**R3G280-RU65-90**

# EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications

R3G280-RU65-90 ebmpapst Datasheet
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## Nominal data

| | |
|---|---|
| **Type** | **R3G280-RU65-90** |
| **Motor** | **M3G084-CF** |

| | | |
|---|---|---|
| Nominal voltage | VDC | 26 |
| Nominal voltage range | VDC | 16 .. 32 |
| Method of obtaining data | | fa |
| Speed (rpm) | $min^{-1}$ | 2830 |
| Power consumption | W | 460 |
| Current draw | A | 18.0 |
| Min. ambient temperature | °C | -40 |
| Max. ambient temperature | °C | 70 |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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## Technical description

| | |
|---|---|
| **Weight** | 3 |
| **Size** | 280 mm |
| **Motor size** | 84 |
| **Rotor surface** | Painted black |
| **Electronics housing material** | Die-cast aluminum, painted black |
| **Impeller material** | PA plastic UL94 V0 |
| **Number of blades** | 6 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | Motor IP24 KM, electronics IP6K9K (mating connector installed) |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H4 |
| **Max. permitted ambient temp. for motor (transport/storage)** | +80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | -40 °C |
| **Installation position** | Shaft horizontal or rotor on bottom; rotor on top on request |
| **Cooling hole/opening** | On rotor side |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing; (sealed) |
| **Technical features** | - Fault output (open collector)<br>- Run monitoring<br>- Load dump (58 V)<br>- Motor current limitation<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Temperature derating<br>- Overvoltage detection<br>- Thermal overload protection for electronics<br>- Line undervoltage detection<br>- Reverse polarity protection |
| **Electrical hookup** | Standby current less than 500 µA |
| **With cable** | Lateral |
| **Protection class assignment** | III; Requires supply with safety extra-low voltage SELV.<br>This component for installation may have several local protection classes. This information relates to this component's basic design.<br>The final protection class is based on the components' intended installation and connection. |
| **Conformity with standards** | EN 15085-1, CPC3; EN 45545-2, HL3; EN 50155; EN 61373, Cat. 1B |
| **Approval** | EAC |

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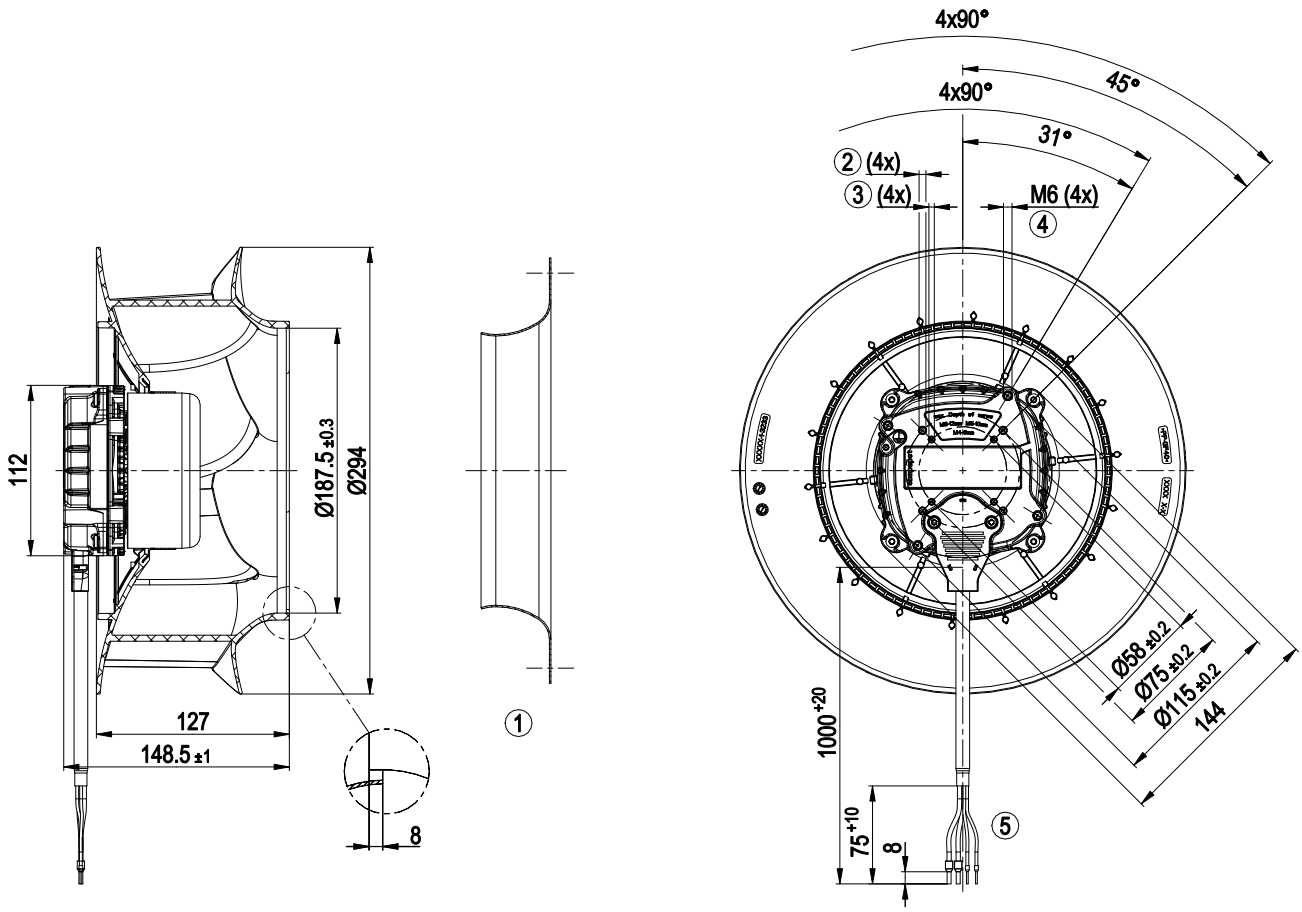
## Product drawing




| | |
|---|---|
| 1 | Accessory part: inlet ring 28000-2-4013 not included in scope of delivery |
| 2 | Tapping hole prepared for self-tapping M5 screw, max. screw-in depth 10 mm |
| 3 | Tapping hole prepared for self-tapping M4 screw, max. screw-in depth 8 mm |
| 4 | Max. clearance for screw 12 mm |
| 5 | Cable, halogen-free, railway application EN 45545, 2x 4.0 mm², 2x 0.75 mm² |
| | 4x wire-end ferrule |

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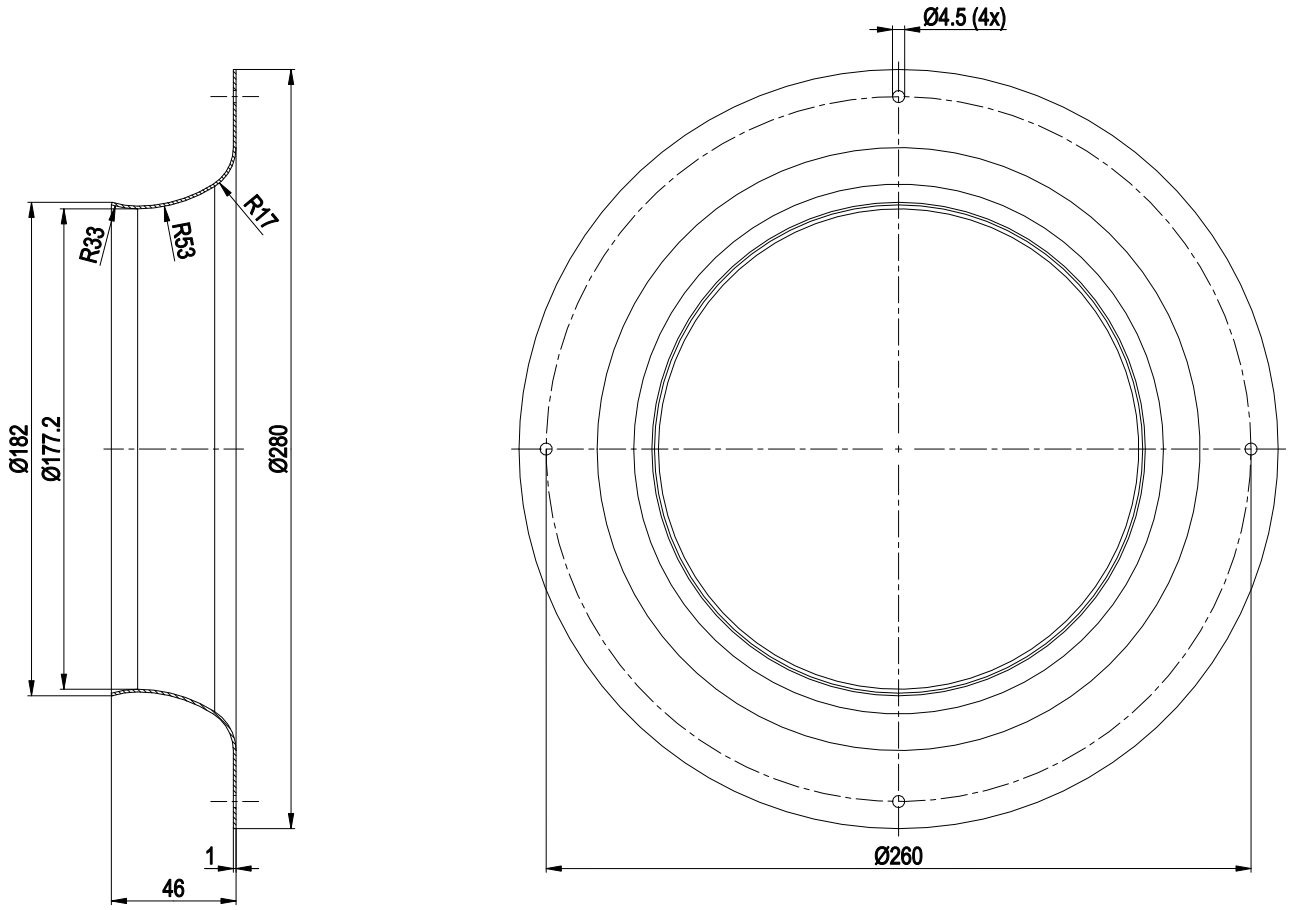
## Accessory part




Inlet ring 28000-2-4013

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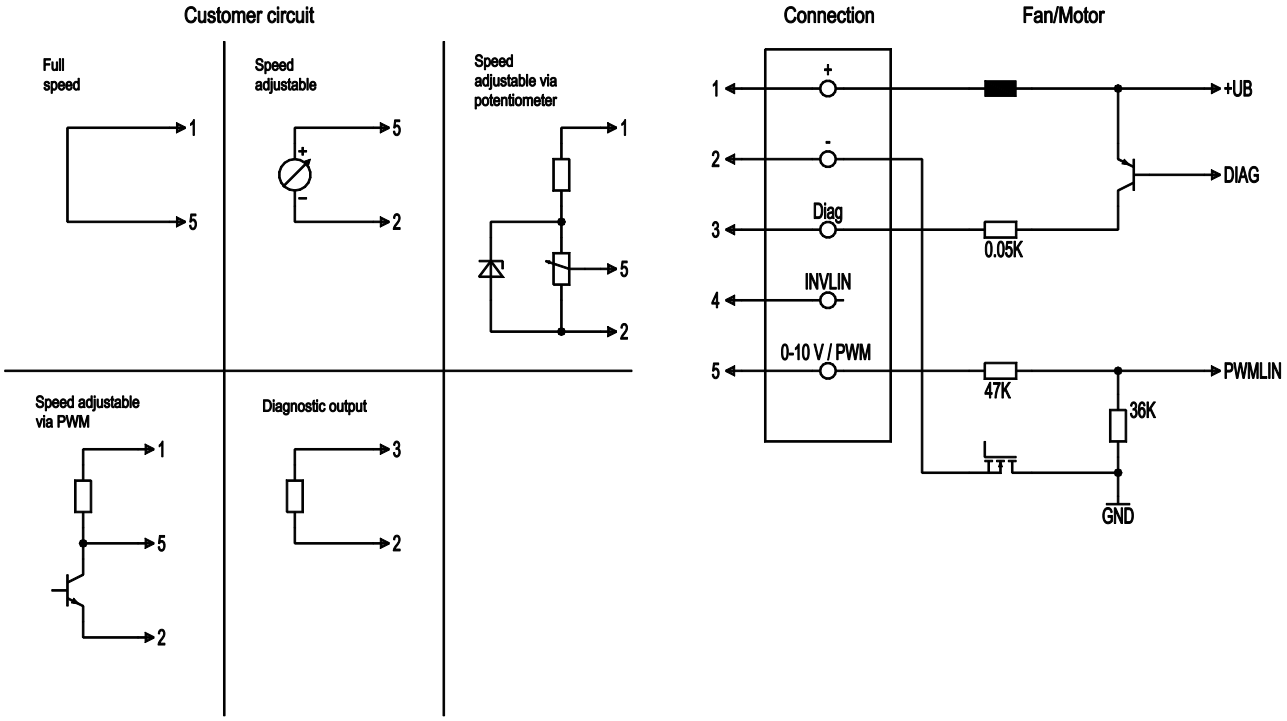
## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| | 1 | + | black | Power supply, see nameplate for voltage range |
| | 2 | - | brown | Power supply, see nameplate for voltage range |
| | 3 | DIAG | white | Diagnostic output: Open collector, Isink max = 10 mA, Ri > 50 Ω<br>Fan OK -> High; Fan Error -> Low |
| | 4 | INVLIN | | not used |
| | 5 | 0-10 V / PWM | yellow | Control input: Ri > 47 kΩ<br>0-10 V (typ. < 1 V -> n=0; 1.5 V -> n=min; > 10 V -> n=max)<br>PWM (amplitude 10 V; 1-50 kHz; typ. < 5 % -> n=0; 15% -> n=min; > 100% -> n=max) |

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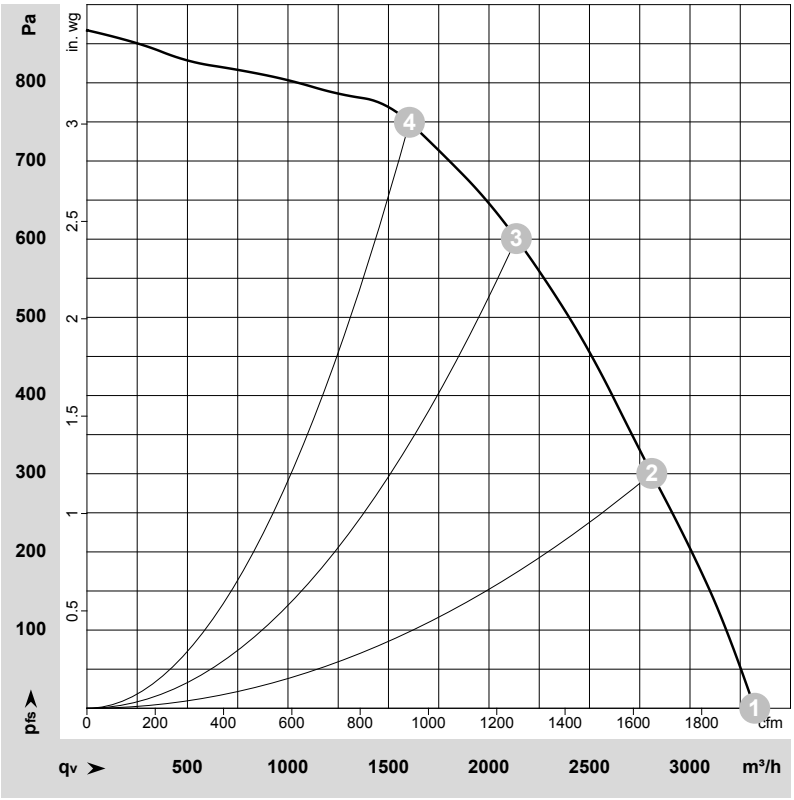
## Curves: Air performance




ρ = 1.15 kg/m³ ± 2 %

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Date: 2026-05-13
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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 | 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 | in. wg |
| 1 | 26 | 2830 | 460 | 18.00 | 78 | 85 | 3320 | 0 | 1955 | 0.00 |
| 2 | 26 | 2815 | 562 | 21.59 | 73 | 81 | 2810 | 300 | 1655 | 1.20 |
| 3 | 26 | 2800 | 648 | 24.90 | 69 | 77 | 2135 | 600 | 1255 | 2.41 |
| 4 | 26 | 2835 | 633 | 24.32 | 70 | 77 | 1605 | 750 | 945 | 3.01 |

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