



## Early Warning Fire Detection and Integrated Security Solution

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### System Overview

The **FirePosse™** Early Warning Fire Detection and Integrated Security System from Firebreak Canada Corp. represents a major advance in wildfire detection technology by combining the most technologically advanced Flame Sensors available today with the latest wireless mesh digital signal processing techniques designed to maximize wildfire detection probability while reducing unwanted alarms resulting from non-fire related activity to virtually zero.

Firebreak's systems are modular based, providing tailored solutions to meet with the most demanding of requirements. Our solutions include a wide range of hardware interfaces for different third party manufacturer's control equipment. Operating in conjunction with Firebreaks' revolutionary Flame Sensor, the **FirePosse™** Early Warning Fire Detection System provides the end user with a cost effective solution that ensures reliable detection and communication combined with the ability to scale and grow at any time.

The **FirePosse™** Early Warning Fire Detection and Integrated Security System is comprised of a network of wireless Flame Sensors that are monitored by a wireless Communication Gateway. The network can be a single Flame Sensor or multiple nodes. Firebreak's powerful and flexible architecture features of the **FirePosse™** enables you to protect large land areas, parks and preserves by increasing the number of Flame Sensors and Communication Gateways. In the event of a wildfire or electrical power line arcing detection, the Communication Gateway immediately notifies the designated responders as well as the appropriate Fire Department and Emergency Dispatch (911) Centers (where permitted) within seconds over Internet/Frame Relay/VPN/Telco Wireless/Wired Network or Satellite communication. The location of the fire is relayed to a central receiving and dispatch centre for rapid deployment of a fire response team. We can provide graphical user interfaces for the integration of real time mapping software to report fire locations. Whether you operate flat screen / touch screen or video wall display our solutions provide a single, easy to use routine for all systems. We provide real-time reporting of fire activity in specific locations.

**FirePosse™** Networking solutions are designed to provide end-to-end wireless connectivity to distributed Flame Sensors and other distributed electronic devices so those devices and the information they hold can be accessed and managed from anywhere. Drop-in networking enables product and service differentiation by making devices smarter through wireless network connectivity and using this added intelligence to deliver faster, more accurate and more relevant information to the user.

For a complete Detection and Protection solution in remote areas the **FirePosse™** Systems may be used to activate the **FireShield™** Exterior Fire Suppression Systems. Have your own, 24/7 self contained and stand alone fire protection.

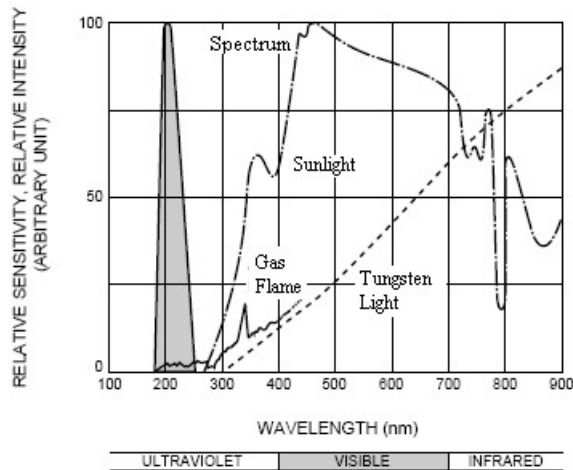
## Why Firebreak's Integrated Solutions?

With many variations of our early warning fire detection and integrated security systems available, it has become the preferred choice for a wide range of clients for the following reasons:

- Set it and forget it
- No moving parts
- Self contained
- Self check
- Self financing
- A stable and secure solution
- Cost and time effective
- Latest technology and readily supported

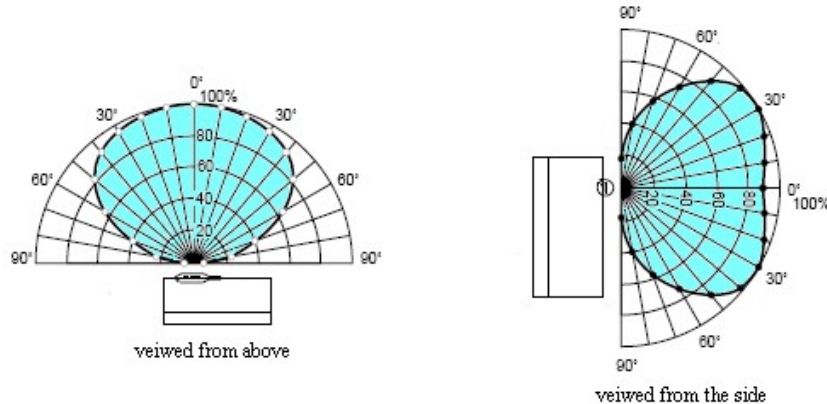
## Flame Sensor

The **FirePosse™** Flame Sensor recognizes flames and power line arcing by their unique ultraviolet light, which differs from the UV in sunlight. Unlike other flame sensors, the **FirePosse™** Flame Sensor is completely solar-blind, which means it's equally effective day or night.



With a clear line of sight, it can detect a four-foot (1.22 m) flame at a quarter mile (0.4 km) and it can detect power line arcing as far as one mile (1.6 km) away. If the arcing is closer, a **FirePosse™** Flame Sensor can even detect it without a direct line of sight. Our sensitivity **FirePosse™** Flame Sensor will detect the flame of a cigarette lighter (flame length of 1" (25 mm) from a distance of more than 16' (5 m)). The **FirePosse™** Flame Sensor is available with a 90, 180 or 360 degree field of view, and doesn't rely on mechanical scanners or other moving parts, so it offers solid-state reliability.

### Angular Field of View



**FirePosse™** Flame Sensor nodes deliver wireless connectivity through advanced mesh networks. These nodes utilize a patented Feature Set, for robust self healing, self configuring networks, and ideal for wireless enabling

The Standard range between Flame Sensor nodes is 1 mile (1.6 km) (outdoor RF line of sight) which can be extended to 6 miles (10 km) by using an alternate radio frequency. Frequencies are not interchangeable.

#### Key Features

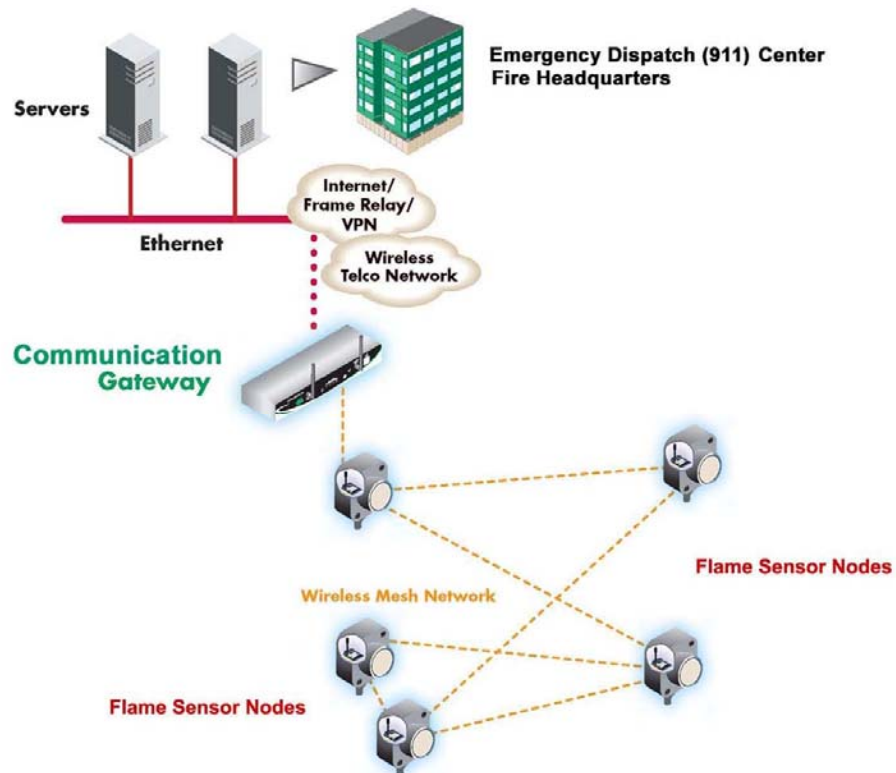
- Install in isolated, hard to reach locations
- Wireless
- Available in wide range of interfaces, including RS-232, RS-485, USB, digital and analog I/O
- Secure
- Reliable
- Self contained solar or electric (mains) powered
- Precision detection Range
- Available in 90, 180 or 360 degree detection field of view
- Extended communication range as option
- No moving parts that can fail
- Self test and health status several times a day
- Real time tracking for optimum incident management and maximized use of resources
- Detect an early stage wildfire
- Highly scalable and flexible solutions
- Unprecedented monitoring and notification speeds
- Wireless M2M solutions

## Communication Gateway

Used in conjunction with the **FirePosse™** Flame Sensor nodes, the primary function of the Communication Gateway is to get the signal generated, as a result of activity detected and classified as being of fire origin, from the Flame Sensor end node(s) data, process it, and alert the authorities and designated personnel using cellular, Wi-Fi, or Ethernet connections.

**FirePosse™** Drop-in Networking solutions enable end-to-end wireless access to **FirePosse™** Flame Sensor nodes in isolated, hard-to-reach locations where no wired networking infrastructure exists, where access to an existing network is prohibited, or when laying cable is impractical or cost prohibitive. Communication Gateways provide IP network connectivity for **FirePosse™** Flame Sensor nodes in wireless networks. The **FirePosse™** Flame Sensor nodes and family of hardware devices such as wireless mesh gateways, adapters, modules, extenders and environmental sensors, as well as our RF-based serial and Ethernet cable replacement products, and software tools allow us to "drop-in" devices for monitoring and control applications. The example below demonstrates how a typical **FirePosse™** provides operational and unprecedented service levels.

Following is a typical outline of an Early Warning Fire Detection System:



Rev 1.1

## Key Features

- Solar or electric (mains) powered
- Wireless
- Non-intrusive
- Power optimized – supports sleeping Flame Sensors
- Secure
- Reliable
- Extended communication range as option
- Ability to drop-in to existing networks protocols or via the web
- Several options of detection as add-ons, not limited to fire detection!
- Connect to electronic devices and sensors
- Highly scalable and flexible solutions
- Unprecedented monitoring and notification speeds
- Wireless M2M solutions
- Enclosures are compliant to UL and NEC specifications
- Scalable and expandable to a diverse range of applications, including environmental sensors



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