Simplex

Life Alarm™ Fire Alarm Systems

High Level Interface to VESDA® Air Aspiration Detectors
for 4020/4100/4120 Series Fire Alarm Control Panels

Features

Provides communications between Simplex fire alarm control panels and VESDA LaserPLUS™ and VESDA LaserSCANNER™ air aspiration smoke detectors

Allows mission critical/high value applications to be advised of very low level smoke activity, facilitating early response

VESDA system communications include:

- Smoke obscuration threshold levels
- Air flow components status
- Detector head status
- Sensitivity settings

Fire detection panel features:

- Panel operation can be programmed to recognize and categorize up to three smoke levels
- Information from up to 30 VESDA LaserPLUS and LaserSCANNER detectors can be gathered on one communications input
- Can perform Reset, Enable, and Disable of each individual VESDA smoke detector
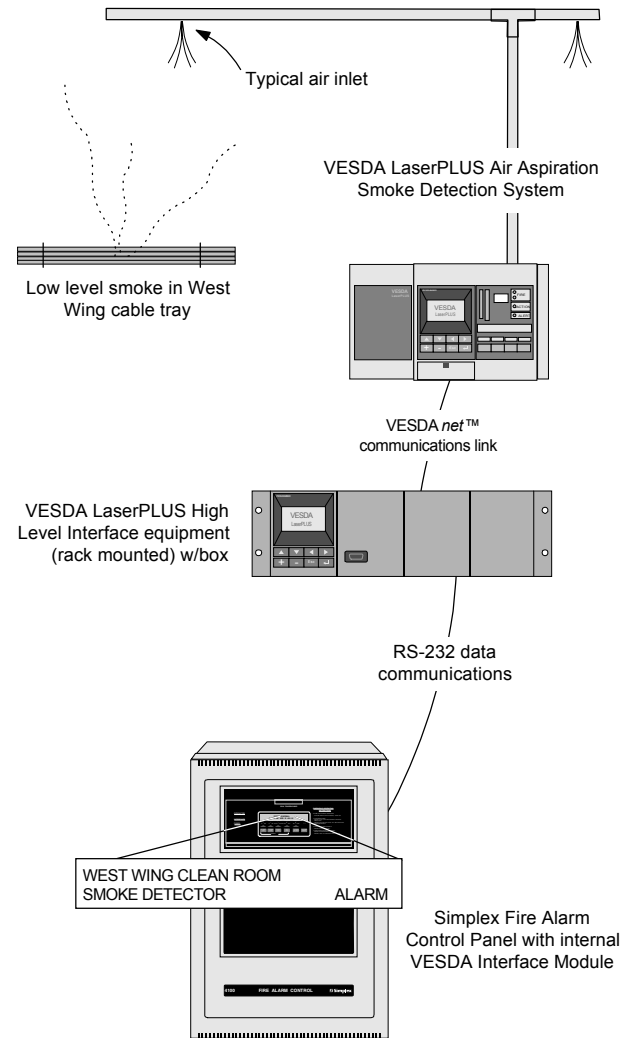
Compatible with:

- Simplex 4020, 4100, and 4120 Network Fire Alarm Control Panels
- VESDA LaserPLUS and LaserSCANNER aspiration smoke detection systems

Operates with Simplex expanded Interface Software Version 8

UL listed to Standard 864

Simplex Control Panel Communicates with VESDA Smoke Detection Equipment via High Level Interface (HLI)

Introduction

Simplex/VESDA High Level Interface (HLI) allows Simplex addressable fire detection panels to gather and process status information from VESDA LaserPLUS and LaserSCANNER high sensitivity air aspiration smoke detection systems. Hardware requirements include an Intelligent Interface Module installed in the fire alarm control panel and an HLI Module installed in the VESDA smoke detection equipment.

The combination of VESDA smoke detection and the extensive features of the Simplex addressable panel allows mission critical and high value facilities to be equipped with a low level smoke detection system that can provide very early warning of the presence of incipient fire conditions.

Operation

With the Simplex/VESDA HLI connection, individual LaserPLUS and LaserSCANNER detectors are connected to the fire alarm control panel as remote addressable devices. This connection provides remote monitoring of the detector's locally displayed information and allows the panel to provide remote control for Reset, Enable, and Disable of the VESDA smoke detector.

VESDA Interface Applications

Mission Critical/High Value. All facilities containing people and material need to be adequately protected from smoke and fire. However, some facilities have missions that are extremely critical, as well as contents of inherently high value, and may benefit from integrating very early smoke detection into their facility fire detection panel.
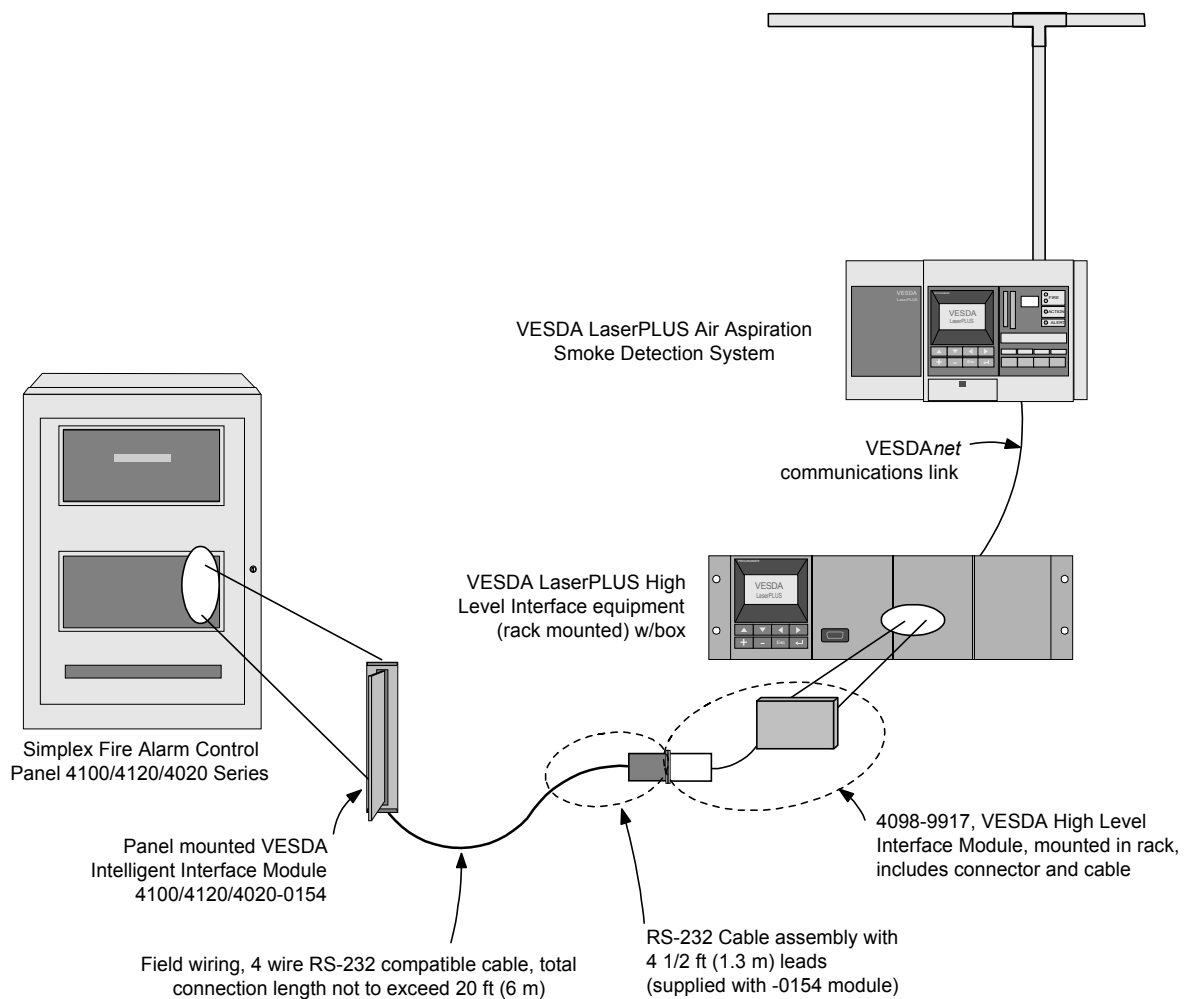
VESDA Interface Applications *(Continued)*

Mission Critical. Typical examples of mission critical facility applications would be telephone switching stations, semiconductor clean rooms, computer rooms, and research laboratories. With such facilities, loss of operation can result in significant economic impact.

High Value. Other types of facilities such as libraries, archives, and museums may not be burdened by short periods of downtime, but their high value contents are priceless, irreplaceable objects that deserve extra protection.

At the earliest indication of a potential fire condition, these facilities need the ability to dispatch trained personnel to investigate and repair wiring problems or equipment malfunction. In some instances, saving a few seconds in response time may avoid extensive downtime or avoid smoke damage to delicate equipment or a priceless work of art.

HLI Interconnection Information

VESDA LaserPLUS Air Aspiration Smoke Detection System

VESDA*net* communications link

VESDA LaserPLUS High Level Interface equipment (rack mounted) w/box

Simplex Fire Alarm Control Panel 4100/4120/4020 Series

Panel mounted VESDA Intelligent Interface Module 4100/4120/4020-0154

4098-9917, VESDA High Level Interface Module, mounted in rack, includes connector and cable

Field wiring, 4 wire RS-232 compatible cable, total connection length not to exceed 20 ft (6 m)

RS-232 Cable assembly with 4 1/2 ft (1.3 m) leads (supplied with -0154 module)

NOTE: For additional High Level Interface information, refer to *VESDA Hardware Interface Configuration Instructions*, Publication 574-050.

VESDA Smoke Detection Summary

The VESDA LaserPLUS and LaserSCANNER air aspiration family of smoke detectors uses sophisticated combinations of air intake, air filtering, high intensity laser photoelectric sensing, and unique microprocessor applications to provide extremely early warning of incipient fire conditions. By linking the analog output of a VESDA LaserPLUS smoke detection system to a compatible Simplex fire detection panel, it is possible to identify those conditions well before they become a problem. (A complete description of the extensive features available with VESDA systems is beyond the scope of this document. Please refer to the specific VESDA product literature for further details.)

Product Selection and Reference

Fire Alarm Control Panel Model Series	Model Number	Description
4020	4020-0154	Intelligent Interface Module, mounted in fire alarm control panel
4100	4100-0154	**NOTE:** Each Intelligent Interface Module reduces MAPNET II® addressable communications channel capacity by one.*
4120	4120-0154	

VESDA Smoke Detector Equipment Reference

Model	Description
4098-9917	VESDA High Level Interface board, mounted in VESDA LaserPLUS equipment rack (ordered with VESDA LaserPLUS/LaserSCANNER equipment)

* MAPNET addressable communication operation is protected by U.S. Patent No. 4,796,025.

Specifications

Simplex Panel Mounted Intelligent Interface Module 4020/4100/4120-0154

Voltage		18 to 32 VDC, from control panel
Current		132 mA
Communications		RS-232, 9600 baud, maximum distance is 20 ft (6 m)
Space Requirement	4100/4120	Pluggable module, requires 2" internal rack width (51 mm)
	4020	Flat module, 5 1/4" W x 10 1/2" H (133 mm x 267 mm)
UL Listed Temperature Range		32° F to 120° F (0° C to 49 ° C)
Humidity Range		Up to 95% RH, non-condensing

High Level Interface Module 4098-9917, Mounted in VESDA Smoke Detector
(Refer to the specific VESDA Smoke Detector Equipment in use for additional specifications and information.)

Voltage	20.4 to 32 VDC, from the VESDA Smoke Detector Equipment
Current	70 mA