



# SD-DM

## Electronic fan speed controller with Modbus communication

The SDX-DM series are electronic fan speed controllers, which allow you to manually adjust the rotational speed of single phase AC motors by varying the motor voltage through phase angle control. The output can be regulated from minimum to maximum or from maximum to minimum. The operating mode can be selected via Modbus RTU communication. The output voltage can be set locally via the built-in potentiometer or remotely via Modbus RTU communication. The controller is suitable for both inset (IP44) and surface mounting (IP54). All parameters and settings can be adjusted via Modbus RTU communication.

### Key features

- Infinitely variable speed control
- Modbus RTU communication
- Overheating protection
- Variable speed control from low to high speed or from high to low speed
- Adjustable minimum and maximum speed via Modbus RTU communication
- Fan speed can be set locally or remotely via Modbus RTU communication
- Inset or surface mounting
- Regulated output current: 1,5 A or 2,5 A (depending on the chosen version)


### Article codes

Article code	Rated current range [A]
<b>SDX-1-15-DM</b>	0,1–1,5
<b>SDX-1-25-DM</b>	0,2–2,5

### Technical specifications

Supply voltage (Us)	230 VAC ±10% / 50-60 Hz	
Maximum speed range (Vmax.)	75–100% of Us	
Minimum speed range (Vmin.)	20–70% of Us	
Ambient conditions	Temperature	0–40 °C
	Relative humidity	5–95 % rH (non-condensing)
Protection standard	Inset mounting	IP44 (according to EN 60529)
	Surface mounting	IP54 (according to EN 60529)

### Standards

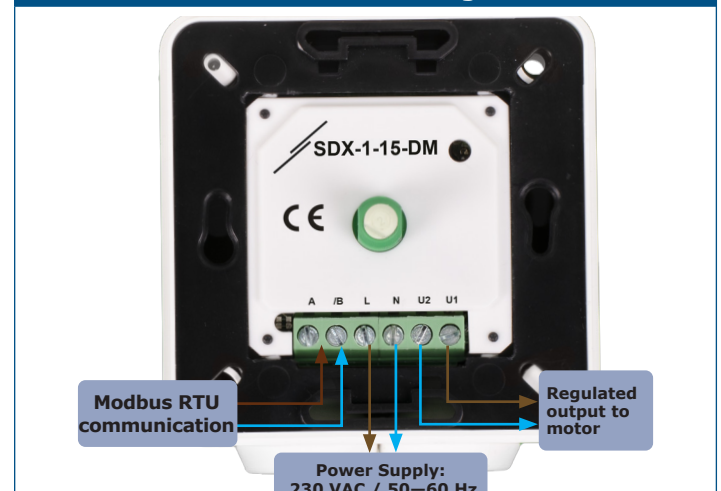
- Low Voltage Directive 2014/30/EU 
  - EN 60529:1991 Degrees of protection provided by enclosures (IP Code). Amendment AC:1993 to EN 60529
  - EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements
- EMC Directive 2014/30/EU:
  - EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements
  - EN 61000-6-1:2007 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light industrial environments
  - 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
  - EN 61000-3-2:2014 Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
- RoHS Directive 2011/65/EU



### Area of use

- Manual control of the motor / fan speed in HVAC applications
- For indoor use only

### Wiring and connections



<b>A</b>	Modbus RTU communication signal A and /B
<b>/B</b>	Modbus RTU communication signal A and /B
<b>L</b>	Power supply, line (230 VAC ±10% / 50–60 Hz)
<b>N</b>	Power supply, neutral
<b>U2</b>	Regulated output to motor, neutral
<b>U1</b>	Regulated output to motor, line
<b>Connections</b>	Screw terminal block, pitch 5 mm maximum cable diameter 2,5 mm <sup>2</sup>

**Note:** Mount the unit so that the terminal block and connections are at the lower side!

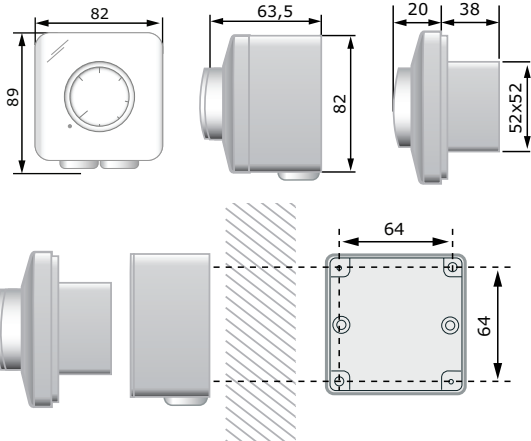


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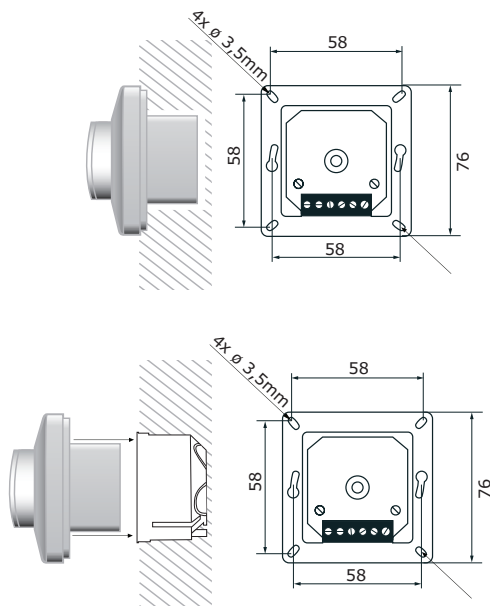
Electronic fan speed controller with Modbus communication

## Fixing and dimensions

### Surface mounting

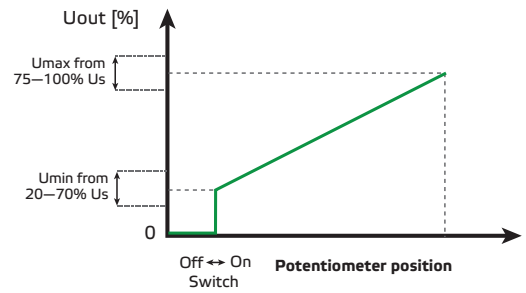


### Inset mounting

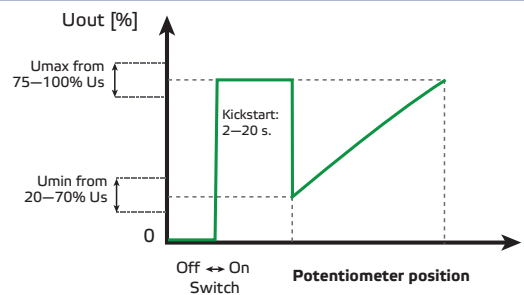


## Operational diagrams

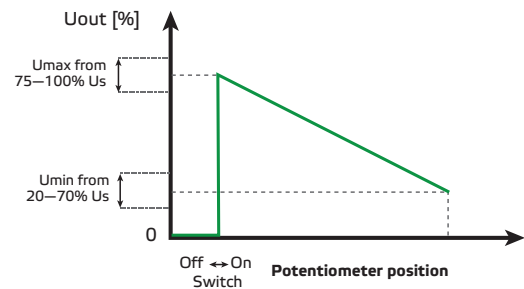
### Low to high speed with soft start



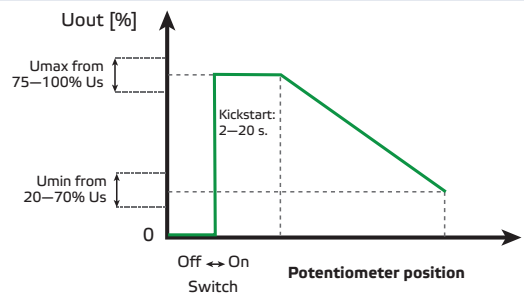
### Low to high speed with kick start



### High to low speed with soft start



### High to low speed with kick start



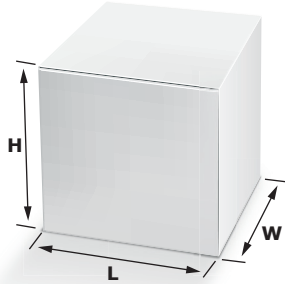
**Note:** By default, the desired fan speed or output value is set via the built-in potentiometer. It is possible to overrule the built-in potentiometer via Modbus RTU communication.



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## Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
SDX-1-15-DM SDX-1-25-DM	Unit (1 pc.)	95	85	70	0,16 kg	0,17 kg
	Carton (10 pcs.)	492	182	84	1,6 kg	1,7 kg
	Box (60 pcs.)	590	380	280	9,6 kg	10,2 kg

## Global trade item numbers (GTIN)

Packaging	SDX-1-15-DM	SDX-1-25-DM
<b>Unit</b>	05401003018293	05401003018309
<b>Carton</b>	05401003302750	05401003302767
<b>Box</b>	05401003503997	05401003504000