**K3G175-RD53-08**

# EC centrifugal module - RadiCal

backward-curved, single-intake

with housing

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## Nominal data

| | |
|---|---|
| **Type** | **K3G175-RD53-08** |
| **Motor** | **M3G055-CF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 240 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 4720 |
| Power consumption | W | 166 |
| Current draw | A | 1.4 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 60 |

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

## Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 56.9 | 43.1 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 75.8 | 62 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_{ed}$ | kW | 0.15 |
| 09 Air flow $q_v$ | $m^3/h$ | 560 |
| 09 Pressure increase $p_{fs}$ | Pa | 512 |
| 10 Speed (rpm) n | $min^{-1}$ | 4710 |
| 11 Specific ratio* | | 1.01 |

Data obtained at optimum efficiency level.

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

LU-160714

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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## Technical description

| | |
|---|---|
| **Weight** | 1.8 kg |
| **Size** | 175 mm |
| **Motor size** | 55 |
| **Rotor surface** | Thick-film passivated |
| **Impeller material** | PA plastic |
| **Housing material** | PA plastic |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP54 |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H1 |
| **Max. permitted ambient temp. for motor (transport/storage)** | + 80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | - 40 °C |
| **Installation position** | Any |
| **Condensation drainage holes** | None, open rotor |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Auto-addressing can be activated by BUS<br>- Power limiter<br>- Motor current limitation<br>- RS-485 MODBUS-RTU<br>- Soft start<br>- Control interface with SELV potential safely disconnected from the mains<br>- Overvoltage detection<br>- Thermal overload protection for electronics/motor<br>- Line undervoltage detection |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Motor protection** | Electronic motor protection |
| **With cable** | Variable |
| **Protection class assignment** | I; If a protective earth is connected by the customer<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 component's intended installation and connection. |
| **Conformity with standards** | EN 60034-1; EN 60204-1; EN 60335-1; CE |
| **Approval** | UL 1004-7 + 60730-1; CSA C22.2 No. 77 + CAN/CSA-E60730-1 |



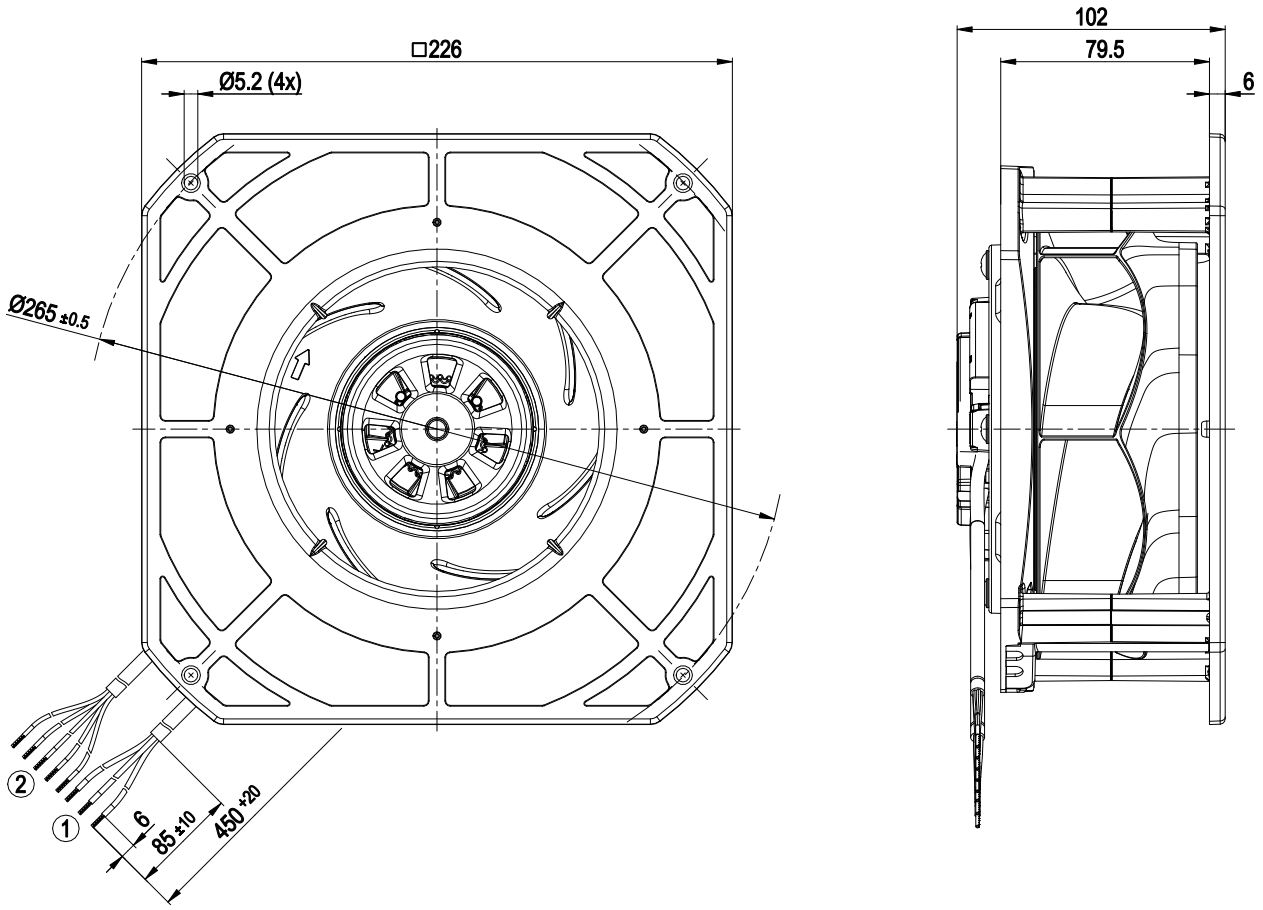
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## Product drawing




| | | | | | |
|---|---|---|---|---|---|
| 1 | Cable PVC AWG20 | | 3x splice | 2 | Cable PVC AWG22 |
| | 5x splice | | | | |



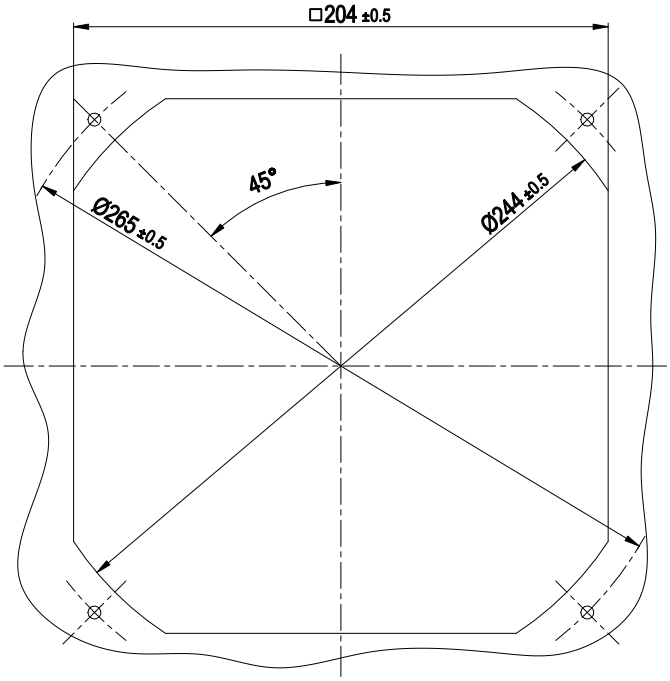
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## Mounting dimensions





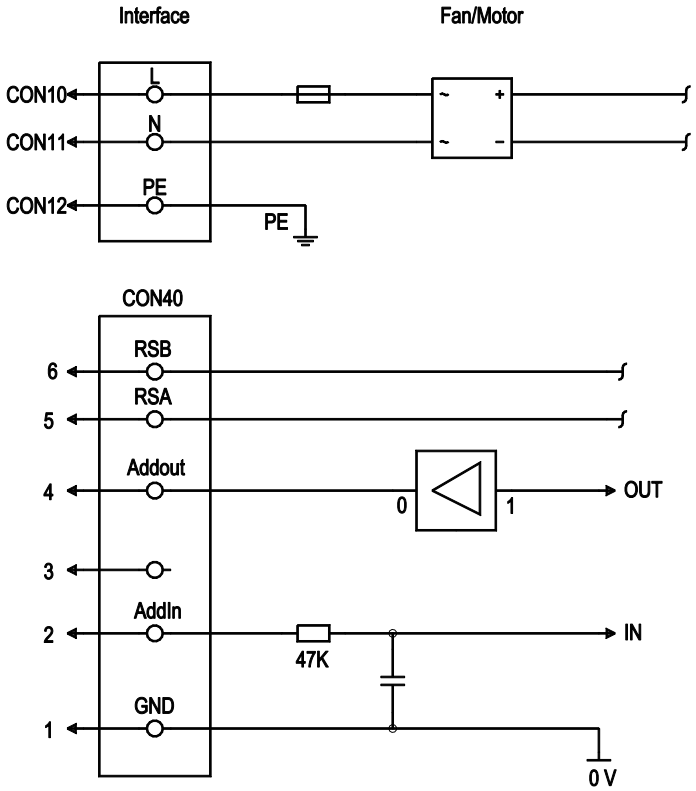

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## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| | CON10 | L | black | Power supply, phase, see nameplate for voltage range |
| | CON11 | N | blue | Power supply, neutral conductor, see nameplate for voltage range |
| | CON12 | PE | green/yellow | Protective earth |
| CON40 | 6 | RSB | brown | RS-485 interface for MODBUS, RSB; SELV |
| CON40 | 5 | RSA | white | RS485 interface for MODBUS, RSA; SELV |
| CON40 | 4 | AddOut /max. 10 mA | gray | Addressing output 10 V, SELV |
| CON40 | 3 | | | not used |
| CON40 | 2 | AddIn | yellow | Addressing input Umax = 48 VDC, SELV |
| CON40 | 1 | GND | blue | Reference ground for interface, SELV |



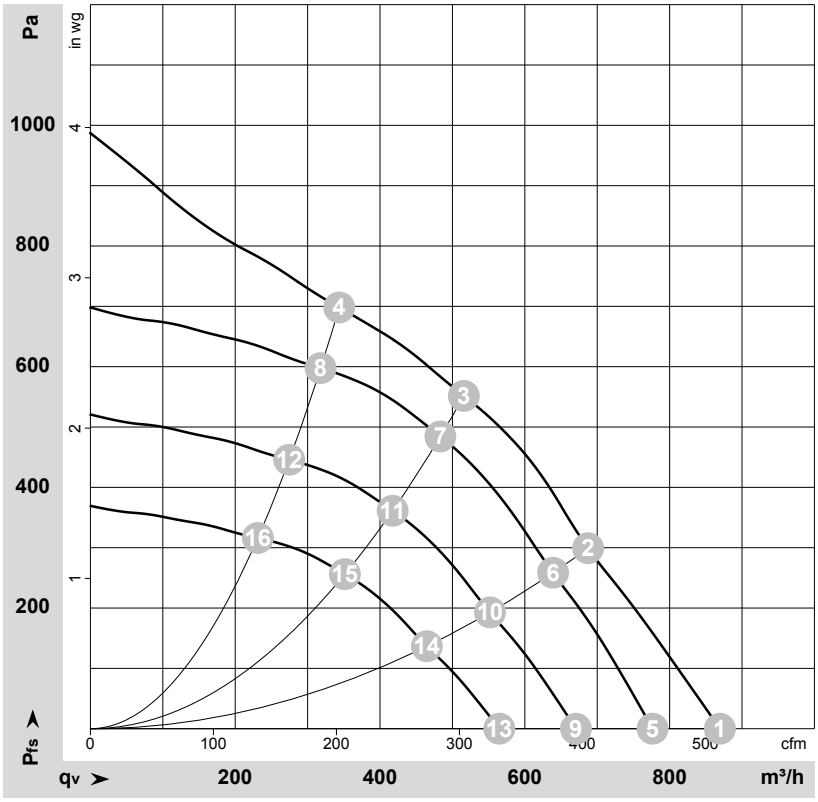
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-160714-1

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 | f | n | $P_{ed}$ | I | $LpA_{in}$ | $LwA_{in}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 230 | 50 | 4925 | 139 | 1.14 | 73 | 81 | 870 | 0 | 510 | 0.00 |
| 2 | 230 | 50 | 4730 | 158 | 1.28 | 68 | 76 | 685 | 300 | 405 | 1.20 |
| 3 | 230 | 50 | 4720 | 166 | 1.40 | 66 | 75 | 515 | 550 | 305 | 2.21 |
| 4 | 230 | 50 | 4755 | 155 | 1.25 | 70 | 78 | 345 | 700 | 200 | 2.81 |
| 5 | 230 | 50 | 4400 | 99 | 0.81 | 70 | 78 | 775 | 0 | 455 | 0.00 |
| 6 | 230 | 50 | 4400 | 127 | 1.03 | 66 | 74 | 640 | 257 | 375 | 1.03 |
| 7 | 230 | 50 | 4400 | 132 | 1.07 | 65 | 73 | 485 | 484 | 285 | 1.94 |
| 8 | 230 | 50 | 4400 | 123 | 0.99 | 68 | 76 | 320 | 598 | 185 | 2.40 |
| 9 | 230 | 50 | 3800 | 64 | 0.52 | 67 | 74 | 670 | 0 | 395 | 0.00 |
| 10 | 230 | 50 | 3800 | 82 | 0.66 | 63 | 70 | 550 | 192 | 325 | 0.77 |
| 11 | 230 | 50 | 3800 | 85 | 0.69 | 61 | 69 | 415 | 361 | 245 | 1.45 |
| 12 | 230 | 50 | 3800 | 79 | 0.64 | 65 | 72 | 275 | 446 | 160 | 1.79 |
| 13 | 230 | 50 | 3200 | 38 | 0.31 | 62 | 70 | 565 | 0 | 335 | 0.00 |
| 14 | 230 | 50 | 3200 | 49 | 0.40 | 58 | 66 | 465 | 136 | 275 | 0.55 |
| 15 | 230 | 50 | 3200 | 51 | 0.41 | 57 | 65 | 350 | 256 | 205 | 1.03 |
| 16 | 230 | 50 | 3200 | 47 | 0.38 | 60 | 68 | 230 | 316 | 135 | 1.27 |

U = Voltage · f = Frequency · 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



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