

A3GZ50-AB02-01

EC axial fan

sickled blades (S series)



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Nominal data

| Type | A3GZ50-AB02-01 | |
|--------------------------|-------------------|------------|
| Phase | | 3~ |
| Nominal voltage | VAC | 400 |
| Nominal voltage range | VAC | 380 .. 480 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| State | | prelim. |
| Speed | min ⁻¹ | 645 |
| Power input | W | 4100 |
| Current draw | A | 6.7 |
| Max. back pressure | Pa | 180 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | +60 |

ml = max. load · me = max. efficiency · rfa = running at free air · cs = customer specs · cu = customer unit
Subject to alterations



Technical features

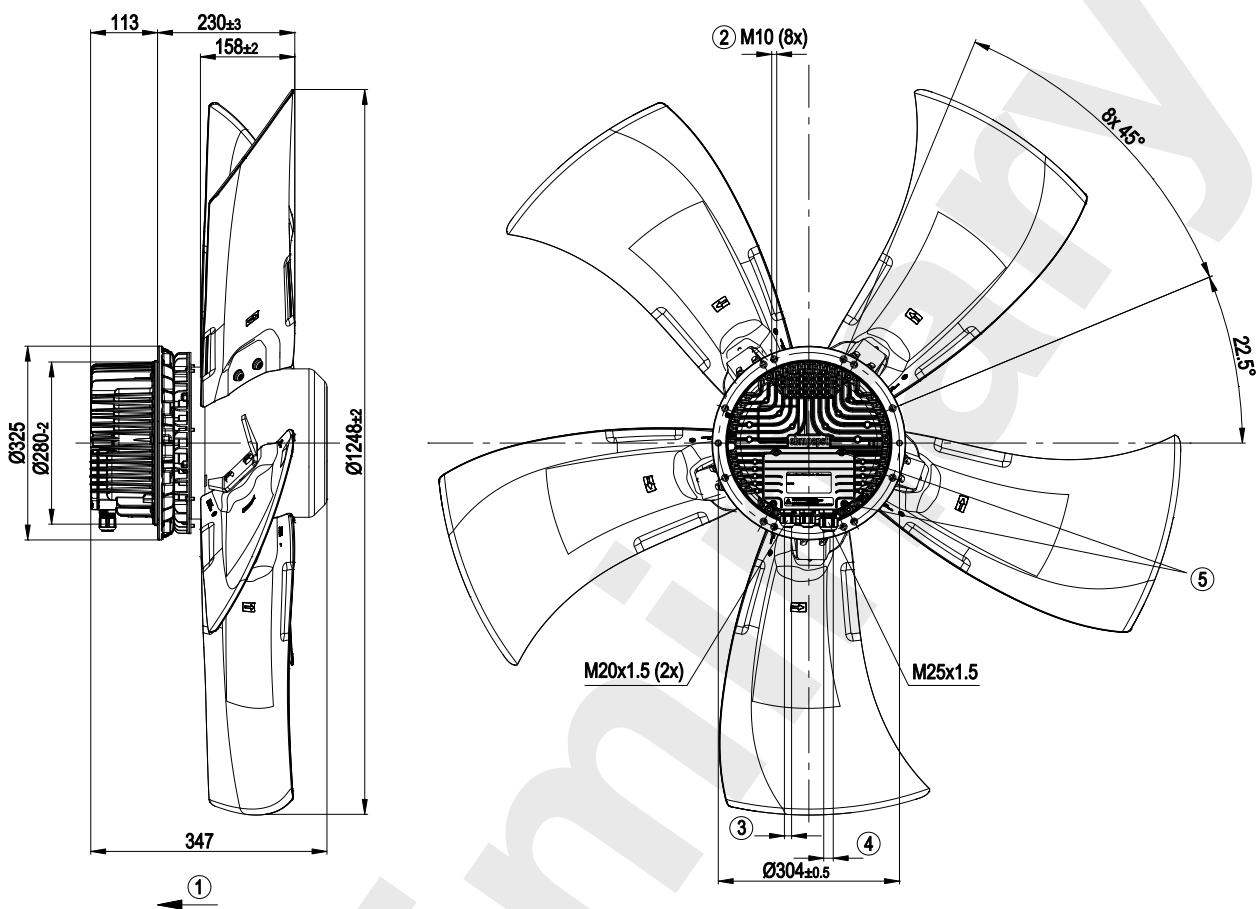
| | |
|---|--|
| Leakage current | <= 3.5 mA |
| Size | 1250 mm |
| Operation mode | S1 |
| Direction of rotation | Clockwise, seen on rotor |
| Mounting position | Shaft horizontal or rotor on bottom; rotor on top on request |
| Electrical leads | Via terminal box |
| EMC interference emission | Acc. to EN 61000-6-3 (household environment) |
| EMC interference immunity | Acc. to EN 61000-6-2 (industrial environment) |
| Humidity class | F4-1 |
| Blade angle | 0° |
| Direction of air flow | "V" |
| Insulation class | "F" |
| Condensate discharge holes | Rotor-side |
| Motor bearing | Ball bearing |
| Mass | 62.5 kg |
| Material of electronics housing | Die-cast aluminium, coated in black |
| Material of blades | Die-cast aluminium |
| Motor protection | Reverse polarity and locked-rotor protection |
| Product conforming to standard | CE; EN 61800-5-1 |
| Surface of rotor | Coated in black |
| Number of blades | 5 |
| Type of protection | IP 54 |
| Protection class | I |
| Technical features | <ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection |
| Max. permissible ambient motor temp. (transp./ storage) | +80 °C |
| Min. permissible ambient motor temp. (transp./storage) | -40 °C |



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Product drawing



Connection screen

| | |
|----|---------|
| 8 | Din 2 |
| 9 | Din 3 |
| 10 | GND |
| 11 | Ain 2 U |
| 12 | + 20 V |
| 13 | Ain 2 I |
| 14 | Aout |
| 1 | RSA |
| 2 | RSB |
| 3 | GND |
| 4 | Ain 1 U |
| 5 | + 10 V |
| 6 | Ain 1 I |
| 7 | Din 1 |

KL 3

| | |
|---|-----|
| 1 | NO |
| 2 | COM |
| 3 | NC |

KL 2

| |
|----|
| PE |
|----|

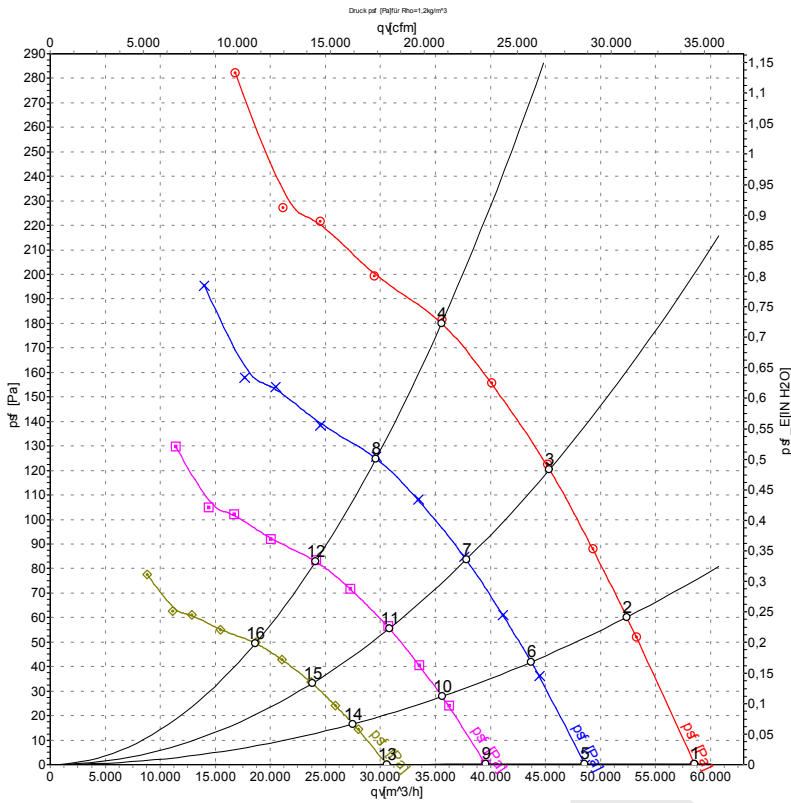
PE

| | |
|---|----|
| 1 | L1 |
| 2 | L2 |
| 3 | L3 |

KL 1

| No. | Pin | Signal | Function / assignment |
|------|--------|--------|---|
| KL 1 | 1 | L1 | Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz |
| KL 1 | 2 | L2 | Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz |
| KL 1 | 3 | L3 | Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz |
| PE | | PE | Earth connection, PE connection |
| KL 2 | 1 | NO | Status relay, floating status contact; normally open; close with error |
| KL2 | 2 | COM | Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / 2 A (AC1) |
| KL2 | 3 | NC | Status relay, floating status contact; break with error |
| KL 3 | 1 | RSA | Bus connection RS485; RSA; MODBUS RTU |
| KL 3 | 2 | RSB | Bus connection RS485; RSB; MODBUS RTU |
| KL 3 | 3 / 10 | GND | Signal ground for control interface KL3 |
| KL 3 | 4 | Ain1 U | Analogue input 1 (set value); 0-10 V; Ri= 100 kΩ; parametrisable curves; only usable as alternative to input Ain1 I |
| KL 3 | 5 | + 10 V | Fixed voltage output 10 VDC; + 10 V +/-3%; max. 10 mA; short circuit proof; power supply for ext. devices (e.g. potentiometer) |
| KL 3 | 6 | Ain1 I | Analogue input 1 (set value); 4-20 mA; Ri= 100 Ω; parametrisable curves; only usable as alternative to input Ain1 U |
| KL 3 | 7 | Din1 | Digital input 1: enabling of electronics; enabling: open pin or applied voltage 5 to 50 VDC; disabling: bridge to GND or applied voltage < 1 VDC; reset function: triggers software reset after a level change to <1 V |
| KL 3 | 8 | Din2 | Digital input 2: parameter set switch 1/2; according to EEPROM setting, the valid/used parameter set is selectable per BUS or per digital input DIN2. Parameter set 1: open pin or applied voltage 5 to 50 VDC; parameter set 2: bridge to GND or applied voltage < 1 VDC |
| KL 3 | 9 | Din3 | Digital input 3: Control characteristic of the integrated controller; according to EEPROM setting, the control characteristic of the integrated controller is normally/inversely selectable per BUS or per digital input; normal: open pin or applied voltage 5 to 50 VDC (control deviation = actual sensor value - set value) inverse: bridge to GND or applied voltage < 1 VDC (control deviation = set value - actual sensor value) |
| KL 3 | 11 | Ain2 U | Analogue input 2; actual sensor value 0-10 V; Ri= 100 kΩ; parametrisable curve; only usable as alternative to input Ain2 I |
| KL 3 | 12 | + 20 V | Fixed voltage output 20 VDC; + 20 V +/-25/-10 %; max. 50 mA; short circuit proof; power supply for ext. devices (e.g. sensors) |
| KL 3 | 13 | Ain2 I | Analogue input 2; actual sensor value 4-20 mA; Ri= 100 Ω; parametrisable curve; only usable as alternative to input Ain2 U |
| KL 3 | 14 | Aout | Analogue output 0-10 V; max. 5 mA; output of the actual motor control factor (output voltage of electronics)/ of the actual motor speed; function selectable per bus; parametrisable curve. |

Charts: Air flow 50 Hz



Measurement: LU-132831

Air performance measured as per ISO 5801 Installation Category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

| | U | f | n | P _e | I | LpA _{in} | LwA _{in} | LwA _{out} | qV | p _{sf} |
|----|-----|----|-------------------|----------------|------|-------------------|-------------------|--------------------|-------------------|-----------------|
| | V | Hz | min ⁻¹ | W | A | dB(A) | dB(A) | dB(A) | m ³ /h | Pa |
| 1 | 400 | 50 | 645 | 2694 | 4.64 | 72 | 79 | 80 | 58530 | 0 |
| 2 | 400 | 50 | 645 | 3155 | 5.32 | 70 | 78 | 79 | 52380 | 60 |
| 3 | 400 | 50 | 645 | 3588 | 5.97 | 72 | 79 | 79 | 45360 | 120 |
| 4 | 400 | 50 | 645 | 4100 | 6.70 | 75 | 83 | 83 | 35550 | 180 |
| 5 | 400 | 50 | 540 | 1539 | 2.65 | 67 | 75 | 76 | 48570 | 0 |
| 6 | 400 | 50 | 540 | 1834 | 3.09 | 67 | 74 | 75 | 43700 | 42 |
| 7 | 400 | 50 | 540 | 2075 | 3.45 | 68 | 75 | 75 | 37800 | 84 |
| 8 | 400 | 50 | 540 | 2370 | 3.90 | 71 | 79 | 79 | 29600 | 126 |
| 9 | 400 | 50 | 440 | 833 | 1.43 | 63 | 71 | 72 | 39570 | 0 |
| 10 | 400 | 50 | 440 | 992 | 1.67 | 62 | 70 | 70 | 35600 | 28 |
| 11 | 400 | 50 | 440 | 1123 | 1.87 | 63 | 71 | 71 | 30800 | 56 |
| 12 | 400 | 50 | 440 | 1282 | 2.11 | 67 | 74 | 75 | 24120 | 84 |
| 13 | 400 | 50 | 340 | 384 | 0.66 | 57 | 65 | 66 | 30580 | 0 |
| 14 | 400 | 50 | 340 | 458 | 0.77 | 56 | 64 | 65 | 27510 | 17 |
| 15 | 400 | 50 | 340 | 518 | 0.86 | 58 | 65 | 65 | 23800 | 33 |
| 16 | 400 | 50 | 340 | 592 | 0.97 | 61 | 69 | 69 | 18640 | 50 |