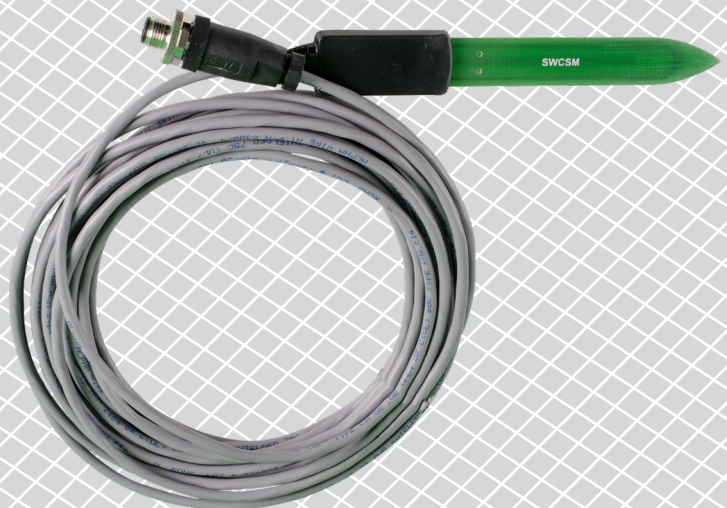


SWCSM-075 | SOIL WATER CONTENT SENSOR

Modbus register map



MODBUS REGISTER MAP

INPUT REGISTERS					
		Data type	Description	Raw data range	Values
1	Soil VWC	unsigned integer	Volumetric Water Content	0–500	325 = 32,5% VWC
2	Soil temperature reading	signed integer	Temperature measure by the sensor	-300–700	275 = 27,5°C
3	RAW VWC reading	unsigned integer	RAW values from the soil sensor	0–15.000	0– 15.000
4–8			Reserved, return 0		
9	Soil sensor fault	unsigned integer	Flag that shows if the data returned from soil sensor is wrong/ missing	0, 1	0 = No 1 = Yes
10	Temperature sensor fault	unsigned integer	Flag that shows if the communication with temperature sensor is lost	0, 1	0 = No 1 = Yes

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

HOLDING REGISTERS						
		Data type		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 3 = 38.400 6 = 230.400 1 = 9.600 4 = 57.600 2 = 19.200 5 = 115.200	2
3	Modbus parity check	unsigned integer	Parity check mode	0–2	0 = 8N1 1 = 8E1 2 = 8O1	1
4	Device type	unsigned integer	Device type, read only	1.122	SWCSM = 1.122	
5	HW version	unsigned integer	Hardware version, read only	XXXX	0x0100 = HW version 1.00	
6	FW version	unsigned integer	Firmware version, 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	Calibration VWC 1	unsigned integer	VWC point 1	0–500	325 = 32,5% VWC	33

HOLDING REGISTERS

		Data type		Raw data range	Values	Factory default values
12	Count at calibration VWC 1	unsigned integer	Shows the exact counts that reply to the VWC 1 at register 11	0–15.000	0– 15.000	12.565
13	Calibration VWC 2	unsigned integer	VWC point 2	0–500	325 = 32,5% VWC	123
14	Count at calibration VWC 2	unsigned integer	Shows the exact counts that reply to the VWC 2 at register 14	0–15.000	0– 15.000	10.220
15	Restore factory calibration	unsigned integer	Restore the factory calibration			
16			Reserved, returns 0			
17	Factory Calibration VWC 1	unsigned integer	Factory VWC point 1	0–500	325 = 32,5% VWC	33
18	Factory calibration count VWC 1	unsigned integer	Shows the exact counts that reply to the VWC 1 at register 16	0–15.000	0– 15.000	12.565
19	Factory Calibration VWC 2	unsigned integer	Factory VWC point 2	0–500	325 = 32,5% VWC	123
20	Factory calibration count VWC 2	unsigned integer	Shows the exact counts that reply to the VWC 2 at register 18	0–15.000	0– 15.000	10.220

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/3SModbus>