



ACDPH

Circular motorised damper with differential pressure control

ACDPH series are circular motorised dampers with integrated differential pressure control, that regulate the air flow in duct systems. The unit has dedicated holding registers to activate manually zero-point calibration and reset the internal Modbus registers to default values. The supply voltage is 24 VDC. All parameters are accessible via Modbus RTU communication.

Key features

- 24 VDC supply voltage via RJ45 connector or terminal block
- Maximum input current: 100 mA
- Modbus RTU communication via RJ45 connector or terminal block
- Built-in digital high resolution differential pressure sensor
- Power consumption: max. 2,4 VA
- Enclosure material: ABS 10GF, grey colour
- Compatible with Senteraweb for remote control and online monitoring
- Fits circular air ducts with standard dimensions

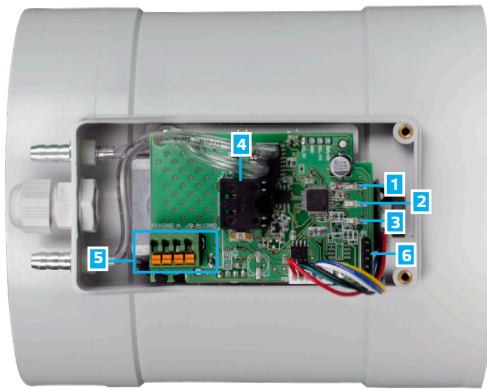
Area of use





- Control air volume flow in air ducts
- Control fresh air supply for each room separately
- Control ventilation in buildings

Article code

Article code	Imax	Connection type
ACDPH-125	100 mA	RJ45 or terminal block

Indications



1 - Green LED 1	On	Damper blade is fully closed (zero position)
2 - Green LED 2	Blinking	Indicates normal operation of the damper
3 - Green LED 3	On	Damper blade is fully open (90 °)
4 - RJ45 socket		Modbus RTU communication and 24 VDC power supply can be connected via the RJ45 socket
5 - Terminal block		Modbus RTU communication, 24 VDC power supply and the control input can be connected via the terminal block
6 - PROG header, P1		Put a jumper onto pins 1 and 2 and wait for at least 15 seconds to reset the Modbus communication parameters
		Put a jumper onto pins 3 and 4 and restart the supply to enter bootloader mode

Note: When the actuator is in bootloader mode, LED 3 is flashing. During the firmware download, LED 2 and LED 3 are flashing simultaneously.



Wiring diagram

RJ45 socket (Power over Modbus)

Pin 1	24 VDC	Supply voltage, 24 VDC
Pin 2		
Pin 3	A	Modbus RTU communication, signal A
Pin 4		
Pin 5	/B	Modbus RTU communication, signal /B
Pin 6		
Pin 7	GND	Power over Modbus supply 24 VDC
Pin 8		



Terminal block

VIN	Supply voltage 24 VDC
GND	Supply voltage, ground
A	Modbus RTU communication, signal A
/B	Modbus RTU communication, signal /B

Attention! The damper needs to be supplied via the RJ45 connector or via the terminal block. Do not connect supply voltage via both simultaneously!

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/3SModbus>



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

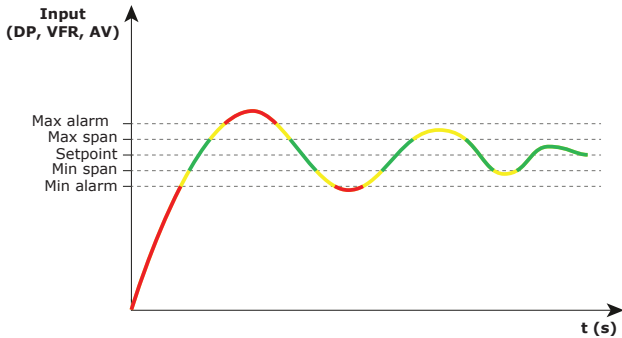


ACDPH

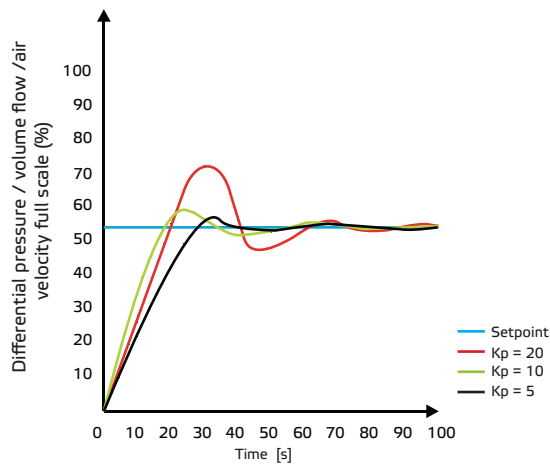
Circular motorised damper with differential pressure control

Operational diagram

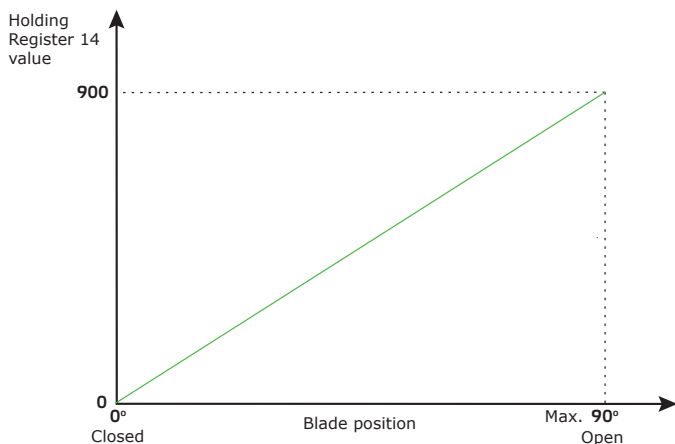
PI control (operating mode selected – differential pressure, volume flow rate or air velocity)



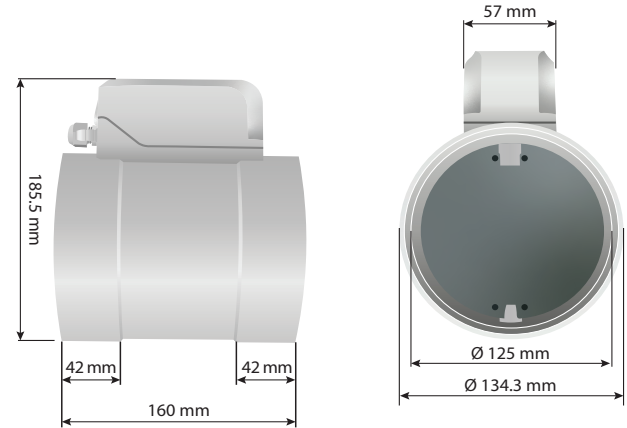
PI control example at different Kp



Blade position in overwrite mode



Fixing and dimensions ACDPH-125

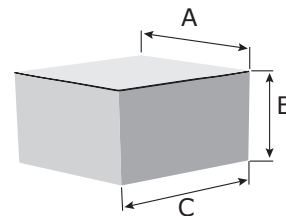


Standards



- Machinery Directive 2006/42/EU:
 - EN 1751 Ventilation for buildings - Air terminal devices - Aerodynamic testing of damper and valves
 - EN 16798-3:2017 Energy performance of buildings - Ventilation for buildings - Part 3: For non-residential buildings - Performance requirements for ventilation and room-conditioning systems (Modules M5-1, M5-4)
- Low voltage (LVD) directive 2014/35/EU:
 - EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements
 - EN 60730-2-14:1997 Automatic electrical controls for household and similar use - Part 2-14: Particular requirements for electric actuators Amendments A1:2001, A11:2005 and A2:2008 to EN 60730-2-14
- Electromagnetic compatibility (EMC) directive 2014/30/EU:
 - EN 61000-6-2:2005 Electromagnetic compatibility (EMC) — Part 6-2: Generic standards — Immunity for industrial environments Amendment AC:2005 to EN 61000-6-2
 - EN 61000-6-3:2007 Electromagnetic compatibility (EMC) — Part 6-3: Generic standards — Emission standard for residential, commercial and light-industrial environments Amendments A1:2011 and AC:2012 to EN 61000-6-3
- RoHS Directive (2011/65/EU)
 - EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Packaging



Article	Packaging	A [mm]	B [mm]	C [mm]	Net weight	Gross weight
ACDPH-125	Unit (1 pc.)	190	140	165	0,62 kg	0,75 kg

Global trade item numbers (GTIN)

Packaging	GTIN
ACDPH-125 (unit)	05401003018637