VESDA LaserSCANNER™

UL S5198, ULC CS729, FM 1DOA4.AY, CSFM 7259-1491:105, NY-MEA 101-98-E
LPC, SSL, VdS

FEATURES

- *Individual Pipe Identification*
- *Adaptive Scan Threshold*
- *Wide Sensitivity Range*
- *Laser Based Smoke Detection*
- *VESDAnet™ Communication*
- *4 Alarm Levels per Sector*
- *High Efficiency Aspirator*
- *Dual Stage Air Filter*
- *Easy to Replace Air Filter*
- *7 or 12 Programmable Relays Option*
- *AutoLearn™*
- *Referencing*
- *Event Log*
- *Recessed Mounting*

The LaserSCANNER is similar to the standard LaserPLUS detector, but also includes a valve mechanism in the inlet manifold and software to control the airflow from the four VESDA sectors (pipes). This configuration enables a single VESDA zone to be divided into four separate sectors, for example, distinguishing between separate voids within a room.

How It Works

The LaserSCANNER draws air from all sectors in use. If the smoke level reaches the Adaptive Scan Threshold, the LaserSCANNER quickly scans each pipe to identify which pipe is carrying smoke. If more than one pipe is transporting smoke, the sector with the highest smoke concentration is designated as the First Alarm Sector (FAS).

Once Fast Scan is completed and the FAS identified, the LaserSCANNER continues to closely monitor all four sectors (pipes) to monitor fire growth and maintain full protection of the area.

There are four alarm levels (Alert, Action, Fire 1 and Fire 2) for each sector (pipe) and the sensitivity for each alarm level can be set to ensure the optimum alarm thresholds are applied for each sector.

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The LaserSCANNER Display

The LaserSCANNER display has a bar graph to indicate the overall smoke level, alarm thresholds and fault indication. The bar graph displays the individual sector smoke levels during the scanning sequence. There is an extra LED to indicate that a First Alarm Sector (FAS) has been identified and an extra function to the Silence Button to allow for Manual Scan to be initiated.

The LaserSCANNER display module can be mounted into the LaserSCANNER front cover or remotely into a 19in subrack or a Remote Box.

Relay Options

The LaserSCANNER detector can be fitted with a programmable 7 or 12 relay Termination card. Relays may be mounted in a remote box or in a 19in subrack.

VESDAnet™

The status of the detector, and all alarm, service and fault events, are transmitted to displays and external systems via VESDAnet, VESDA's fault tolerant communications protocol. The VESDAnet loop provides a robust bi-directional communication network between devices, even allowing continued operation during single point wiring failures. It also provides system programming from a single location and forms the basis of the modular nature of the VESDA system.

AutoLearn™ and Referencing

The LaserSCANNER has both the AutoLearn™ and Referencing software functions to ensure optimum operation in different environments and to eliminate the occurrence of nuisance alarms.

AutoLearn monitors the ambient environment and sets the most appropriate alarm thresholds (Alert, Action, Fire 1, Fire 2) during the commissioning process.

Referencing ensures external pollution to a protected environment does not interfere with the true smoke level being detected.

VESDA LaserSCANNER Specifications

Supply Voltage: *18 to 30VDC*

Power Consumption @ 24VDC: *No Display or Programmer*

	Aspirator @ 3000rpm		***Aspirator @ 4200rpm***	
	Quiescent	*With Alarm*	*Quiescent*	*With Alarm*
Power	*5.8W*	*7.4W*	*9.6W*	*11.28W*
Current	*240mA*	*310mA*	*400mA*	*470mA*

Dimensions (WHD):
13.8in x 8.9in x 4.9in (350mm x 225mm x 125mm)

Weight: *9lbs (4.0kg) including Display and Programmer modules*

Operating Conditions:
Detector Ambient: 32° to 103°F (0 °C to 39 °C)
Sampled Air: -4° to 140 °F (–20° to 60 °C)
Humidity: 10-95% RH, non-condensing
Please consult Ansul for operation outside these parameters.

Sampling Network:
Maximum area of coverage: 20,000 sq. ft.
Maximum pipe length in accordance with Computer Design Tool (ASPIRE™) and NFPA standards.

Pipe Size: *Minimum flow per pipe 15 liters/min.*
External Diameter 1in (25mm)
Internal Diameter 9/16in - 7/8in (15-21mm)

Programmable Relays: *7 or 12 Relays option*
Contacts rated 2A @ 30VDC
Default: 7 Relays: NO/NC contacts Alert, Action, Fire 1, Fire 2, Maintenance, Urgent Fault & Isolate
Default: 12 Relays: 10 x NO, 2 x NO/NC contacts Alert, Action, Fire 1, Fire 2, Maintenance, Urgent Fault & Isolate,
First Alarm Sector 1 to 4 and Scan

IP Rating: *IP30*

Cable Access:
1in (8 x 25 mm) knockouts in various positions

Cable Termination:
Screw terminals 30-12 AWG (0.2-2.5sq mm)

Sensitivity Range:
0.0015 to 6% obs/ft (0.005 to 20% obs/m)

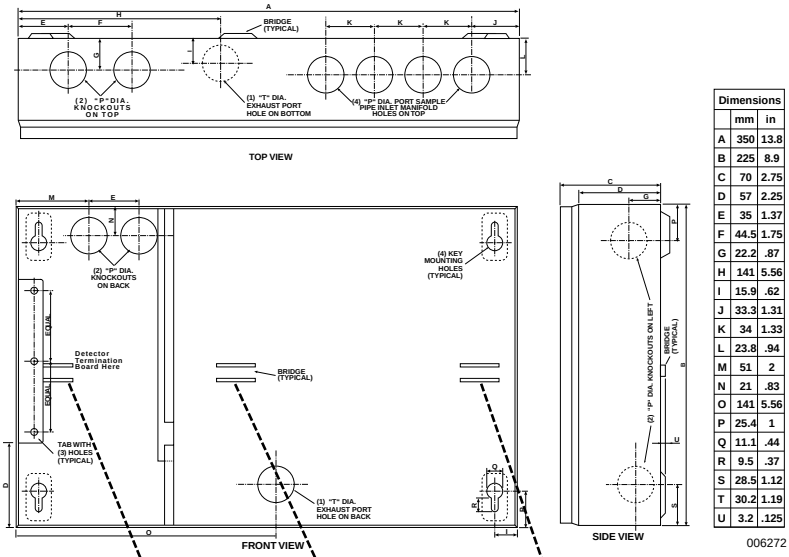
Alarm Threshold Setting Range:
Alert: 0.0015 - 0.6218% obs/ft (0.005 - 1.990% obs/m)
Action: 0.0031 - 0.6234% obs/ft (0.010 - 1.995% obs/m)
Fire 1: 0.0046 - 0.625% obs/ft (0.015 - 2.00% obs/m)
*Fire 2: 0.0062 - 6.25% obs/ft (0.020 - 20.00% obs/m)**
**Limited to 4% obs/ft (12% obs/m) in UL mode*

Software Features:
Event Log: Up to 18,000 events stored on FIFO basis.
AutoLearn: Minimum 15 minutes, maximum 15 days. Recommended minimum period 1 day. During AutoLearn thresholds are NOT changed from pre-set values.
Referencing: Compensation for external ambient conditions
Four Alarm Levels (per sector pipe): Alert, Action, Fire 1 & Fire 2
Two Fault Warning Levels: Maintenance and Major fault
Software Programmable Relays: 7 or 12
Maintenance Aids: Filter & Flow monitoring.
Event reporting via VESDAnet or Event Log.
Adaptive Scan Threshold: Detector selects the appropriate scan threshold automatically

Ordering Information:

Remote Programmer	*VRT-100*	*(Part No. 430380)*
Recessed Mounting Kit (Optional)	*VSP-011*	*(Part No. 430471)*
Hand-held Programmer	*VHH-1000*	*(Part No. 430444)*
19 in Sub Rack Configuration		*Contact Ansul*

Detector Mounting Box



Dimensions		
	mm	in
A	350	13.8
B	225	8.9
C	70	2.75
D	57	2.25
E	35	1.37
F	44.5	1.75
G	22.2	.87
H	141	5.56
I	15.9	.62
J	33.3	1.31
K	34	1.33
L	23.8	.94
M	51	2
N	21	.83
O	141	5.56
P	25.4	1
Q	11.1	.44
R	9.5	.37
S	28.5	1.12
T	30.2	1.19
U	3.2	.125

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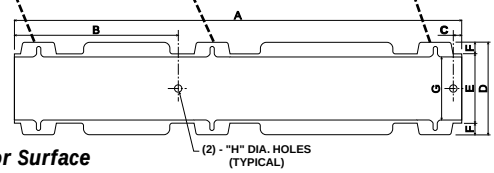
Detector Surface Mounting Bracket



Dimensions		
	mm	in
A	337.3	13.25
B	130.8	4.87
C	14.5	.28
D	70.6	2.81
E	50.6	2.06
F	10.0	.37
G	47.62	1.87
H	6.35	.25

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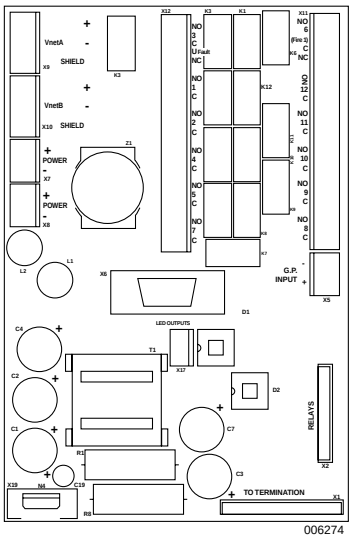
Detector Termination Card
12 Relay Version



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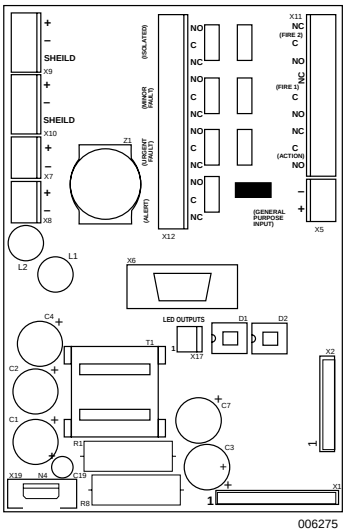
Detector Termination Card
7 Relay Version



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