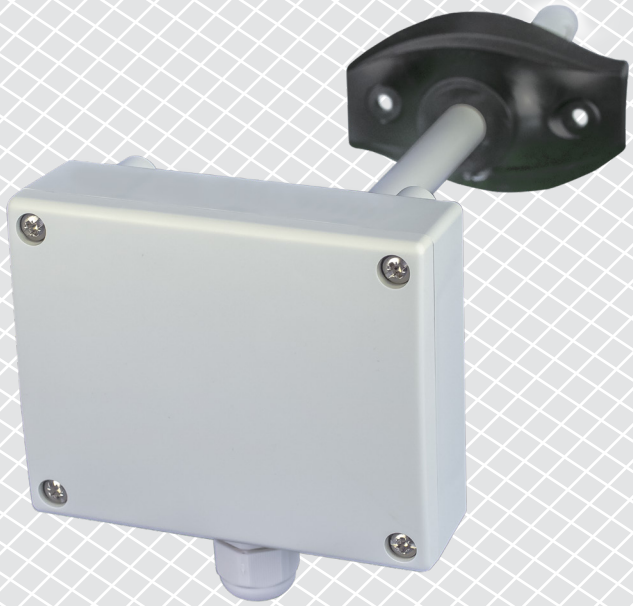
DSVCM-R | MULTIFUNCTIONAL DUCT TRANSMITTER

Modbus register map



MODBUS REGISTER MAP

INPUT REGISTERS

		Data type	Description	Raw data range	Values
1	Actual temperature value	signed integer	Actual temperature level	-300—700	500 = 50,0°C
2	Temperature output value	unsigned integer	Output value according to temperature	0—1.000	0 = 0 % 1.000 = 100 %
3	Temperature alert flag	unsigned integer	Flag indicates that measured Temperature is outside set alert values. Set to '1' when the measured value is outside the Temperature alert values defined by holding registers 13 and 14	0, 1	0 = Temperature measurement OK 1 = Temperature measurement too low / high
4	Temperature range limit flag	unsigned integer	Flag indicates that measured temperature is outside set range limit values. Set to '1' when the measured temperature is outside limit range values defined by holding registers 11 and 12	0, 1	0 = Temperature range OK 1 = Temperature range too low / high
5	Temperature sensor state	unsigned integer	Flag that shows if the communication with temperature sensor is lost	0, 1	0 = No 1 = Yes
6—9			Reserved, return 0		
10	Actual relative humidity value	unsigned integer	Actual relative humidity level	0—1.000	1.000 = 100 % rH
11	Relative humidity output value	unsigned integer	Output value according to relative humidity	0—1.000	0 = 0 % 1.000 = 100 %
12	Relative humidity alert flag	unsigned integer	Flag indicates that measured Relative humidity is outside set alert values. Set to '1' when the measured value is outside the Relative humidity alert values defined by holding registers 17 and 18	0, 1	0 = Relative humidity measurement OK 1 = Relative humidity measurement too low / high
13	Relative humidity range limit flag	unsigned integer	Flag indicates that measured Relative humidity is outside set range limit values. Set to '1' when the measured Relative humidity is outside limit range values defined by holding registers 15 and 16	0, 1	0 = Relative humidity range OK 1 = Relative humidity range too low / high
14	Humidity sensor state	unsigned integer	Flag that shows if the communication with humidity sensor is lost	0, 1	0 = No 1 = Yes
15	Calculated dew point	signed integer	Calculated dew point	-700—700	200 = 20,0°C

INPUT REGISTERS

		Data type	Description	Raw data range	Values
16—25			Reserved, return 0		
26	Actual TVOC value	unsigned integer	TVOC level	0—60.000	2.000 = 2.000 ppb
27	TVOC output value	unsigned integer	Output value according to TVOC	0—1.000	0 = 0 % 1.000 = 100 %
28	TVOC range limit flag	unsigned integer	Flag indicates that measured TVOC level is outside set alert values. Set to '1' when the measured value is outside the TVOC values defined by holding registers 25 and 26	0, 1	0 = TVOC measurement OK 1 = TVOC measurement too low / high
29	TVOC range limit flag	unsigned integer	Flag indicates that measured TVOC is outside set range limit values. Set to '1' when the measured TVOC is outside limit range values set defined by holding registers 23 and 24	0, 1	0 = TVOC range OK 1 = TVOC range too low / high
30	TVOC Sensor state	unsigned integer	Flag that shows if the communication with the TVOC sensor is lost Flag that shows if the communication with the TVOC sensor is lost	0, 1, 4	0 = OK 1 = Fault 4 = Warming up
31—50			Reserved, return 0		

Note: The input registers can be read via the Modbus command: “Read input registers”.

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Factory default values
1	Device slave address	unsigned integer	Modbus device address	1—247		1
2	Modbus baud rate	unsigned integer	Modbus communication baud rate	0—6	0 = 4.800 1= 9.600 2 = 19.200 3 = 38.400 4 = 57.600 5 = 115.200 6 = 230.400	2
3	Modbus parity	unsigned integer	Parity check mode	0—2	0 = 8N1 1 = 8E1 2 = 8O1	1

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Factory default values
4	Device type	unsigned integer	Device type, read only	1643	DSVCM-R = 1643	
5	HW version	unsigned integer	Hardware version of the device. Read only	XXXX	0x0100 = HW version 1.0	
6	FW version	unsigned integer	Firmware version of the device. Read only	XXXX	0x0170 = FW version 1.7	
7—8			Reserved, return 0			
9	Modbus network Bus termination (NBT)	unsigned integer	Set device as end device of the line / or not by connecting NBT	0—1	0 = NBT disconnected 1 = NBT connected	0
10	Modbus registers reset	unsigned integer	Resets Modbus Holding registers to default values. When finished this register is automatically reset to '0'	0—1	0 = Idle 1 = Reset Modbus Registers	0
11	Minimum temperature range	signed integer	Minimum value of temperature range, cannot be set higher than maximum temperature range minus 5°C	-300—(Max. range—50)	100 = 10,0°C	0
12	Maximum temperature range	signed integer	Maximum value of temperature range, cannot be set less than minimum temperature range plus 5°C	(Min. range + 50)—700	700 = 70,0°C	500
13	Minimum temperature alert	signed integer	Minimum temperature alarm value	Min. temperature range—Max. temperature alarm	100 = 10,0°C	0
14	Maximum temperature alert	signed integer	Maximum temperature alarm value	Min. temperature alarm—Max. temperature range	700 = 70,0°C	500
15—18			Reserved, return 0			
19	Minimum relative humidity range	unsigned integer	Minimum value of relative humidity range, cannot be set higher than maximum relative humidity range minus 5%	0—(Max. range —50)	200 = 20,0 % rH	0

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Factory default values
20	Maximum relative humidity range	unsigned integer	Maximum value of relative humidity range, cannot be set less than minimum relative humidity range plus 5%	(Min. range + 50)— 1000	1.000 = 100 % rH	1.000
21	Minimum relative humidity alert	unsigned integer	Minimum relative humidity alarm value	Min. relative humidity range —Max. relative humidity alarm	200 = 20,0 % rH	0
22	Maximum relative humidity alert	unsigned integer	Maximum relative humidity alarm value	Min. relative humidity alarm—Max. relative humidity range	1.000 = 100 % rH	1.000
23—26			Reserved, return 0			
27	Minimum TVOC range	unsigned integer	Minimum TVOC range, cannot be set higher than maximum TVOC range minus 100 ppb	0 —(Max. range—100)	1.000 = 1.000 ppb	0
28	Maximum TVOC range	unsigned integer	Maximum TVOC range, cannot be set less than minimum TVOC range plus 100 ppb	(Min + 100)—60.000	2.000 = 2.000 ppb	2.000
29	Minimum TVOC alert	unsigned integer	Minimum TVOC alarm value	Min. TVOC range—Max. TVOC alarm	100 = 100 ppb	0
30	Maximum TVOC alert	unsigned integer	Maximum TVOC alarm value	Min. TVOC alarm—Max. TVOC range	2.000 = 2.000 ppb	2.000
31—80			Reserved, return 0			

Note: The holding registers can be managed via the following Modbus commands: “Read Holding Registers”, “Write Single Register” or “Write Multiple Registers”.

The free Sentera configuration and monitoring software 3SModbus can be downloaded via: ***https://www.sentera.eu/en/3SMCenter***