**K3G250-RE21-13**

# EC centrifugal module - RadiCal

backward-curved, single-intake

with housing

**ebm-papst Mulfingen GmbH & Co. KG**
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

| | |
|---|---|
| **Type** | **K3G250-RE21-13** |
| **Motor** | **M3G055-DF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 115 |
| Nominal voltage range | VAC | 100 .. 130 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 2520 |
| Power consumption | W | 160 |
| Current draw | A | 2.1 |
| 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

# EC centrifugal module - RadiCal

backward-curved, single-intake

with housing

## Technical description

| | |
|---|---|
| **Weight** | 2.7 kg |
| **Fan size** | 250 mm |
| **Rotor surface** | Thick-film passivated |
| **Electronics housing material** | Die-cast aluminum |
| **Impeller material** | PA plastic |
| **Housing material** | PA plastic |
| **Number of blades** | 7 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | IP54 |
| **Insulation class** | "B" |
| **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** | - Output 10 VDC, max. 10 mA<br>- Power limiter<br>- Motor current limitation<br>- Soft start<br>- Control input 0-10 VDC / PWM<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 |
| **Electrical hookup** | With plug |
| **Motor protection** | Locked-rotor protection |
| **With cable** | Variable |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 60335-1; CE |
| **Approval** | CSA C22.2 No. 77; UL 2111 |



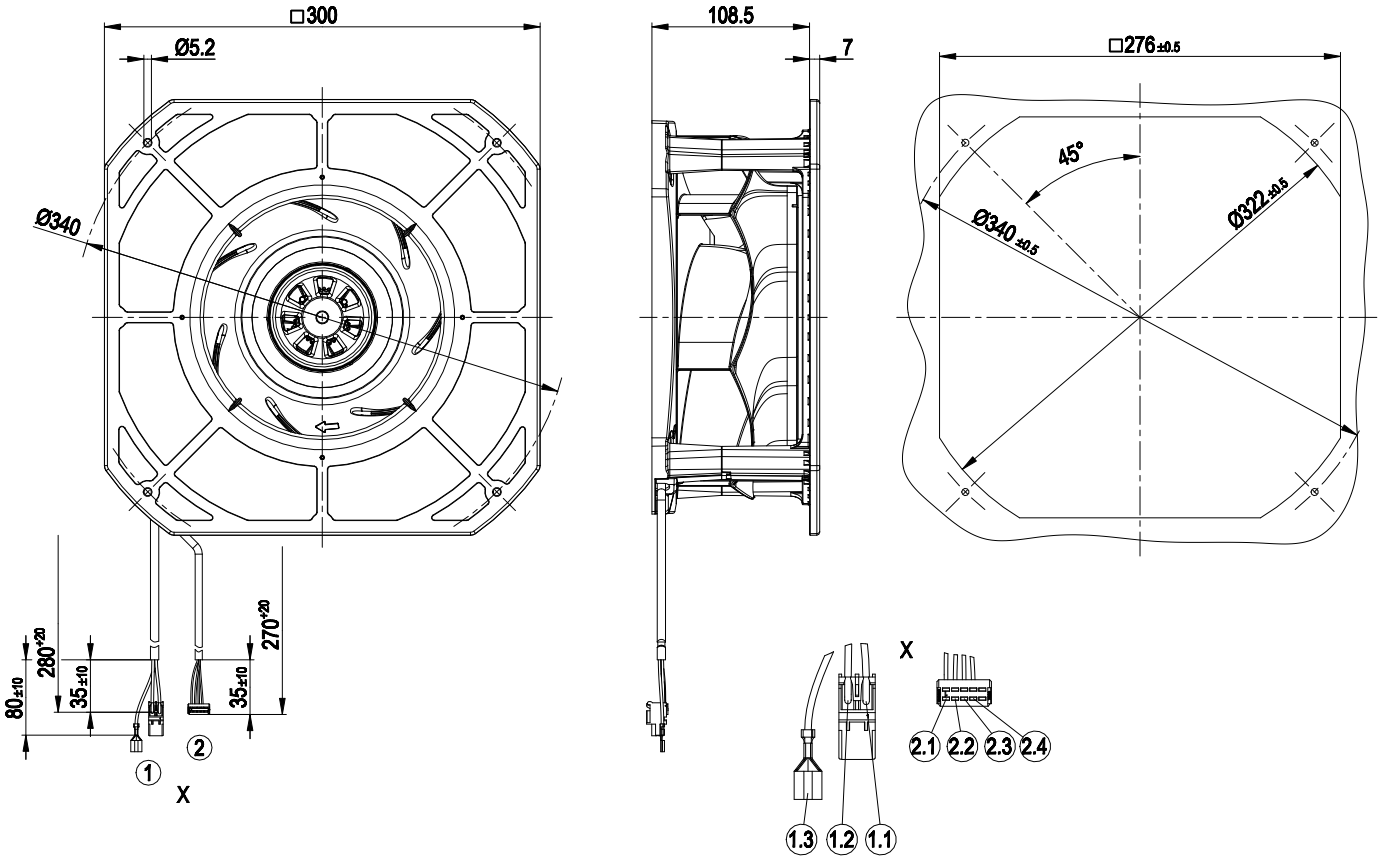
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

# EC centrifugal module - RadiCal

backward-curved, single-intake

with housing

## Product drawing




| | |
|---|---|
| 1 | Cable PVC AWG20, 1x 2-pole connector housing STOCKO MFMP 9590-02-BB01-000-960-000-00, 1x flat push-on receptacle 6.3 x 0.8 |
| 1.1 | blue |
| 1.2 | black |
| 1.3 | green/yellow |
| 2 | Cable PVC AWG22, 1x 5-pole connector housing STOCKO MFMP 7238-005-060-960-000-00-G |
| 2.1 | white |
| 2.2 | blue |
| 2.3 | red |
| 2.4 | yellow |



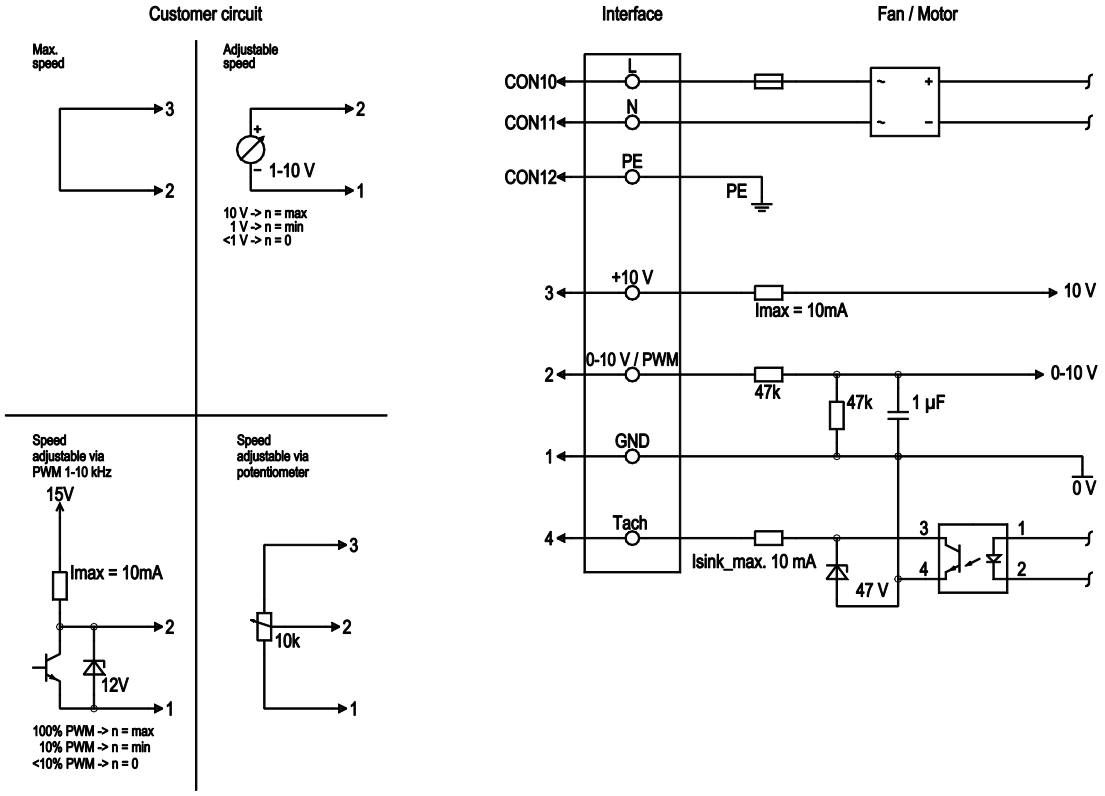
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

# EC centrifugal module - RadiCal

backward-curved, single-intake

with housing

## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| | CON10 | L | black | Supply connection, power supply, phase, see nameplate for voltage range |
| | CON11 | N | blue | Supply connection, power supply, neutral conductor, see nameplate for voltage range |
| | CON12 | PE | green/yellow | Ground connection |
| | 2 | 0- 10V PWM | yellow | 0-10 V / PWM control input, Ri=100 kΩ, SELV |
| | 4 | Tach | white | Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV |
| | 3 | +10 V | red | Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV |
| | 1 | GND | blue | Reference ground for control interface, SELV |



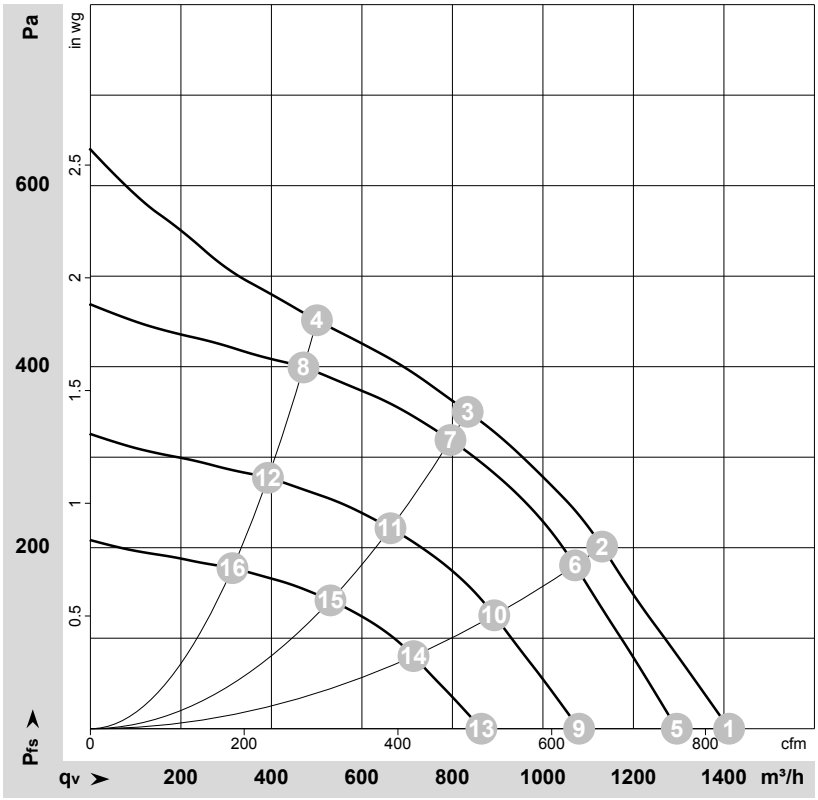
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

# EC centrifugal module - RadiCal

backward-curved, single-intake

with housing

## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-142364-1

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 | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | CFM | inH2O |
| 1 | 115 | 50 | 2615 | 135 | 1.76 | 1410 | 0 | 830 | 0.00 |
| 2 | 115 | 50 | 2535 | 155 | 2.01 | 1130 | 200 | 665 | 0.80 |
| 3 | 115 | 50 | 2520 | 160 | 2.10 | 835 | 350 | 490 | 1.41 |
| 4 | 115 | 50 | 2545 | 147 | 1.93 | 500 | 450 | 295 | 1.81 |
| 5 | 115 | 50 | 2400 | 104 | 1.36 | 1295 | 0 | 765 | 0.00 |
| 6 | 115 | 50 | 2400 | 131 | 1.71 | 1070 | 181 | 630 | 0.73 |
| 7 | 115 | 50 | 2400 | 140 | 1.80 | 795 | 319 | 470 | 1.28 |
| 8 | 115 | 50 | 2400 | 123 | 1.61 | 470 | 400 | 275 | 1.61 |
| 9 | 115 | 50 | 2000 | 60 | 0.79 | 1080 | 0 | 635 | 0.00 |
| 10 | 115 | 50 | 2000 | 76 | 0.99 | 890 | 126 | 525 | 0.51 |
| 11 | 115 | 50 | 2000 | 81 | 1.04 | 665 | 222 | 390 | 0.89 |
| 12 | 115 | 50 | 2000 | 71 | 0.93 | 390 | 278 | 230 | 1.12 |
| 13 | 115 | 50 | 1600 | 31 | 0.40 | 865 | 0 | 510 | 0.00 |
| 14 | 115 | 50 | 1600 | 39 | 0.51 | 715 | 80 | 420 | 0.32 |
| 15 | 115 | 50 | 1600 | 41 | 0.53 | 530 | 142 | 310 | 0.57 |
| 16 | 115 | 50 | 1600 | 36 | 0.48 | 315 | 178 | 185 | 0.71 |

U = Power supply · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power consumption · I = Current draw · qv = Air flow · $p_{fs}$ = Pressure increase



ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com