

Features

Model VLC-600 addressable, analog output air aspiration smoke sensor provides:

- VESDA® LaserCOMPACT operation communicating with the established TrueAlarm analog sensing process for area coverage up to 5000 ft² (500 m²)**
- Compact 8-7/8" (225 mm) square size
- Dual stage dust filter that is used on larger systems
- Obscuration measurements communicated to the fire alarm control panel for status determination
- Panel selected sensitivity from 0.016%/ft to 4.08%/ft
- Local computer port access for the VESDA Vconfig Pro software program as used on larger systems
- Single LED that indicates local status information
- Capability of driving a remote LED (ordered separately)

Trouble conditions are also communicated:

- Mechanical problems are received as sensor troubles
- Electrical problems are received as "no answer" troubles
- Additional details are indicated by the sensor LED and by accessing sensor diagnostics

Compatible with Simplex® 4100/4120/4100U fire alarm control panels:

- Communications are via either MAPNET II or 4100U IDNet addressable formats**
- Connection is to the same SLC (signaling line circuit) with other devices such as addressable manual stations, TrueAlarm area smoke sensors, addressable control modules, etc.
- Communications are as a single device and connection is direct to the SLC without requiring a dedicated interface
- For panels with revision 8.01 or higher software

Three threshold levels are programmable from the fire alarm control panel with typical selections as:

- Stage 1 – Alert at 0.016 to 0.6218% obscuration/ft
- Stage 2 – Pre-Alarm at 0.03 to 0.6234% obscuration/ft
- Stage 3 – Alarm at 0.05 to 4.08% obscuration/ft

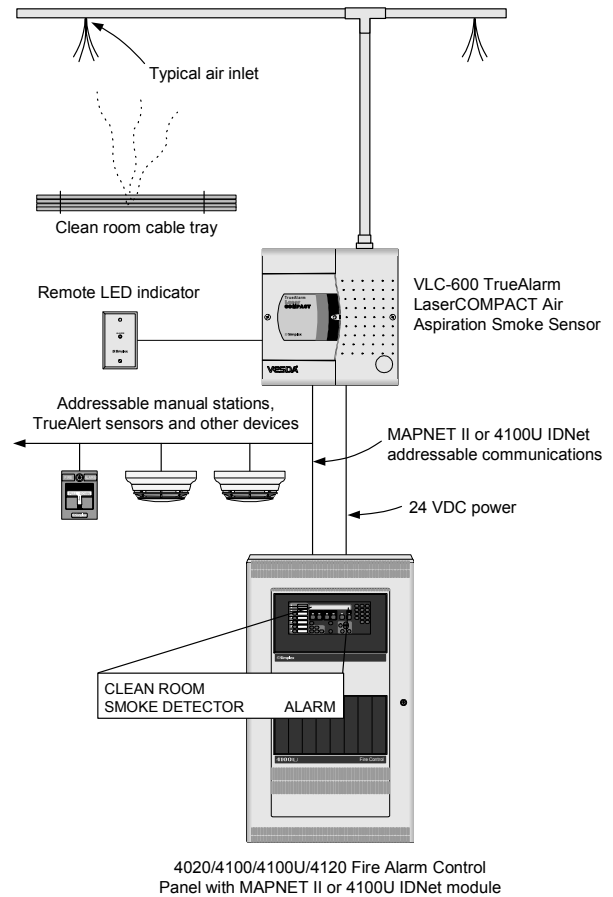
Sampling pipe network:

- Uses standard Vision Systems pipe and inlet in accordance with Vision Systems Aspire™ design tool

UL listed to Standard 268 (URXG)

* Product listings for model VLC-600 are by Vision Systems Inc. This product was not approved by FM, MEA (NYC), or CSFM as of document revision date. Additional listings may be applicable; contact your local Simplex product supplier for the latest status.

** TrueAlarm analog sensing is protected under one or more of the following U.S. patents: 5,155,468; 5,173,683; 5,543,777; 5,400,014; 5,552,765; 5,552,763; 4,796,025. MAPNET II and IDNet addressable communications designs are protected by U.S. Patent No. 4,796,025.



TrueAlarm LaserCOMPACT System Connections

Description

Air aspiration technology smoke detection operates by actively drawing in air for sampling in a high intensity, stable detection chamber. The Model VLC-600 TrueAlarm LaserCOMPACT smoke detector uses the latest in VESDA sampling technology including a highly efficient laser light source and a dual stage dust filter.

TrueAlarm analog sensing occurs when the TrueAlarm LaserCOMPACT sensor communicates smoke chamber information to the connected fire alarm control panel. The panel evaluates the smoke sensor information against three programmed thresholds and declares an alarm or pre-alarm condition depending on smoke chamber activity.

Status communications. In addition to smoke chamber information, the TrueAlarm LaserCOMPACT also advises the fire alarm control panel of local trouble conditions. Troubles may include dirty filter, airflow restriction or failure, etc. Specific details are stored in memory at the sensor location.

Operation

Filtered air flow. A high efficiency aspirator continually draws air through a simple pipe network to a central detector. Air entering the sensor housing passes a flow sensor before the sample is passed through a dual-stage dust filter. The majority of air is exhausted from the detector and where required, back vented to the protected area. The first stage of the air filter removes dust and dirt from the air sample before it enters the smoke detection chamber. A second, ultra-fine filter stage provides a clean air supply to be used inside the detection chamber to form clean air barriers which protect the optical surfaces from contamination.

Operation (Continued)

Laser detection chamber. The detection chamber uses a stable, highly efficient laser light source and unique sensor configuration to achieve optimum response to a wide range of smoke types. When smoke passes through the detection chamber, it creates light scattering which is detected by very sensitive sensor circuitry. The analog level of the sensor is then communicated to the fire alarm control panel for comparison to pre-selected alarm thresholds.

Status logging. The sensor status history for all alarms, service, and fault events, is monitored and logged with time and date stamps within the electronics of the sensor, accessible via the local computer port. General trouble status indications are communicated to the panel as either sensor troubles or “no answer” troubles.

Product Selection

Model	Description
VLC-600	TrueAlarm LaserCOMPACT Smoke Sensor (sampling pipe is ordered separately)
2098-9808	Remote Red LED Status Indicator on single gang stainless steel plate; mounting requires a single gang box, 1-1/2" minimum depth; connections are color coded wire leads

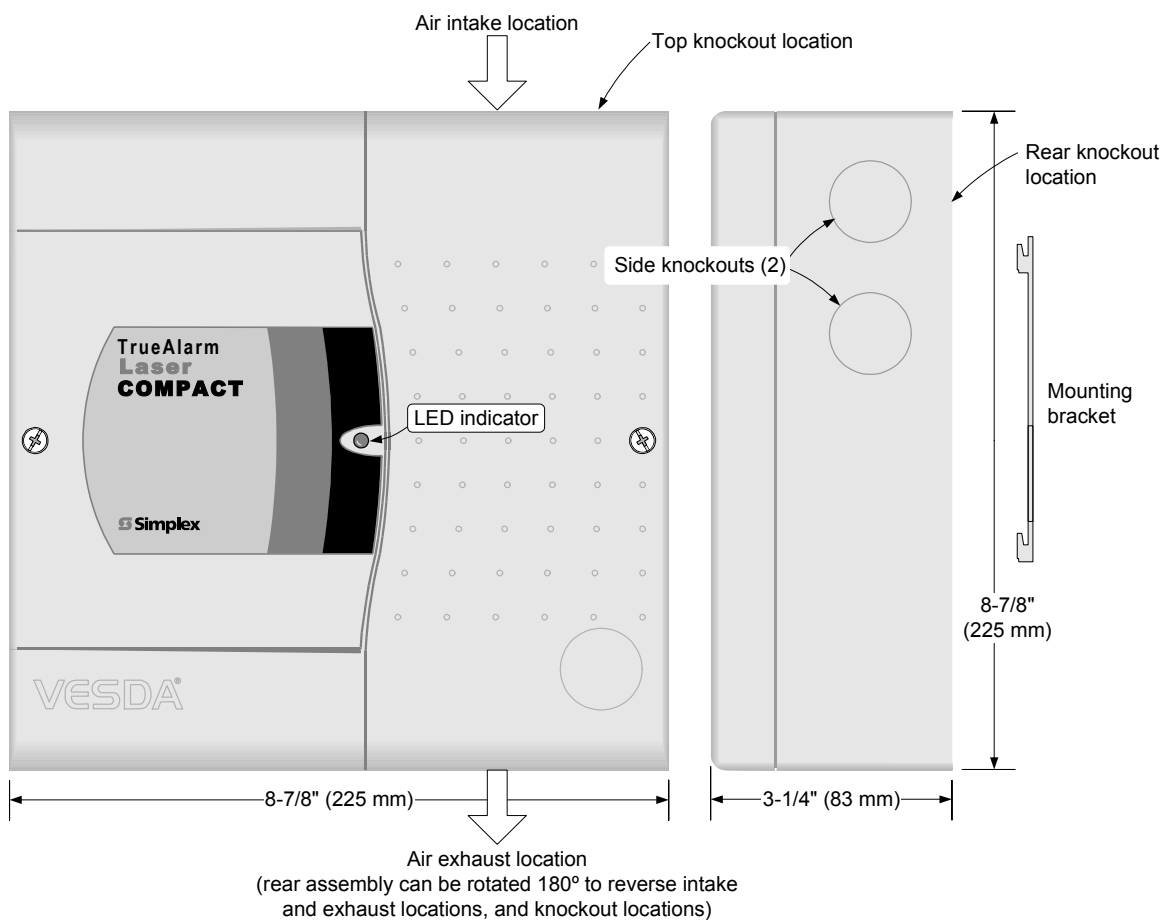
Specifications

Sensor Voltage	18 to 30 VDC, supplied from fire alarm control panel	
Sensor Current	Supervisory	175 mA
	Alarm	190 mA
Communications	Compatibility	MAPNET II or 4100U IDNet addressable communications, automatically selected
	Loading	One address, one unit load per sensor
Electrical Terminations	Terminal blocks for 18 to 12 AWG	
Operating Conditions	Sensor Ambient	14° F to 103° F (-10° C to 39° C)
	Sampled Air	-4° F to 140° F (-20° C to 60° C)
	Sensor Humidity	10-95% RH, non-condensing
Sampling Network	Maximum area of coverage = 5000 ft ² (500 m ²), maximum pipe length in accordance with Vision Systems computer design tool (ASPIRE™) and NFPA standards	
Alarm Sensitivity Range	0.016% to 4.08%/ft obscuration, selected at the fire alarm control panel	
Recognized Sensitivity Levels	Three levels, selectable and designated as required at the fire alarm control panel	
Sensor Service Access	Internal DB-9, RS-232 connection for a service computer using VESDA Vconfig Pro software program (authorized service access only)	
Enclosure Rating	NEMA 1 (IP 30)	
Weight	4.2 lbs (1.9 kg)	

LED Status Indications

Indication	Meaning
OFF	Power off or active sensor is waiting for panel communications
ON for approximately 3 seconds	Power up self-test due to sensor being in reset cycle
ON Steady	Alarm condition as commanded from panel
1 pulse approximately every 4 seconds	Normal operation, pulse indicates communications with panel
3 pulses (2 Hz rate every 2 seconds)	Internal fault, not communicating with panel, sensor needs internal service diagnostics or replacement

Mounting Information



Tyco, Simplex, the Simplex logo, TrueAlarm, MAPNET II, and IDNet are trademarks of Tyco International Services AG or its affiliates in the U.S. and/or other countries. VESDA, LaserCOMPACT, and ASPIRE are trademarks of Vision Products Pty. Ltd.



Westminster, Massachusetts 01441-0001 USA www.simplexnet.com

S4098-0036 3/02

*© 2002 Simplex Time Recorder Co. DBA TEPG-US (a Tyco company). All rights reserved.
All specifications and other information shown were current as of document revision date and are subject to change without notice.*