ODVCM-R

Multifunctional transmitter for harsh environments

ODVCM-R are multifunctional transmitters for harsh environments which measure temperature, relative humidity, TVOC as well as ambient light. The TVOC concentration is an accurate indicator for indoor air quality. Based on the temperature and relative humidity measurements, the dew point can be calculated. They are Power over Modbus supplied and all parameters are accessible via Modbus RTU.

Key features

- Power over Modbus supply via RJ45 socket
- Suitable for harsh environments
- Selectable temperature, relative humidity and TVOC
- Silicon based sensor elements for TVOC measurement
- 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 communication
- Long-term stability and accuracy
- Replaceable TVOC sensor module

Area of use

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

Article codes

Article code	Supply	Imax	Connection
ODVCM-R	24 VDC, PoM	15 mA	RJ45

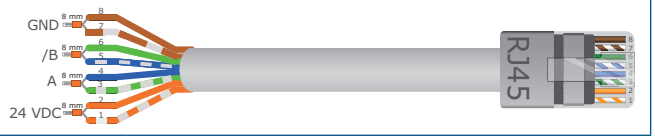
Technical specifications

Supply voltage	24 VDC, Power over Modbus	
Warm-up time	15 minutes	
Typical range of use	Temperature range	-30—70 °C
	Relative humidity range	0—100 % rH (non-condensing)
	TVOC range	0—60.000 ppb
Accuracy	±0,4 °C (-30—70 °C)	
	±3 % rH (0—100 % rH)	
	±15 % TVOC (0—60.000 ppb)	
Protection standard	IP65 (according to EN 60529)	

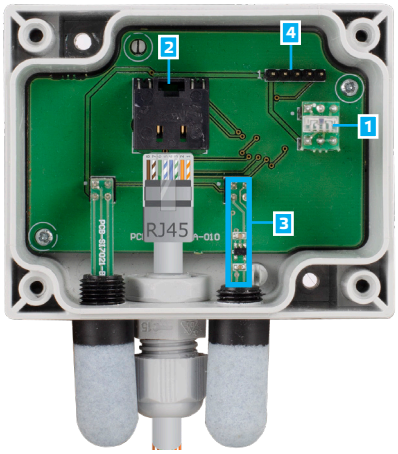
Wiring and connections

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		



Indications



1 - Ambient light sensor		Low light intensity / Active / Standby
2 - RJ45 socket		Plug the communication and power cable into the socket
3 - TVOC sensor element		Replaceable in case of faulty operation
4 - PROG header, P1	 1 2 3 4 5	Put a jumper onto pins 1 and 2 and wait for at least 5 seconds to reset the Modbus communication parameters
	 1 2 3 4 5	Put a jumper onto pins 3 and 4 and restart the supply to enter bootloader mode

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Modbus registers

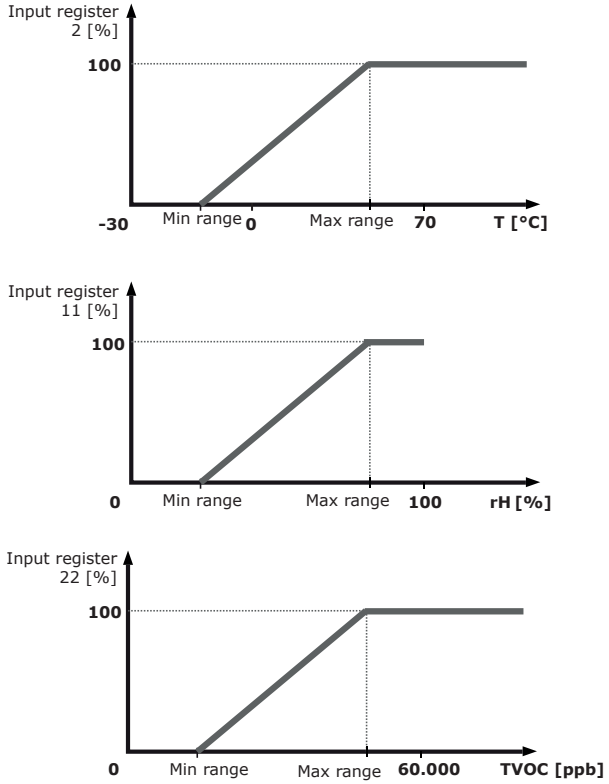
The Sensistant Modbus configurator allows you to easily monitor and/or configure Modbus parameters.

The parameters of the unit can be monitored / configured through the 3SModbus software platform. You can download it from the following link:

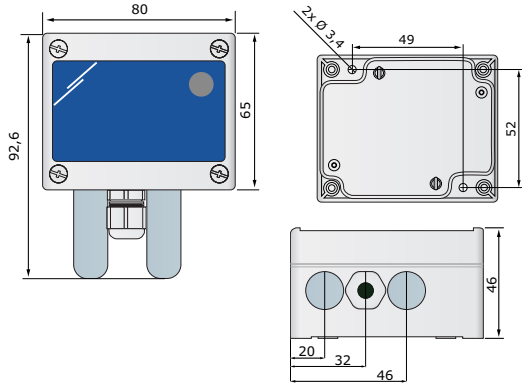
https://www.sentera.eu/en/3SMCenter

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

Operational diagram(s)



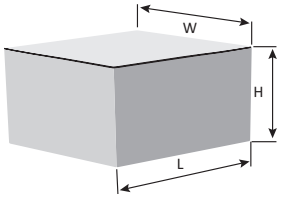
Fixing and dimensions



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/EU:
  - 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

Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
ODVCM-R	Unit (1 pc.)	80	45	100	0,15 kg	0,18 kg
	Carton (10 pcs.)	—	—	—	1,5 kg	1,96 kg
	Box (60 pcs.)	590	380	280	9 kg	11,76 kg

Global trade item numbers (GTIN)

Packaging	ODVCM-R
Unit	05401003010709
Carton	05401003301586
Box	05401003502341