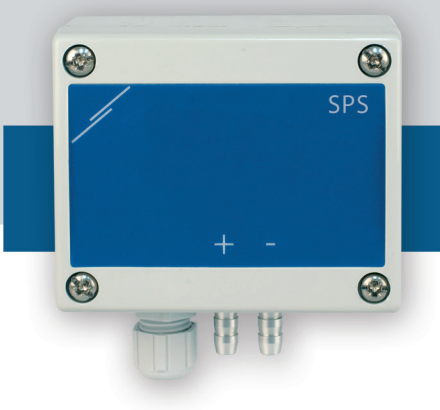


SPSP
Differential pressure controller

The SPSP differential pressure controllers control directly EC fans or drives. They are equipped with Modbus RTU communication and have an analog / digital output. The SPSP controllers feature integrated PI control, setpoint and K-factor setting. They are temperature compensated and provide a high degree of reliability and accuracy.

Key features

- Long-term stability and accuracy
- 1 analog or 1 PWM (open collector) output
- Modbus RTU (RS485) communication
- Integrated PI control, K-factor and setpoint setting
- Automatic range selection according to the selected setpoint
- Selection of differential pressure or air volume mode* / readout via Modbus
- Modbus register reset function (factory preset values)
- Sensor calibration procedure
- Autotune function
- Aluminium pressure connection nozzles

** Only when K-factor of the fan is known (consult the datasheets)*

Technical specifications

Outputs		1 analog output (0—10 VDC / 0—20 mA) / 1 digital output PWM (open collector)
Maximum power consumption	SPSPF-2K0 SPSPF-6K0	0,96 W
	SPSPG-2K0 SPSPG-6K0	1,2 W
Nominal or average power consumption in normal operation	SPSPF-2K0 SPSPF-6K0	0,72 W
	SPSPG-2K0 SPSPG-6K0	0,9 W
Imax	SPSPF-2K0 SPSPF-6K0	40 mA
	SPSPG-2K0 SPSPG-6K0	50 mA
Consumption	No load:	18—34 VDC supply: 10—20 mA 13—26 VAC supply: 10—15 mA
Operating pressure ranges	SPSPX-2K0	0—2.000 Pa
	SPSPX-6K0	0—6.000 Pa
Operating modes		Differential pressure Air volume*
Accuracy (analog voltage output)		±3 %
Long-term stability		±1 % per year
Protection standard		IP65 (according to EN 60529)
Ambient conditions	Temperature	10—60 °C
	Rel. humidity	< 95 % rH (non-condensing)

** Only when K-factor of the fan is known (consult the datasheets)*

Modbus registers

The Sensistant Modbus configurator allows you to easily monitor and/or configure Modbus parameters.

The parameters of the unit can be monitored / configured through the 3SModbus software platform. You can download it from the following link:
https://www.sentera.eu/en/3SMCenter

For more information about the Modbus registers, please refer to the product Modbus Register Map.

Article codes

Article codes	Supply	Connections
SPSPG-2K0	13—26 VAC 18—34 VDC	3-wire
SPSPF-2K0	18—34 VDC	4-wire
SPSPG-6K0	13—26 VAC 18—34 VDC	3-wire
SPSPF-6K0	18—34 VDC	4-wire

Area of use

- Direct fan / pressure control for EC drives and frequency inverters, VAV (Variable Air Volume) and CAV* (Constant Air Volume) mode
- Pressure / airflow monitoring in clean rooms
- Clean air and non-aggressive, non-combustible gases

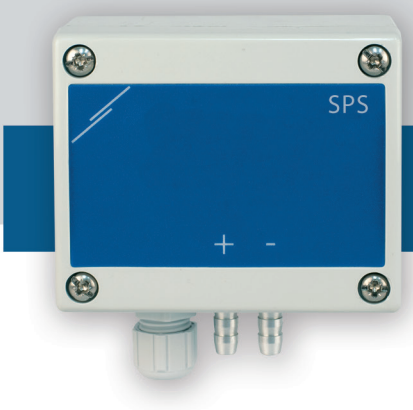
** Only when K-factor of the fan is known (consult the datasheets)*

Wiring and connections

Vin	Positive DC voltage / AC ~
GND	Ground / AC ~
A	Modbus RTU (RS485) signal A
/B	Modbus RTU (RS485) signal /B
AO1	Analog / PWM (open collector) output
GND	Ground
Connections	Cable cross section: max. 0,75 mm² Cable gland clamping range: 3—6 mm

Caution: *If a G-type article is using the same AC power supply source (transformer) as F-type article, a SHORT CIRCUIT may result when the power supply and analog signal terminals are connected to the same common ground! In this case always connect different article types to separate AC transformers or use the same article version.*

If an AC power supply is used with any of the units in a Modbus network, the GND terminal should NOT BE CONNECTED to other units on the network or via the CNVT-USB-RS485 converter. This may cause permanent damage to the communication semiconductors and / or the computer!

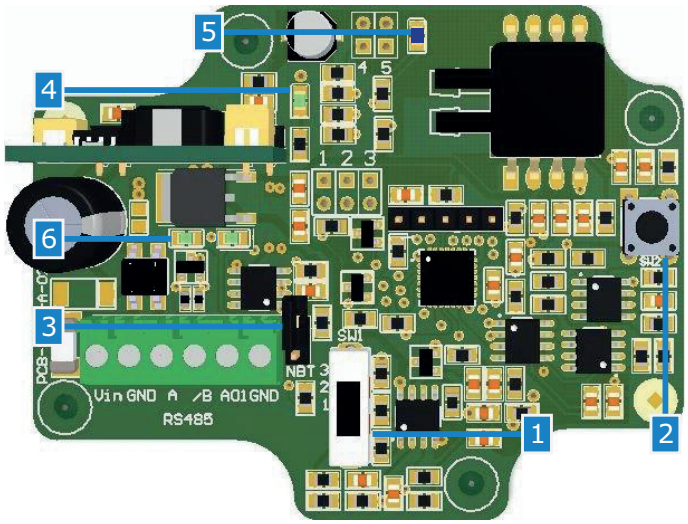


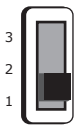
SENTERA CONTROLS

SPSP

Differential pressure controller

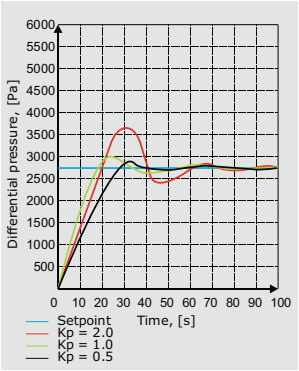
Settings

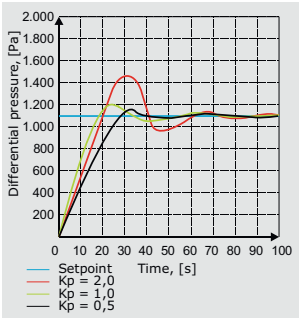


1 - Analog output mode selection switch (SW1)		1: 0—10 VDC 2: 0—20 mA 3: PWM (open collector)
2 - Sensor calibration & Modbus reset tact switch (SW2)		Push to start sensor calibration or reset Modbus factory settings
3 - Network bus resistor jumper (NBT)		SPSP is the first or last unit
4 - Operating indication	Cont. green	Normal operation
5 - Sensor calibration and Modbus reset indication	Blinking blue (as defined)	Modbus register factory reset or sensor calibration
6 - Modbus communication indication	Blinking green	Transmitting / receiving

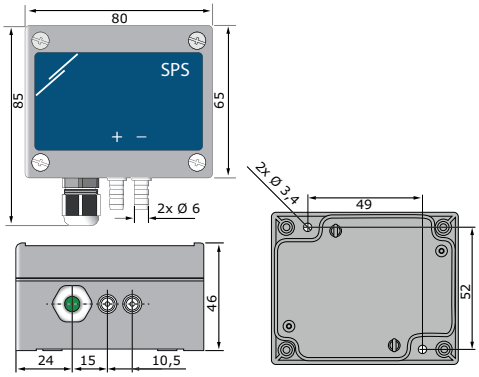
(▬ indicates closed position of the jumper.)

Operational diagram(s)

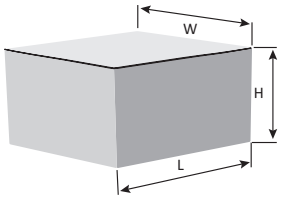




Fixing and dimensions



Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
SPSP	Unit (1 pc.)	95	85	70	0,12 kg	0,15 kg
	Carton (10 pcs.)	492	182	84	1,20 kg	1,63 kg
	Box (60 pcs.)	590	380	280	7,2 kg	10,39 kg

Standards

- Low Voltage Directive 2014/35/EC CE
- EMC Directive 2014/30/EC
- WEEE Directive 2012/19/EU
- RoHs Directive 2011/65/EU