ODVCM-R

Multifunctional transmitter for harsh environments

ODVCM-R are multifunctional transmitters for harsh environments which measure temperature, relative humidity, and ambient light and detect a broad range of total volatile organic compounds (TVOCs). The TVOC concentration is an accurate indicator for indoor air quality. Based on the TVOC measurement, a CO_2 equivalent (CO_2eq) is calculated. Based on the temperature and relative humidity measurements, the dew-point temperature is calculated. They are Power over Modbus supplied and all parameters are accessible via Modbus RTU.

Key features

- Suitable for harsh environments
- Selectable temperature, relative humidity and TVOC / CO_2eq ranges
- Silicon based sensor elements for TVOC / CO_2eq measurements
- Bootloader for updating the firmware via Modbus RTU communication
- Day / Night detection via ambient light sensor
- Ambient light sensor with adjustable 'active' and 'standby' level
- Modbus RTU (RS485)
- Long-term stability and accuracy
- Replaceable TVOC sensor module

Technical specifications

Supply voltage		24 VDC, Power over Modbus
Warm-up time		15 minutes
Typical field of use	Temperature range	-30—70 °C
	Relative humidity range	0—100 % rH (non-condensing)
	TVOC range	0—60.000 ppb
	CO_2eq range	0—60.000 ppm
Accuracy		±0,4 °C (-30—70 °C)
		±3 % rH (0—100 % rH)
Protection standard		IP65

Article codes

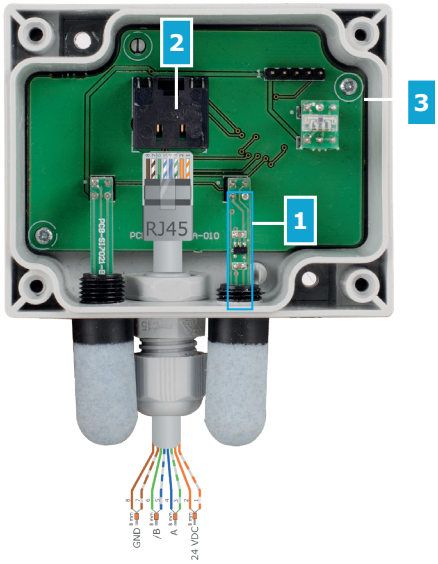
	Supply	Imax	Connection
ODVCM-R	24 VDC, PoM	11 mA	RJ45

Wiring and connections

RJ45 socket (Power over Modbus)

Pin 1	24 VDC	Supply voltage
Pin 2		
Pin 3	A	Modbus RTU communication, signal A
Pin 4		
Pin 5	/B	Modbus RTU communication, signal /B
Pin 6		
Pin 7	GND	Ground, supply voltage
Pin 8		

Settings



1 - TVOC / CO_2eq sensor element		Replaceable in case of faulty operation
2 - RJ45 Socket		Plug the communication and power cable into the socket
3 - Ambient light sensor		Low light intensity / Active / Standby

Area of use

- Monitoring of temperature, relative humidity and air quality and ambient light detection
- Suitable for both indoor and outdoor use (e.g. open-air spaces, multi-storey and subterranean car parks, residential and commercial buildings)

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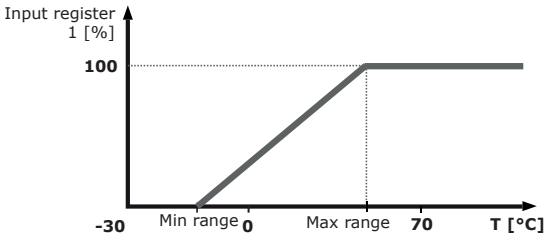
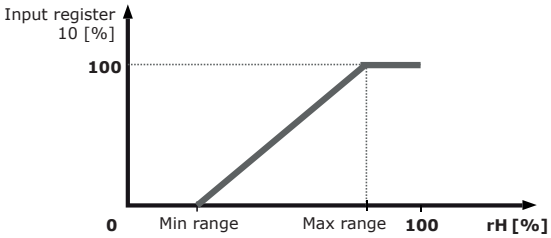
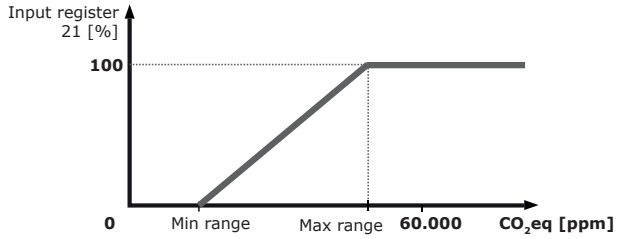
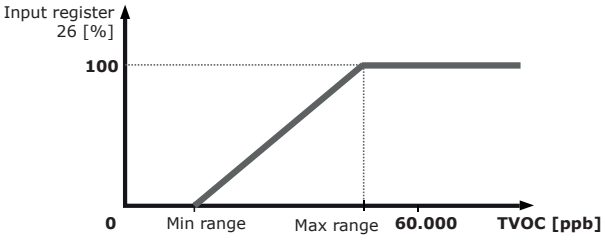
Operational diagrams

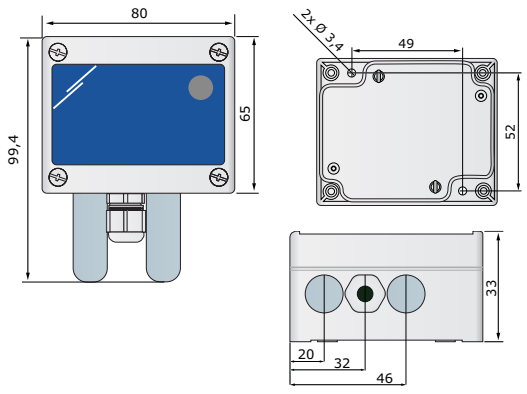








Fixing and dimensions



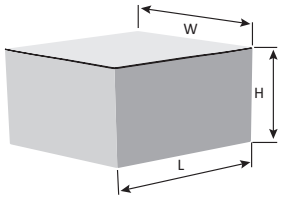
Modbus registers

The Sensistant Modbus configurator allows you to easily monitor and/or configure Modbus parameters.

The parameters of the unit can be monitored / configured through the 3SModbus software platform. You can download it from the following link:
https://www.sentera.eu/en/3SMCenter

For more information about the Modbus registers, please refer to the product Modbus Register Map.

Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
ODVCM-R	Unit (1 pc.)	110	90	50	0,125 kg	0,155 kg
	Box (80 pcs.)	590	380	280	10,00 kg	13,26 kg

Standards

- Low Voltage Directive 2014/35/EC:
  - EN 60529:1991 Degrees of protection provided by enclosures (IP Code) Amendment AC:1993 to EN 60529
  - EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
- EMC Directive 2014/30/EC:
  - EN 61000-6-1:2007 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments
  - EN 61000-6-2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments. Amendment AC:2015 to EN 61000-6-2
  - EN 61000-6-3:2007 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments Amendments A1:2011 and AC:2012 to EN 61000-6-3
  - EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
  - EN 61326-2-3:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
- WEEE 2012/19/EC
- RoHs Directive 2011/65/EC

Global trade item numbers (GTIN)

Packaging	ODVCM-R
Unit	05401003010709
Carton	05401003301586
Box	05401003502341