

SPS2

DIFFERENTIAL PRESSURE
CONTROLLER WITH TWO
SETPOINTS

Modbus register map



MODBUS REGISTER MAP

INPUT REGISTERS					
		Data type	Description	Raw data	Values
1	Differential pressure	unsigned int	Measured differential pressure	0—2.000	1.000 = 1.000 Pa
2	Output voltage	unsigned int	Voltage on analog output 0—10 VDC	0—1.000	100 = 1.00 VDC
3	Volume flow rate	unsigned int	Calculated air volume flow rate in m³/h	0—44.000	10.000 = 10.000 m³/h
4—6			Reserved, returns 0		
7	Differential pressure range	unsigned int	Indicates the current range of SPS2X-2K0	0= 0—100 Pa 1= 0—250 Pa 2= 0—500 Pa 3= 0—750 Pa 4= 0—1.000 Pa 5= 0—2.000 Pa	
8	Current setpoint	unsigned int	Indicates the number of the active setpoint	0= setpoint 1 1= setpoint 2	
9—10			Reserved, returns 0		

HOLDING REGISTERS

		Data type	Description	Raw data	Values	Factory default values
1	Device address	unsigned int	Device address	1–247		1
2	Baud rate	unsigned int	Modbus communication baud rate	1–3	1 = 9.600 2 = 19.200 3 = 38.400	2
3	Parity mode	unsigned int	Parity check mode	0–2	0 = None 1 = Even 2 = Odd	1
4	Device type	unsigned int	Device type, read only	2.305–2.307	SPS2X-2K0 = 1.026	
5	HW version	unsigned int	Hardware version of the device, read only	XXX	0x0100 = HW version 1.00	
6	FW version	unsigned int	Firmware version of the device, read only	XXX	0x0100 = FW version 1.00	
7–10			Reserved, returns 0			
11	Setpoint 1 Differential pressure	unsigned int	Setpoint 1—differential pressure	0–2.000	1.000 = 1.000 Pa	100
12	Setpoint 2 Differential pressure	unsigned int	Setpoint 2—differential pressure	0–2.000	1.000 = 1.000 Pa	100
13	Setpoint 1 Volume flow rate	unsigned int	Setpoint 1—volume flow rate	0–44.000	10.000 = 10.000 m³/h	10.000
14	Setpoint 2 Volume flow rate	unsigned int	Setpoint 2—volume flow rate	0–44.000	10.000 = 10.000 m³/h	10.000
15	K factor selection register	unsigned int	K factor according to the motor type	0–1.000		0

HOLDING REGISTERS

		Data type	Description	Raw data	Values	Factory default values
16	Active setpoint selection	unsigned int	Register for active setpoint selection	750—1.000	0= differential pressure 1= volume flow rate	0
17—19			Reserved, returns 0			
20	Kp	unsigned int	Proportional gain	1—100		10
21	Ti	unsigned int	Integration period	1—1.000	10= 10 x 100 ms =1 s	30
22	Start auto-tune function	unsigned int	Register for starting auto-tune function		0= function is not active 1= function is in progress	0
23	Min. output	unsigned int	Minimum output level (between 10 and 50%)	100—500	100= 10%	200
24	Max. output	unsigned int	Maximum output level (between 50 and 100%)	500—1.000	500= 50%	1.000
25—30			Reserved, returns 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>