

FireShield Plus

Conventional Fire Alarm Control Panels



Overview

The FireShield Plus fire alarm family consists of 3, 5 and 10 zone conventional fire alarm control panels, an integrated DACT/Dialer, serial annunciator modules, and serial remote relay modules. All of these components are microprocessor-controlled. The FireShield Plus family is ideal for both new and retrofit installations alike.

FireShield Plus incorporates features designed to simplify installation, operation and maintenance. These include front panel programming, one person walk testing, and selectable IDC and NAC types. In addition, when used with Edwards *CleanMe*®-compatible smoke detectors, FireShield Plus provides analog type features such as remote maintenance alert and automatic drift compensation that reduces false alarms and simplifies maintenance calls.

FSP502 and FSP1004 panels support Class A operation by combining pairs of on-board initiating circuits (IDCs) or notification circuits (NACs) to provide the necessary Class A circuits. For example, the FSP1004 comes factory set to support 10 Class B IDCs and four NACs. But it can be field-configured to provide five Class A IDCs, no Class B IDCs, and two Class A NACs – or any other combination of circuits that fall within the circuit-pairing parameters.

	FSP1004	FSP502	FSP302
Class B IDCs	Up to 10	Up to 5	3
Class A IDCs	Up to 5	Up to 2	Not supported
Class B NACs	Up to 4	Up to 2	2
Class A NACs	Up to 2	1	Not supported
NAC Power	3.5 amps*	3.5 amps	3.5 amps
Auxiliary power	0.5 amps	0.5 amps	0.5amps

Note: Class A operation will reduce the number of available Class B IDCs and/or NACs, depending on the panel configuration. See Specifications on page 5 for details.

*Expandable to 7.0 amps

Standard Features

- Available in 3, 5, and 10 IDC models
- IDC or NAC pairs convertible to single Class A circuits (10 and 5 IDC panels only)
- *CleanMe*® provides remote annunciation if a detector drifts out of UL/ULC limits reducing the chance of a false alarm
- Combination Waterflow and Supervisory IDCs reduces wire and zone counts
- NACs programmable by zone and individually selectable for Genesis, continuous, temporal outputs, or coded
- Front panel programmable simplifies installation and servicing
- Optional fully integrated DACT/Dialer for PC programming
- Genesis option allows precision synchronization and audible silence over two wires without additional modules
- On-board relays for Alarm, Supervisory and Trouble
- Optional serial bus relay modules are programmable for common or zone activation
- Optional serial bus remote annunciator family
- One person walk-test (audible or silent)
- Expandable power supply on 10 IDC panel reduces booster power costs
- Trim ring available for semi-flush mounting
- Supports "MC", 7349, 400, 500 and 700 series detectors

Application

FireShield Plus provides smoke and fire detection, occupant notification and off-premises signaling for small- to medium-sized buildings.

Each IDC can be configured for either Class B or Class A operation and one of eight operating modes:

- Alarm –with or without smoke detector verification including discrimination of contact devices
- Waterflow Alarm;
- Waterflow Alarm/Supervisory (Combination IDC);
- Supervisory (Latching/non-latching);
- Monitor (non alarm or supervisory)
- Signal Silence
- Drill
- Cross zoning

NACs may also be configured for either Class B or Class A operation. Additionally, NACs can be individually configured for one of six outputs. These are Genesis, Genesis (A/V silenceable), Continuous, Temporal, Coded, and City Tie. The Genesis selection allows independent horn control over two wires and provides precision synchronization for Genesis devices, all without the need for a Genesis Signal Master accessory.

When configured for Genesis notification appliances, FireShield Plus's Alarm Silence function will silence connected Genesis audible appliances but Genesis strobes will remain active until the panel is reset. When Genesis Mode is selected, both the horns and strobes on Genesis and Enhanced Integrity notification appliances will be synchronized across all NACs.

Note: zones may be selected for either latching or non-latching operation.

Detectors with intelligent features at a conventional price

When combined with Edwards *CleanMe*®-compatible smoke detectors, FireShield Plus provides intelligent features at a conventional price. If a *CleanMe*® detector drifts out of the UL/ULC sensitivity range, Vigilant's patented remote maintenance reporting sends an alert to the FireShield Plus control panel. This feature reduces the chance of a false alarm and simplifies service calls. In addition, *CleanMe*®-compatible smoke detectors have built-in drift compensation that extends the time between cleanings. If cleaning is ever necessary, it is literally a snap with Vigilant's exclusive replaceable optical chamber.



Panel LED Display

The following system LEDs display the panel's status:

- *Alarm* – panel is in the alarm state;
- *Trouble* – panel is in the trouble state;
- *Supervisory* – panel is in the supervisory state;
- *Power* – indicates the status of the AC power source;
- *Disable* – indicates when any IDC, NAC, relay or the DACT is disabled;
- *Annunciator Trouble* – indicates trouble on the remote annunciator bus;
- *Battery Trouble* – indicates battery or charging problems;
- *Ground Fault* – indicates a short between any panel circuit and ground;
- *Walk Test* – indicates that one or more IDCs are in the walk test mode;
- *Alarms Silenced* – indicates that the panel is in the alarm state with one or more NACs silenced.
- *Waterflow* – indicates that one or more circuits have detected an active waterflow switch.
- *Service Detector* – indicates the presence of a dirty detector.
- *Remote Disconnect* – indicates off site communication has been disabled.

Each IDC has a disable switch and three LEDs:

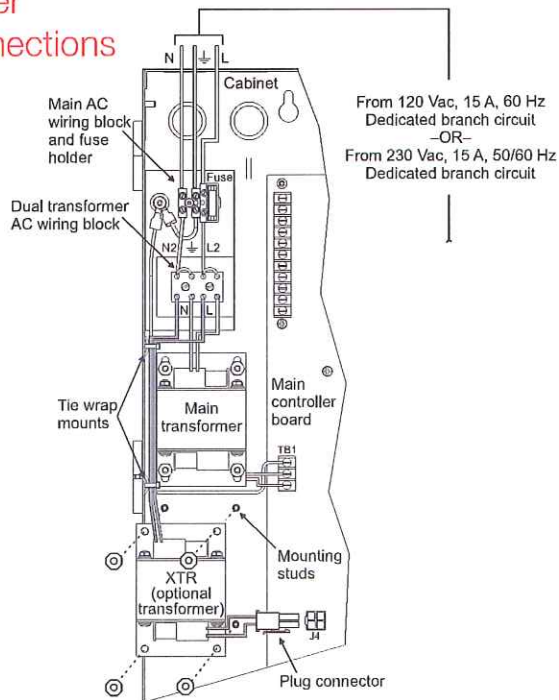
- *Alarm – red* – indicates that the IDC is in the alarm state;
- *Trouble – yellow* – indicates that the IDC is in the trouble state or is disabled (when flashing);
- *Supervisory/Monitor – yellow* – indicates that the IDC is in the supervisory state or the monitor state (when flashing).

Each NAC also has a disable switch and a trouble/disable LED.

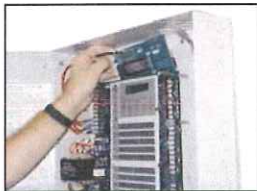
Status indication with the DACT/Dialer installed

The dialer's LCD display provides two lines x 16 characters of text. For programming, the top line displays the programming step and the lower line displays the selected option. All system events are displayed on the LCD with custom zone messages. During normal operation, the LCD will display any off-normal condition present in the panel.

Power Connections



DACT/Dialer



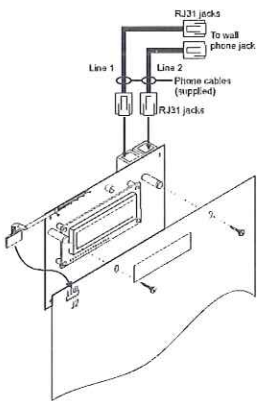
The DACT/Dialer installs behind the front panel display.

The optional DACT/Dialer is a multi-function module that provides communications, modem capability, and LCD display functions. Its primary function is as a Digital Alarm Communicator Transmitter (DACT). As a DACT, it transmits event messages to a Digital Alarm Communicator Receiver (DACR) at a monitoring facility. The monitoring facility then notifies the fire department and other responsible parties of the event. Programmable options include single or dual line operation, and split or dual reporting to two DACRs.

The DACT module can also be used as a modem to connect the panel to both local and remote computers for uploading and downloading of configuration data (programming), panel status and event history. For security, the modem can be configured to accept programming on incoming calls or it can be required to call a preprogrammed number before accepting downloads and sending uploads.

The DACT module can be configured to work as all of the above, or as only an LCD display or LCD display and modem.

Note: All panel versions are available with factory installed DACT. See order table for ordering information.



Options

Off-premise communication

A fully integrated FireShield Plus DACT/dialer is available for reporting events to a monitoring facility. The DACT also supports uploading or downloading of system configuration, status and event history. The DACT is programmable for either single or dual line operation. It also supports split and dual reporting for two digital alarm receivers.

The DACT brings additional features to the panel including a 32-character alphanumeric LCD display, local or remote PC programming and an event history log.

Remote Annunciators and Relays

The serial bus standard on all FireShield Plus models is another installation time-saver. This circuit allows the connection of Remote System Indicators (FSRSI), Remote Zone Indicators (FSRZI-A, FSRZI-SA) and Remote Relay Modules (FSRRM24) over a four-wire (data and power) circuit. Annunciator and relay modules can be installed up to 1,000 feet from the panel on 18-gauge wire.

Modules are also available for City Tie (CTM) and Reverse Polarity (RPM) connections.

Remote Relay Module



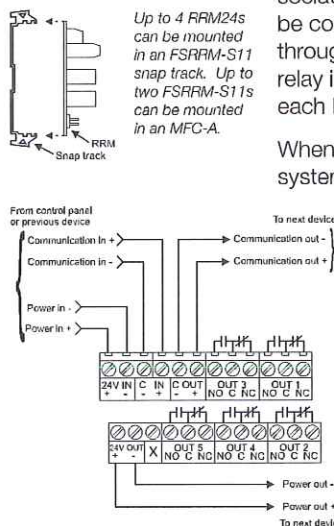
The Remote Relay Module mounts on a plastic track inside an MFC-A cabinet.

The Remote Relay Module (FSRRM24) is one component of the system that sets FireShield Plus apart from other panels in its class. This module has five Form C relays rated at 1 amp each. It can be configured to function in either a zone relay mode or a common system mode.

When configured in the zone relay mode, relays energize when the associated IDC is active. The module can be configured for activation by IDCs 1 through 5 or IDCs 6 through 10. One relay is automatically associated with each IDC.

When configured in the common system mode, relays energize or de-energize when the panel changes state. One relay is available for each of the following functions: Alarm, Supervisory, Trouble, Power Loss, Monitor.

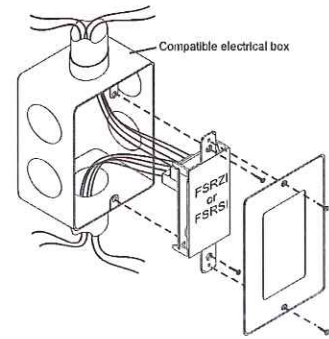
The FSRRM24 mounts on a plastic snap track and can be installed in an MFC-A or other listed fire alarm enclosure. The panel will support two RRM's of each configuration for a total of six on the 10-zone panel.



Remote Annunciators

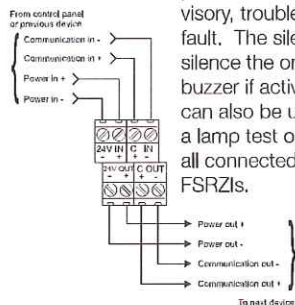


The FSRSI can be installed alone or with one or more FSRZIs. The FSRSI and FSRZI-A require trim plates (ordered separately). These are available in one, two or three gang models. Each panel will support two FSRSIs.



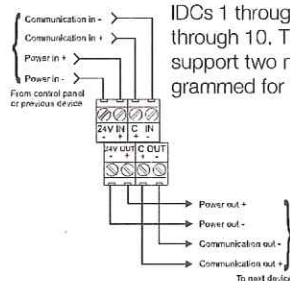
Remote System Indicator (FSRSI)

The FSRSI is ideal for common system annunciation. It includes five LEDs and a local silence/lamp test switch. The LEDs indicate power status, alarm, supervisory, trouble and ground fault. The silence switch will silence the onboard trouble buzzer if active. The switch can also be used to initiate a lamp test of the LEDs on all connected FSRSIs and FSRZIs.



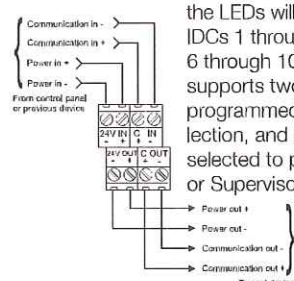
Remote Zone Indicator (FSRZI-A)

The FSRZI-A is used to indicate zones in the alarm state. It contains five red LEDs. Depending on the jumper setting selected, the LEDs will indicate either IDCs 1 through 5 or IDCs 6 through 10. The panel can support two modules programmed for each selection.



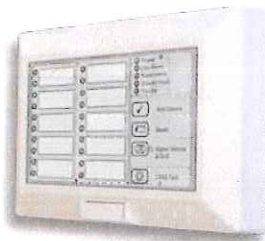
Remote Zone Indicator (FSRZI-SA)

The FSRZI-SA is used to indicate zones in the alarm or supervisory state. It contains five bi-color LEDs. Depending on the jumper setting selected, the LEDs will indicate either IDCs 1 through 5 or IDCs 6 through 10. The panel supports two modules programmed for each selection, and can be jumper selected to provide Alarm or Supervisory indications

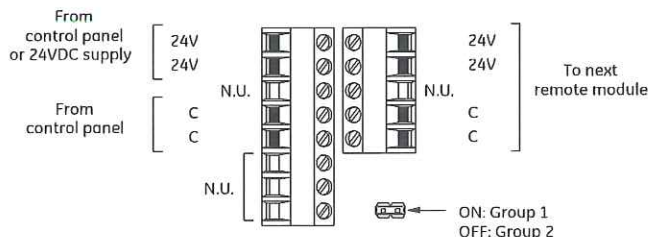


FSRA10, FSRA10C Remote LED annunciators

The FSRA10 is a remote annunciator with capacity for up to ten zones. It includes ten bi-color LEDs (red/yellow) for indicating active zones, and ten yellow LEDs for indicating zone troubles. The (C) option adds common control switches. Both versions mount to standard North American 4-inch square electrical boxes. A surface box is also available.

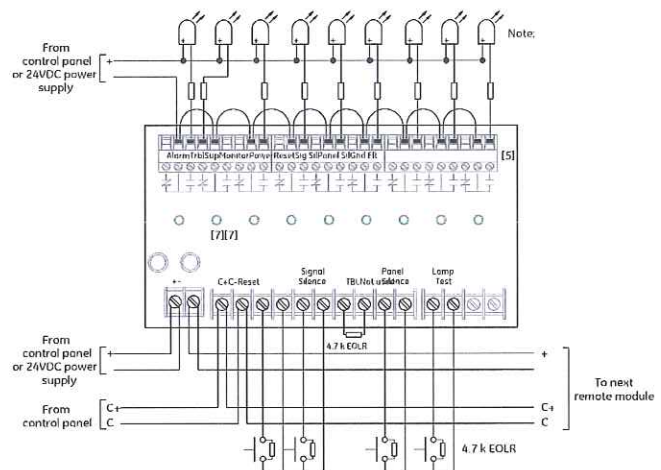


FSRA10, FSRA10C Wiring



FSUIM Graphic Driver/Interface

The FSUIM is a universal interface module that can be used by FireShield to drive graphic annunciators. It also allows FireShield control panels to control, or be controlled by, other control panels. The FSUIM provides five supervised switch inputs and nine dry contact relay outputs. Nine LEDs provide visual confirmation when each relay is energized. The FSUIM is shipped with a plastic snap track for mounting in an MFC-A cabinet or other listed fire alarm enclosure.



Remote Annunciator Specifications

General

Agency Listings	UL864 (53000), ULC-S527, CSFM
-----------------	-------------------------------

Remote Annunciators	FSRSI Remote System Indicator	FSRZI-A/FSRZI-SA Remote Zone Indicator
Maximum per System	All panels: 2	10 zone panel: 4 3 or 5 zone panel: 2
Current Requirements	Standby: 17 mA Alarm: 56 mA	Standby: 8 mA Alarm: 76 mA
Voltage Range	Minimum: 18.8 Vdc; Maximum: 27.3 Vdc	
Maximum Circuit Capacitance	0.03 μ F	
Maximum Circuit Resistance	13 Ohms	
Wire Size	18 - 12 AWG (0.75 mm ² - 2.5 mm ²)	
Mounting	ANSI/NEMA OS1-1996 1-3 gang electrical box	
Operating Environment	Temperature: 32 - 120° F (0 - 49° C); Humidity: 93% RH, non-condensing	

Remote Relay Module – FSRRM24	Configured for Zone Mode	Configured for Common Mode
Maximum per system	10 zone panel: 4; 3 or 5 zone panel: 2	All panels: 2
Current Requirements	Standby: 10 mA; Alarm: 70 mA	Standby: 26 mA; Alarm: 70 mA
Voltage Range	Minimum: 18.8 Vdc; Maximum: 27.3 Vdc	
Contact Rating	1 A @ 30 Vdc	
Maximum Circuit Capacitance	0.03 μ F	
Maximum Circuit Resistance	13 Ohms	
Wire Size	18 - 12 AWG (0.75 mm ² - 2.5 mm ²)	
Mounting	Single FSRRM24 mounts in plastic track (included) or up to four FSRRM24s in an FSRRM-S11 11" track ordered separately. FSRRM24s should be installed in an MFC-A or other listed fire alarm enclosure.	
Operating Environment	Temperature: 32 - 120° F (0 - 49° C); Humidity: 93% RH, non-condensing	
Dimensions	2-3/4" W x 3-3/8" H x 1-1/2" D (65.9 mm W x 85.7 mm H x 38.1 mm D)	

F-Series Remote Annunciators	FSRA10	FSRA10C
Common Controls	No	Yes
Dimensions	5-5/8" x 8½" x 1 ½" in (14.3 cm x 21.4 cm x 3.8 cm)	
Mounting	North American 4-inch square electrical box or listed enclosure	
Power Wiring	18 to 12 AWG (0.75 to 2.50 sq mm)	
Data Wiring	18 to 12 AWG (0.75 to 2.50 sq mm) twisted pair (6 twists per foot minimum)	
Operating voltage	18.8 to 27.3 Vdc Supply must be UL/ULC listed for fire protective signaling systems. Do not use FACP accessory power outputs that are interrupted when the panel is reset.	
Standby current	17 mA	
Alarm current	98 mA	
Operating environment	Temperature: 32 to 120 °F (0 to 49 °C); Humidity: 0 to 93% RH, noncondensing at 90 °F (32 °C)	

FSUIM Universal Input Module	
Mounting	MFC-A cabinet or listed fire alarm enclosure
Wire size	12 to 18 AWG (0.75 to 2.5 sq mm)
Operating voltage	21.2 to 27.3 Vdc
Circuit capacitance	0.03 μ F, max.
Circuit resistance	13 ohms, max.
Switch inputs	Quantity: 5 End-of-line resistor: 4.7 k ohms ½ W
Relay outputs	Quantity: 9 Type: Common Style: Form C
Contact rating	30 Vdc at 1 A (resistive load)
Standby Current	53 mA
Alarm Current	114 mA
Operating environment	Temperature: 0 to 49 °C (32 to 120 °F); Humidity: 0 to 93% RH, noncondensing at 32 °C (90 °F)

Control Panel Specifications

Control Panels		FSP1004						FSP502			FSP302	
Initiating Device Circuits – IDCs (Available combinations shown at right)	Class B	10	8	6	4	2	0	5	3	1	Three Class B IDCs	
	Class A	0	1	2	3	4	5	0	1	2		
Notification Appliance Circuits – NACs (Available combinations shown at right)	Class B	4	2	2		0		2	0		Two Class B NACs	
	Class A	0	1	1		2		0	1			
Power Supply		4.25 amps expandable to 7.5 amps						4.25 amps total			4.25 amps total	
NAC Voltage Rating								24 V _{fwr}				
Maximum NAC current		2.0 amps each, 3.5 amps total 7.0 amps w/ optional transformer						2.0 amps each 3.5 amps total			2.0 amps each 3.5 amps total	
AC Input	120 Vac 60 Hz...	2.2 amps w/ optional transformer						1.25 amps			1.2 amps	
	230 Vac 50/60Hz...	1.1 amps w/ optional transformer						0.6 amps			0.6 amps	
Base Panel Current Draw	Standby...	128 mA 242 mA						104 mA 224 mA			96 mA 180 mA	
Alarm...												
Panel Battery Charge Capacity (sealed lead acid only)		Up to two 24 Ah batteries, 18 Ah in cabinet						Up to 24 Ah, 10 Ah max in cabinet *				
Auxiliary Current		0.5 amps max. May be programmed as resettable.										
Auxiliary Output		24 Vdc regulated										
IDC Alarm Current		3.0 mA (Consult detector compatibility list p/n 3100468 for maximum detectors per circuit)										
IDC Circuit		Maximum loop resistance: 13 Ohms; Maximum loop capacitance: 0.03 µF										
IDC Operating Voltage		16.9 to 29 Vdc										
UL Detector ID		100										
Alarm Contact (normally open Form C)		30 Vdc @ 1 A (resistive load)										
Trouble Contact (Form C)		30 Vdc @ 1 A (resistive load)										
Supervisory Contact (normally open Form C)		30 Vdc @ 1 A (resistive load)										
Operating Environment		Temperature: 32 - 120° F (0 - 49° C); Humidity: 5 - 93% RH, non-condensing										
Terminals (wire gauge)		18 - 12 AWG (0.75 mm ² - 2.5 mm ²)										
Asynchronous Serial Communications		Maximum resistance: 13 Ohms; Maximum capacitance: 0.03 µF										
Agency Listings		UL864 (53000), ULC-S527, CSFM										

* If larger batteries are required, use an external battery cabinet.

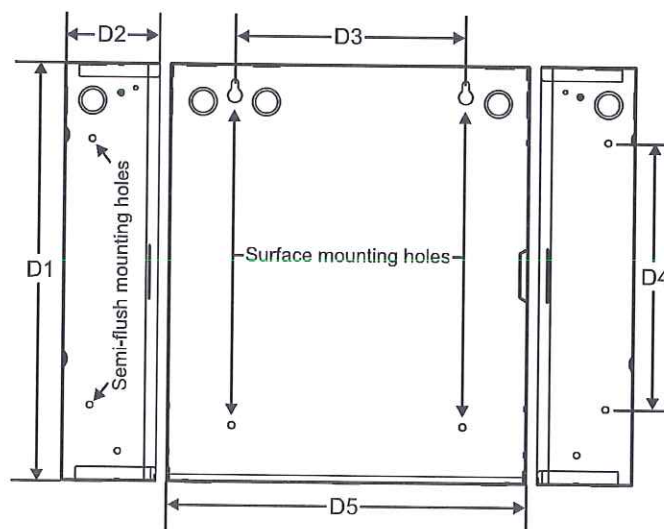
DACT – F-DACT (mounts in panel)

Receivers	Supports two receivers with two phone numbers each
Communications Protocol	Contact ID (SIA DC-05), 4/2 (SIA DC-02 P3)
Programming	Front panel controls or PC with appropriate software
Telephone line connection	Two RJ31X (plug-to-plug) cords supplied with DACT
Telephone lines	Two or one loop start lines on the public switched telephone network. Pulse or DTMF.
Telephone wall connector	RJ31X/CA31X equiv. or RJ38X/CA38X equiv.
Communications Compliance	Industry Canada CS-03; FCC/CFR 47 Parts 15 & 68; NFPA 72; UL 864; ULC S527
Operating Environment	Temperature: 32-120° F (0-49° C); Humidity: 93% RH, non-condensing
Current requirements	Standby: 65 mA; Alarm: 107 mA
Agency Listings	UL864 (53000), ULC-S527, CSFM

Dimensions

Model	D1*	D2	D3	D4	D5*
Three- & five- zone	19.5 in (49.5 cm)	3.75 in (9.5 cm)	9.13 in (23.2 cm)	10.5 in (26.67 cm)	14.23 in (36.14 cm)
Ten-zone	30 in (76.2 cm)	3.75 in (9.5 cm)	7.75 in (19.7 cm)	21.27 in (54.0 cm)	15.0 in (38.1 cm)

*Add 1½ inches (3.81 cm) to D1 and D5 dimensions for trim kit.



Ordering Information

Part Number	Description	Ship Wt. lb. (kg.)
Control Panels		
FSP1004*	Conventional Fire Alarm Control Panel – 10 Class B IDCs and 4 Class B NACs (Pairs of IDCs and NACs convertible to single Class A circuits), 120 Vac	30.5 (13.8)
FSP1004-2	Conventional Fire Alarm Control Panel – 10 Class B IDCs and 4 Class B NACs (Pairs of IDCs and NACs convertible to single Class A circuits), 230 Vac. Grey cabinet.	30.5 (13.8)
FSP502*	Conventional Fire Alarm Control Panel – 5 Class B IDCs and 2 Class B NACs (Pairs of IDCs and NACs convertible to single Class A circuits), 120 Vac	18.5 (8.4)
FSP502-2	Conventional Fire Alarm Control Panel – 5 Class B IDCs and 2 Class B NACs (Pairs of IDCs and NACs convertible to single Class A circuits), 230 Vac. Grey cabinet.	18.5 (8.4)
FSP302*	Conventional Fire Alarm Control Panel – 3 Class B IDCs and 2 Class B NACs, 120 Vac	18.0 (8.2)
FSP302*-2	Conventional Fire Alarm Control Panel – 3 Class B IDCs and 2 Class B NACs, 230 Vac	18.0 (8.2)
F-TRIM35*	Semi-flush trim ring for FSP302 and FSP502	1.7 (0.8)
F-TRIM10*	Semi-flush trim ring for FSP1004	2.2 (1.0)
* Insert "G" for Gray cabinet or "R" for Red cabinet. Insert "F" for French language (grey cabinets, not available on 220v versions). Insert "GD" or "RD" for red and gray cabinets with dialer installed.		
Related Items		
F-XTR120	Expander Transformer, 120 Vac - For FSP1004* only	4.0 (1.8)
F-XTR230	Expander Transformer, 230 Vac - For FSP1004*-2 only	4.0 (1.8)
EOL3.6-1.1	Required UL listed End of Line Resistors – One 3.6K Ohm and one 1.1K Ohm. One required for each IDC configured as combination waterflow and supervisory.	0.1 (0.5)
EOL-P1	Required ULC listed End of Line Resistor Plate - includes one 1.1K, 3.6K and 4.7K Ohm resistor	1.0 (0.5)
Off Premises Communications		
F-DACT	Digital Communicator/Modem/LCD module (Mounts in control panel)	1.0 (0.5)
RPM	Reverse Polarity Module	3.0 (1.36)
CTM	City Tie Module (Requires 4" square or 2-gang North American electrical box)	1.0 (0.5)
Remote Annunciation		
FSRSI	Remote System Indicator – Includes LEDs for display of Power, Alarm, Supervisory, Trouble and Ground Fault, trouble sounder and silence/lamp test switch. Single gang trim plate included, multi-gang plates ordered separately. Mounts in a single or multi-gang North American electrical box.	0.3 (0.1)
FSRZI-A	Remote Zone Indicator – Includes red LEDs for five IDCs. Single gang trim plate included, multi-gang plates ordered separately. Mounts in single or multi-gang North American electrical box.	0.3 (0.1)
FSRZI-SA	Remote Zone Indicator – Includes LEDs for five IDCs. Single gang trim plate included, multi-gang plates ordered separately. Mounts in single or multi-gang North American electrical box. Jumper selected Alarm (red) or Supervisory (amber) indications.	0.3 (0.1)
FSAT1	Annunciator Trim Plate, 1 gang	0.1 (0.05)
FSAT2	Annunciator Trim Plate, 2 gang	0.1 (0.05)
FSAT3	Annunciator Trim Plate, 3 gang	0.1 (0.05)
FSAT4	Annunciator Trim Plate, 4 gang	0.1 (0.05)
FSRA10	Single Unit 10 zone remote annunciator for FSP1004 – Insert "F" after p/n for French language option	
FSRA10C	Single Unit 10 zone remote annunciator for FSP1004 (with common controls) – Insert "F" after p/n for French language option	
FSUIM	Common Function Graphic Driver/Interface - 9 relays and 5 switch inputs for common system indicators and controls	
Remote Relay Module		
FSRRM24	Remote Relay Module – Five Form C relays. Configurable for IDCs 1-5, or 6-10, or common system indications. Requires MFC-A or other listed fire alarm enclosure.	0.4 (0.2)
FSRRM-S11	11" Mounting track. Holds up to 4 FSRRM24s.	0.4 (0.2)
Accessories		
MFC-A	Multi-function Cabinet (fire alarm accessory enclosure)	7.0 (3.2)
Batteries		
12V4A	4.5 Ah Sealed Lead Acid Battery - 12 Vdc (2 required)	5 (2.27)
12V6A5	7.2 Ah Sealed Lead Acid Battery - 12 Vdc (2 required)	6 (2.72)
12V10A	11 Ah Sealed Lead Acid Battery - 12 Vdc (2 required)	10 (4.45)
12V17A	18 Ah Sealed Lead Acid Battery - 12 Vdc (2 required)	13 (5.90)
12V24A	26 Ah Sealed Lead Acid Battery - 12 Vdc (2 required)	20 (9.07)



Contact us...

Email: edwards.fire@fs.utc.com

Web: www.vigilant-fire.com

Vigilant is an **EDWARDS** brand.

1016 Corporate Park Drive
Mebane, NC 27302

© 2013 UTC Fire & Security Americas Corporation, Inc. All rights reserved.
Specifications subject to change without notice. Edwards is part of UTC Climate, Controls & Security, a unit of United Technologies Corporation.



Two-Wire Conventional Smoke Detector

511C



Overview

The Edwards 511C is an economical, conventional photoelectric, direct-wire smoke detector with drift compensation.

The 511C continually monitors its own sensitivity and operational status, and provides a visual indication if it drifts out of the sensitivity range or fails internal diagnostics. Additional diagnostic information is activated by applying a magnet near the detector's integral reed switch. This initiates a self-diagnostic routine and provides visual indication of sensitivity level, or if service is required. The magnet test causes the LED to blink. The number of blink counts corresponds to a smoke detector sensitivity range. This meets NFPA 72 field sensitivity test requirements without the need for external meters.

The chance that a 511C will need maintenance is significantly decreased because of the built-in drift compensation. This feature, usually only available in analog systems, allows the detector to automatically adjust its sensitivity over time as it becomes dirty, increasing the life of the detector. And, if the 511C ever needs cleaning, it's literally a snap with FireworX's patented field replaceable optical chamber.

The 511C also features an alarm verification feature to further reduce the chance of a nuisance alarm. Normal sensing occurs every 9 seconds. This rate doubles when a signal exceeding the alarm threshold value is sensed. Two additional successive signals above the threshold level will initiate an alarm.

See installation instructions for information about correct installation and maintenance.

Standard Features

- Self-diagnostics continually monitors detector's operation and meets NFPA 72 sensitivity test requirements
- Built-in drift compensation reduces nuisance alarms
- Field-replaceable optical chamber makes servicing a snap
- Small, low-profile design blends in with any environment
- Large SEMs type terminals speeds wiring connections while ensuring a secure connection
- Cost effective for the largest installations



Contact us...

Email: edwards.fire@fs.utc.com

Web: www.vigilant-fire.com

Vigilant is an **EDWARDS** brand.

1016 Corporate Park Drive
Mebane, NC 27302

© 2013 UTC Fire & Security Americas Corporation, Inc. All rights reserved. Specifications subject to change without notice. Edwards is part of UTC Climate, Controls & Security, a unit of United Technologies Corporation.

Smoke Detector Technology

Most homes have battery operated ionization smoke detectors. These detectors react quickly to flaming fires but usually take longer to detect smoldering fires – the most common type of fire that occurs in homes. Edwards 511C smoke detectors utilize photoelectric smoke detection technology. Photoelectric smoke detectors continually analyze the air for smoke particles and are more sensitive to smoldering fires than ionization detectors. Installing both ionization and photoelectric smoke detectors in your home provides the best possible protection for you and your family.

Specifications

Electrical

Voltage	12/24 VDC (8.5-33 VDC), polarity sensitive
Maximum standby current	70µA
Maximum alarm current	60mA
Minimum reset time	1 sec

Environmental

Photoelectric sensitivity	3.1%+0.5% -1%
Operating temperature	32°F to 100°F (0°C to 37.8°C)
Operating humidity	0-95% non-condensing

Physical

Color	White
Detector dimensions	5" x 2" (12 x 5cm)
Base dimensions	4.75" x 0.3" (12.5 x 0.8cm)
Drift compensation adjustment	1%/ft. max
Field wiring size	18-12AWG

Regulations

Listing	UL 268, CSFM
UL compatibility identifier	S10A

Ordering Information

Model	Description	Listing
511C	Photoelectric Smoke Detector, 2-wire, 12/24VDC, white	UL268

Accessories

SM200-12PKG	Smoke! in a Can® aerosol spray for functional testing
SM-EXT 1	Smoke! in a Can® extension tube connects directly to can
211-10PKG	Replacement optical chambers (package of 10)
500PLT-5PKG	Mounting plate, adapts 511C to 400 Series mounting footprint, 6" diameter

Field Configurable Horns and Strobes

Genesis Series

ECS/MNS appliances available
with clear or amber lenses.



Overview

The Genesis line of fire alarm and mass notification/emergency communications (ECS/MNS) signals are among the smallest, most compact audible-visible life safety signaling devices in the world. About the size of a deck of playing cards, these devices are designed to blend with any decor.

Thanks to patented breakthrough technology, Edwards Genesis strobes do not require bulky specular reflectors and lenses. Instead, an exclusive cavity design conditions light to produce a highly controlled distribution pattern. Significant development efforts employing this new technology have given rise to a new benchmark in strobe performance – FullLight technology.

FullLight strobe technology produces a smooth light distribution pattern without the spikes and voids characteristic of specular reflectors. This ensures the entire coverage area receives consistent illumination from the strobe flash. As a result, Genesis strobes with FullLight technology go well beyond the UL-1971 and ULC-S526 light distribution requirements.

Genesis strobes and horn-strobes offer selectable candela output by means of a conveniently-located switch on the side of the device. Models are also available that offer fixed 15/75 cd output. The candela output setting remains clearly visible even after final installation, yet it stays locked in place to prevent unauthorized tampering.

Genesis ECS/MNS appliances offer emergency signaling with clear or amber lenses and with optional ALERT housing labels. They are ideal for applications that require differentiation between fire alarm and mass notification alerts.

Standard Features

- **Unique low-profile design**
 - The most compact UL-1971/ULC-S526 listed strobe available
 - Ultra-slim – protrudes less than one inch
 - Attractive appearance
 - No visible mounting screws
- **Four field-configurable options in one device**
 - Select 15, 30, 75, or 110 cd strobe output
 - Select high (default) or low dB horn output
 - Select temporal (default) or steady horn output
 - Select public mode flash rate (default) or private mode temporal flash
- **Fixed 15/75 cd model available**
- **ECS/MNS models available**
- **Easy to install**
 - Fits standard 1-gang electrical boxes – no trim plate needed
 - Optional trim plate accommodates oversized openings
 - Pre-assembled with captive hardware
 - #12 AWG terminals – ideal for long runs or existing wiring
- **Unparalleled performance**
 - Industry's most even light distribution
 - Meets tough synchronizing standards for strobes
 - Single microprocessor controls both horn and strobe
 - Independent horn control over a single pair of wires
 - Highly regulated in-rush current
 - Multiple frequency tone improves sound penetration
 - Field-programmable temporal strobe output option

Application

Genesis strobes are UL 1971-listed for use indoors as wall-mounted public-mode notification appliances for the hearing impaired. Prevailing codes require strobes to be used where ambient noise conditions exceed 105 dBA (87 dBA in Canada), where occupants use hearing protection, and in areas of public accommodation as defined in the *Americans with Disabilities Act* (see *application notes – USA*).

Combination horn-strobe signals must be installed in accordance with guidelines established for strobe devices. Consult with your Authority Having Jurisdiction for details.

All Genesis strobes exceed UL synchronization requirements (within 10 milliseconds over a two-hour period) when used with a synchronization source. Synchronization is important in order to avoid epileptic sensitivity.

WARNING: These devices will not operate without electrical power. As fires frequently cause power interruptions, further safeguards such as backup power supplies may be required.

Horns

Genesis horn output reaches as high as 99 dB and features a unique multiple frequency tone that results in excellent sound penetration and an unmistakable warning of danger. Horns may be configured for either coded or non-coded signal circuits. They can also be set for low dB output with a jumper cut that reduces horn output by about 5 dB. Horn-only models may be ceiling-mounted or wall-mounted.

The suggested sound pressure level for each signaling zone used with alarm signals is at least 15 dB above the average ambient sound level, or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater, measured 5 feet (1.5 m) above the floor. The average ambient sound level is, A-weighted sound pressure measured over a 24-hour period.

Doubling the distance from the signal to the ear will theoretically result in a 6 dB reduction of the received sound pressure level. The actual effect depends on the acoustic properties of materials in the space. A 3 dBA difference represents a barely noticeable change in volume.

ECS/MNS Applications

Genesis ECS/MNS strobe appliances bring the same high-performance fire alarm features and unobtrusive design to mass notification applications. Available with amber lenses and optional ALERT housing labels, they are ideal for applications that require differentiation between fire alarm and mass notification alerts.

Installation

Genesis horns and strobes mount to any standard one-gang surface or flush electrical box. Matching optional trim plates are used to cover oversized openings and can accommodate one-gang, two-gang, four-inch square, or octagonal boxes, and European 100 mm square.



Genesis Horn/Strobe with optional trim plate

All Genesis signals come pre-assembled with captive mounting screws for easy installation. Two tabs at the top of the signal unlock the cover to reveal the mounting hardware. The shallow depth of Genesis devices leaves ample room behind the signal for extra wiring. Once installed with the cover in place, no mounting screws are visible.

Field Configuration

Temporal horn and horn-strobe models are factory set to sound in a **three-pulse temporal pattern**. Units may be configured for use with coded systems by cutting a jumper on the circuit board. This results in a **steady output** that can be turned on and off (coded) as the system applies and removes power to the signal circuit. A Genesis Signal Master is required when horn-strobe models are configured for coded systems. Non-temporal, horn-only models sound a steady tone.

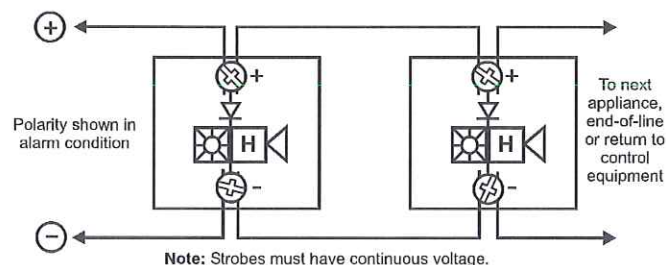
Genesis clear strobes and horn-strobes are shipped from the factory ready for use as **UL 1971 compliant** signals for public mode operation. These signals may be configured for **temporal flash** by cutting a jumper on the circuit board. This battery-saving feature is intended for private mode signaling only.

Genesis clear strobes and horn-strobes may be set for **15, 30, 75, or 110 candela output**. The output setting is changed by simply opening the device and sliding the switch to the desired setting. The device does not have to be removed to change the output setting. The setting remains visible through a small window on the side of the device after the cover is closed.

Horns and horn-strobes are factory set for **high dB output**. **Low dB output** may be selected by cutting a jumper on the circuit board. This reduces the output by about 5 dB.

Wiring

Field wiring terminals accommodate #18 to #12 AWG (0.75 mm² to 2.5 mm²) wiring. Horns, strobes, and combination horn-strobes are interconnected with a single pair of wires as shown below.



Current Draw

Strobes, Horn-Strobes

Multi-cd Wall Strobes (MG1-VM)

UL Rating	15 cd* RMS	30 cd* RMS	15/75 cd** RMS	75 cd* RMS	110 cd* RMS
16 Vdc	103	141	152	255	311
16 Vfwr	125	179	224	346	392

*MG1-VM multi-cd; **MG1F-V1575 fixed 15/75 cd

Typical Current	15 cd RMS	30 cd RMS	15/75 RMS	75 cd RMS	110 cd RMS
16 Vdc	85	127	150	245	285
20 Vdc	71	98	123	188	240
24 Vdc	59	82	104	152	191
33 Vdc	46	64	84	112	137
16 Vfwr	119	169	223	332	376
20 Vfwr	103	143	189	253	331
24 Vfwr	94	129	169	218	262
33 Vfwr	87	112	148	179	205

Wall Temporal Horn-strobes – High dB Setting

UL Rating	15 cd* RMS	30 cd* RMS	15/75 cd** RMS	75 cd* RMS	110 cd* RMS
16 Vdc	129	167	172	281	337
16 Vfwr	176	230	269	397	443

*MG1-HDVM multi-cd
**MG1F-HDV1575 fixed 15/75 cd

Typical Current	15 cd RMS	30 cd RMS	15/75 RMS	75 cd RMS	110 cd RMS
16 Vdc	102	135	160	246	309
20 Vdc	88	109	137	193	248
24 Vdc	81	94	122	161	203
33 Vdc	74	72	106	124	154
16 Vfwr	144	182	247	352	393
20 Vfwr	141	162	220	274	362
24 Vfwr	136	152	203	235	282
33 Vfwr	125	144	196	201	232

Wall Temporal Horn-strobes – Low dB Setting

UL Rating	15 cd* RMS	30 cd* RMS	15/75 cd** RMS	75 cd* RMS	110 cd* RMS
16 Vdc	122	160	146	274	330
16 Vfwr	162	216	231	383	429

*MG1-HDVM multi-cd
**MG1F-HDV1575 fixed 15/75 cd

Typical Current	15 cd RMS	30 cd RMS	15/75 RMS	75 cd RMS	110 cd RMS
16 Vdc	96	130	158	243	302
20 Vdc	79	104	133	189	241
24 Vdc	68	88	119	156	197
33 Vdc	56	71	100	118	146
16 Vfwr	128	180	241	344	389
20 Vfwr	118	157	213	266	343
24 Vfwr	113	144	195	230	279
33 Vfwr	112	137	182	197	226

Horns

Wall or Ceiling Mounted Temporal Horns (MG1-HD)

UL Rating	High dB (RMS)	Low dB (RMS)
16 Vdc	26	19
24 Vdc	36	27
33 Vdc	41	33
16 Vfwr	51	37
24 Vfwr	69	52
33 Vfwr	76	70

Typical Current	High dB RMS	Low dB RMS
16 Vdc	22	17
20 Vdc	24	19
24 Vdc	27	22
33 Vdc	32	26
16 Vfwr	34	30
20 Vfwr	40	34
24 Vfwr	45	38
33 Vfwr	52	47

Wall or Ceiling Mounted Horns (MG1-P)

UL Designation	Voltage Range	Max. Current, RMS
Regulated 24 Vdc	16 - 33 Vdc	13 mA
24 fwr	16 - 33 Vfwr	11 mA

Typical Current	RMS
24 Vdc	10
24 Vdc	11
31 Vdc	12
20 Vfwr	9
24 Vfwr	10

Current values are shown in mA.

dBA output

Temporal Horns, Horn-strobes (MG1-HD, MG1-HDVM series)

High dB Setting	UL464		Average	Peak
	Temporal	Steady	Temporal/ Steady	Temporal/ Steady
16 Vdc	81.4	85.5	91.4	94.2
24 Vdc	84.4	88.6	94.5	97.6
33 Vdc	86.3	90.4	96.9	99.5

Low dB Setting	UL464		Average	Peak
	Temporal	Steady	Temporal/ Steady	Temporal/ Steady
16 Vdc	76.0	80.1	86.3	89.2
24 Vdc	79.4	83.5	89.8	92.5
33 Vdc	82.1	86.5	92.5	95.3

Steady Tone Horns (MG1-P series)

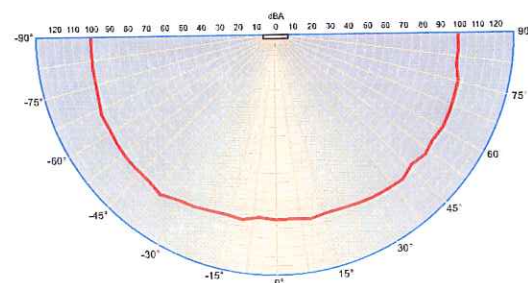
	UL464	Average	Peak
16 Vdc	77 dBA, min	85 dBA	91 dBA
16 Vflwr	77 dBA, min	85 dBA	91 dBA

Notes

1. All values shown are dBA measured at 10 feet (3.01m).
2. UL464 values measured in reverberant room.
3. Average and Peak values are measured in anechoic chamber.

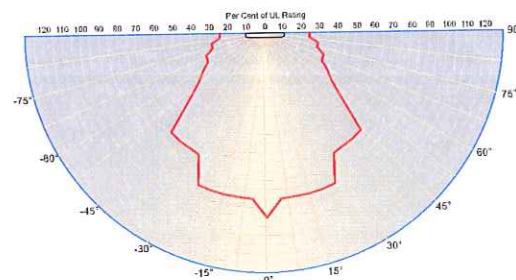
Average Sound Output (dBA)

(High dB setting, anechoic, 24V, measured at 10ft)



Light output - (effective cd)

Percent of UL rating versus angle



Specifications

Housing	Red or white textured UV stabilized, color impregnated engineered plastic. Exceeds 94V-0 UL flammability rating.
Lens	Optical grade polycarbonate (clear)
Mounting (indoor only)	Strobes and horn-strobes are for wall-mount installation only. Horn-only models may be ceiling- or wall-mounted. Flush mount: 2½ inch (64 mm) deep one-gang box Surface mount: Model 27193 surface mount box, wire mold box, or equivalent surface-mount box With optional trim plate: One-gang, two-gang, four-inch square, octagonal, or European single-gang box
Wire connections	Screw terminals: single input for both horn and strobe. #18 to #12 AWG (0.75 mm² to 2.5 mm²) wire size
Operating environment	Indoor only: 32-120°F (0-49°C) ambient temperature. 93% relative humidity
Agency listings/approvals	UL 1971 (S218), UL 1638 (S218), UL 464 (S218), ULC S525, ULC S526, CSFM, CE, FCC, MEA. (All models comply with ADA Code of Federal Regulation Chapter 28 Part 36 Final Rule.)
Dimensions (HxWxD)	Signal: 4-1/2" x 2-3/4" x 13/16" (113 mm x 68 mm x 21 mm) Trimplate: 5" (127 mm); Height - 5-7/8" (149 mm); Depth - ½" (13 mm)
Operating voltage	MG1-HD series temporal-tone horns: non-coded, filtered 16-33 Vdc or unfiltered 16-33 Vdc FWR (or coded when horn set to steady tone) MG1-HDVM series temporal-tone horn-strobes: non-coded, filtered 16-33 Vdc or unfiltered 16-33 Vdc FWR (or coded (audible NAC only) when used with optional MG1M Genesis Signal Master) MG1-VM series strobes: non-coded, filtered 16 - 33 Vdc or unfiltered 16-33 Vdc FWR MG1-P series steady-tone horns: coded or non-coded, filtered 20-31 Vdc or unfiltered 20-27 Vflwr
Strobe output rating	UL 1971, UL 1638, ULC S526: selectable 15 cd, 30 cd, 75 cd, or 110 cd output UL 1971: 15 cd (fixed 15/75 cd models) UL 1638, ULCS526: 75 cd (fixed 15/75 cd models)
Strobe flash rate	MG1-VM strobes and MG1-HDVM series temporal-tone horn-strobes: one flash per second synchronized with optional MG1M Genesis Signal Master indefinitely within 10 milliseconds. Temporal setting (private mode only): synchronized to temporal output of horns on same circuit
Synchronization Sources	GSA-CC1S, GSA-MCC1S, GSA-CC2A, GSA-MCC2A, MG1M-RM MIRBPS6A, MIRBPS10A, APS6A, APS10A, VS1, VS2, Fireshield Plus 3, 5 and 10 zone, VM. Add MG1M for MG1-CVM & MG1-HDVM devices only.
Horn pulse rate	MG1-HD temporal-tone horns and MG1-HDVM series temporal-tone horn-strobes: temporal rate synchronized with optional MG1M Genesis Signal Master indefinitely within 10 milliseconds. MG1-P steady-tone horns: continuous, steady tone only
Temporal audible pattern	½ sec ON, ½ sec OFF, ½ sec ON, ½ sec OFF, ½ sec ON, 1½ sec OFF, then repeat cycle

Candela Output

Lens Color	Rating	Switch Position A	Switch Position B	Switch Position C	Switch Position D
Amber	UL 1638	110 cd	75 cd	30 cd	15 cd
Amber	UL 1971*	88 cd	60 cd	24 cd	12 cd
Clear	UL 1971	110 cd	75 cd	30 cd	15 cd

* Equivalent Rating

Fire appliances available with white or red housings.



ECS/MNS appliances available with clear or amber lenses.



Ordering Information

Model	Housing	Marking	Lens	Strobe	Horn	Ship Wt. lbs (kg)
Fire Alarm Appliances (c/w running man icon screen printed on housing)						
MG1-VM	White	None	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
MG1F-HD	White	FIRE	Clear	Horn only	Selectable high/low dB	0.25 (0.11)
MG1F-HDV1575	White	FIRE	Clear	15/75 cd ¹	Temporal hi/lo dB-24V	0.25 (0.11)
MG1F-HDVM	White	FIRE	Clear	Selectable 15, 30, 75, or 110 cd	Selectable high/low dB	0.25 (0.11)
MG1F-P	White	FIRE	Clear	Steady Horn (not compatible with Genesis Signal Master)		0.25 (0.11)
MG1F-V1575	White	FIRE	Clear	15/75 cd ¹	Strobe only	0.25 (0.11)
MG1F-VM	White	FIRE	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
MG1-HD	White	None	Clear	Horn only	Selectable high/low dB	0.25 (0.11)
MG1-HDVM	White	None	Clear	Selectable 15, 30, 75, or 110 cd	Selectable high/low dB	0.25 (0.11)
MG1-P	White	None	Clear	Steady Horn (not compatible with Genesis Signal Master)		0.25 (0.11)
MG1RF-HD	Red	FIRE	Clear	Horn only	Selectable high/low dB	0.25 (0.11)
MG1RF-HDV1575	Red	FIRE	Clear	15/75 cd ¹	Temporal hi/lo dB-24V	0.25 (0.11)
MG1RF-HDVM	Red	FIRE	Clear	Selectable 15, 30, 75, or 110 cd	Selectable high/low dB	0.25 (0.11)
MG1RF-P	Red	FIRE	Clear	Steady Horn (not compatible with Genesis Signal Master)		0.25 (0.11)
MG1RF-V1575	Red	FIRE	Clear	15/75 cd ¹	Strobe only	0.25 (0.11)
MG1RF-VM	Red	FIRE	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
MG1R-HD	Red	None	Clear	Horn only	Selectable high/low dB	0.25 (0.11)
MG1R-HDVM	Red	None	Clear	Selectable 15, 30, 75, or 110 cd	Selectable high/low dB	0.25 (0.11)
MG1R-P	Red	None	Clear	Steady Horn (not compatible with Genesis Signal Master)		0.25 (0.11)
MG1R-VM	Red	None	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
ECS/MNS Appliances (no running man icon on housing)						
G1WA-VMA	White	ALERT	Amber	Selectable A, B, C or D	Strobe only	0.25 (0.11)
G1WA-VMC	White	ALERT	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
G1WN-VMA	White	None	Amber	Selectable A, B, C or D	Strobe only	0.25 (0.11)
G1WN-VMC	White	None	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
Trim Plates						
MG1T	White	None	Genesis Trim Plate (for two-gang or 4" square boxes)			0.15 (0.7)
MG1RT	Red	None	Genesis Trim Plate (for two-gang or 4" square boxes)			0.15 (0.7)
MG1T-FIRE	White	FIRE	Genesis Trim Plate (for two-gang or 4" square boxes)			0.15 (0.7)
MG1RT-FIRE	Red	FIRE	Genesis Trim Plate (for two-gang or 4" square boxes)			0.15 (0.7)
G1WT-ALERT	White	ALERT	Genesis Trim Plate (for two-gang or 4" square boxes)			0.15 (0.7)
Surface Boxes						
27193-16	White	N/A	One-gang surface mount box			1 (0.4)
27193-11	Red	N/A	One-gang surface mount box			1 (0.4)

¹ These 15/75 cd models provide fixed output and are not multi-candela devices. The 15 cd output component complies with UL1971, while the 75 cd output component complies with UL 1638.



Contact us...

Email: edwards.fire@fs.utc.com

Web: www.vigilant-fire.com

Vigilant is an **EDWARDS** brand.

1016 Corporate Park Drive
Mebane, NC 27302

© 2013 UTC Fire & Security Americas Corporation, Inc. All rights reserved. Specifications subject to change without notice. Edwards is part of UTC Climate, Controls & Security, a unit of United Technologies Corporation.
