NOTIFIER SWIFT intelligent wireless system

Architectural and Engineering Specifications

Fire Alarm Control Panel Connectivity
Wireless devices used as components of a fire alarm system shall be capable of connection to a compatible Intelligent Fire Alarm Control Panel (FACP) via a Signaling Line Circuit (SLC) via a gateway. The gateway shall provide the link to one mesh network of wireless devices. Multiple gateways can be supported on the same intelligent FACP, limited to (4) wireless mesh networks in the same radio space. All intelligent sensing functions supported for wired devices shall be supported by comparable wireless devices. Additionally, the panel shall allow wired devices to be identified with unique type codes which allow the system to display wireless trouble indications such as low battery, jamming, and tamper.

Reliability
Wireless communication for the wireless system shall incorporate an advanced mesh technology which incorporates UL 864 Class A approved supervised, redundant communication. All devices in the mesh network shall be capable of acting as repeaters for other devices in the same network. The wireless system shall also have a suite of tools that can be installed on a portable PC and used to assist in qualifying the site, installing the system, and verifying the proper operation of the system.

Approvals
The wireless system shall be approved or listed by the following agencies, as appropriate for each device:
UL
FM
CSFM
FCC

Addressable Wireless Devices
(This section may be inserted in a current NOTIFIER ONYX specification following section **A. Addressable Devices**)

   B.   Addressable Devices - Wireless
1. The system shall be capable of supporting intelligent addressable wireless detectors and monitor modules with similar appearance and capabilities as wired addressable intelligent devices.
2. Intelligent wireless devices shall utilize a gateway device to communicate with the intelligent fire alarm control panel, so that the wireless devices report to the panel using the established SLC protocol.
3. Wireless devices shall be capable of co-existing on the same panel with wired devices, and shall be capable of participating in common control-by-event programming sequences.
4. Device addressing for wireless device shall be consistent with intelligent wired devices, and shall use decade, decimal address switches. Wireless devices shall be capable of being set to an address in a range of 001 to 159.
5. Wireless devices (excepting the gateway) shall operate on batteries recommended by the manufacturer, and shall be UL tested and listed for 2 years of operation on one set of batteries.
6. The gateway shall be connected to the panel SLC loop and shall be capable of being powered by the SLC loop as well. Alternately, the gateway shall be capable of connection to the SLC loop only for communication with the FACP, and power may be supplied via a separate 24VDC input.
7. Programmable and automatic sensing options supported by the intelligent FACP

which are available for intelligent wired devices shall also be supported for equivalent intelligent wireless devices, including: ability to set the sensor sensitivity at the FACP, ability to adjust sensitivity based on time, ability to automatically compensate for dust accumulation and other slow environmental changes, ability to annunciate two dirty detector states, and the ability to participate in cooperative sensing decisions with other intelligent wired or wireless detectors that are connected to the same panel.

8. Wireless devices shall be connected to a compatible intelligent fire alarm system, and shall be supported by the system as wireless devices. Trouble conditions that are unique to wireless devices shall be reported at the head end, such as: Low Battery, Jamming, and Tamper.

9. Intelligent wireless devices shall use a UL approved Class A mesh communication protocol to provide redundant supervised wireless communication links.

10. A wireless mesh shall be comprised of one gateway and from one to forty-nine wireless devices.

11. Multiple wireless gateway systems may be connected to a single FACP.

12. The system shall allow for up to four wireless gateway systems in the same radio space.

13. Device status indicators (LEDs) on wireless devices shall not be required to match indications of wired devices, in particular for active indications where a steady on LED would reduce the battery life of the device.

14. Wireless detectors shall have dedicated bases with a magnetic tamper mechanism that initiates a trouble when the device is removed from the base. The tamper trouble condition shall latch at the panel until the detector is restored to the normal installed position and the trouble has been reset.

15. Wireless monitor modules shall have a dedicated cover that requires unfastening two screws to remove. The cover shall have a built-in magnet, and removal of the cover shall initiate a trouble condition at the panel. The tamper trouble condition shall latch at the panel until the monitor module is restored to the normal installed position and the trouble has been reset.

16. Wireless monitor modules shall be capable of being mounted in a 4-inch square (101.6 mm square), 2-1/8 inch (54 mm) deep electrical box. The optional surface mount Lexan enclosure shall be used for this purpose, except where installation of the wireless monitor module in a metal box has been tested and adequate performance for the application using the metal box has been confirmed.

17. Available Wireless devices shall include:
    i. Intelligent wireless smoke detector (photoelectric technology)
    ii. Intelligent wireless smoke/heat detector
    iii. Intelligent wireless fixed temperature heat detector, 135 degrees F.
    iv. Intelligent wireless rate of rise heat detector, 135 degrees F.
    v. Wireless monitor module
    vi. Wireless gateway

18. Unprogrammed wireless devices shall be capable of being used to perform a site survey to assist in determining the viability of a site for a wireless application. Tests shall include point to point connectivity, and a background RF

19. A program that supports qualification of potential wireless applications, configuration and installation, and diagnostics shall be available. This program shall be installed on a Windows® PC, and shall be capable of communicating with wireless devices by use of a USB adapter that plugs into the computer.