

# SPSA

## Pressure controller for actuator powered damper



The SPSA differential pressure controllers directly control actuator powered dampers. They are equipped with Modbus RTU communication and have an analogue / digital output. The SPSA controllers feature integrated PI control and setpoint adjustment. They are temperature compensated and provide a high degree of reliability and accuracy.

### Key features

- Long-term stability and accuracy
- 1 analogue or 1 PWM (open collector) output
- Modbus RTU (RS485) communication
- Integrated PI control and setpoint adjustment
- Automatic range selection according to the selected setpoint
- Modbus register reset function (factory preset values)
- Sensor calibration procedure
- Aluminium pressure connection nozzles

### Technical specifications

Outputs	1 analogue output (0–10 VDC / 0–20 mA) / 1 digital output PWM (open collector)	
Consumption	No load	18–34 VDC supply: 20–10 mA 15–24 VAC supply: 15–10 mA
Operating pressure range	0–2.000 Pa	
Operating mode	Differential pressure	
Accuracy (analogue 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)



### Article codes

	Supply	Connections
<b>SPSAG-2K0</b>	13–26 VAC 18–34 VDC	3-wire
<b>SPSAF-2K0</b>	18–34 VDC	4-wire

### Area of use

- Pressure control in premises
- Clean air and non-aggressive, non-combustible gases

### Wiring and connections

Vin	Positive DC voltage / AC ~
GND	Ground / AC ~
A	Modbus RTU (RS485) signal A
/B	Modbus RTU (RS485) signal /B
AO1	Analogue / PWM (open collector) output
GND	Ground
Connections	Cable cross section: max. 0,75 mm <sup>2</sup> 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 analogue 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!

### Modbus registers

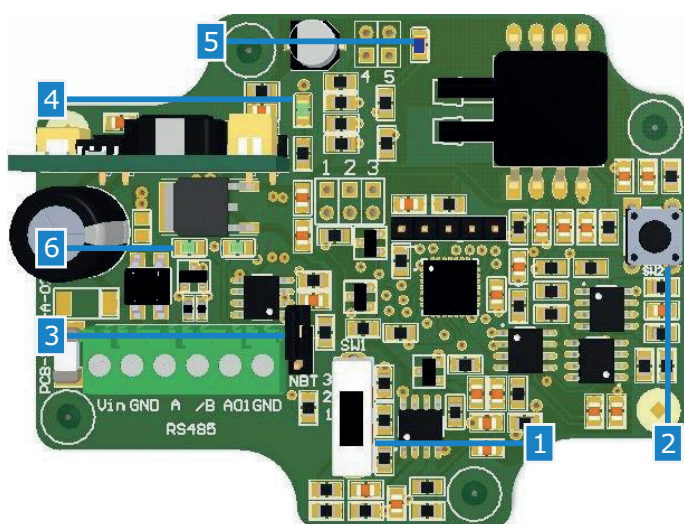


The Sensistart Modbus configurator allows you to easily monitor and/or configure Modbus parameters.



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 Modbus register map of the product.



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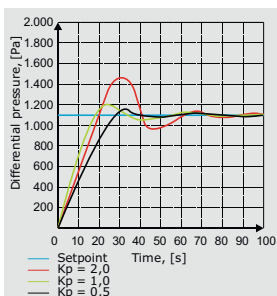


## Settings

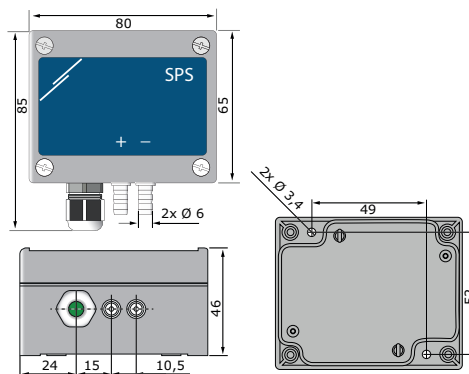
1 - Analogue output mode selection switch (SW1)		1: 0–10 VDC 2: 0–20 mA 3: PWM (open collector)
2 - Tact switch (SW2) for sensor calibration and Modbus register reset		Push to start sensor calibration (LED5 blinking twice) Push to start Modbus register reset (LED5 blinking twice, then 3 times)
3 - Network bus resistor jumper (NBT)		SPSA is the first or last unit
4 - Power indication	Cont. green	ON
5 - Blue LED5	Continuously blinking	Normal operation
	Blinking twice (by pushing SW2)	Start sensor calibration
	Blinking twice, then 3 times (by pushing SW2)	Start Modbus register reset
6 - Modbus communication indication	Blinking green	Transmitting / receiving

indicates closed position of the jumper.)

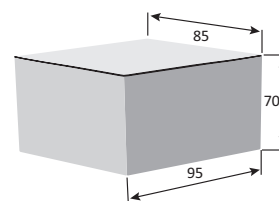
## Operational diagram(s)



## Fixing and dimensions



## Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
SPSA	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
- EMC Directive 2014/30/EC
- RoHs Directive 2011/65/EC

