model Number	FW5050-250	FW5050-350	FW5050-450
Detector Type	Smoke Detector	Multi-Criteria Detector (Smoke + Heat)	Heat Detector
UL Listed Voltage	17—28 VDC	17—28 VDC	17—28 VDC
Modulation Voltage (V Peak to Peak)	5—9 Volts	5—9 Volts	5—9 Volts
Maximum Alarm Current LED On	4 mA	4 mA	2.5 mA
Surge Current	1 mA	1mA	1mA
Supervisory Current	340 µA	500 µA	250 µA
Additional Remote LED Current	5 mA	5 mA	5 mA
Heat Sensitivity Rating	n/a	Rate of Rise (RoR) 20°F/min (11°C/min)	n/a
Sensitivity	UL 1.23 - 2.09 %/ft ULC 1.44 - 2.3 %/ft	UL 1.23 - 2.09 %/ft ULC 1.44 - 2.3 %/ft	n/a
UL Instruction	Smoke Automatic Fire Detector for use with a S5022 UL listed Base	Smoke Automatic Fire Detector with integral Heat Detector for use with a S5022 UL listed Base	Heat Automatic Fire Detector for use with a S5022 UL listed Base
Test Method	Please refer to the detector instructions. Spray with any of the following smoke products: - Solo Detector Tester Solo A10 - Smoke Sabre Smoke Detector Tester - Solo Detector Tester Solo 365 - Solo Detector Testifire		Hair Dryer

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Notes:

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