**R3G310-RP10-33**

# EC centrifugal fan - RadiCal

backward curved, single inlet



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## Nominal data

| | | |
|---|---|---|
| **Type** | **R3G310-RP10-33** | |
| **Motor** | **M3G084-FA** | |
| Nominal voltage | VDC | 48 |
| Nominal voltage range | VDC | 36 .. 57 |
| Type of data definition | | fa |
| Speed (rpm) | min$^{-1}$ | 2550 |
| Power input | W | 490 |
| Current draw | A | 10.3 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 55 |

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

## Data in accordance with ecodesign regulation EU 327/2011

| | | Actual | Request 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 63 | 48.9 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 76.1 | 62 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power input $P_e$ | kW | 0.57 |
| 09 Air flow $q_v$ | m³/h | 2105 |
| 09 Pressure increase $p_{fs}$ | Pa | 558 |
| 10 Speed (rpm) n | min$^{-1}$ | 2460 |
| 11 Specific ratio* | | 1.01 |

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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

LU-173212

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## Technical features

| | |
|---|---|
| **Mass** | 4.5 kg |
| **Size** | 310 mm |
| **Surface of rotor** | Coated in black |
| **Material of electronics housing** | Die-cast aluminium |
| **Material of impeller** | PA plastic |
| **Number of blades** | 6 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 20 |
| **Insulation class** | "B" |
| **Humidity (F)/environmental protection class (H)** | H1 |
| **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 |
| **Cooling bore / aperture** | Rotor-side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Tach output<br>- Motor current limit<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Over-temperature protected motor |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Cable exit** | Variable |
| **Product conforming to standard** | EN 60950-1; CE |
| **Approval** | UL 1004-1; EAC; CSA C22.2 No.100 |

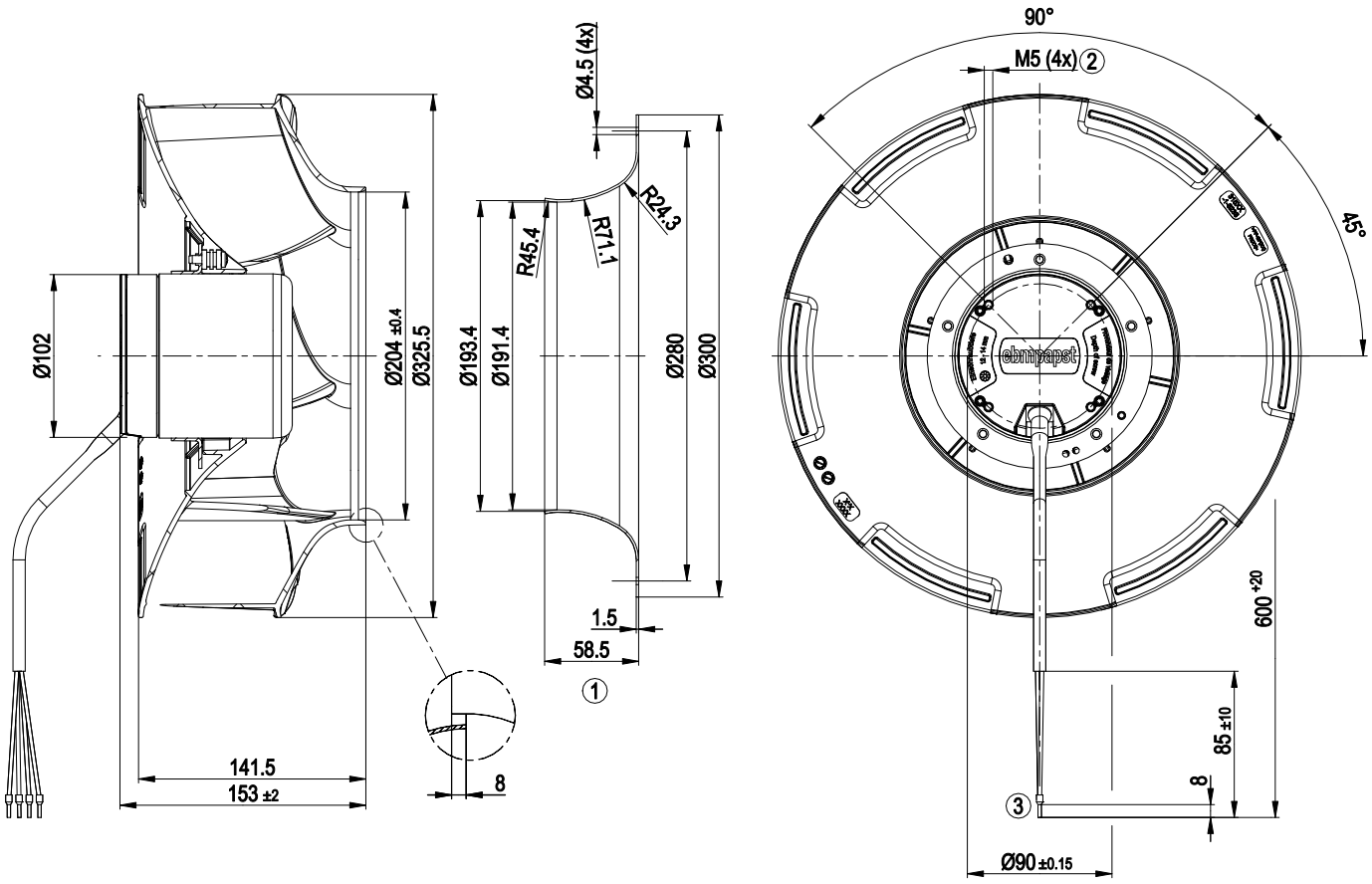


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## Product drawing




| | |
|---|---|
| 1 | Accessory part: Inlet nozzle 31000-2-4013 not included in scope of delivery |
| 2 | Thread reach max. 14 mm |
| 3 | Connection line PVC AWG16, 4x crimped core-end sleeves |

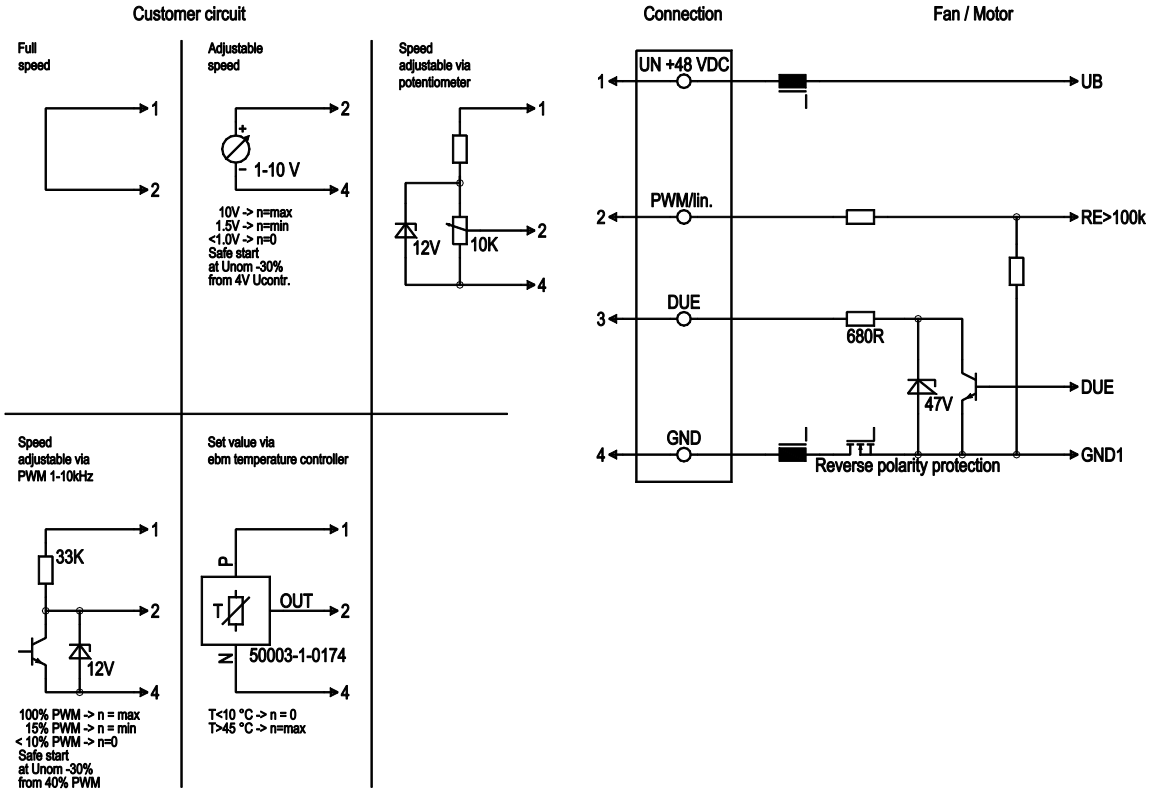


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## Connection screen




| No. | Conn. | Designation | Colour | Function / assignment |
|---|---|---|---|---|
| 1 | 1 | Un +48VDC | red | Power supply 48 VDC, for voltage range refer to rating plate, residual ripple 3.5% |
| 1 | 2 | 0-10VDC | yellow | Control input Re > 100 k |
| 1 | 3 | DUE | white | Tacho output, 3 pulses per revolution, Isink max = 10 mA |
| 1 | 4 | GND | blue | Reference ground |

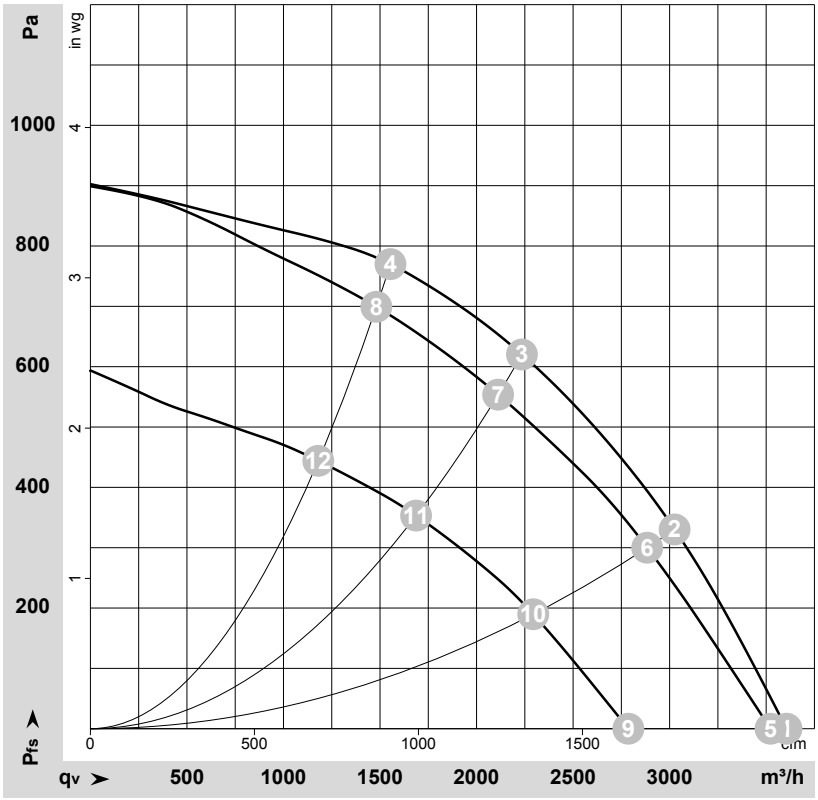


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## Charts: Air flow




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-173226-1
Measurement: LU-173212-1
Measurement: LU-173225-1

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 | n | $P_{ed}$ | I | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|
| | V | $min^{-1}$ | W | A | $m^3/h$ | Pa | cfm | inH2O |
| 1 | 57 | 2600 | 578 | 9.19 | 3605 | 0 | 2120 | 0.00 |
| 2 | 57 | 2600 | 619 | 10.98 | 3025 | 333 | 1780 | 1.34 |
| 3 | 57 | 2600 | 684 | 12.17 | 2235 | 620 | 1315 | 2.49 |
| 4 | 57 | 2600 | 635 | 11.28 | 1555 | 771 | 915 | 3.10 |
| 5 | 48 | 2550 | 490 | 10.30 | 3525 | 0 | 2075 | 0.00 |
| 6 | 48 | 2495 | 545 | 11.48 | 2885 | 300 | 1695 | 1.20 |
| 7 | 48 | 2460 | 573 | 12.15 | 2110 | 555 | 1245 | 2.23 |
| 8 | 48 | 2485 | 556 | 11.72 | 1480 | 700 | 870 | 2.81 |
| 9 | 36 | 2020 | 248 | 6.95 | 2785 | 0 | 1640 | 0.00 |
| 10 | 36 | 1990 | 278 | 7.79 | 2295 | 190 | 1350 | 0.76 |
| 11 | 36 | 1970 | 294 | 8.24 | 1685 | 353 | 995 | 1.42 |
| 12 | 36 | 1985 | 278 | 7.79 | 1180 | 444 | 695 | 1.78 |

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



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