

Intelligent Detectors and Bases

Detectors: V-PS, V-PHS, V-HFD, V-HRD

Bases: B4U, RB4U, IB4U, SB4U



Overview

Edwards Vigilant brand intelligent analog detectors are meticulously engineered to deliver high-performance features, superb reliability, and unbeatable quality. With their highly stable design, these detectors resist air movement caused by heating and air conditioning, making them reliable performers ideally suited to modern building interiors.

The installation and maintenance advantages of Vigilant brand intelligent detectors add value throughout their service life. The twist-and-lock design makes short work of installation and maintenance operations. A plastic breakout on the detector housing optionally prevents removal from the base except with a special tool.

A bright, easy-to-see LED flashes red when the detector is in alarm, thus eliminating much of the guesswork when responding to front-panel indications.

- **The V-HFD** is fixed-temperature heat detector with an alarm threshold of 135° F (57° C).
- **The V-HRD** is a rate-of-rise heat detector calibrated for 15°F (8°C) per minute.
- **The V-PHS** houses an optical sensing chamber that detects smoke, as well as a fixed-temperature sensor that detects heat. The detector analyzes data from both sensors to determine when an alarm is initiated.
- **The V-PS** houses an optical sensing chamber that detects smoke.

All detectors feature comprehensive self-diagnostic capability. V-PS and V-PHS optical detectors continuously adjust their sensitivity to compensate for changes in the environment such as the presence of dirt, smoke, temperature, and humidity. These detectors issue a dirty sensor warning when they reach their preset limit.

Standard Features

- Optical, heat, and multisensor models available
- Compatible standard, relay, isolator, and audible bases
- Field replaceable optical chamber
- Electronic Addressing including mapping location
- Bases mount to standard North American two-gang or 4" square electrical boxes
- Dual color LED provides at-a-glance alarm indication
- Tamper-resistant feature
- Self diagnostic capability with on-board storage of results
- Optical detectors feature automatic rate compensated sensitivity adjustment, as well as dirty sensor warnings
- Manufactured to strict international ISO 9001 standards
- Assembled using surface mount technology for RF resistance
- Conformally coated components resist dust and humidity
- Automatic detector test
- Low Profile Design

Specifications, SB4U Audible Detector Base

Operating voltage	24 VDC or 24 VFWR, nominal
Operating current	See Table 1
Supervisory current	DC = 1.46 mA, FWR = 2.15 mA
Default settings	
Output volume	High dBA
Output tone	Temporal pattern
Sound level output	See Table 2
Temporal pattern	0.5 s on, 0.5 s off, 0.5 s on, 0.5 s off, 0.5 s on, 1.5 s off, repeat cycle
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)
Storage temperature	-4 to 140°F (-20 to 60°C)
Compatible detectors	V-PS, V-PHS, V-HRD, and V-HFD detectors
Compatible electrical boxes	North American 2-1/2 in. (64 mm) deep 2 gang box Standard 4" square box 1-1/2 in. (38 mm) deep box European 100 mm square box
Wire size	12, 14, 16, or 18 AWG wire (2.5, 1.5, 1.0, or 0.75 sq. mm) (Sizes 16 and 18 AWG are preferred)
Base diameter	6.0 in. (152 mm)
Height from box (including detector)	2.58 in. (66 mm)
Maximum distance from ceiling (wall mount)	12 in. (305 mm)

Operating current in mA (RMS)

Voltage	Low dBA	High dBA
16 VDC	17	28
24 VDC	24	41
33 VDC	31	52
16 VFWR	41	48
24 VFWR	51	60
33 VFWR	60	66

VDC = Volts direct current, regulated and filtered
VFWR = Volts full wave rectified

Sound level output (dBA)

Signal	Voltage	Low dBA	High dBA
Reverberant room per UL 464 [1]			
Temporal	16 VDC	71.3	77.2
	24 VDC	75.0	79.8
	33 VDC	77.7	81.5
Steady	16 VDC	75.8	80.5
	24 VDC	79.2	84.1
	33 VDC	82.0	86.0
Reverberant room per UL 268 [2]			
Temporal	16 VDC	77.3	83.2
	24 VDC	81.0	85.8
	33 VDC	83.7	87.5
Steady	16 VDC	81.8	86.5
	24 VDC	85.2	90.1
	33 VDC	88.0	92.0

dBA = Decibels, A-weighted

[1] For UL 464 applications, low dBA settings are for private mode only

[2] For UL268 applications, high setting must be used for evacuation

Specifications, Detectors

	V-PHS	V-PS	V-HRD	V-HFD
Air velocity	0 to 5,000 ft/min (0 to 25.39 m/s)		N/A	
Smoke sensitivity range	0.67% - 3.66%		N/A	
ULI fixed-temp alarm rating	135°F (57°C)	N/A		135°F (57°C)
ULC fixed-temp alarm rating	140°F (60°C)	N/A		140°F (60°C)
Maximum Spacing	30 ft (9.1 m)			50 ft (15 m) centers
Rate-of-Rise	N/A		15°F (8°C)/min.	N/A
Operating voltage	15.2 to 19.95 VDC			
Normal operating current	45 µA, average			
Alarm current	45 µA, average			
Environmental compensation	Automatic			
Compatible bases	B4U Standard, RB4U Relay, IB4U Isolator, SB4U Audible			
Maximum distance from ceiling wall-mounted	12 in (305 mm)			
Storage temperature	-4 to 140°F (-20 to 60°C)			
Operating environment	Temperature: 32 to 120°F (0 to 49°C); Humidity: 0 to 93% RH, noncondensing at 90°F (32°C)			
Agency listings	Meets UL 268, ULC-S529-02, UL 521, ULC-S530-M91, NFPA 72, and CAN/ULC S524-01	Meets UL 268, ULC-S529-02, NFPA 72, and CAN/ULC S524-01	Meets UL 521, ULC-S530-M91, NFPA 72, and CAN/ULC S524-01	

Specifications, Bases

	B4U Standard Base	IB4U Isolator Detector Base	RB4U Relay Detector Base
Operating environment	32 to 120°F (0 to 49°C)		
Temperature	0 to 93% RH, noncondensing at 90°F (32°C)		
Humidity	-4 to 140°F (-20 to 60°C)		
Storage temperature range	V-PS, V-PHS, V-HRD, and V-HFD detectors		
Compatible detectors	North American 2-1/2 in. (64 mm) deep 2 gang box Standard 4 in. square box 1-1/2 in. (38 mm) deep box European 100 mm square box		
Compatible electrical boxes	12, 14, 16, or 18 AWG wire (2.5, 1.5, 1.0, or 0.75 sq. mm) (Sizes 16 and 18 AWG are preferred)		
Wire size	6.0 in. (152 mm)		
Base diameter	2.08 in. (53 mm)		2.57 in. (65 mm)
Height from box (including detector)	12 in. (305 mm)		
Maximum distance from ceiling (wall mount)			

Ordering Information

Model	Description	Ship Wt.: lb. (kg)
V-PHS	Intelligent Analog Optical/Fixed Temperature Detector	0.25 (0.11)
V-PS	Intelligent Analog Optical Smoke Detector	0.25 (0.11)
V-HRD	Intelligent Analog Rate-of-Rise Heat Detector	0.25 (0.11)
V-HFD	Intelligent Analog Fixed Temperature Heat Detector	0.25 (0.11)
B4U	Standard Base	0.11 (0.05)
RB4U	Relay Detector Base	0.11 (0.05)
IB4U	Isolator Detector Base	0.11 (0.05)
SB4U	Audible (Sounder) Detector Base	0.11 (0.05)
AB4G-SB	Surface Box for Audible Base	1.0 (0.45)
RLED	Remote alarm LED, use with standard base only	0.2 (.09)