

# SPS | DIFFERENTIAL PRESSURE TRANSMITTER

## Modbus register map



## MODBUS REGISTER MAP

INPUT REGISTERS							
		Data type	Description	Raw Data Range		Values	
1	Differential pressure	signed int.	Actual differential pressure	SPS-G-2K0	-100—2.000	1.000 = 1.000 Pa	
		unsigned int.		SPS-G-6K0	0—6.000	1.000 = 1.000 Pa	
2	Output value	unsigned int.	Actual output value: 0—100 %	0—1.000		100 = 10.0 %	
3	Max. pressure limit flag	unsigned int.	Flag indicates that the pressure is over or below the max. limit	SPS-G-2K0 SPS-G-6K0	0 = below the limit 1 = over the limit		the value written in holding 2 = register 14 is out of the range: -100—2.000 Pa
				SPS-G-2K0			
4	Min. pressure limit flag	unsigned int.	Flag indicates that the pressure is over or below the min. limit	SPS-G-2K0 SPS-G-6K0	0 = below the limit 1 = over the limit		1.000 = 1.000 m <sup>3</sup> /h
				SPS-G-2K0	the value written in holding 2 = register 14 is out of the range -100—2.000 Pa		
5	Volume flow rate	unsigned int.	Actual air volume flow rate in m <sup>3</sup> /h	SPS-G-2K0	0—44.000		
	Volume flow rate high		Actual air volume flow rate in m <sup>3</sup> /h high word	SPS-G-6K0	0—77.000		
6	Volume flow rate low	unsigned int.	Reserved, returns 0	SPS-G-2K0			1.000 = 1.000 m <sup>3</sup> /h
			Actual air volume flow rate in m <sup>3</sup> /h low word	SPS-G-6K0	0—77.000		
7	Differential pressure range	unsigned int.	Flag indicates the current differential pressure range	SPS-G-2K0	SPS-G-6K0	2.000 = 2.000 Pa	
				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 6 = -50—50 Pa 7 = -100—100 Pa	0 = 0—1.000 Pa 1 = 0—1.500 Pa 2 = 0—2.000 Pa 3 = 0—2.500 Pa 4 = 0—3.000 Pa 5 = 0—4.000 Pa 6 = 0—5.000 Pa 7 = 0—6.000 Pa		
8	Diff. pressure response time	unsigned int.	Flag indicates the current response time	0 = 0,5 s 1 = 1 s 2 = 2 s 3 = 5 s			
9-10			Reserved, returns 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	Address	unsigned int.	Device address		1–247	1	
2	Baud rate	unsigned int.	Modbus communication baud rate	1 = 9.600 2 = 19.200 3 = 38.400		2	
3	Parity mode	unsigned int.	Parity check mode	0 = 8N1 1 = 8E1 2 = 8O1	0 = 8N1 1 = 8E1 2 = 8O1	1	
4	Device type	unsigned int.	Device type (Read only)	SPS-G-2K0 = 1015 SPS-G-6K0 = 1034			
5	HW version	unsigned int.	Hardware version of the device (Read only)		XXXX 0 x 0210 = HW version 2.10		
6	FW version	unsigned int.	Firmware version of the device (Read only)		XXXX 0 x 0110 = FW version 1.10		
7-10		unsigned int.	Reserved, returns 0				
11	Mode	unsigned int.	Operating mode	1 = Standalone mode 2 = Modbus mode		1	
12	Range	unsigned int.	Differential pressure range	SPS-G-2K0	SPS-G-6K0	4	
				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 6 = -50–50 Pa 7 = -100–100 Pa	0 = 0–1.000 Pa 1 = 0–1.500 Pa 2 = 0–2.000 Pa 3 = 0–2.500 Pa 4 = 0–3.000 Pa 5 = 0–4.000 Pa 6 = 0–5.000 Pa 7 = 0–6.000 Pa		
13	Response time	unsigned int.	Response time selection	0 = 0,5 s 1 = 1 s 2 = 2 s 3 = 5 s		1	
14	Max. pressure limit	unsigned int.	Maximum pressure limit	SPS-G-2K0	-100–2.000	1.000 = 1.000 Pa	1.000
				SPS-G-6K0	0–6.000		3.000
15	Min. pressure limit.	unsigned int.	Minimum pressure limit	SPS-G-2K0	-100–2.000	1.000 = 1.000 Pa	0
				SPS-G-6K0	0–6.000		3.000
16	Power-up timer	unsigned int.	Power-up time before measuring the lower limit		0–1.000 s	100 = 100 s	60 s
17	K-factor selection register	unsigned int.	K-factor according to the fan type		0–1.000		0
18-20			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/eu/3SMCentera>