**R3G250-RE21-16**

# EC centrifugal fan - RadiCal

backward curved, single inlet

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## Nominal data

| | |
|---|---|
| **Type** | **R3G250-RE21-16** |
| **Motor** | **M3G055-DF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 115 |
| Nominal voltage range | VAC | 100 .. 130 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed (rpm) | $min^{-1}$ | 2500 |
| Power input | W | 163 |
| Current draw | A | 2.3 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 60 |

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

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## Technical features

| | |
|---|---|
| **Mass** | 1.9 kg |
| **Size** | 250 mm |
| **Surface of rotor** | Thick layer passivated |
| **Material of impeller** | PA plastic |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 54 |
| **Insulation class** | "B" |
| **Max. permissible ambient motor temp. (transp./ storage)** | + 80 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | - 40 °C |
| **Mounting position** | Any |
| **Condensate discharge holes** | None, open rotor |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- Output limit<br>- Motor current limit<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 detection |
| **EMC interference immunity** | Acc. to EN 61000-6-2 (industrial environment) |
| **EMC interference emission** | Acc. to EN 61000-6-4 (industrial environment) |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | Locked-rotor protection |
| **Cable exit** | Variable |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | EN 60034-1; EN 60204-1; CE |
| **Approval** | UL 2111; CSA C22.2 No.77 |

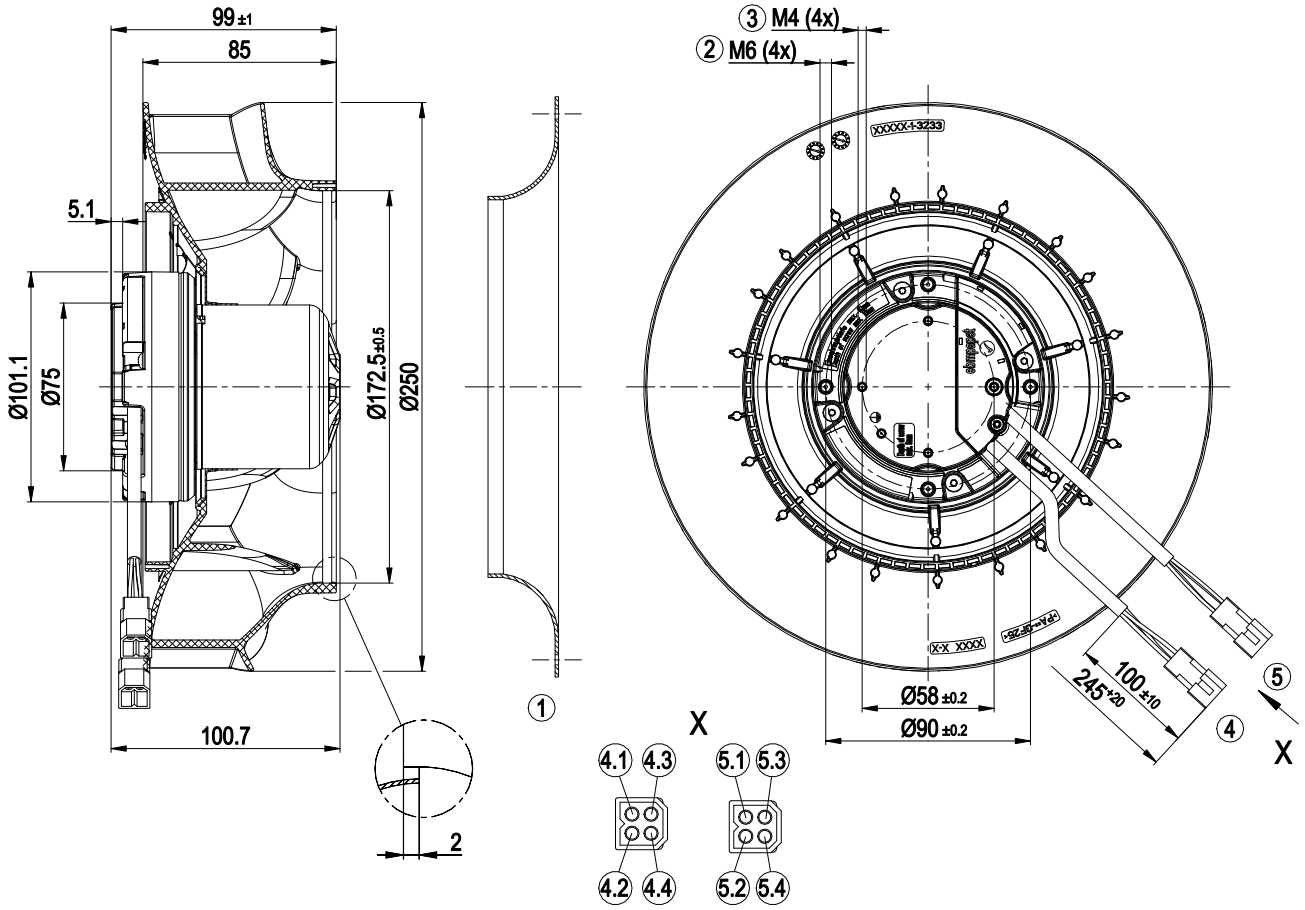


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## Product drawing




| | |
|---|---|
| 1 | Accessory part: Inlet nozzle 96359-2-4013 not included in scope of delivery |
| 2 | Thread reach max. 10 mm |
| 3 | Thread reach max. 5 mm |
| 4 | Connection line PVC AWG20, connector housing 4-pole Molex 03-09-2049, 3x plug pin Molex 02-09-2116 |
| 4.1 | PE (green/yellow) |
| 4.2 | N (blue) |
| 4.3 | L (black) |
| 4.4 | not used |
| 5 | Connection line PVC AWG20, connector housing 4-pole Molex 03-09-2049, 4x female connector Molex 02-09-1117 |
| 5.1 | GND (blue) |
| 5.2 | PWM (yellow) |
| 5.3 | +10 V (red) |
| 5.4 | Tach (white) |

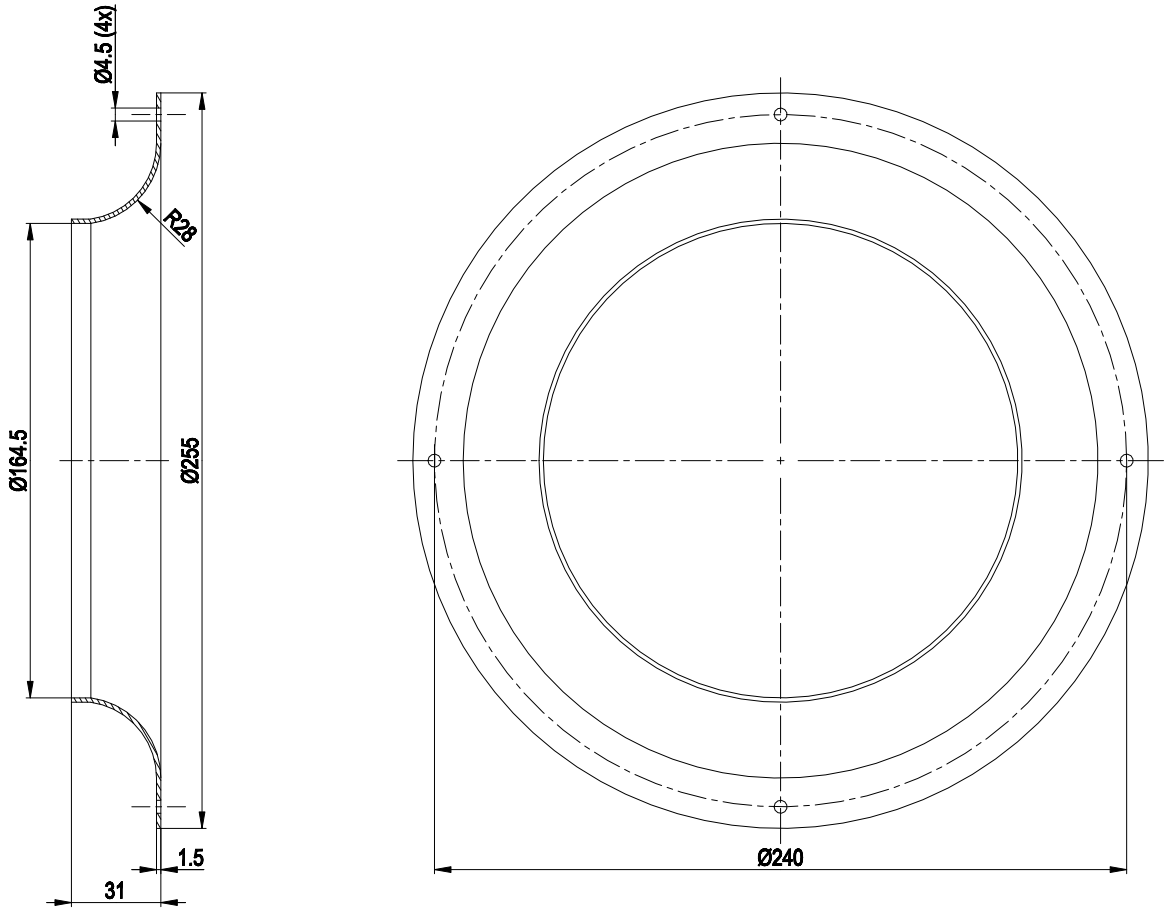


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## Accessory part




Accessory part: Inlet nozzle 96359-2-4013 not included in scope of delivery

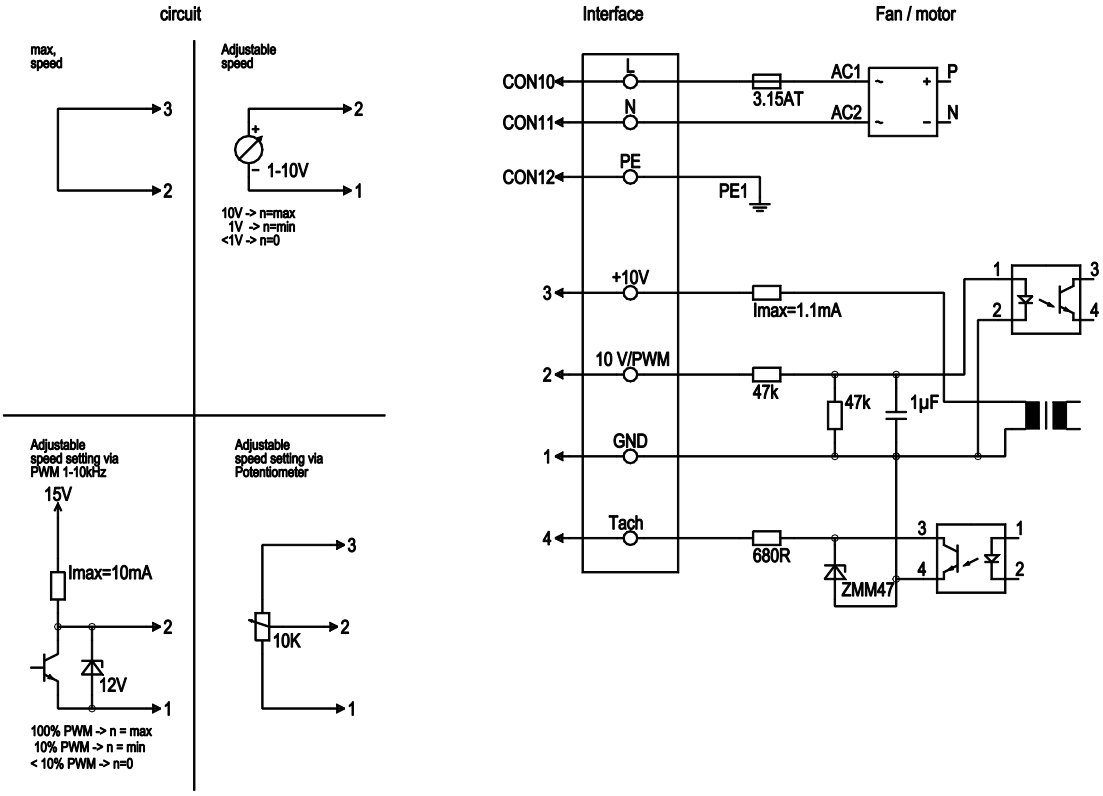


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## Connection screen




| No. | Conn. | Designation | Colour | Function / assignment |
|---|---|---|---|---|
| | CON10 | L | black | Power supply 115 VAC, 50- 60 Hz, for voltage range refer to rating plate |
| | CON11 | N | blue | Neutral conductor |
| | CON12 | PE | green/yellow | Protective earth |
| | 1 | GND | blue | GND - Connection for control interface |
| | 2 | 0- 10V PWM | yellow | Control input 0 - 10 V or PWM, electrically isolated |
| | 3 | 10V/ max 1.1mA | red | Voltage output 10V/ 1.1mA, electrically isolated, not short-circuit-proof. |
| | 4 | Tach | white | Tach output: open collector, 1 pulse per revolution, electrically isolated |

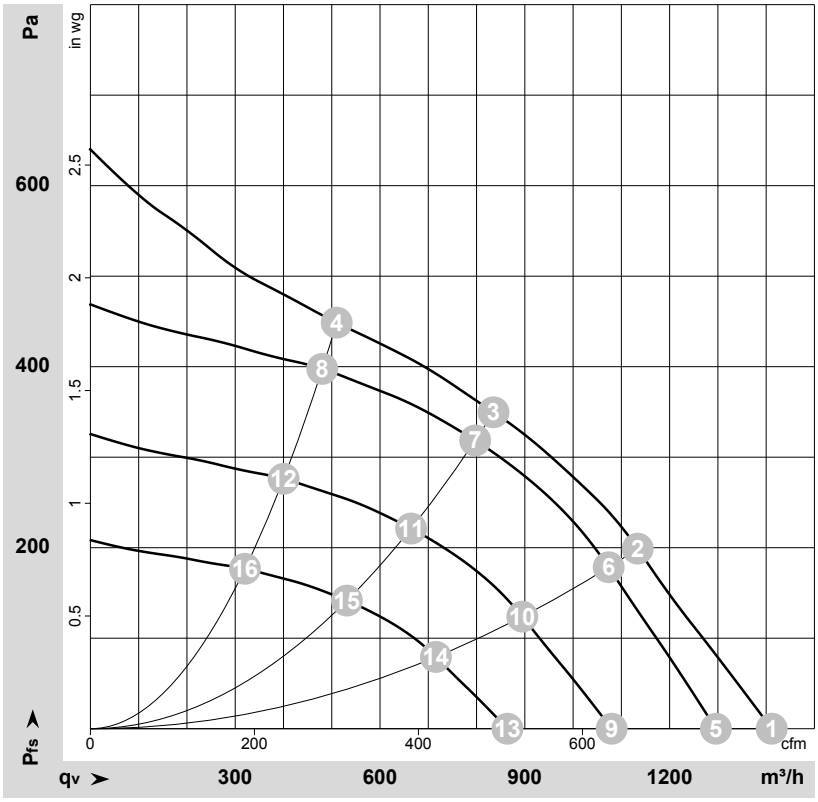


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## Charts: Air flow 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-142364-1

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 | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | cfm | inH2O |
| 1 | 115 | 50 | 2615 | 135 | 2.00 | 1410 | 0 | 830 | 0.00 |
| 2 | 115 | 50 | 2535 | 155 | 2.20 | 1135 | 200 | 665 | 0.80 |
| 3 | 115 | 50 | 2500 | 163 | 2.30 | 835 | 350 | 490 | 1.41 |
| 4 | 115 | 50 | 2545 | 148 | 2.00 | 510 | 450 | 300 | 1.81 |
| 5 | 115 | 50 | 2400 | 104 | 1.36 | 1295 | 0 | 765 | 0.00 |
| 6 | 115 | 50 | 2400 | 131 | 1.71 | 1075 | 179 | 630 | 0.72 |
| 7 | 115 | 50 | 2400 | 140 | 1.80 | 795 | 319 | 470 | 1.28 |
| 8 | 115 | 50 | 2400 | 124 | 1.62 | 480 | 398 | 285 | 1.60 |
| 9 | 115 | 50 | 2000 | 60 | 0.79 | 1080 | 0 | 635 | 0.00 |
| 10 | 115 | 50 | 2000 | 76 | 0.99 | 895 | 124 | 525 | 0.50 |
| 11 | 115 | 50 | 2000 | 81 | 1.04 | 665 | 221 | 390 | 0.89 |
| 12 | 115 | 50 | 2000 | 72 | 0.94 | 400 | 277 | 235 | 1.11 |
| 13 | 115 | 50 | 1600 | 31 | 0.40 | 865 | 0 | 510 | 0.00 |
| 14 | 115 | 50 | 1600 | 39 | 0.51 | 715 | 79 | 420 | 0.32 |
| 15 | 115 | 50 | 1600 | 41 | 0.53 | 530 | 142 | 315 | 0.57 |
| 16 | 115 | 50 | 1600 | 37 | 0.48 | 320 | 177 | 190 | 0.71 |

U = Supply voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power input · I = Current draw · $q_V$ = Air flow · $p_{fs}$ = Pressure increase



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