

PRODUCT DATASHEET

AutroGuard® V-530 multicriteria protector series

Features

- Certification according to IEC61508 SIL2 (pending)
- Available in EX ia and EX ic versions
- MultiAngle/MultiWavelength optical smoke sensing technology
- Rate of Rise Heat sensing technology
- 3 certified smoke sensitivity classes
- 6 certified Heat Response Categories
- Integrated sounder (optional)
- Integrated visual alarm device (VAD) (optional)
- Occupies only one address even with visual alarm device and sounder
- 360° visible integrated dual color LED indicator
- Ultra-low current consumption
- Automatic addressing in the base
- Patented rotatable bayonet ring for easy and reliable mounting
- Integrated short circuit isolator in the base
- Integrated tag holder on the base

Application/Description

AutroGuard® V-530 is SIL2-certified (pending) multicriteria protector series. Specific Ex ia or Ex ic versions are available for use in use in intrinsically safe areas EX zone 0, 1 and 2. It provides a new generation technology that simplifies installation and commissioning, and increases fire safety.

Extreme sensor dynamics provide reliable detection that has greatly reduced detection time and nuisance alarms, and expanded the use to cover even more application areas. The type of operation is configurable to Heat, Optical or Multisensor, covering several applications.

It has a wide range of fire safety features included in one single device, providing significant reduction of wiring and installation costs - and a cleaner look.

The self-sensing technology ensures that the protector is as reliable as when it left the factory for its entire life cycle.



DYFI^{3D} technology

AutroGuard® utilizes *DYFI^{3D}* technology; MultiAngle/ MultiWavelength detection with advanced algorithms analyze the unique signatures for each type of fire and nuisance source in a 3D space, enabling the protector to accurately distinguish between real fires and nuisance alarm sources.

SelfVerify

The SelfVerify system function provides a calibrated and automatic self-test every 24 hours. It tests the signal path to the system panel, alarm devices and output units. In this way, the self-test ensures that the protector is able to initiate an alarm when it should, and at the correct sensitivity level according to EN 54 part 5 and 7 throughout its lifetime.

Additionally, an advanced Pulse Response Signal analysis is run every other second, verifying 100 % of the components in the signal chain and 99% of the components in the protector.

Cover Detection

AutroGuard® V-530 provides Cover Detection as a standard feature. We use ultraviolet light to detect if the protector is covered by a dust cap or any other object, and a fault message will appear. The feature can be turned off during maintenance.

Integrated sounder (not available for UL variants)

AutroGuard® can be delivered with an integrated EN 54-3 approved sounder. (optional). Sound patterns and sound levels are configurable, with a maximum output sound output of 93 dBA at 1 m range.

Integrated Visual Alarm Device (VAD)

AutroGuard® can be delivered with a high efficiency EN 54-23 compliant integrated Visual Alarm Device (VAD) (optional). The VAD is available in white color, and is configurable to 4 different intensities. The flash rate is configurable (1 or 2 sec.)

Operation classes

AutroGuard® can be set to three different *Operation Classes*, allowing you to choose the protector’s detection method and calculation.

Operation class	Description
Multi	Optical and heat detection (Heat Response Categories (EN 54-5) apply)
Heat only	Thermal detection only (Heat Response Categories (EN 54-5) apply)
Smoke only	Optical detection only

Sensitivity classes

AutroGuard® can be programmed to three different sensitivity classes, with a fourth, extra high class for specific variants.

Sensitivity class	Application
High	Clean environments, for example laboratories, data rooms etc.
Medium	Normal environments, for example offices and hospitals etc.
Low	Industrial environments, for example, factories and warehouses etc.
Extra high (Not EN 54 compliant)	Electrical installations, cabinets, server rooms etc. (Available in specific variants)

Heat response categories

AutroGuard® can be set to six different heat response categories (EN 54-5).

Category	Typical application temperature °C	Maximum application temperature °C	Minimum static response temperature °C	Maximum static response temperature °C
A1	25	50	54	65
A1S	25	50	54	65
A1R	25	50	54	65
A2S	25	50	54	70
B	40	65	69	85
C*	55	80	84	100

*Applies to heat only

Technical specifications

Dimensions	See “Dimensions and outlines”	
Weight	127 g (172 g including base)	
Housing material	PC ABS, flammability classification UL94 V-0	
Colour	White: RAL9010	
Ingress protection	IP44D (IP55 when used with conduit box)	
Current consumption base - Average	60 µA	
Current consumption protector - Average	60 µA	
Current consumption – Normal (base + protector)	120 µA	
Current consumption - alarm indicator (Red LED indicator ON)	1,8 mA	
Current consumption - fault indicator (Yellow LED indicator ON)	2.3 mA	
Quiescent Current Sounder	160µA (+ 120µA for protector and base)	
Quiescent Current VAD	320µA (+ 120µA for protector and base)	
Quiescent Current Sounder + VAD	360µA (+ 120µA for protector and base)	
Minimum and maximum rated operating voltage	10,0V - 26,0V for protector base 18,0V - 26,0V for protector base when add-on boards (VAD/Sounder) are mounted on protector	
Rated operating voltage (applies to UL variant)	24,0V for protector	
Average current consumption alarm	1,9 mA (the alarm current is the quiescent current + LED indicator current)	
Average current consumption with external LED	5,40 mA	
Sensitivity (applies to UL variant)	2.16% ± 0.54% %/ft obscuration	
Heat detector spacing (applies to UL variant)	30 x 30 ft	
Protector base	V-110 standard base with SIL2 approval, with remote LED output for protector series V-530 V-120 EX base with SIL2 approval, without remote LED output for protector series V-530	
System compatibility	<ul style="list-style-type: none"> • V-430/V-530: AutoSafe system version 4.11 or newer • System version 4.11.3 or newer is required for variants with integrated alarm devices. • AutoGuard Protectors require AutoSafe loop panel: version 1.6 or newer • AutoGuard Protectors require Autoprime version 2.2.0 • Loop Driver Module BSD-310/BSD-311 revision 7 or newer 	
Operating temperaturefor EN variants	-30 to +70 °C (+80 °C when configured to heat detection only)	
Operating temperature for V-530/EXIA	-30 to +70 °C	
Operating temperature for UL variants	0 to +38 °C	
Storage temperature	Maximum 85 °C	
Operating humidity	10 % - 95 % RH (non-condensing)	
Cable requirements	Minimum 0.14 mm ² / AWG26 Maximum 2.5 mm ² / AWG14	
Country of origin	Norway	
EN 54 approval	Heat	EN 54-5:2017
	Optical smoke	EN 54-7:2018
	Multisensor	EN 54-29:2015
	Short circuit isolator (Base)	EN 54-17:2005
Maritime approval (M variants)	MED B	
UL approval (UL variants are not EN54 approved)	Smoke and Multi: UL 268, ULCS529 Heat (only Heat Response Category A1 is UL approved): UL 521, ULC S530	
For details on certifications, see Autronica’s product web.		

Technical specifications, integrated visual alarm device (VAD)

VAD colour	VAD intensity	Current consumption VAD 0,5Hz (LED indicator not incl)	Current consumption VAD 1Hz (LED indicator not incl)	Description
White	High Intensity: C-3-12	21,0 mA	-	At a given mounting height, the <i>Coverage Volume</i> of a VAD is defined by the diameter of the coverage, given in meters. <i>Example:</i> C-3-12 corresponds to a ceiling-mounted device giving a coverage cylindrical volume of 12 m at 3 m height. For a white VAD, high intensity is to be configured.
	Medium Intensity: C-3-9	13,8 mA	-	
	Low Intensity: C-3-6	10,6 mA	20,8mA	
	Open Class O-2,5-4 (specified at 2.5 m height)	4.8 mA	8,9mA	
Red	High Intensity: C-3-8	19.7 mA	-	
	Low Intensity: C-3-5	12.8 mA	-	
	Open Class O-2,5-4 (specified at 2.5 m height)	8.5 mA	16,6mA	

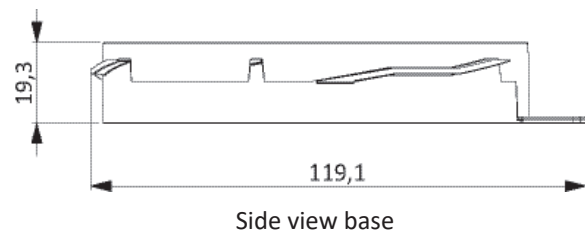
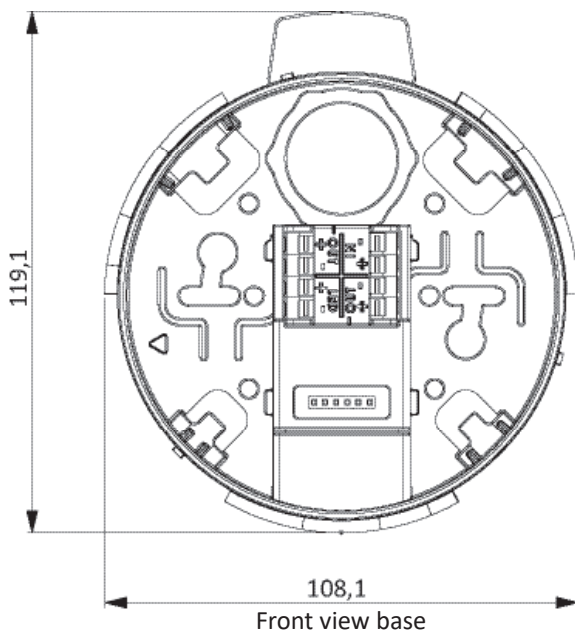
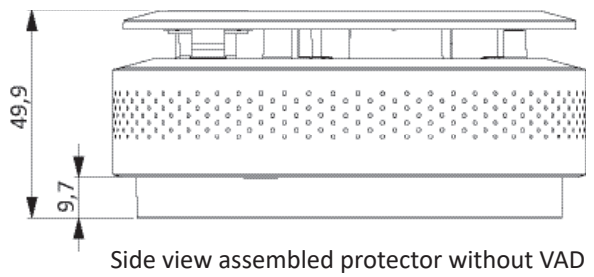
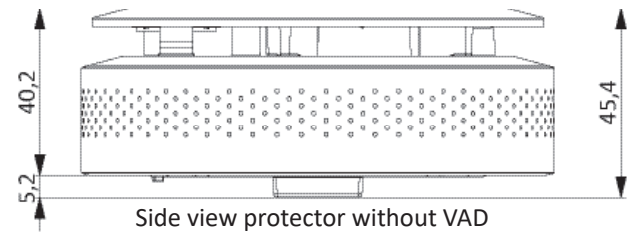
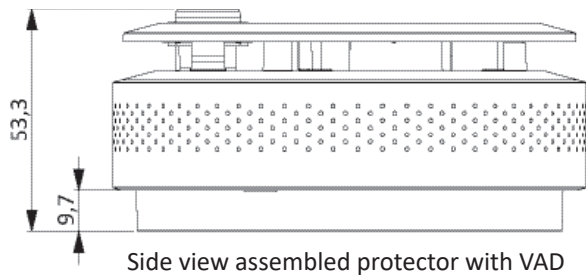
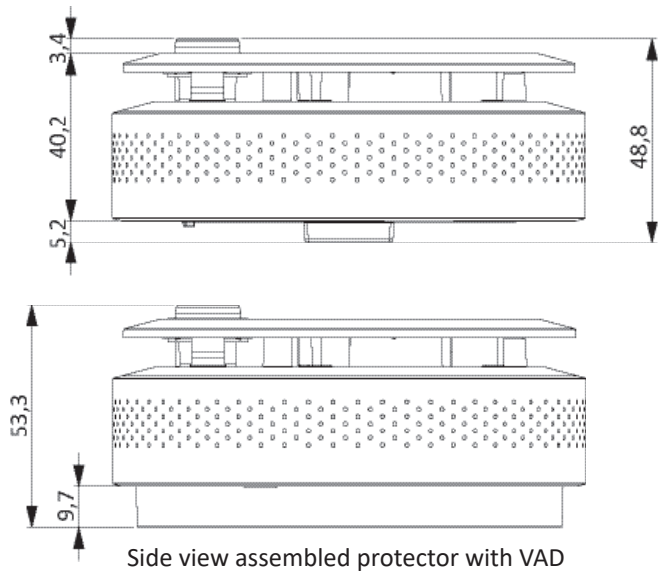
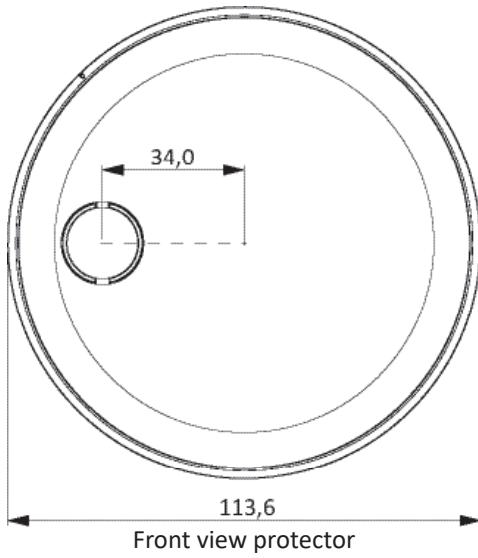
Technical specifications, integrated visual alarm device (VAD) and sounder

Technical specifications INTEGRATED VAD + Sounder						
VAD colour	VAD intensity	Current Consumption VAD + Sounder (LED indicator NOT included) 0,5Hz		Current Consumption VAD + Sounder (LED indicator NOT included) 1Hz		Description
White	High Intensity: C-3-12	23,3mA	26,9mA	-	-	At a given mounting height, the <i>Coverage Volume</i> of a VAD is defined by the diameter of the coverage, given in meters. <i>Example:</i> C-3-12 corresponds to a ceiling-mounted device giving a coverage cylindrical volume of 12 m at 3 m height. For a white VAD, high intensity is to be configured.
	Medium Intensity: C-3-9	16,1mA	19,7mA	-	-	
	Low Intensity: C-3-6	12,9mA	16,4mA	23,1mA	26,7mA	
	Open Class O-2,5-4 (specified at 2.5 m height)	7,1mA	10,6mA	11,2 mA	14,8 mA	
Red	High Intensity: C-3-8	22,0mA	25,5mA	-	-	
	Low Intensity: C-3-5	15,1mA	18,6mA	-	-	
	Open Class O-2,5-4 (specified at 2.5 m height)	10,8mA	14,3mA	18,9mA	22,4mA	

Technical specifications, integrated sounder (FAD)

Sound pressure (dB @ 1m)	High volume - maximum: 93 dBA @ 1 m range
Current consumption, sounder	High volume: 5.8 mA
	Low volume: 2.2 mA
Sound patterns	16 standard tone types/frequencies and corresponding ringing patterns are available. In addition, ringing patterns for the standard tone types/frequencies can be configured to meet other user requirements.

Dimensions and outlines (in mm)



Ordering information

Use the matrix to find the correct part number. The example below shows the type key for an intrinsically safe V-530 for zones 0, 1 and 2.

Model	Description	
V-530	AutroGuard® multicriteria protector with SIL2 approval (pending)	
	Type	Additional functions/alarm types
	Blank	No additional functions/output
	EXIA	Intrinsically safe for zone 0, 1 and 2. ATEX / IECEx / CSA / INMETRO must be specified.
	EXIC	Intrinsically safe for zone 2. ATEX / IECEx / CSA / INMETRO must be specified.
	S-VADW	Sounder and white VAD*
	Type	Colour
	Blank	White RAL9010
	Type	Extra features / Certification
	Blank	No extra features
	HS	Extra high sensitivity**
	UL	UL 268, ULC S529, UL 521, ULC S530

116- V-530 – EXIA – /

Example

Part number: 116-V-530-EXIA

*SIL2 certification (pending) is not available for sounder and white VAD functions. For detection only.

Sounder is not available for UL variants.

** Extra high sensitivity is available with EXIA and EXIC variants only.

Accessories

Part number	Description
116-WAS-2000	AS2000 loop diagnostic tool
116-BWP-143A/AG	Air duct sampling unit
116-BWP-143A-SS/AG	Air duct sampling unit in stainless steel
116-BWP-100/20/AG	Conduit box 20 mm
116-BWP-100/25/AG	Conduit box 25 mm
116-WBJ-220	AutroGuard removal tool
116-WBJ-5/07	Test gas
116-WBJ-10	Testfire smoke and heat sensor test tool