**K3G250-AV29-E3**

# EC centrifugal module - RadiPac

backward curved, single inlet

with support bracket

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ErP2015 EXCEEDS THE NORM

## Nominal data

| | |
|---|---|
| **Type** | **K3G250-AV29-E3** |
| **Motor** | **M3G084-FA** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 277 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed | $min^{-1}$ | 3450 |
| Power input | W | 750 |
| Current draw | A | 3.3 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 40 |

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* | 1.01 |

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

| | | Actual | Request 2013 | Request 2015 |
|---|---|---|---|---|
| Overall efficiency $\eta_{es}$ | | 62.5 | 46.2 | 50.2 |
| Efficiency grade N | | 74.3 | 58 | 62 |
| Power input $P_{ed}$ | kW | 0.75 | | |
| Air flow $q_v$ | $m^3/h$ | 1755 | | |
| Pressure increase $p_{fs}$ | Pa | 889 | | |
| Speed n | $min^{-1}$ | 3490 | | |

Data definition with optimum efficiency.

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## Technical features

| | |
|---|---|
| **Mass** | 11.5 kg |
| **Size** | 250 mm |
| **Surface of rotor** | Coated in black |
| **Material of electronics housing** | Die-cast aluminium, coated in black |
| **Material of impeller** | Aluminium sheet, coated in black |
| **Material of mounting plate** | Sheet steel, galvanised and coated in black |
| **Material of support bracket** | Steel, coated in black |
| **Material of inlet nozzle** | Sheet steel, galvanised and coated in black |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 54 |
| **Insulation class** | "B" |
| **Humidity class** | F4-2 |
| **Max. permissible ambient motor temp. (transp./ storage)** | +80 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | -40 °C |
| **Mounting position** | Shaft horizontal or rotor on bottom; rotor on top on request |
| **Condensate discharge holes** | Rotor-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>- Alarm relay<br>- Motor current limit<br>- PFC, active<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 55022 (Class B, household environment) |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical leads** | Via terminal box |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Protection class** | I (if protective earth is connected by customer at the connection point of the housing) |
| **Product conforming to standard** | EN 61800-5-1; CE |



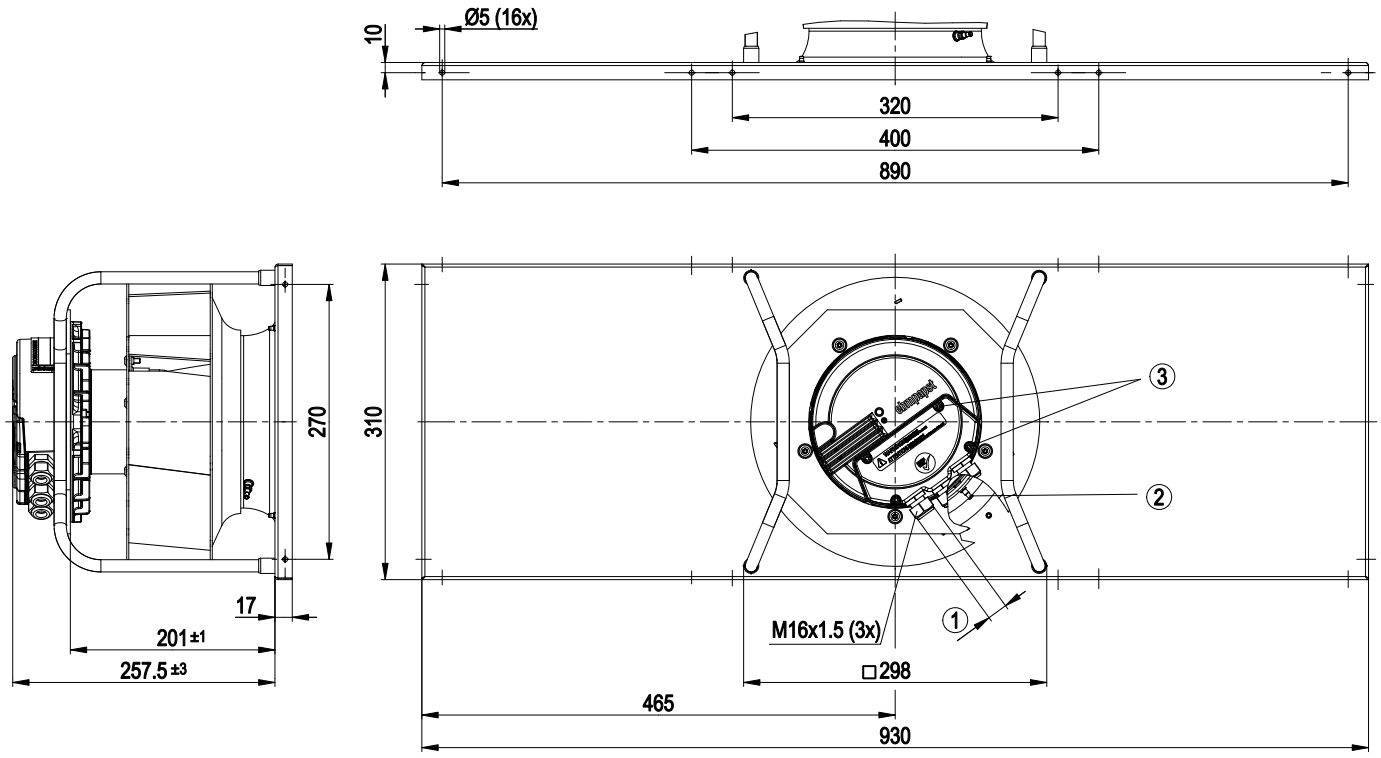
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## Product drawing




| | |
|---|---|
| 1 | Cable diameter min. 4 mm, max. 10 mm; tightening torque 2.5±0.4 Nm |
| 2 | Inlet nozzle with pressure tap (k-factor: 70) |
| 3 | Tightening torque 3.5±0.5 Nm |



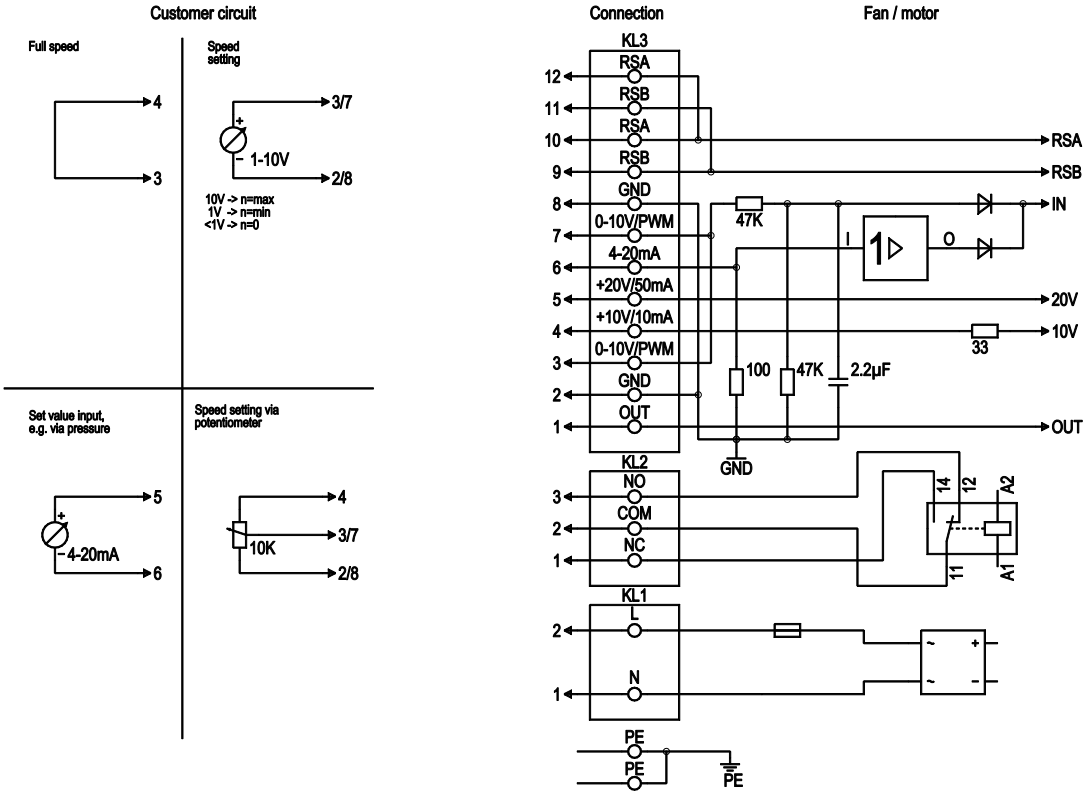
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## Connection screen




| No. | Pin | Signal | Function / assignment |
|---|---|---|---|
| PE | - | PE | Protective earth connection |
| KL1 | 1, 2 | N, L | Supply voltage, 50/60 Hz |
| KL2 | 1 | NC | Floating status message contact, break for failure |
| KL2 | 2 | COM | Floating status message contact, changeover contact, common connection<br>(2 A, max. 250 VAC, min. 10 mA, AC1) |
| KL2 | 3 | NO | Floating status message contact, normally open, make for failure |
| KL3 | 1 | OUT | Analogue output, 0-10 VDC, max. 3 mA, SELV,<br>Output of the current motor level control coefficient:<br>1 V corresponds to 10% level control coefficient,<br>10 V correspond to 100% level control coefficient. |
| KL3 | 2, 8 | GND | Reference mass for control interface, SELV |
| KL3 | 3, 7 | 0-10 V | Use control / actual 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>Supply voltage for ext. devices (e.g. potentiometer), SELV |
| KL3 | 5 | +20 V | Voltage output 20 VDC (+25%/-10%), max. 50 mA<br>Supply voltage for ext. devices<br>(e.g. sensors), SELV |
| KL3 | 6 | 4-20 mA | Use control / actual 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 |



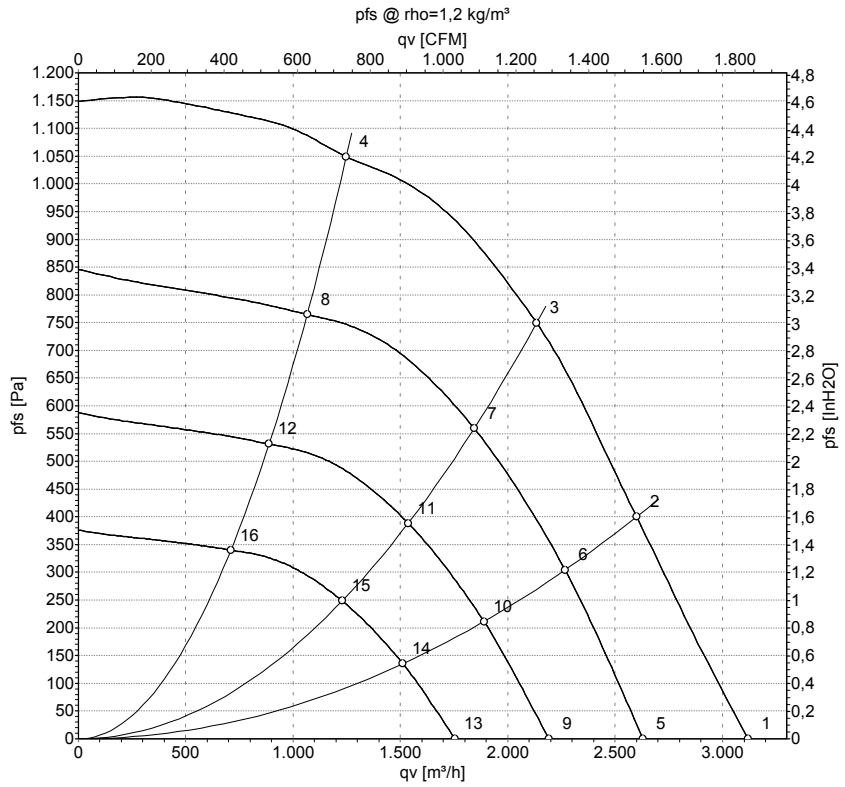
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## Charts: Air flow 50 Hz




Measurement: LU-142908

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 | 230 | 50 | 3450 | 581 | 2.58 | 77 | 85 | 91 | 3120 | 0 |
| 2 | 230 | 50 | 3450 | 673 | 2.98 | 74 | 82 | 88 | 2600 | 400 |
| 3 | 230 | 50 | 3450 | 750 | 3.30 | 71 | 79 | 85 | 2135 | 750 |
| 4 | 230 | 50 | 3450 | 691 | 3.07 | 79 | 86 | 87 | 1250 | 1050 |
| 5 | 230 | 50 | 3000 | 349 | 1.55 | 73 | 80 | 87 | 2630 | 0 |
| 6 | 230 | 50 | 3000 | 446 | 1.97 | 71 | 78 | 84 | 2265 | 304 |
| 7 | 230 | 50 | 3000 | 486 | 2.16 | 68 | 75 | 81 | 1845 | 559 |
| 8 | 230 | 50 | 3000 | 432 | 1.92 | 75 | 82 | 83 | 1065 | 765 |
| 9 | 230 | 50 | 2500 | 202 | 0.90 | 68 | 76 | 82 | 2195 | 0 |
| 10 | 230 | 50 | 2500 | 258 | 1.14 | 66 | 74 | 80 | 1890 | 211 |
| 11 | 230 | 50 | 2500 | 281 | 1.25 | 63 | 71 | 76 | 1535 | 388 |
| 12 | 230 | 50 | 2500 | 250 | 1.11 | 70 | 77 | 78 | 890 | 531 |
| 13 | 230 | 50 | 2000 | 103 | 0.46 | 63 | 70 | 76 | 1755 | 0 |
| 14 | 230 | 50 | 2000 | 132 | 0.59 | 60 | 68 | 74 | 1510 | 135 |
| 15 | 230 | 50 | 2000 | 144 | 0.64 | 57 | 65 | 71 | 1230 | 249 |
| 16 | 230 | 50 | 2000 | 128 | 0.57 | 64 | 72 | 72 | 710 | 340 |

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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