**K3G400-AH05-21**

# EC centrifugal module

backward-curved, single-intake

with support plate

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## Nominal data

| | |
|---|---|
| **Type** | **K3G400-AH05-21** |
| **Motor** | **M3G084-DF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 277 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 1550 |
| Power consumption | W | 275 |
| Current draw | A | 1.4 (200V) |
| Min. ambient temperature | °C | 0 |
| Max. ambient temperature | °C | 40 |

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

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

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 58.8 | 45.6 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 75.2 | 62 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_{ed}$ | kW | 0.27 |
| 09 Air flow $q_v$ | $m^3/h$ | 1605 |
| 09 Pressure increase $p_{fs}$ | Pa | 324 |
| 10 Speed (rpm) n | $min^{-1}$ | 1565 |
| 11 Specific ratio* | | 1.00 |

Data obtained at optimum efficiency level.

* Specific ratio = 1 + $p_{fs}$ / 100 000 Pa

LU-154637

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).

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## Technical description

| | |
|---|---|
| **Weight** | 8.75 kg |
| **Size** | 400 mm |
| **Motor size** | 84 |
| **Rotor surface** | Painted black |
| **Electronics housing material** | Die-cast aluminum |
| **Impeller material** | Sheet aluminum, painted black |
| **Support plate material** | Sheet aluminum |
| **Spacer material** | Aluminum |
| **Inlet nozzle material** | Sheet aluminum |
| **Number of blades** | 6 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP20 |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H0 - dry environment |
| **Max. permitted ambient temp. for motor (transport/storage)** | +80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | -40 °C |
| **Installation position** | Shaft horizontal or rotor on top; rotor on bottom on request |
| **Condensation drainage holes** | None |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Operation and alarm display with LED<br>- Integrated PID controller<br>- Motor current limitation<br>- PFC, active<br>- RS485 MODBUS-RTU with DCI function<br>- Soft start<br>- Control interface with SELV potential safely disconnected from the mains<br>- Thermal overload protection for electronics/motor<br>- Line undervoltage / phase failure detection |
| **EMC immunity to interference** | According to EN 61000-6-2 (industrial environment) |
| **EMC circuit feedback** | According to EN 61000-3-2/3 |
| **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 |
| **Electrical hookup** | Plug |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **With cable** | Variable |
| **Protection class assignment** | I; If a protective earth is connected by the customer<br>This component for installation may have several local protection classes. This information relates to this component's basic design.<br>The final protection class is based on the component's intended installation and connection. |
| **Conformity with standards** | EN 61800-5-1; CE |
| **Approval** | CSA C22.2 No. 113; EAC; UL 507 |



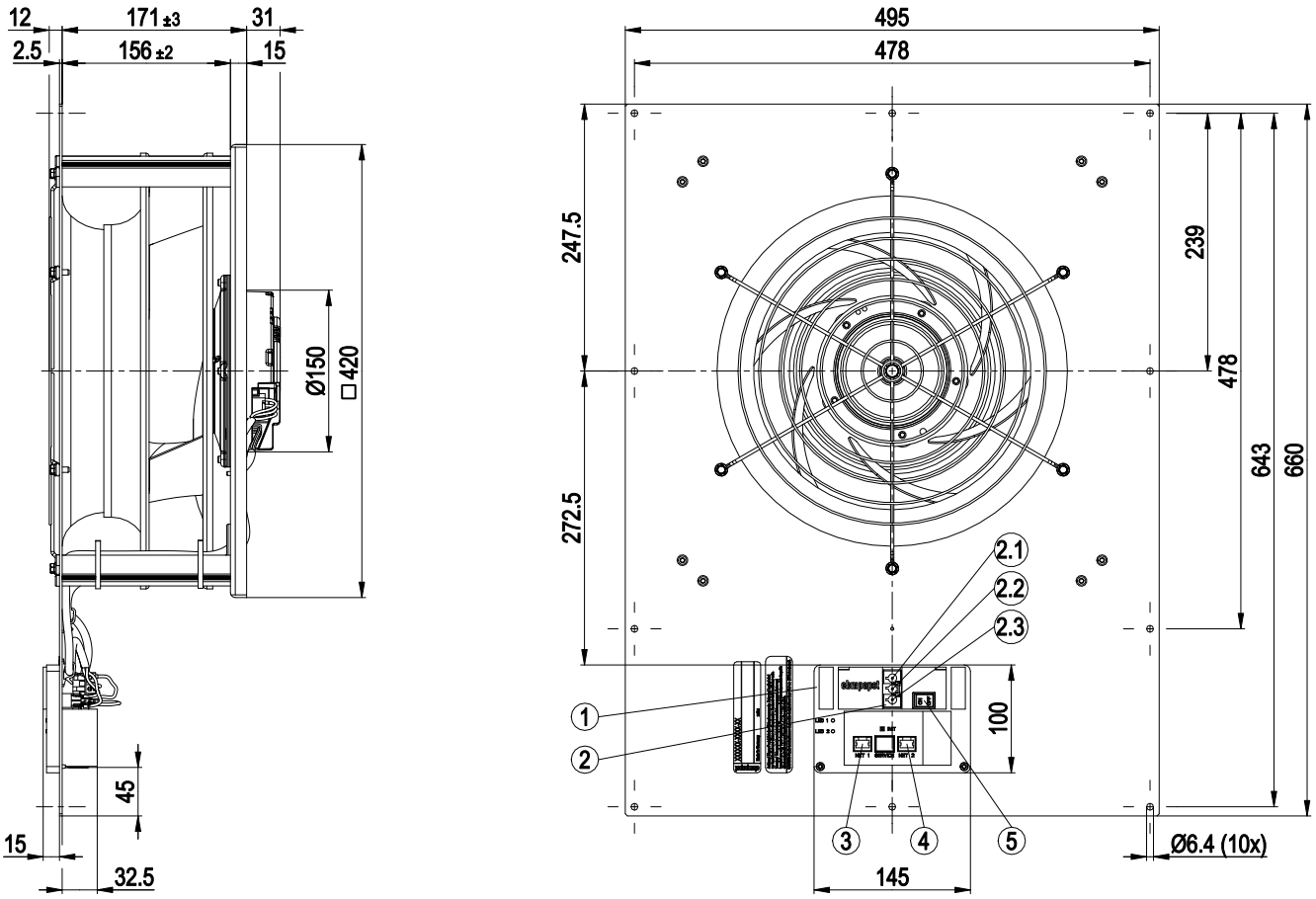
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## Product drawing




| | |
|---|---|
| 1 | Plastic terminal box |
| 2 | Connector housing 3-pole GST18/3 Wieland 92.032.9058.1 |
| 2.1 | L |
| 2.2 | PE |
| 2.3 | N |
| 3 | 8-pole connector housing TE 100616-2 |
| 4 | 8-pole connector housing TE 100616-2 |
| 5 | Switch, ARCOLECTRIC SWITCHES P L C (no. H8550VBACF) As-delivered condition end customer switch set to "OFF" |



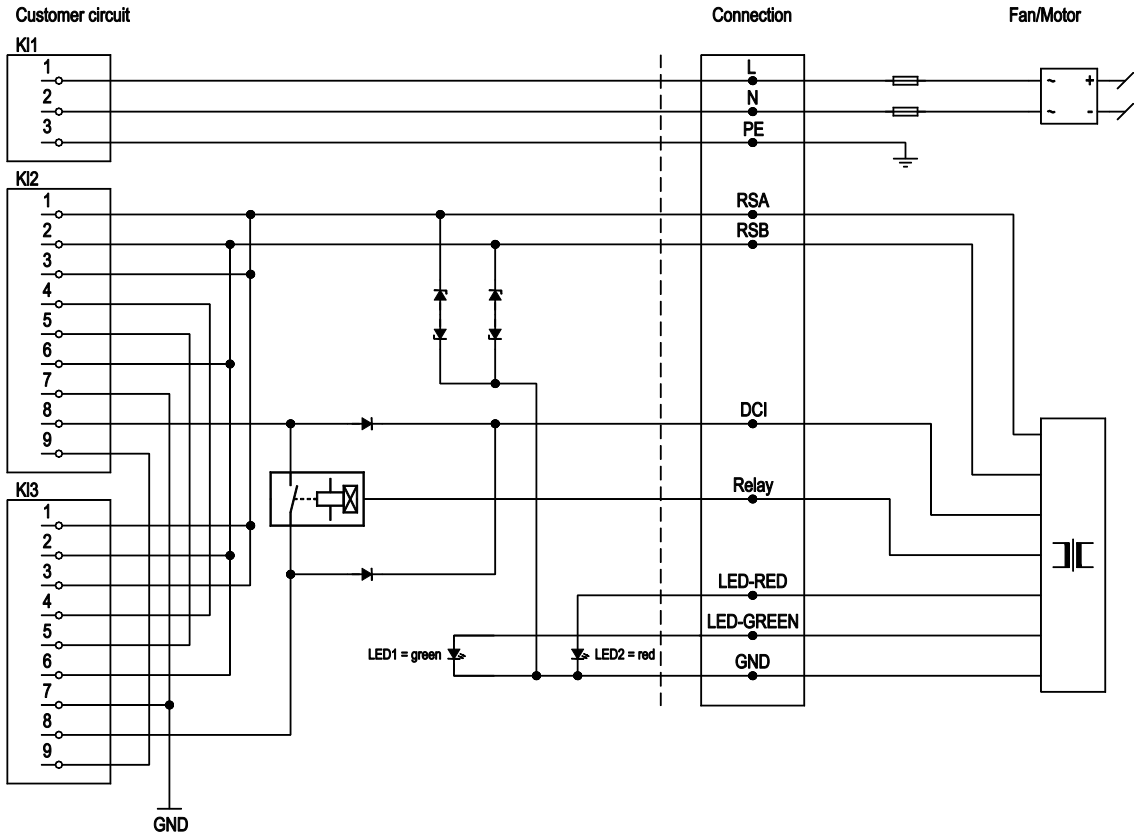
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## Connection diagram




LED1 / LED2

| Status | Priority | Address S/N | Speed | Green LED | Red LED |
|---|---|---|---|---|---|
| Malfunction | 1 | S/N any | Any | Off | Flashes 1 Hz |
| Winking | 2 | S/N = 1/1 | Any | Flashes 10 Hz | On |
| Winking | 2 | S/N <> 1 | Any | Flashes 10 Hz | Off |
| After set value change | 3 | S/N = 1/1 | Any | Flashes 3 times at 2.5 Hz | On |
| After set value change | 3 | S/N <> 1 | Any | Flashes 3 times at 2.5 Hz | Off |
| Fan speed 0 | 4 | S/N = 1/1 | n = 0 | Flashes 1 Hz | On |
| Fan speed 0 | 4 | S/N <> 1 | n = 0 | Flashes 1 Hz | Off |
| Fan speed >0 | 4 | S/N = 1/1 | n > 0 | Off | On |
| Fan speed >0 | 4 | S/N <> 1 | n > 0 | On | Off |

| No. | Conn. | Designation | Function/assignment |
|---|---|---|---|
| KL1 | 1 | L | Power supply, phase, 50/60 Hz |
| KL1 | 2 | N | Power supply, neutral conductor, 50/60 Hz |
| KL1 | 3 | PE | Protective earth |
| KL2/KL3 | 1 | RSA | RS-485 interface for MODBUS, RSA |
| KL2/KL3 | 2 | RSB | RS-485 interface for MODBUS, RSB |
| KL2/KL3 | 3 | RSA | RS-485 interface for MODBUS, RSA |
| KL2/KL3 | 4 | - | Bridge KL2-KL3 |
| KL2/KL3 | 5 | - | Bridge KL2-KL3 |
| KL2/KL3 | 6 | RSB | RS-485 interface for MODBUS, RSB |
| KL2/KL3 | 7 | GND | Reference ground |
| KL2/KL3 | 8 | DCI | Daisy chain signal |
| KL2/KL3 | 9 | Schirm | Shield for RJ45 CAT5 wire (not used) |



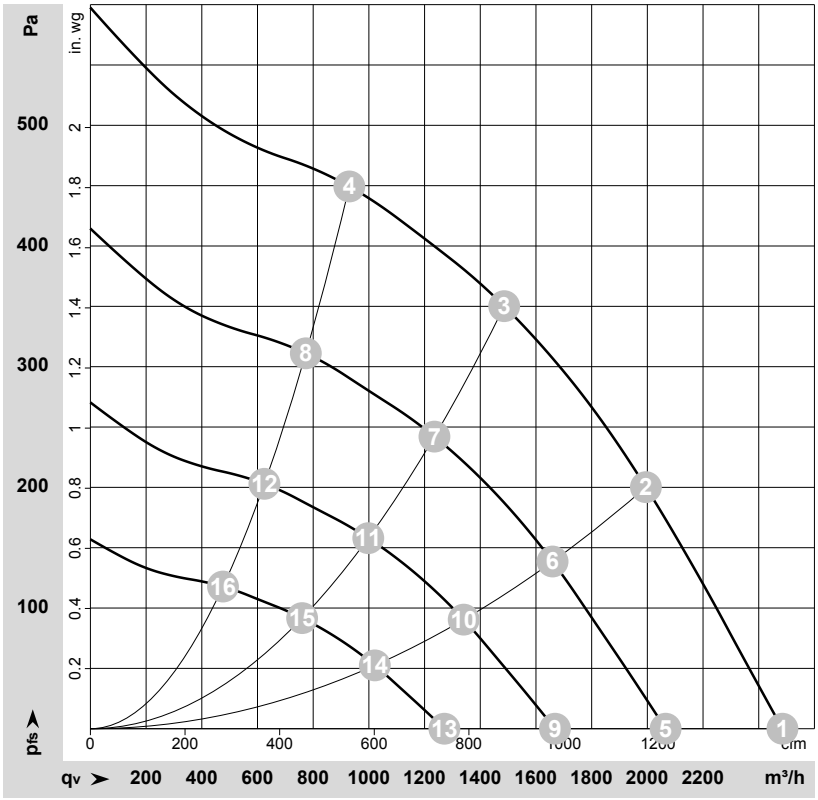
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-154637-1

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 | $P_{ed}$ | I | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 1~ | 230 | 50 | 1550 | 214 | 0.94 | 2485 | 0 | 1465 | 0.00 |
| 2 | 1~ | 230 | 50 | 1550 | 262 | 1.15 | 1995 | 200 | 1175 | 0.80 |
| 3 | 1~ | 230 | 50 | 1550 | 275 | 1.20 | 1485 | 350 | 875 | 1.41 |
| 4 | 1~ | 230 | 50 | 1550 | 256 | 1.12 | 930 | 450 | 545 | 1.81 |
| 5 | 1~ | 230 | 50 | 1300 | 123 | 0.54 | 2065 | 0 | 1215 | 0.00 |
| 6 | 1~ | 230 | 50 | 1300 | 151 | 0.66 | 1660 | 140 | 975 | 0.56 |
| 7 | 1~ | 230 | 50 | 1300 | 159 | 0.70 | 1235 | 242 | 725 | 0.97 |
| 8 | 1~ | 230 | 50 | 1300 | 147 | 0.64 | 775 | 311 | 455 | 1.25 |
| 9 | 1~ | 230 | 50 | 1050 | 65 | 0.28 | 1670 | 0 | 980 | 0.00 |
| 10 | 1~ | 230 | 50 | 1050 | 80 | 0.35 | 1340 | 91 | 790 | 0.37 |
| 11 | 1~ | 230 | 50 | 1050 | 84 | 0.37 | 1000 | 158 | 585 | 0.63 |
| 12 | 1~ | 230 | 50 | 1050 | 78 | 0.34 | 625 | 203 | 370 | 0.81 |
| 13 | 1~ | 230 | 50 | 800 | 29 | 0.13 | 1270 | 0 | 750 | 0.00 |
| 14 | 1~ | 230 | 50 | 800 | 35 | 0.15 | 1020 | 53 | 600 | 0.21 |
| 15 | 1~ | 230 | 50 | 800 | 37 | 0.16 | 760 | 92 | 445 | 0.37 |
| 16 | 1~ | 230 | 50 | 800 | 34 | 0.15 | 475 | 118 | 280 | 0.47 |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power consumption · I = Current draw · $q_V$ = Air flow · $p_{fs}$ = Pressure increase



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