ACT-H
Circular motorised damper

ACT-H series are circular motorised dampers that regulate the air flow in duct systems. The damper blade position can be regulated via an analogue / modulating input or via Modbus RTU communication. The supply voltage is 24 VDC. All parameters are accessible via Modbus RTU communication.

Key features

- Wiring via spring contact terminal block or via RJ45 connector
- Adjustable maximum and minimum position of the damper blade
- Analogue/modulating input to control blade position in stand-alone mode
- Dedicated Holding register for setting blade position in Modbus mode
- Zero position recalibration via Modbus RTU
- Fits circular air ducts with standard dimensions
- Compatible with SenteraWeb for remote control and online monitoring
- Modbus RTU communication and analogue input
- Easy to install

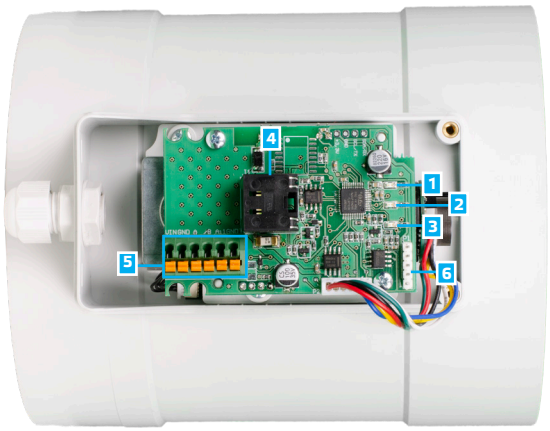
Area of use

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

Article codes

Article code	Compatible duct diameter	Imax	Connection type
ACT-H-125	125 mm	100 mA	RJ45 or terminal block
ACT-H-160	160 mm	100 mA	RJ45 or terminal block

Indications



1 - Green LED 1	On	The damper is closed (damper blade at minimum position)
2 - Green LED 2	Blinking	Indicates normal operation of the damper
3 - Green LED 3	On	The damper is open (damper blade at maximum position)
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	 1 2 3 4 5	Put a jumper onto pins 1 and 2 and wait for at least 15 seconds to reset the Modbus communication parameters
	 1 2 3 4 5	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	Supply voltage, ground
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
Ai1	Analogue /modulating input (0—10 VDC / 0—20 mA / PWM)
GND	Ground, Ai1

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 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, we refer to the Modbus Register Map of the product.

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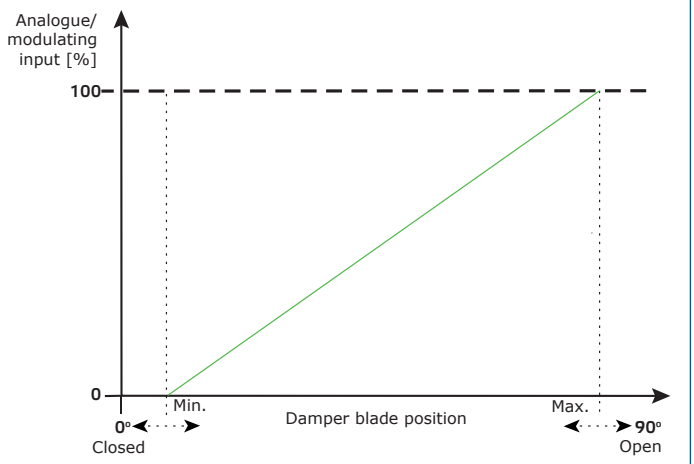
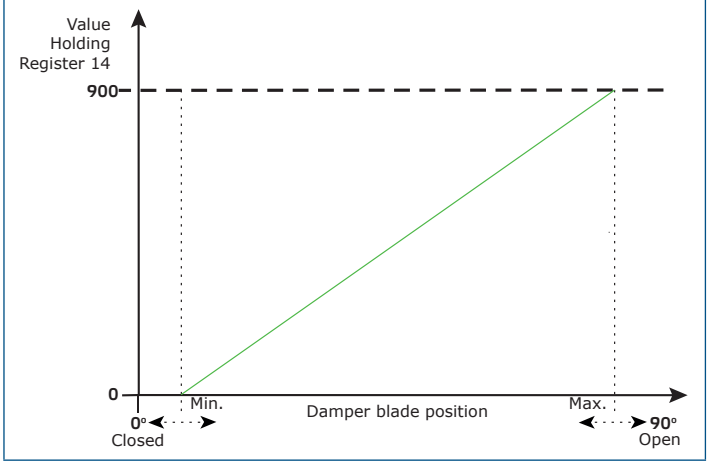
Operational diagram

Standalone mode

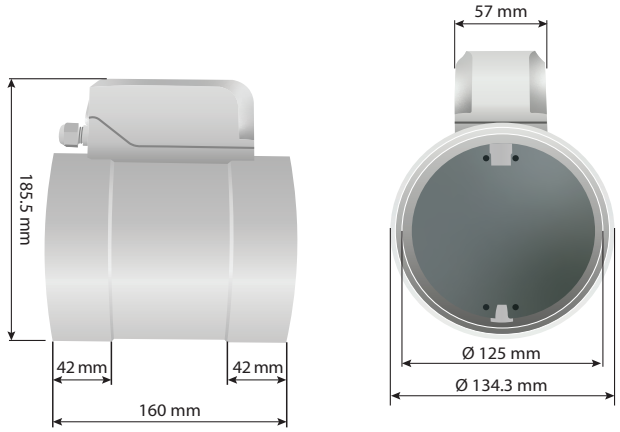


Modbus mode

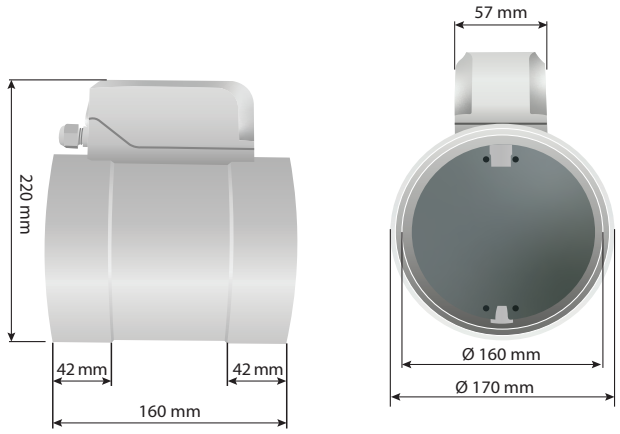


Attention! *The minimum open and the maximum closed positions of the damper depend on the values set in Modbus Holding registers 17 and 18.*

Fixing and dimensions ACT-H-125



Fixing and dimensions ACT-H-160



Standards

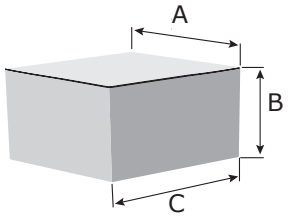
- Machinery Directive 2006/42/EU:
  - EN 13141-2:2010 Ventilation for buildings — Performance testing of components/ products for residential ventilation — Part 2: Exhaust and supply air terminal devices
  - EN ISO 12100:2010 Safety of machinery — General principles for design — Risk assessment and risk reduction
  - EN 1751:2014 Ventilation for buildings. Air terminal devices. Aerodynamic testing of damper and valves
- Low voltage (LVD) directive 2014/35/EU:
  - EN 60204-1:2018 Safety of machinery — Electrical equipment of machines — Part 1: General requirements
- 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
- WEEE 2012/19/EU
- RoHS Directive (2011/65/EU incl. 2015/863/EU) REACH Regulation (1907/2006)

ACT-H
Circular motorised damper

Technical specifications	
Supply voltage	24 VDC (PoM or terminal block)
Minimum damper position (closed)	0°
Maximum damper position (open)	90°
Analogue / modulating input	0—10 VDC mode, (R_L ≥ 50 kΩ)
	0—20 mA mode, (R_L ≤ 500 Ω)
	PWM (open-collector type) mode: 1 kHz, (R_L ≥ 50 kΩ), PWM voltage level: 3,3 VDC or 12 VDC
Maximum input current consumption	100 mA
Airflow velocity range	0—10 m/s
Airtightness damper blade	Class 4 (according to EN1751)
Airtightness casing	Class D (according to EN1751)
Operating temperature range	5—65 °C
Operating humidity range	5—85 % rH, non-condensing
Protection standard	IP54 (according to EN 60529)
Enclosure material	ABS 10 GF

Attention! *To guarantee airtightness Class D, the transition between duct and damper needs to be sealed with aluminium foil tape.*

Packaging



Article	Packaging	A [mm]	B [mm]	C [mm]	Net weight	Gross weight
ACT-H-125	Unit (1 pc.)	160	134,3	185,5	0,60 kg	0,82 kg
ACT-H-160	Unit (1 pc.)	160	134,3	185,5	0,60 kg	0,82 kg

Global trade item numbers (GTIN)

Packaging	
ACT-H-125 (unit)	05401003018316
ACT-H-160 (unit)	05401003018514