# EC centrifugal fan - RadiCal

backward curved, single inlet

with housing (without flange)



Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

## Nominal data

| | | |
|---|---|---|
| **Type** | **K1G225-RD02-02** | |
| **Motor** | **M1G074-BF** | |
| Nominal voltage | VDC | 48 |
| Nominal voltage range | VDC | 36 .. 57 |
| Type of data definition | | fa |
| Speed (rpm) | $min^{-1}$ | 2640 |
| Power input | W | 110 |
| Current draw | A | 3.2 |
| Min. ambient temperature | °C | -40 |
| 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** | 2.25 kg |
| **Size** | 225 mm |
| **Material of electronics housing** | Die-cast aluminium, coated in black |
| **Material of impeller** | PA plastic |
| **Housing material** | PA plastic |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | IP 24 KM; Electronics IP 66 / 69 K |
| **Insulation class** | "B" |
| **Humidity (F)/environmental protection class (H)** | H2+ |
| **Note ambient temperature** | Occasional start-up between -40°C and -25°C is permissible.<br>For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings. |
| **Max. permissible ambient motor temp. (transp./ storage)** | +70 °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; (sealed) |
| **Technical features** | - Tach output<br>- Motor current limit<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Overvoltage detection<br>- Over-temperature protected electronics |
| **Motor protection** | Reverse polarity and locked-rotor protection |
| **Cable exit** | Variable |
| **Approval** | EAC |

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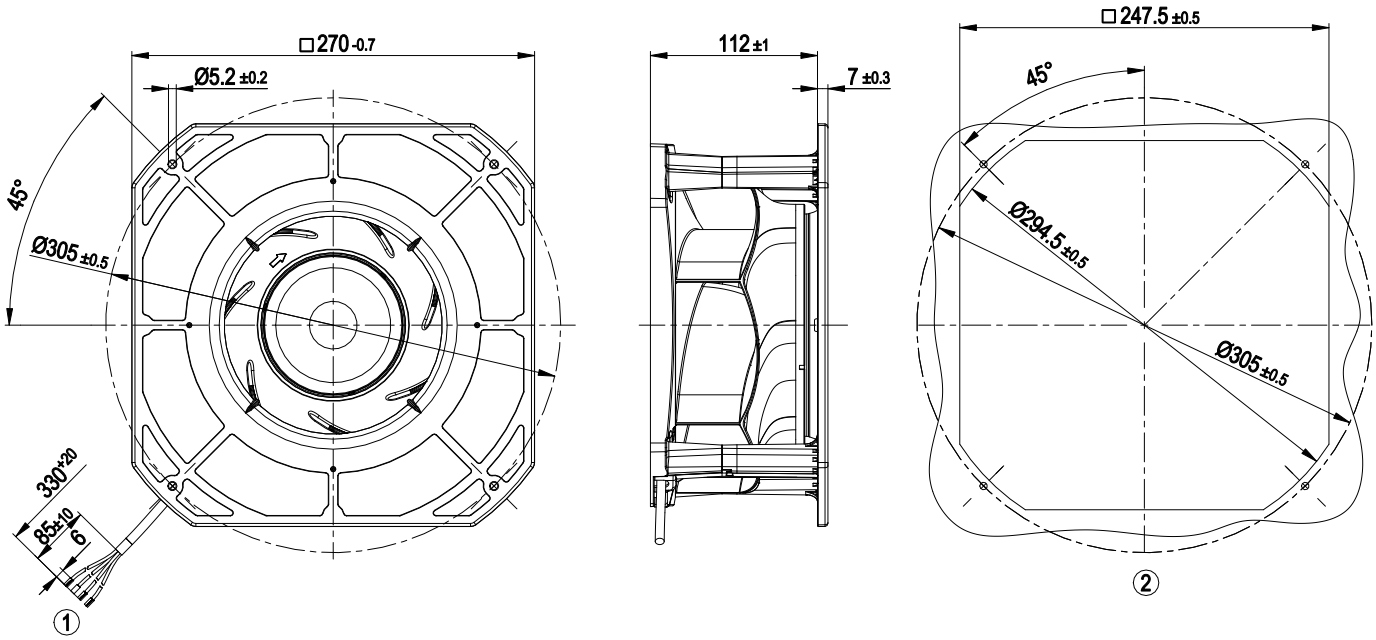
## Product drawing




| | |
|---|---|
| 1 | Connection line PVC 4x AWG18, insulating sleeve, 4x lead tips crimped |
| 2 | Mounting dimensions |

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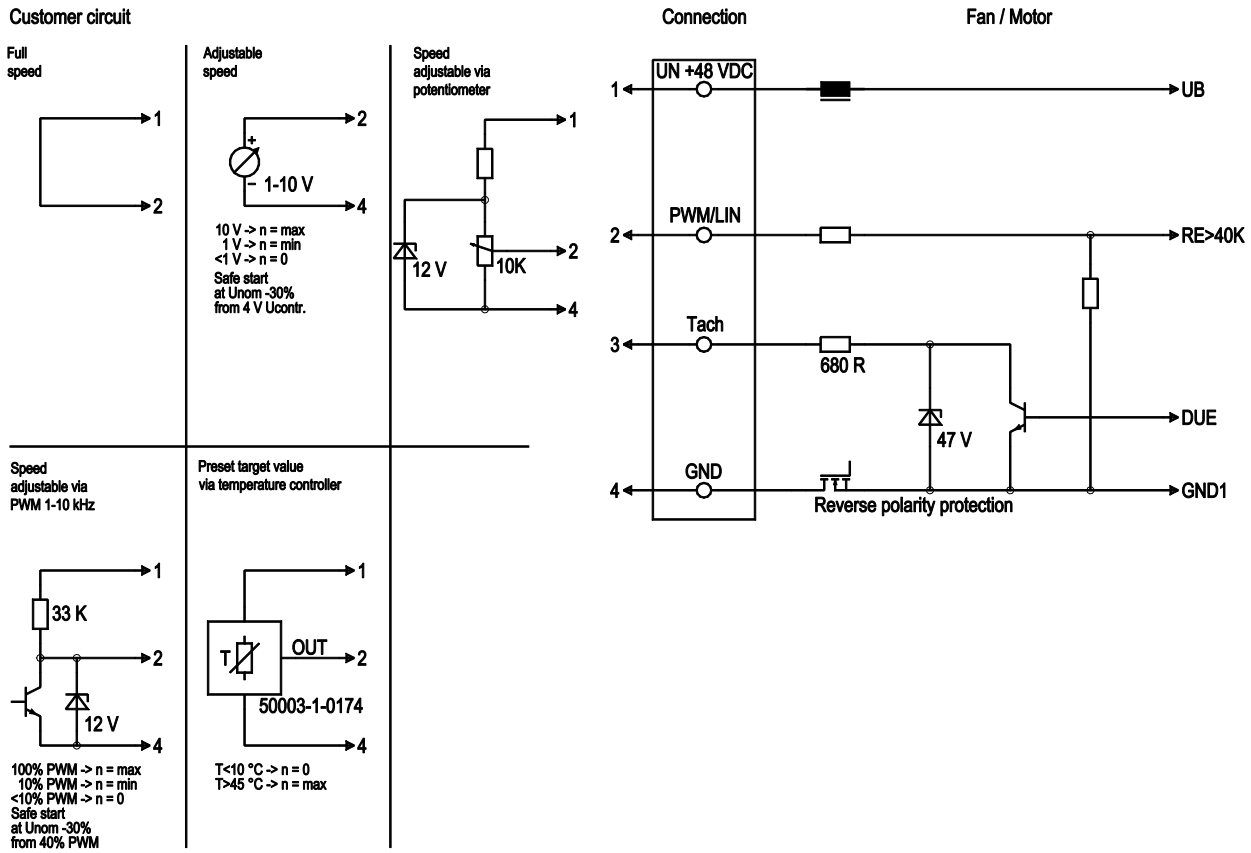
## Connection screen




| No. | Conn. | Designation | Colour | Function / assignment |
|---|---|---|---|---|
| 1 | 1 | UN +48 VDC | red | Power supply 48 VDC, maximum ripple 3.5 % |
| 1 | 2 | PWM/LIN | yellow | Control input Re > 100 K |
| 1 | 3 | Tach | white | Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA |
| 1 | 4 | GND | blue | Reference earth |

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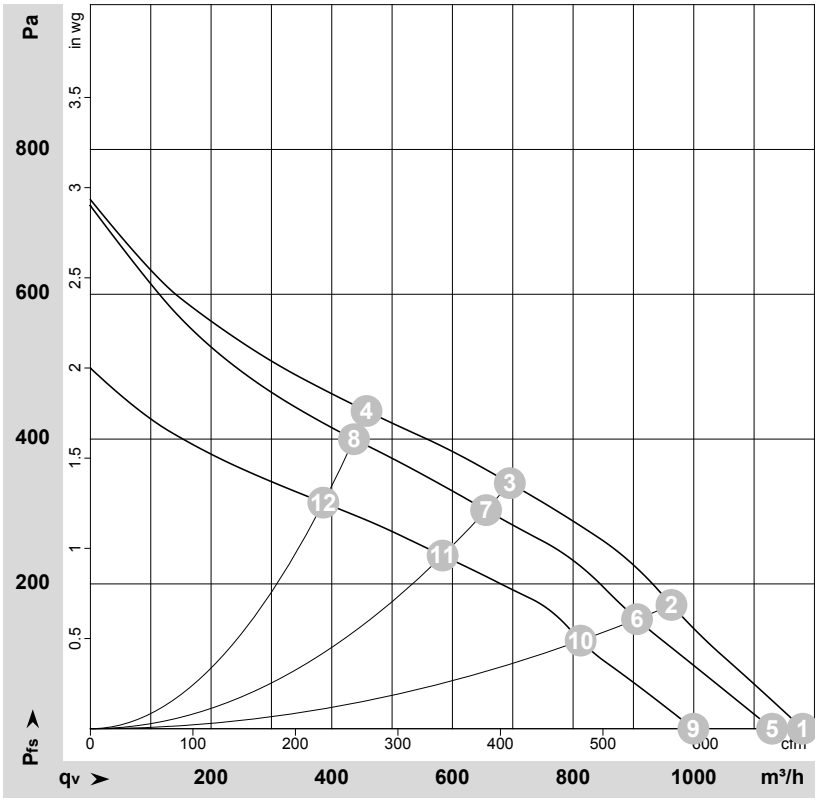
## Charts: Air flow




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-167430-1
Measurement: LU-167245-1
Measurement: LU-167427-1

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 | $LpA_{in}$ | $LwA_{in}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | V | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | inH2O |
| 1 | 57 | 2760 | 129 | 3.56 | | | 1180 | 0 | 695 | 0.00 |
| 2 | 57 | 2655 | 139 | 3.87 | | | 965 | 171 | 565 | 0.69 |
| 3 | 57 | 2635 | 139 | 3.92 | | | 695 | 339 | 410 | 1.36 |
| 4 | 57 | 2710 | 133 | 3.71 | | | 460 | 439 | 270 | 1.76 |
| 5 | 48 | 2640 | 110 | 3.20 | 67 | 75 | 1130 | 0 | 665 | 0.00 |
| 6 | 48 | 2495 | 115 | 3.40 | 62 | 70 | 905 | 150 | 535 | 0.60 |
| 7 | 48 | 2505 | 114 | 3.38 | 59 | 66 | 655 | 300 | 385 | 1.20 |
| 8 | 48 | 2585 | 112 | 3.25 | 62 | 69 | 435 | 400 | 255 | 1.61 |
| 9 | 36 | 2330 | 74 | 2.63 | | | 1000 | 0 | 590 | 0.00 |
| 10 | 36 | 2240 | 77 | 2.79 | | | 815 | 121 | 480 | 0.49 |
| 11 | 36 | 2235 | 78 | 2.80 | | | 585 | 239 | 345 | 0.96 |
| 12 | 36 | 2300 | 76 | 2.69 | | | 385 | 312 | 225 | 1.25 |

U = Supply voltage · n = Speed (rpm) · $P_{ed}$ = Power input · I = Current draw · $LpA_{in}$ = Sound pressure level inlet side · $LwA_{in}$ = Sound power level inlet side · $q_V$ = Air flow · $p_{fs}$ = Pressure increase