

8300101536  
VUB0500NSNJS

# EC axial panel fan - AxiTone

sickle-shaped blades (S series)  
Fan housing with mounting grille

**ebm-papst Mulfingen GmbH & Co. KG**

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.fansco.com

www.fansco.com

Limited partnership · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

|                          |                   |            |
|--------------------------|-------------------|------------|
| Item                     | 8300101536        |            |
| Motor                    | E07433-43         |            |
| Phase                    |                   | 1~         |
| Nominal voltage          | VAC               | 230        |
| Nominal voltage range    | VAC               | 200 .. 240 |
| Frequency                | Hz                | 50/60      |
| Method of obtaining data |                   | ml         |
| Status                   |                   | prelim.    |
| Speed (rpm)              | min <sup>-1</sup> | 870        |
| Power consumption        | W                 | 170        |
| Current draw             | A                 | 1.4        |
| Max. back pressure       | Pa                | 70         |
| Max. back pressure       | in. wg            | 0.28       |
| Min. ambient temperature | °C                | -25        |
| Max. ambient temperature | °C                | 60         |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · oe = Customer equipment  
Subject to change

## Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

|                                   |   | Actual | Req. 2015 |                               |                   |      |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency $\eta_{es}$ | % | 44.2   | 28.8      | 09 Power consumption $P_{ed}$ | kW                | 0.16 |
| 02 Measurement category           |   | A      |           | 09 Air flow $q_v$             | m <sup>3</sup> /h | 3925 |
| 03 Efficiency category            |   | Static |           | 09 Pressure increase $p_{fs}$ | Pa                | 60   |
| 04 Efficiency grade N             |   | 55.4   | 40        | 10 Speed (rpm) n              | min <sup>-1</sup> | 885  |
| 05 Variable speed drive           |   | Yes    |           | 11 Specific ratio*            |                   | 1.00 |

Data obtained at optimum efficiency level.

\* Specific ratio =  $1 + p_g / 100\,000\text{ Pa}$

LU-232050

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).  
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.  
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

8300101536  
VUB0500NSNJS

## EC axial panel fan - AxiTone

sickle-shaped blades (S series)  
Fan housing with mounting grille

### Technical description

|                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Size                                                                       | 500 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Motor size                                                                 | 74                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Rotor surface                                                              | Thick-film passivated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Electronics housing material                                               | Die-cast aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Impeller material                                                          | PP plastic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Fan housing material                                                       | Sheet steel, galvanized and coated with black plastic (RAL 9005)                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Support bracket material                                                   | Steel, coated with black plastic (RAL 9005)                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Number of blades                                                           | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Airflow direction                                                          | A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Direction of rotation                                                      | Counterclockwise, viewed toward rotor                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Degree of protection                                                       | IP54                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Insulation class                                                           | "B"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Moisture (F) / Environmental (H) protection class                          | H1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Max. permitted ambient temp. for motor (transport/storage)                 | +80 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Min. permitted ambient temp. for motor (transport/storage)                 | -40 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Installation position                                                      | Any                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Mode                                                                       | S1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Motor bearing                                                              | Ball bearing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Technical features                                                         | <ul style="list-style-type: none"><li>- Output 10 VDC, max. 10 mA</li><li>- Locked-rotor detection</li><li>- Tach output</li><li>- Speed control</li><li>- Power limiter</li><li>- Motor current limitation</li><li>- Soft start</li><li>- Control input 0-10 VDC / PWM</li><li>- Control interface with SELV potential safely disconnected from the mains</li><li>- Overvoltage detection</li><li>- Thermal overload protection for electronics/motor</li><li>- Line undervoltage detection</li></ul> |
| EMC immunity to interference                                               | According to EN 61000-6-2 (industrial environment)                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EMC interference emission                                                  | According to EN 61000-6-4 (industrial environment)                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | <= 3.5 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Motor protection                                                           | Electronic motor protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| With cable                                                                 | Variable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Protection class assignment                                                | I; If a protective earth is connected.<br>The built-in component has several local protection class assignments.<br>The final protection class is determined by the intended installation.                                                                                                                                                                                                                                                                                                             |
| Conformity with standards                                                  | EN 60034-1; EN 60204-1; EN 60335-1; CE; UKCA                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Approval                                                                   | CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1                                                                                                                                                                                                                                                                                                                                                                                                                                               |

8300101536

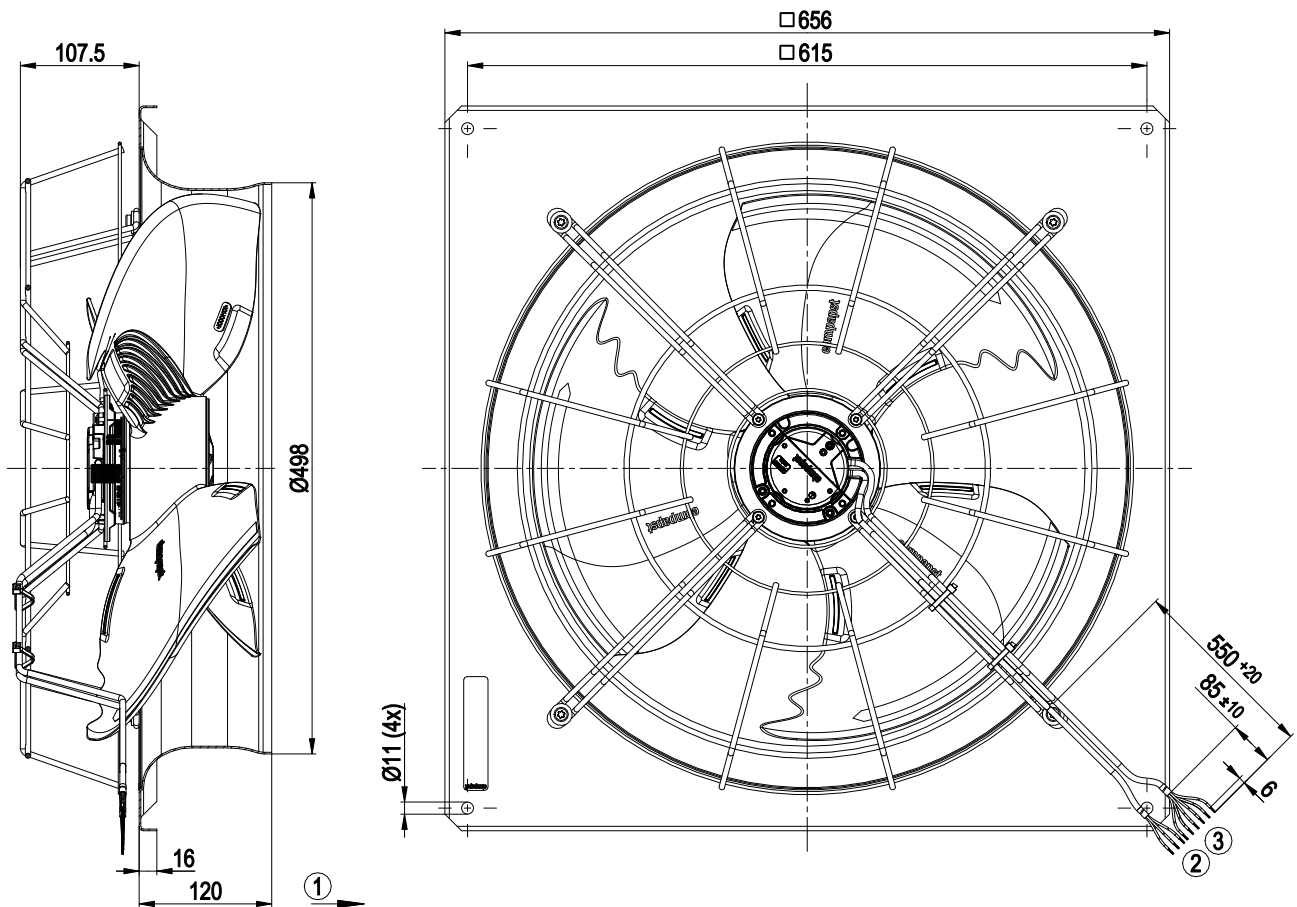
VUB0500NSNJS

## EC axial panel fan - AxiTone

sickle-shaped blades (S series)

Fan housing with mounting grille

### Product drawing



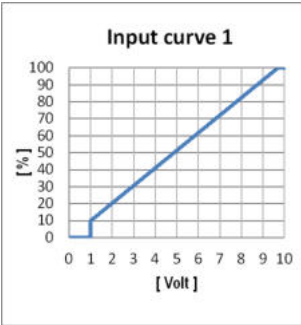
- |   |                               |
|---|-------------------------------|
| 1 | Direction of air flow "A"     |
| 2 | Supply line (PWR) PVC AWG20   |
|   | 3x splice                     |
| 3 | Control wire (CTRL) PVC AWG22 |
|   | 6x splice                     |

8300101536  
VUB0500NSNJS

# EC axial panel fan - AxiTone

sickle-shaped blades (S series)  
Fan housing with mounting grille

## Connection diagram



| No. | Conn. | Designation | Color        | Function/assignment                                                                                                                                                                                                                                              |
|-----|-------|-------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | PWR   | L           | black        | Power supply, phase, see nameplate for voltage range                                                                                                                                                                                                             |
|     | PWR   | N           | blue         | Power supply, neutral conductor, see nameplate for voltage range                                                                                                                                                                                                 |
|     | PWR   | PE          | green/yellow | Protective earth                                                                                                                                                                                                                                                 |
|     |       |             |              |                                                                                                                                                                                                                                                                  |
|     | CTRL  | GND         | blue         | Reference ground for control interface, SELV                                                                                                                                                                                                                     |
|     | CTRL  | IO1         | yellow       | Factory setting:<br>Analog input 0-10 V/PWM, Ri=100 KΩ, fPWM=1 kHz..10 kHz,<br>Function: Speed set value<br>Characteristic curve parameterizable (see "Input curve 1"), SELV<br>Function parameterizable at the factory (see Optional interface functions table) |
|     | CTRL  | IO2         | white        | Factory setting:<br>Open collector output, Umax=50 VDC, Imax= 10 mA, function: Tach output<br>1 pulse/revolution, SELV<br>Function parameterizable at factory (see table Optional interface functions)                                                           |
|     | CTRL  | Vout        | red          | Voltage output 10 VDC +/-3%, Imax=10 mA<br>Short-circuit-proof, power supply for external devices, SELV                                                                                                                                                          |
|     | CTRL  | -           | gray         | No function                                                                                                                                                                                                                                                      |
|     | CTRL  | -           | brown        | No function                                                                                                                                                                                                                                                      |

VUB0500NSNJS

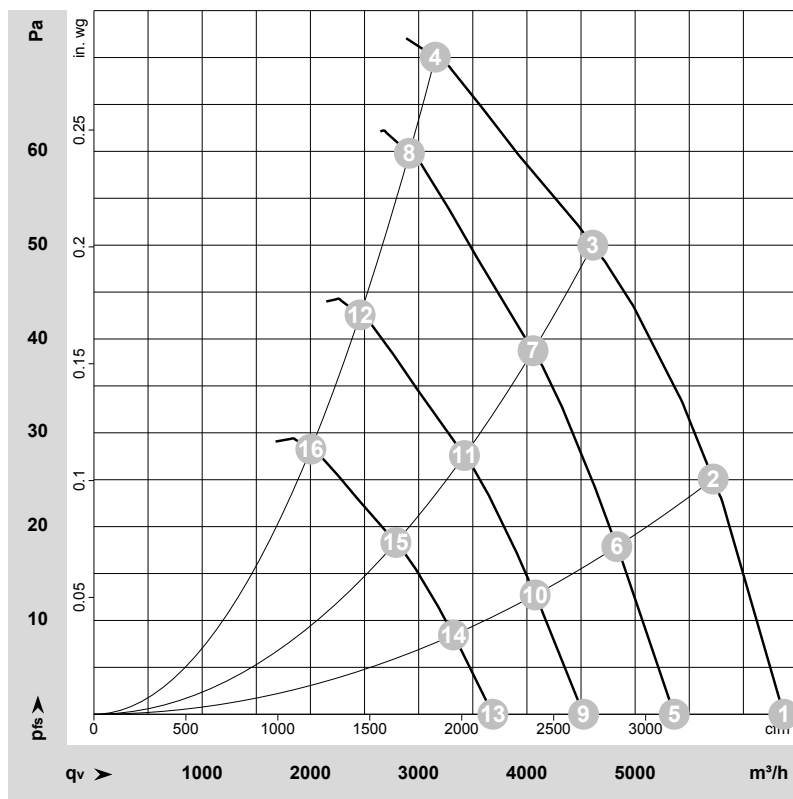
Fan housing with mounting grille

| Basic (B4)                                                                     |                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Factory configuration option upon request                                      |                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>factory configuration option</li> </ul> |                                                                                                                                                                                                                                                |
| IO1                                                                            | configurable IO mode                                                                                                                                                                                                                           |
|                                                                                | electrical specification                                                                                                                                                                                                                       |
|                                                                                | ◦ Dim1 (high active): digital input<br>active: parameterizable voltage x - 30 VDC<br>not active: pin open or parameterizable voltage < x VDC, SELV<br>Ri = 100 kΩ, characteristic curve parameterizable, f <sub>PWM</sub> = 1 k - 10 kHz, SELV |
|                                                                                | ◦ Ain1 0-10 V/PWM: analog input<br>Umax = 50 VDC, Imax = 10 mA, SELV                                                                                                                                                                           |
| IO2                                                                            | ◦ Tach out (open collector)<br>Umax = 50 VDC, Imax = 10 mA, SELV                                                                                                                                                                               |
|                                                                                | ◦ Diagnostics out (open collector)<br>Umax = 50 VDC, Imax = 10 mA, SELV                                                                                                                                                                        |
|                                                                                | ◦ Alarm out (open collector)<br>Umax = 50 VDC, Imax = 10 mA, SELV                                                                                                                                                                              |
|                                                                                | ◦ Open collector<br>Voltage 10 VDC, SELV                                                                                                                                                                                                       |
| Vout                                                                           | Voltage output                                                                                                                                                                                                                                 |

## EC axial panel fan - AxiTone

sickle-shaped blades (S series)  
Fan housing with mounting grille

### Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-232050-1  
Date: 2024-05-16  
Housing: 10524-2-4037

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

### Measured values

|    | Wired | U   | f  | n                 | P <sub>e</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | LwA <sub>out</sub> | LwA | q <sub>v</sub> | P <sub>fs</sub> | q <sub>v</sub> | P <sub>fs</sub> |
|----|-------|-----|----|-------------------|----------------|------|-------------------|-------------------|--------------------|-----|----------------|-----------------|----------------|-----------------|
|    |       | V   | Hz | min <sup>-1</sup> | W              | A    | dB(A)             | dB(A)             | dB(A)              | dB  | m³/h           | Pa              | cfm            | in. wg          |
| 1  | 1~    | 230 | 50 | 950               | 146            | 1.23 | 56                | 62                | 61                 | 65  | 6375           | 0               | 3750           | 0.00            |
| 2  | 1~    | 230 | 50 | 945               | 166            | 1.39 | 54                | 60                | 60                 | 63  | 5720           | 25              | 3365           | 0.10            |
| 3  | 1~    | 230 | 50 | 910               | 169            | 1.42 | 50                | 57                | 56                 | 59  | 4610           | 50              | 2715           | 0.20            |
| 4  | 1~    | 230 | 50 | 865               | 168            | 1.42 | 51                | 58                | 57                 | 61  | 3155           | 70              | 1855           | 0.28            |
| 5  | 1~    | 230 | 50 | 800               | 87             | 0.73 | 51                | 57                | 57                 | 60  | 5360           | 0               | 3155           | 0.00            |
| 6  | 1~    | 230 | 50 | 800               | 100            | 0.84 | 50                | 56                | 55                 | 59  | 4830           | 18              | 2845           | 0.07            |
| 7  | 1~    | 230 | 50 | 800               | 115            | 0.97 | 47                | 53                | 53                 | 56  | 4055           | 39              | 2390           | 0.16            |
| 8  | 1~    | 230 | 50 | 800               | 133            | 1.12 | 49                | 56                | 55                 | 59  | 2915           | 60              | 1715           | 0.24            |
| 9  | 1~    | 230 | 50 | 675               | 52             | 0.44 | 47                | 53                | 53                 | 56  | 4525           | 0               | 2665           | 0.00            |
| 10 | 1~    | 230 | 50 | 675               | 60             | 0.50 | 45                | 52                | 51                 | 54  | 4075           | 13              | 2400           | 0.05            |
| 11 | 1~    | 230 | 50 | 675               | 69             | 0.58 | 43                | 49                | 48                 | 52  | 3425           | 28              | 2015           | 0.11            |
| 12 | 1~    | 230 | 50 | 675               | 80             | 0.67 | 45                | 52                | 51                 | 55  | 2460           | 43              | 1445           | 0.17            |
| 13 | 1~    | 230 | 50 | 550               | 28             | 0.24 | 42                | 48                | 47                 | 51  | 3685           | 0               | 2170           | 0.00            |
| 14 | 1~    | 230 | 50 | 550               | 33             | 0.27 | 40                | 46                | 46                 | 49  | 3320           | 8               | 1955           | 0.03            |
| 15 | 1~    | 230 | 50 | 550               | 37             | 0.31 | 38                | 44                | 43                 | 47  | 2790           | 18              | 1640           | 0.07            |
| 16 | 1~    | 230 | 50 | 550               | 43             | 0.36 | 40                | 47                | 46                 | 50  | 2005           | 28              | 1180           | 0.11            |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
LwA<sub>out</sub> = Sound power level outlet side · q<sub>v</sub> = Air flow · P<sub>fs</sub> = Pressure increase