**K3G400-AX66-05**

# EC centrifugal module - Plug fan

backward curved, single inlet

with support bracket

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ErP2015 EXCEEDS THE NORM

## Nominal data

| | |
|---|---|
| **Type** | **K3G400-AX66-05** |
| **Motor** | **M3G112-EA** |

| | | |
|---|---|---|
| Phase | | 3~ |
| Nominal voltage | VAC | 400 |
| Nominal voltage range | VAC | 380 .. 480 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| State | | prelim. |
| Speed | $min^{-1}$ | 1480 |
| Power input | W | 595 |
| Current draw | A | 1.12 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | +35 |

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

## Data according to ErP directive

| | |
|---|---|
| Installation category | A |
| Efficiency category | Static |
| Variable speed drive | Yes |
| Specific ratio* | 1.00 |

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

| | | Actual | Request 2013 | Request 2015 |
|---|---|---|---|---|
| Overall efficiency $\eta_{es}$ | | 65.3 | 45 | 49 |
| Efficiency grade N | | 78.3 | 58 | 62 |
| Power input $P_{ed}$ | kW | 0.58 | | |
| Air flow $q_v$ | $m^3/h$ | 3615 | | |
| Pressure increase $p_{fs}$ | Pa | 348 | | |
| Speed n | $min^{-1}$ | 1485 | | |

Data established at point of optimum efficiency.

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## Technical features

| | |
|---|---|
| **Mass** | 18.8 kg |
| **Size** | 400 mm |
| **Surface of rotor** | Coated in black |
| **Material of electronics housing** | Die-cast aluminium |
| **Material of impeller** | Aluminium sheet |
| **Material of mounting plate** | Sheet steel, galvanised |
| **Material of support bracket** | Steel, coated in black |
| **Material of inlet nozzle** | Sheet steel, galvanised |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 54 |
| **Insulation class** | "B" |
| **Humidity class** | F4-1 |
| **Max. permissible ambient motor temp. (transp./ storage)** | + 80 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | - 40 °C |
| **Mounting position** | Refer to product drawing |
| **Condensate discharge holes** | On the stator side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- Output 20 VDC, max. 50 mA<br>- Output for slave 0-10 V<br>- Input for sensor 0-10 V or 4-20 mA<br>- External 24 V input (programming)<br>- Alarm relay<br>- Integrated PID controller<br>- Motor current limit<br>- PFC, passive<br>- RS485 MODBUS RTU<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from the mains<br>- Over-temperature protected electronics / motor<br>- Line undervoltage / phase failure detection |
| **EMC interference immunity** | Acc. to EN 61000-6-2 (industrial environment) |
| **EMC harmonics** | Acc. to EN 61000-3-2/3 |
| **EMC interference emission** | Acc. to EN 61000-6-3 (household environment) |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 61800-5-1; CE |



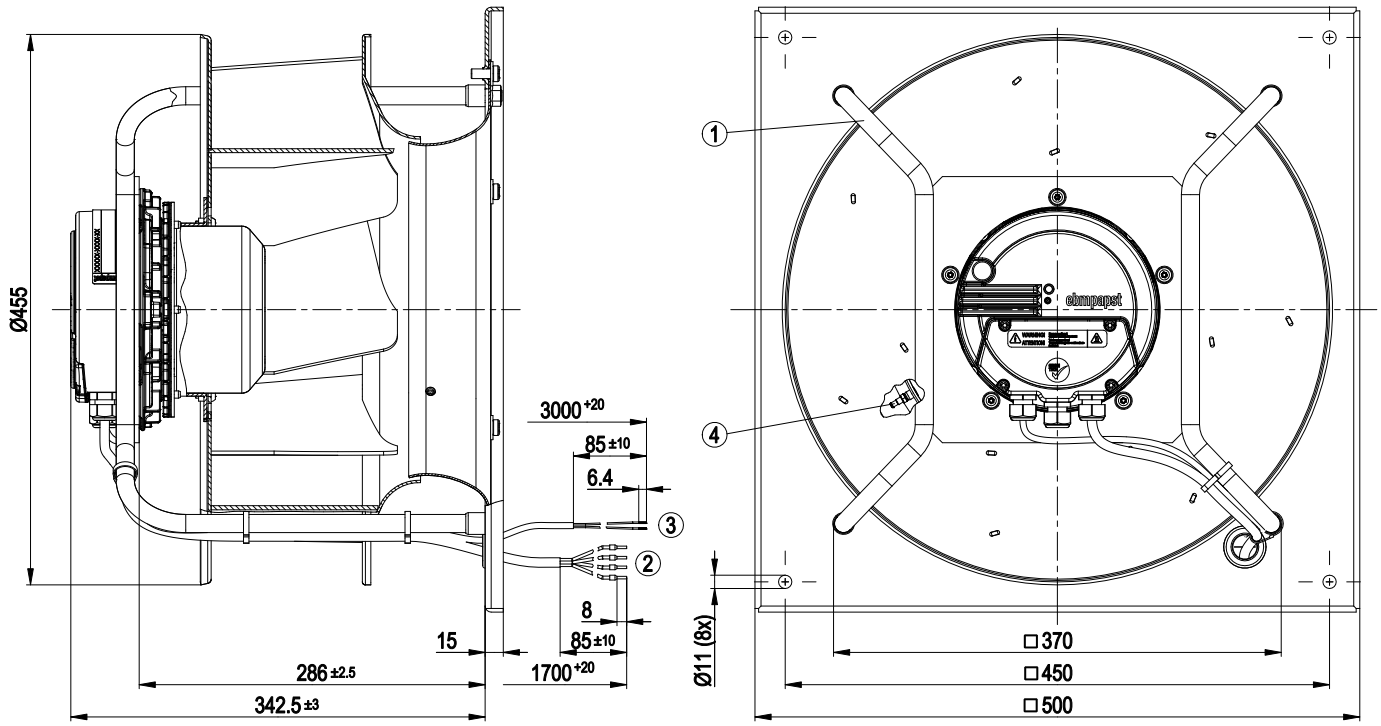
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## Product drawing




| | |
|---|---|
| 1 | Mounting position: shaft horizontal (install the support struts only vertically as shown in the view!) or rotor on top; rotor on bottom on request |
| 2 | Connection line silicone 4G 1.5 mm², 4 x crimped core-end sleeves |
| 3 | Connection line PVC AWG22, 2 x brass lead tips crimped |
| 4 | Inlet nozzle with bleeder connection for pressure relief (k-factor: 188) |



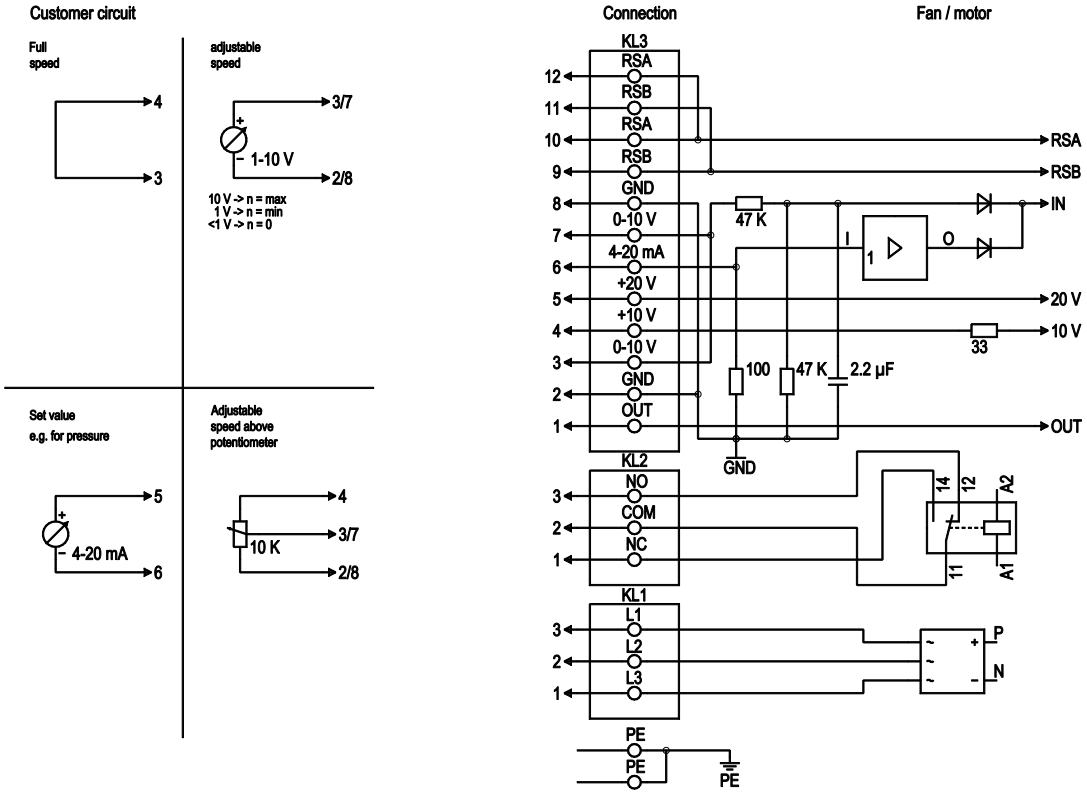
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## Connection screen




| No. | Pin | Signal | Function / assignment |
|---|---|---|---|
| PE | | PE | Protective earth connection |
| KL1 | 1, 2, 3 | L1, L2, L3 | Supply voltage, voltage range (see type plate), 50/60 Hz |
| KL2 | 1 | NC | Floating status contact, break with error |
| KL2 | 2 | COM | Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1) |
| KL2 | 3 | NO | Floating status contact, close with error |
| KL3 | 1 | OUT | Analogue output, 0-10 VDC, max. 3 mA, SELV,<br>Output of the actual motor duty cycle (PWM):<br>1 V corresponds to 10% PWM,<br>10 V correspond to 100% PWM. |
| KL3 | 2, 8 | GND | Signal ground for control interface, SELV |
| KL3 | 3, 7 | 0-10 V | Set value / actual sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV |
| KL3 | 4 | +10 V | Voltage output 10 VDC (+/-3%), max. 10 mA,<br>power supply for external devices (e.g. potentiometer), SELV |
| KL3 | 5 | +20 V | Voltage output 20 VDC (+25%/-10%), max. 50 mA, supply voltage for external devices (e.g. sensors), SELV |
| KL3 | 6 | 4-20 mA | Set value / actual sensor value input 4-20 mA, impedance 100 Ω, only as alternative to 0-10 V input, SELV |
| KL3 | 9, 11 | RSB | RS485 interface for MODBUS, RSB |
| KL3 | 10, 12 | RSA | RS485 interface for MODBUS, RSA |



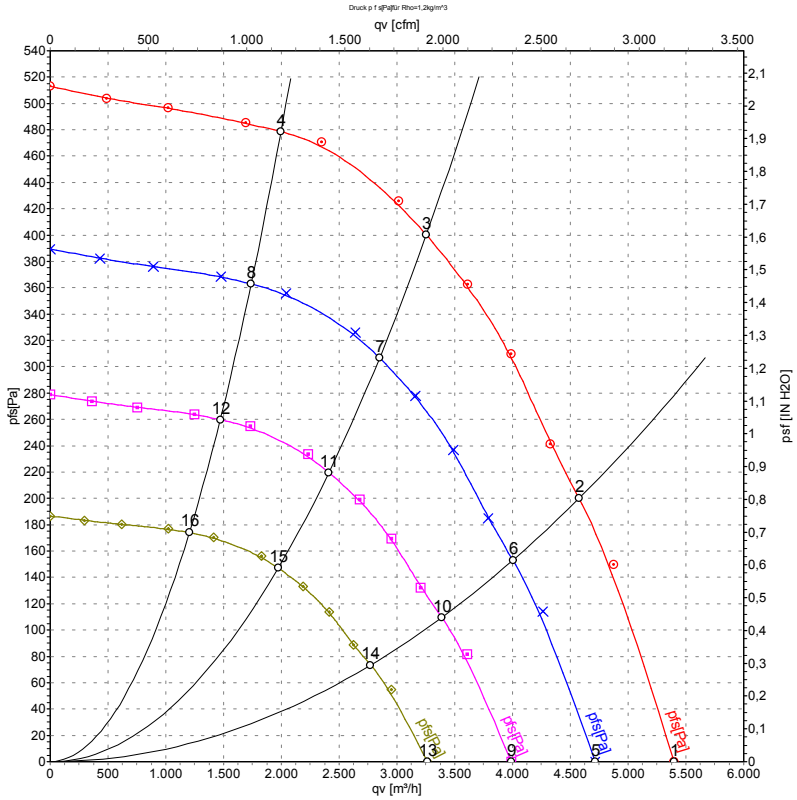
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## Charts: Air flow 50 Hz




Measurement: LU-134466

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 | $P_{ed}$ | I | $LpA_{in}$ | $LwA_{in}$ | $LwA_{out}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | dB(A) | $m^3/h$ | Pa |
| 1 | 400 | 50 | 1480 | 405 | 0.85 | 71 | 79 | 84 | 5400 | 0 |
| 2 | 400 | 50 | 1480 | 514 | 1.03 | 67 | 76 | 80 | 4575 | 200 |
| 3 | 400 | 50 | 1480 | 595 | 1.12 | 66 | 74 | 79 | 3255 | 400 |
| 4 | 400 | 50 | 1480 | 539 | 1.06 | 67 | 75 | 80 | 1995 | 480 |
| 5 | 400 | 50 | 1300 | 269 | 0.56 | 68 | 76 | 81 | 4710 | 0 |
| 6 | 400 | 50 | 1300 | 344 | 0.69 | 64 | 72 | 77 | 4005 | 153 |
| 7 | 400 | 50 | 1300 | 398 | 0.77 | 62 | 71 | 76 | 2850 | 307 |
| 8 | 400 | 50 | 1300 | 356 | 0.70 | 64 | 72 | 76 | 1740 | 363 |
| 9 | 400 | 50 | 1100 | 163 | 0.34 | 64 | 72 | 77 | 3985 | 0 |
| 10 | 400 | 50 | 1100 | 208 | 0.42 | 60 | 68 | 73 | 3385 | 110 |
| 11 | 400 | 50 | 1100 | 241 | 0.47 | 58 | 67 | 71 | 2410 | 220 |
| 12 | 400 | 50 | 1100 | 216 | 0.43 | 60 | 68 | 72 | 1470 | 260 |
| 13 | 400 | 50 | 900 | 89 | 0.19 | 59 | 67 | 72 | 3260 | 0 |
| 14 | 400 | 50 | 900 | 114 | 0.23 | 54 | 63 | 67 | 2770 | 73 |
| 15 | 400 | 50 | 900 | 132 | 0.26 | 53 | 62 | 66 | 1975 | 147 |
| 16 | 400 | 50 | 900 | 118 | 0.23 | 55 | 63 | 67 | 1205 | 174 |

U = Supply voltage · f = Frequency · n = Speed · $P_{ed}$ = Power input · I = Current draw · $LpA_{in}$ = Sound pressure level inlet side · $LwA_{in}$ = Sound power level inlet side · $LwA_{out}$ = Sound power level outlet side
qv = Air flow · $p_{fs}$ = Pressure increase



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