**K3G146-AE01-01**

# EC centrifugal fan combination

forward-curved, dual-intake

with housing



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ErP2015 EXCEEDS THE NORM

## Nominal data

| | |
|---|---|
| **Type** | **K3G146-AE01-01** |
| **Motor** | **M3G074-DF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 240 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 1250 |
| Power consumption | W | 245 |
| Current draw | A | 1.9 |
| Min. back pressure | Pa | 0 |
| Min. back pressure | inH2O | 0 |
| Min. ambient temperature | °C | -25 |
| 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 ErP Directive

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 41.5 | 32.8 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 52.7 | 44 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_{ed}$ | kW | 0.17 |
| 09 Air flow $q_v$ | $m^3/h$ | 1505 |
| 09 Pressure increase $p_{fs}$ | Pa | 156 |
| 10 Speed (rpm) n | $min^{-1}$ | 1710 |
| 11 Specific ratio* | | 1.00 |

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-160332

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## Technical description

| | |
|---|---|
| **Weight** | 5.8 kg |
| **Fan size** | 146 mm |
| **Rotor surface** | Galvanized |
| **Electronics housing material** | PP plastic |
| **Impeller material** | PP plastic |
| **Housing material** | PP plastic |
| **Motor suspension** | Motor vibration-damped on both sides |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | Motor IP44, electronics IP20; installation- and position-dependent |
| **Insulation class** | "F" |
| **Max. permitted ambient temp. for motor (transport/storage)** | + 80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | - 40 °C |
| **Installation position** | Any |
| **Condensation drainage holes** | None, open rotor |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 1.1 mA<br>- Tach output<br>- Motor current limitation<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from supply<br>- Thermal overload protection for motor |
| **EMC immunity to interference** | According to EN 61000-6-2 (industrial environment) |
| **EMC interference emission** | According to EN 61000-6-3 (household environment), except EN 61000-3-2 |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical hookup** | With plug |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **With cable** | Lateral |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 60335-1; CE |



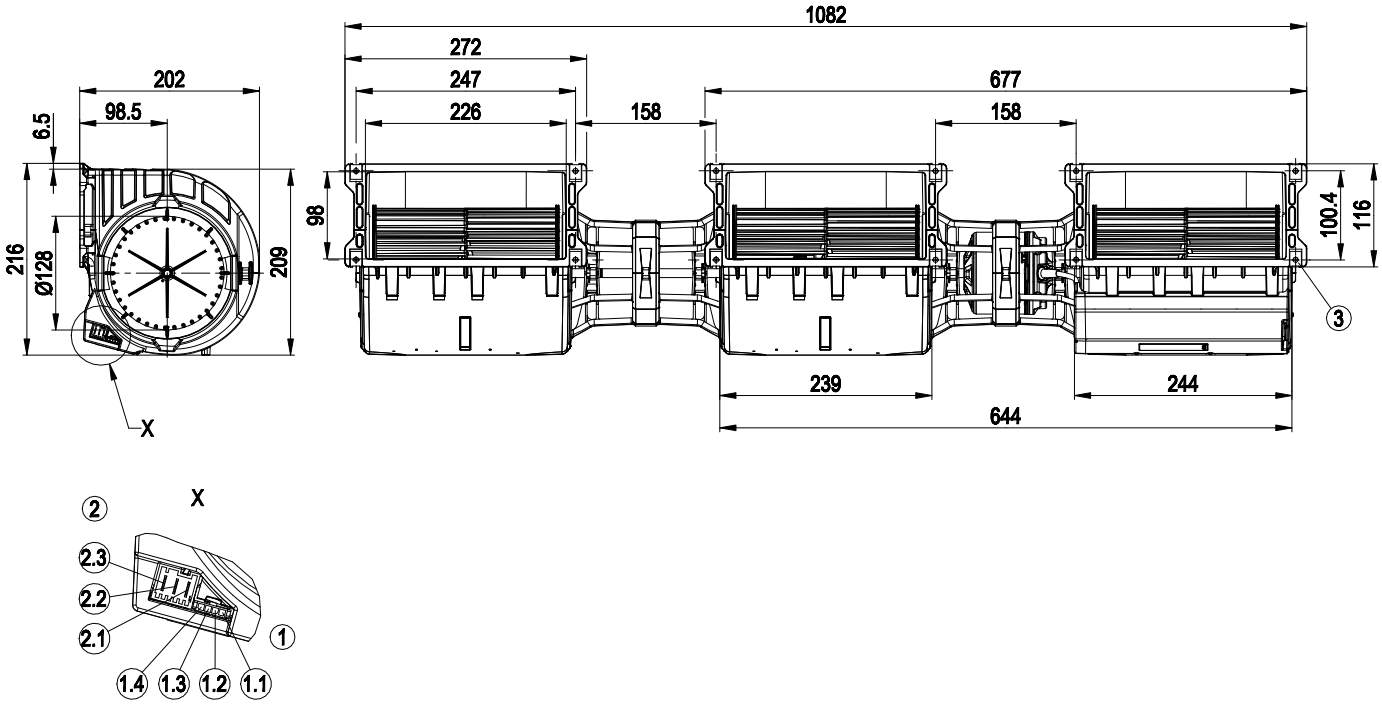
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## Product drawing







| | |
|---|---|
| 1 | Header Molex Micro Fit 3.0 04365 00400 (pluggable with 04364 50400) |
| 1.1 | 10 V |
| 1.2 | Tach |
| 1.3 | 0-10 V lin. / PWM |
| 1.4 | GND |
| 2 | Connector Lumberg 3642 03 K01 (pluggable with 3626 03 K01) |
| 2.1 | PE |
| 2.2 | L |
| 2.3 | N |
| 3 | 12x sheet metal nut for thread EN ISO 1478-ST4.8 (min. screw length 14.5 mm plus material thickness of attachment) |
| | _____ |
| | The fan unit must be mounted on the discharge flange on a flat and stable surface. Otherwise noise may result. |



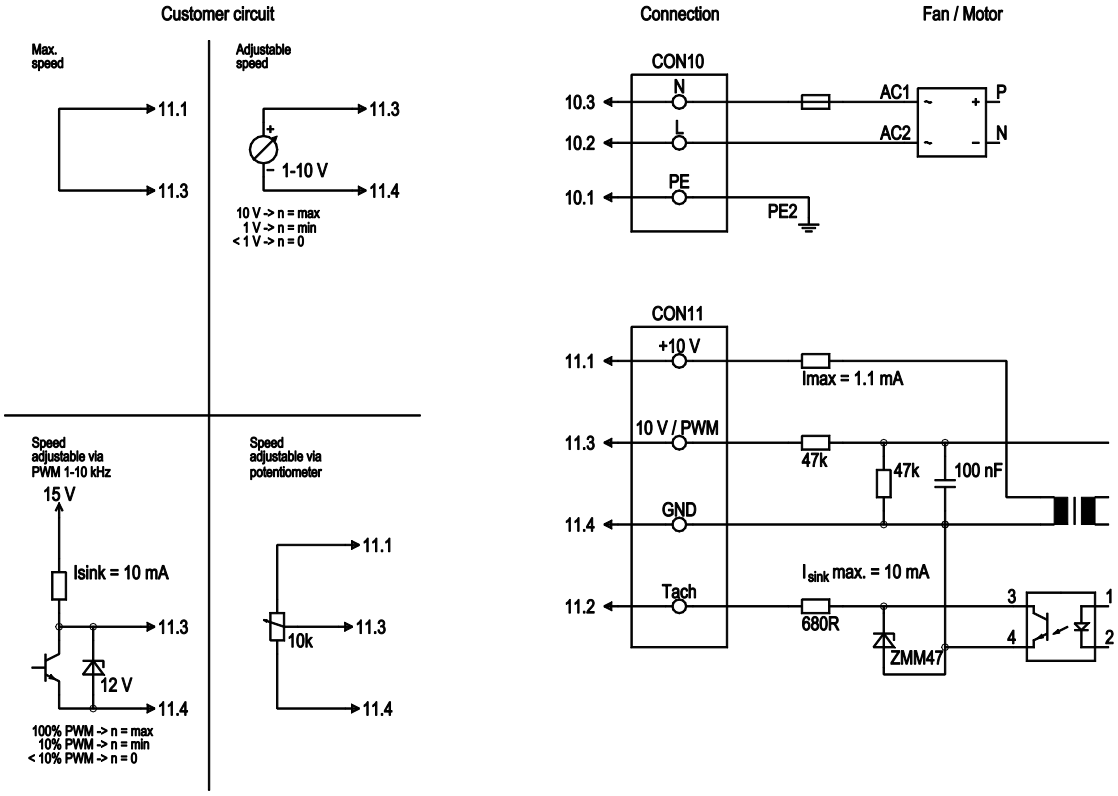
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## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| CON10 | 10.1 | PE | green/yellow | Protective earth |
| CON10 | 10.2 | L | black | Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range |
| CON10 | 10.3 | N | blue | Neutral conductor |
| CON11 | 11.1 | 10 V/max. 1.1 mA | red | Voltage output 10 V, 1.1 mA, electrically isolated, not short-circuit-proof |
| CON11 | 11.2 | Tach | white | Tach output: Open collector, 1 pulse per revolution, electrically isolated, Isink max = 10 mA |
| CON11 | 11.3 | 0-10 V PWM | yellow | Control input 0-10 V or PWM, electrically isolated |
| CON11 | 11.4 | GND | blue | GND connection for control interface |



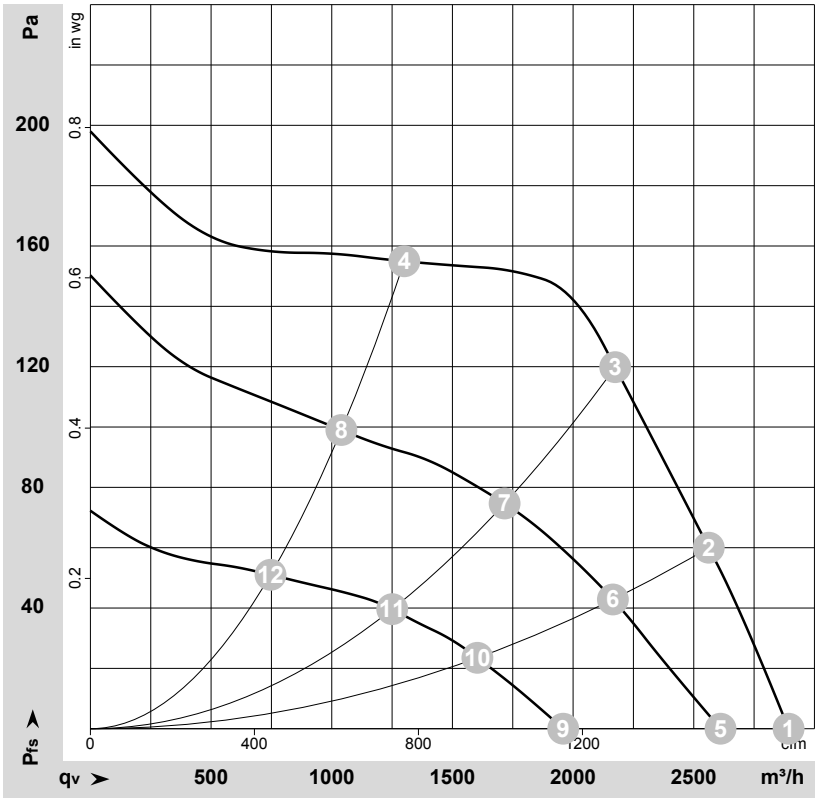
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-171288-1

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

| | U | f | n | $P_{ed}$ | I | $LpA_{in}$ | $LwA_{in}$ | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | CFM | inH2O |
| 1 | 230 | 50 | 1250 | 245 | 1.90 | 61 | 71 | 2895 | 0 | 1705 | 0.00 |
| 2 | 230 | 50 | 1415 | 245 | 1.90 | 59 | 70 | 2560 | 60 | 1510 | 0.24 |
| 3 | 230 | 50 | 1610 | 245 | 1.90 | 58 | 69 | 2175 | 120 | 1280 | 0.48 |
| 4 | 230 | 50 | 1710 | 160 | 1.24 | 57 | 67 | 1300 | 155 | 765 | 0.62 |
| 5 | 230 | 50 | 1120 | 174 | 1.35 | 58 | 68 | 2610 | 0 | 1535 | 0.00 |
| 6 | 230 | 50 | 1200 | 144 | 1.13 | 55 | 66 | 2165 | 43 | 1275 | 0.17 |
| 7 | 230 | 50 | 1270 | 119 | 0.94 | 53 | 63 | 1715 | 75 | 1010 | 0.30 |
| 8 | 230 | 50 | 1370 | 86 | 0.69 | 51 | 61 | 1040 | 99 | 610 | 0.40 |
| 9 | 230 | 50 | 855 | 75 | 0.61 | 50 | 61 | 1960 | 0 | 1155 | 0.00 |
| 10 | 230 | 50 | 895 | 62 | 0.51 | 48 | 58 | 1605 | 24 | 945 | 0.10 |
| 11 | 230 | 50 | 935 | 51 | 0.41 | 45 | 55 | 1250 | 40 | 735 | 0.16 |
| 12 | 230 | 50 | 985 | 36 | 0.30 | 43 | 53 | 745 | 51 | 440 | 0.20 |

U = Power supply · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power consumption · I = Current draw · $LpA_{in}$ = Sound pressure level intake side · $LwA_{in}$ = Sound power level intake side
qv = Air flow · $p_{fs}$ = Pressure increase



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