SCHALLER AUTOMATION

Safety for you and your engine

Oil mist detector for VISATRON® VN301plus 2 and 4-stroke engines



www.schaller-automation.com

Make your life easier and safer than ever

That's why we created VISATRON® VN301 plus



Function overview

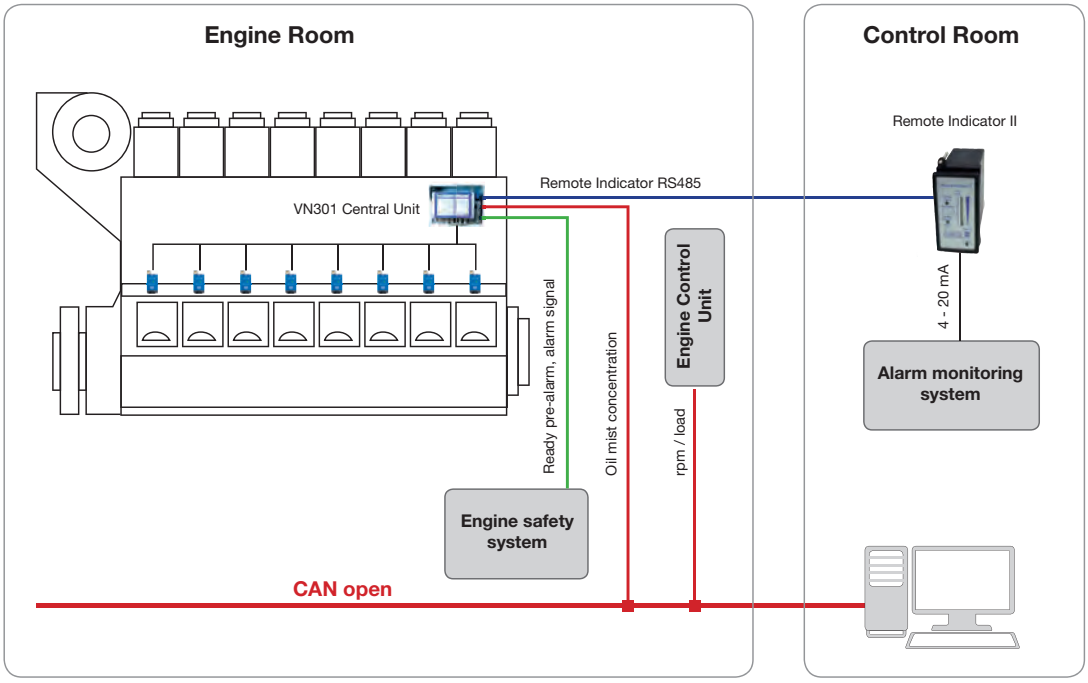
The day-to-day mission of Schaller is to detect potentially harmful operating conditions in which hazardous oil mist is released as a result of bearing damage. In extreme cases, these oil mists which consist of tiny oil particles have a tendency to cause an explosion in the crankcase of the engine – Schaller oil mist detection systems represent the last reliable safeguard against such accident.

In order to respond to today's market demands, we at Schaller have put considerable thought into how we could make our product even safer and simpler.

For Schaller, "safety first" is not just an empty phrase or marketing slogan, it has been part and parcel of our corporate culture and practised every day for more than 60 years. Our VN301plus is based on 50 years of experience in oil mist detection.

The VN301plus system consists of a central unit to which up to 20 sensors (Master-Slave version) can be connected. Each sensor monitors one crankcase compartment independently and is an standalone unit. When a sensor is replaced, the surrounding

1-10 sensors



sensors ensure that the crankcase is monitored.

Flexibility and outstanding safety

Our hybrid cable solution offers flexible installation options and, as always, offers the benefits of our technology which is based on the Venturi principle.

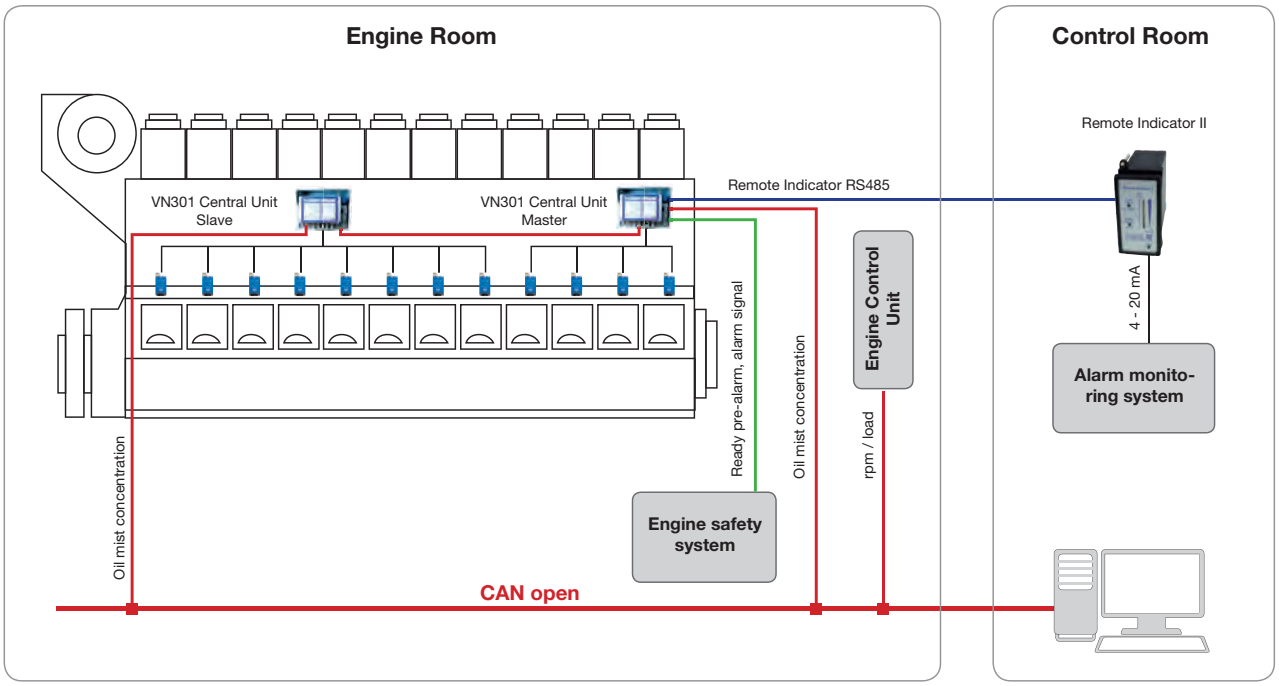
And what's more, there are no wear parts or time-consuming repairs.

We use fresh air to keep our sensors completely clear of dirt. This reduces maintenance overheads significantly and rules out false alarms.

The no-frills display of our central unit means you quickly gain an overview of the system status. Our products are geared towards Industry 4.0 due to our CAN and Modbus interface options.

All of our know-how and many decades of experience has gone into making this product which means we can confidently say, ONE engine, ONE VN301^{plus}, FOR LIFE…

11-20 sensors



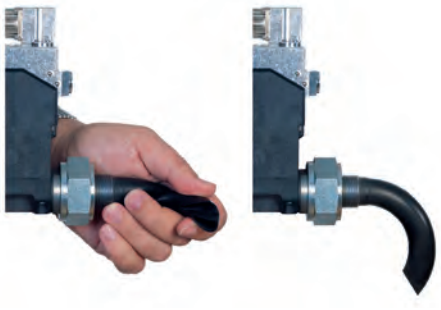
The sensor

The sensor consists of 3 parts

- Engine wall screw fitting
- Sensor
- Hybrid cable

Flexibility, simplicity and reliability this is how we control your operating costs more effectively.

The engine wall screw fitting allows the sensor to be mounted on the engine and also the intake and return flow of the crankcase atmosphere.



The engine wall screw fitting with its flexible intake funnel is mounted from the outside. Its form prevents splash oil from being drawn in and a false alarm being triggered. We can offer you a suitable engine wall screw fitting to match the engine wall thickness.



Thanks to the rugged compact design of our sensor, it can easily be mounted on every engine. Our VN301^{plus} can be attached to diesel/gas and dual-fuel engines. **Universal solution.**

Schaller has developed a sensor based on the Venturi principle that reduces spare parts and maintenance. It has been redesigned in order also to achieve a significant reduction in air consumption. **Keeping your operating costs under control.**

The sensor is connected to the central unit using our hybrid cable. The cable supplies compressed air and power to the sensor and facilitates exchange of data with the central unit. This means that our products can now communicate with Modbus or CAN Bus. Our hybrid line allows fast installation, adapts to every engine configuration and, due to its structure, protects the cable from damage due to external factors.

By using compressed air we provide active protection against soiling. Fresh air continuously flows round the measurement optics which means that oil cannot be deposited and trigger a false alarm. You will be notified by the central unit when the optics need to be cleaned to ensure monitoring continues smoothly.

Our latching system for the hybrid cable at the sensor also makes installation



easier. No special tool is required, transfer of data to the central unit is guaranteed.



More than 55,000 engines with outstanding protection

Central unit

The central unit of the VN301plus system has the following functions:

- **Distributing power supply to the sensors**
- **Providing the operator with the necessary information on the system status**
- **Programming and adjustment**

The central unit is designed to withstand extreme conditions such as vibrations or high temperatures at the engine. All important information is available at a glance.

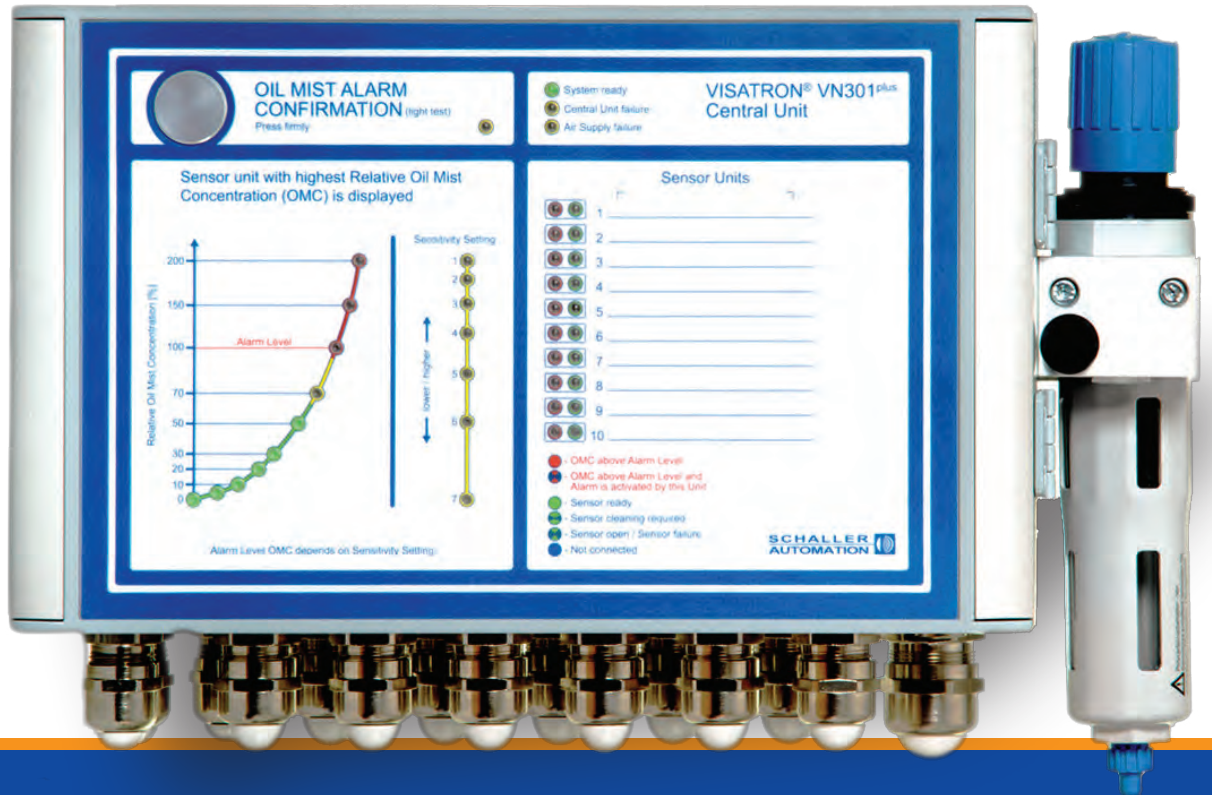
Up to 10 sensors can be connected to the central unit, and up to 20 as master-slave version.

Our new software makes it possible to calibrate the sensors so they are always perfectly adjusted to the engine operating conditions. Our tried and tested “floating-zero algorithm” adapts to the opacity in the crankcase arising from the operating conditions and therefore prevents false alarms.

The Remote Indicator 2 can be connected as an option, and is installed on the control desk in the engine control room.

The central unit can communicate with modern control systems via ModBus/ CAN Bus. All data on the system is stored in the central unit for analysis.

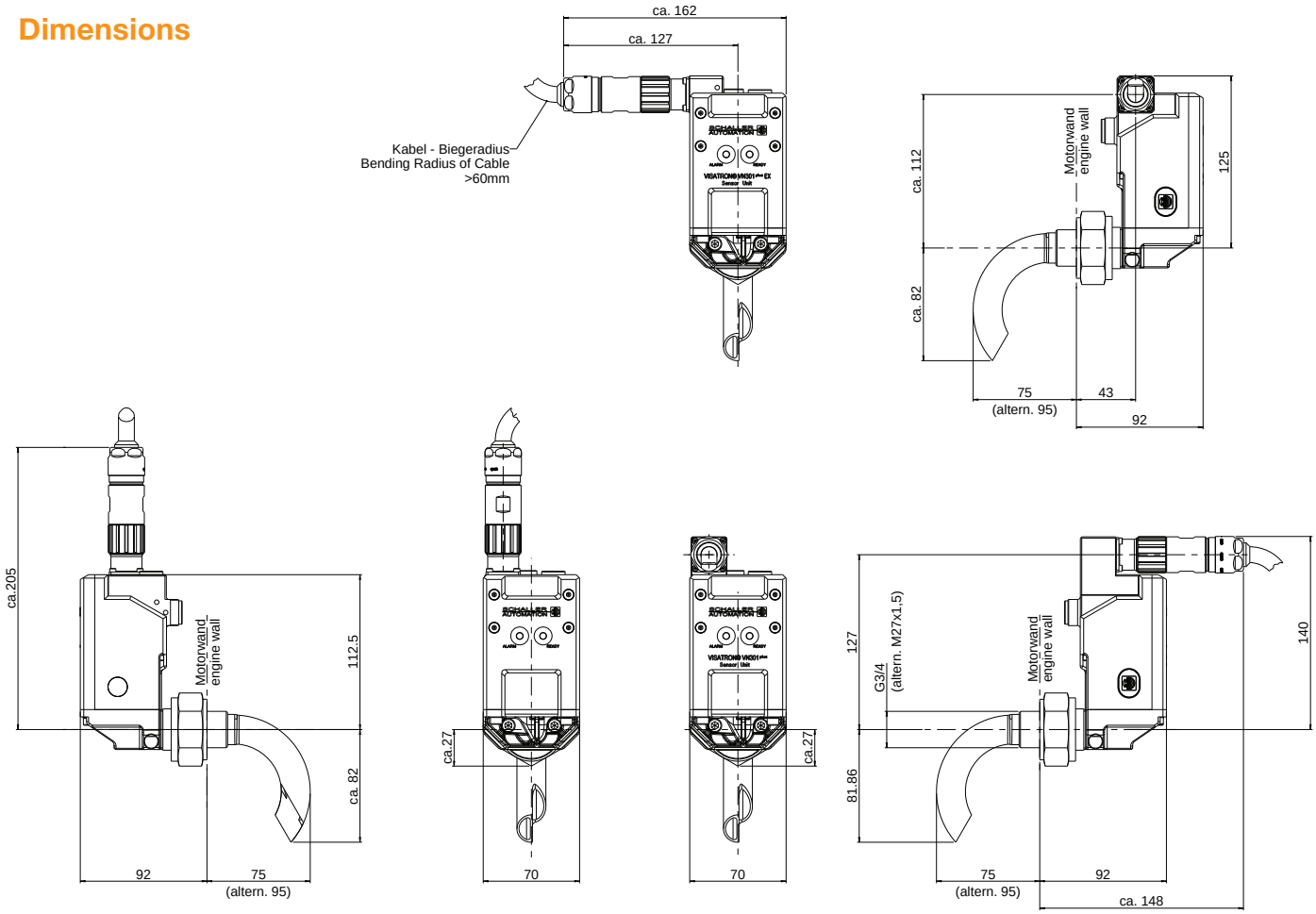
CLASSIFICATION SOCIETIES, CERTIFICATES
Compliant with IACS UR M67 and M10
ABS, BV, CCR (TAIWAN), CCS (CHINA), DNV-GL, KR, LR, NK, RINA, RS, ATEX
You can find the list of available certificates at: www.schaller-automation.com



VN301plus / VN301plus EX sensor unit

Sensor	
Type	Sensor VN301plus
Communication sensor - central unit	RS485
Display	Green : Ready Red : Alarm
Installation	G ¾“ M27 x 1.5
IP	IP 65
Housing	PPA + GF, halogen-free
Air pressure	2,5 bar
Weight	Sensor : 850 g Engine wall screw fitting : 350 g
Operating temperature	5°C-70°C
Max. length of hybrid cable	30 m
Atex classification (VN301PlusEX)	II -/2G Ex OP IS IIB T4-/Gb

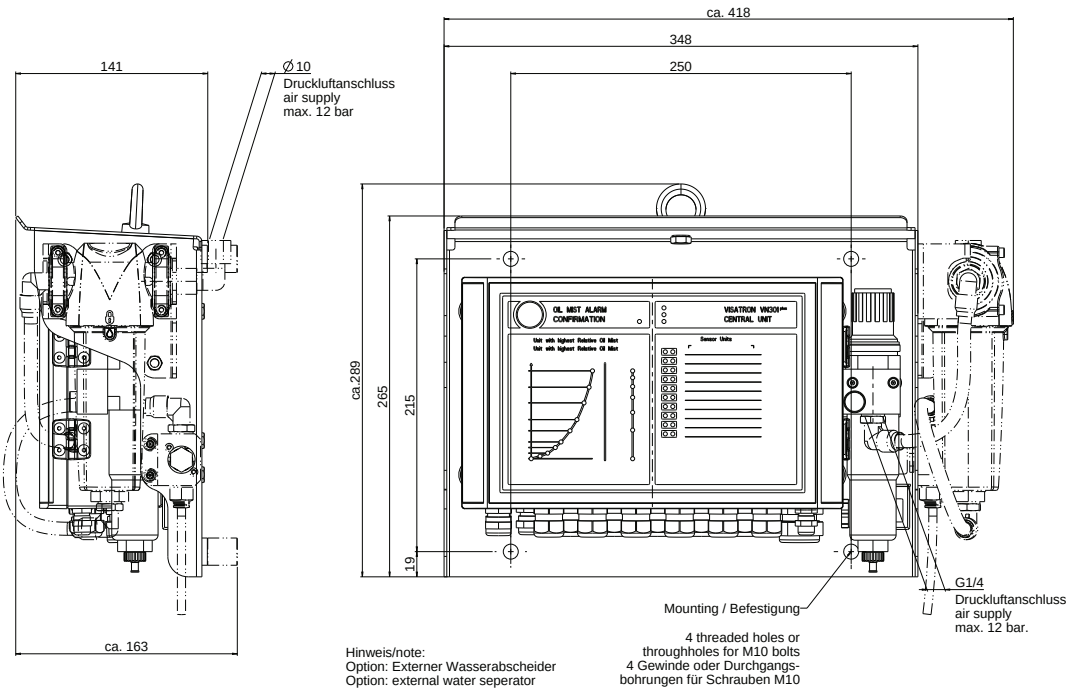
Dimensions



VISATRON® VN301plus central unit

Central unit	
Type	Central unit VN301plus
Communication interface	CAN open/ MODBUS (RS485)
Installation	4 x M10
Display	Oil mist concentration Alarm localisation Pressure setting System status Installation
IP	IP 65
Housing	Aluminium
Voltage	18 - 32 VDC
Current	max. 3A
Air pressure	max. 12 bar
Air pressure connection, pressure regulator	G 1/4”
Air quality	ISO 8573-1:2010 (6-4-4)
Weight	7 kg
Vibration	+/- 1.6 mm displacement or 4G (5-100 Hz)
Operating temperature	5°C - 70°C
Number of sensors	10 20 in master-slave configuration
Relay Output	2x oil mist alarm 1 x Ready 1 x pre-alarm
Storage	Events: 8000
Air humidity	max. 95%
Communication cable to sensor	Schaller hybrid cable, halogen-free

Dimensions



SCHALLER AUTOMATION

Safety for you and your engine: Worldwide!

Headquarters:
SCHALLER Automation
Industrielle Automationstechnik GmbH & Co. KG
Industriering 14
D-66440 Blieskastel
Tel.: +49 6842 508 0
Fax: +49 6842 508 260
Mail: info@schaller.de
www.schaller-automation.com

Key Account Management Center:
Singapore
Schaller Automation Pte Ltd.
114 Lavender Street
#09-93 CT Hub 2
Singapore 338729
Phone: +65 6643 5151 (24/7)
Fax: +65 6643 5150
Mail: info@schallersingapore.com

China
Schaller Automation - China
Room 401, Juyang Mansion No. 1200
Pudong Avenue,
Shanghai 200135, P.R.China
Phone: +86 - 21 - 5093 - 7566
Mobile: +86 - 1390 - 1890 - 736
Fax: +86 - 21 - 5093 - 7556
Mail: info@schallerchina.cn

USA
Schaller Automation LP
811 Shotgun Road
Sunrise, FL 33326
United States of America
Phone: +1 954 794 1950
Mobile: +1 561 289 1495
Fax: +1 954 794 1951
Mail: info@schalleramerica.com

ISO 9001/2015 certified

Image source: AIDA Cruises – German Branch of Costa Crociere S.p.A.