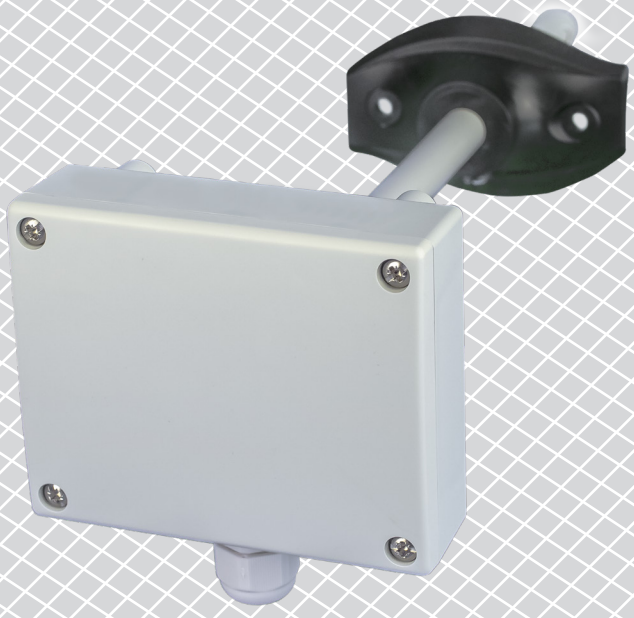
DSCOM-R | MULTIFUNCTIONAL DUCT TRANSMITTER

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	CO level	unsigned integer	Relevant CO level	0—1.000	100 = 100 ppm
27	CO Output value	unsigned integer	Output value according to CO	0—1.000	0 = 0 % 1.000 = 100 %
28	CO alert flag	unsigned integer	Flag indicates that measured CO level is outside set alert values. Set to '1' when the measured value is outside the CO values defined by holding registers 25 and 26	0, 1	0 = CO measurement OK 1 = CO measurement too low/high
29	CO range limit flag	unsigned integer	Flag indicates that measured CO is outside set range limit values. Set to '1' when the measured CO is outside limit range values set defined by holding registers 23 and 24	0, 1	0 = CO range OK 1 = CO range too low/high
30	CO Sensor state	unsigned integer	Flag that shows if the communication with the CO sensor is lost	0, 1	0 = No 1 = Yes
31	NO_2 level	unsigned integer	Relevant NO_2 level	0—1.000	100 = 1 ppm
32	NO_2 Output value	unsigned integer	Output value according to NO_2	0—1.000	0 = 0 % 1.000 = 100 %
33	NO_2 alert flag	unsigned integer	Flag indicates that measured NO_2 level is outside set alert values. Set to '1' when the measured value is outside the NO_2 values defined by holding registers 29 and 30	0, 1	0 = NO_2 measurement OK 1 = NO_2 measurement too low/high
34	NO_2 range limit flag	unsigned integer	Flag indicates that measured NO_2 is outside set range limit values. Set to '1' when the measured NO_2 is outside limit range values set defined by holding registers 27 and 28	0, 1	0 = NO_2 range OK 1 = NO_2 range too low/high
35	NO2 Sensor state	unsigned integer	Flag that shows if the communication with the NO2 sensor is lost	0, 1	0 = No 1 = Yes
36—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
4	Device type	unsigned integer	Device type. Read only	1.640	DSCOM-R = 1.640	
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	0x0100 = FW version 1.0	
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

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Factory default values
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
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)—1.000	1000 = 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	1000 = 100 % rH	1.000
23—26			Reserved, return 0			
27	Minimum CO range	unsigned integer	Minimum value of CO, cannot be set higher than maximum value minus 1 ppm	0—(Max. range—10)	100 = 100 ppm	0
28	Maximum CO range	unsigned integer	Maximum value of CO, cannot be set lower than minimum value plus 1 ppm	(Min. range +10)—1.000	100 = 100 ppm	1.000
29	Minimum CO alert	unsigned integer	Minimum CO alarm value	Min. CO range—Max. CO alarm	0 = 0 ppm	0
30	Maximum CO alert	unsigned integer	Maximum CO alarm value	Min. CO alarm—Max. CO range	200 = 200 ppm	100
31	Minimum NO_2 range	unsigned integer	Minimum value of NO_2, cannot be set higher than max value minus 0,1 ppm	0—(Max. range—10)	0 = 0 ppm	0

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Factory default values
32	Maximum NO_2 range	unsigned integer	Maximum value of NO_2, cannot be set lower than min value plus 0,1 ppm	(Min. range + 10)—1000	100 = 1 ppm	1.000
33	Minimum NO_2 alert	unsigned integer	Minimum NO_2 alarm value	Min. NO_2 range—Max. NO_2 alarm	0 = 0 ppm	0
34	Maximum NO_2 alert	unsigned integer	Maximum NO_2 alarm value	Min. NO_2 alarm—Max. NO_2 range	100 = 1 ppm	100
35—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*