**K3G400-RS03-H5**

# EC centrifugal module - RadiCal

backward-curved, single-intake

with support plate

**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** | **K3G400-RS03-H5** |
| **Motor** | **M3G084-FA** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 277 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | $min^{-1}$ | 1450 |
| Power consumption | W | 500 |
| Current draw | A | 2.2 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 50 |

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

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 63.8 | 48 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 77.8 | 62 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_{ed}$ | kW | 0.46 |
| 09 Air flow $q_v$ | $m^3/h$ | 3060 |
| 09 Pressure increase $p_{fs}$ | Pa | 316 |
| 10 Speed (rpm) n | $min^{-1}$ | 1450 |
| 11 Specific ratio* | | 1.00 |

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-195014

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## Technical description

| | |
|---|---|
| **Weight** | 9.7 kg |
| **Size** | 400 mm |
| **Motor size** | 84 |
| **Rotor surface** | Painted black |
| **Electronics housing material** | Die-cast aluminum |
| **Impeller material** | PP plastic |
| **Support plate material** | Sheet aluminum |
| **Spacer material** | Aluminum |
| **Inlet nozzle material** | ABS plastic |
| **Number of blades** | 6 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | Motor IP55, electronics IP20 |
| **Insulation class** | "F" |
| **Moisture (F) / Environmental (H) protection class** | H0 - dry environment |
| **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 top; rotor on bottom on request |
| **Condensation drainage holes** | On rotor side |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- Operation and alarm display with LED<br>- Alarm relay<br>- Integrated PID controller<br>- Power limiter<br>- Motor current limitation<br>- PFC, active<br>- RS-485 MODBUS-RTU<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from the mains<br>- Thermal overload protection for electronics/motor<br>- Line undervoltage / phase failure detection |
| **EMC immunity to interference** | According to EN 61000-6-2 (industrial environment) |
| **EMC circuit feedback** | According to EN 61000-3-2/3 |
| **EMC interference emission** | According to EN 61000-6-3 (household environment) |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical hookup** | Connector with cable |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **With cable** | Variable |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 61800-5-1; CE |
| **Approval** | UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1 |



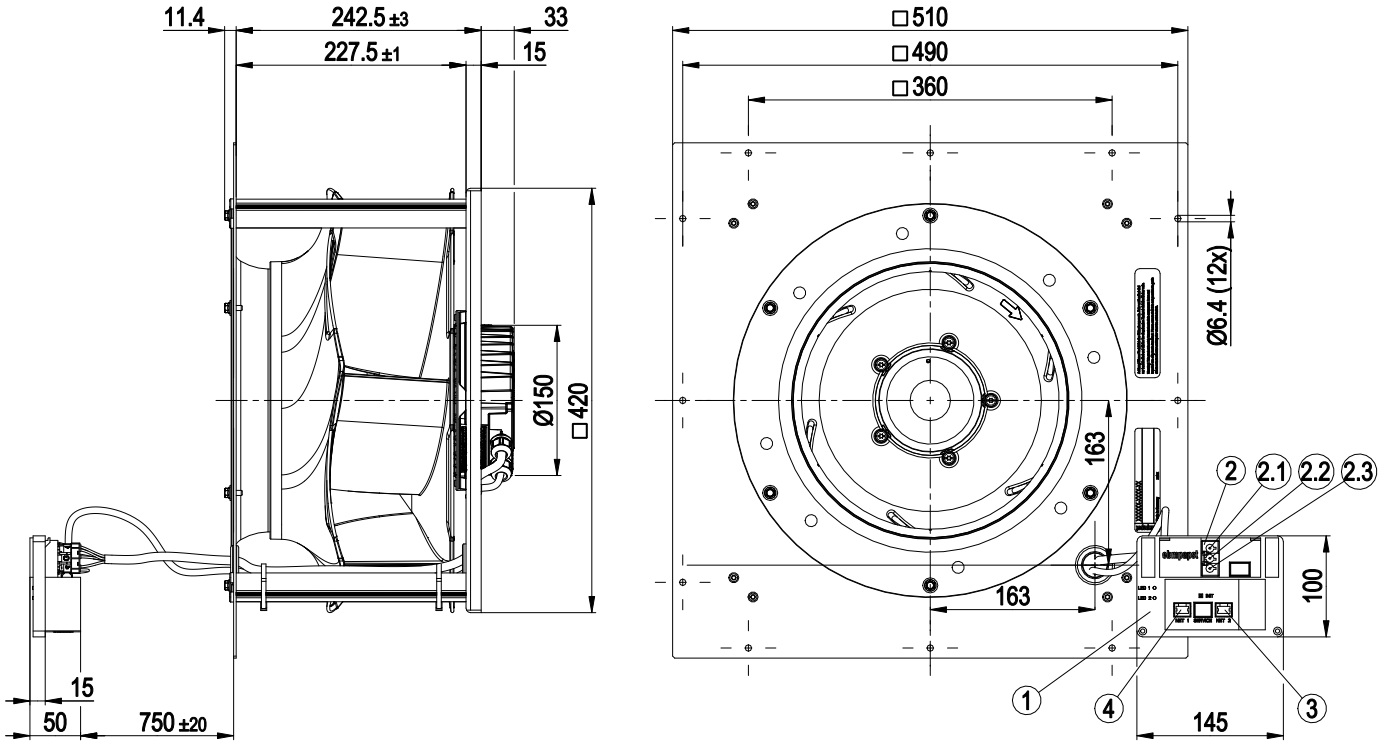
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## Product drawing




| | |
|---|---|
| 1 | Terminal box |
| 2 | Connector housing 3-pole GST18/3 Wieland 92.032.9058.1 |
| 2.1 | N |
| 2.2 | PE |
| 2.3 | L |
| 3 | 8-pole socket housing tyco 100616-2 |
| 4 | 8-pole socket housing tyco 100616-2 |



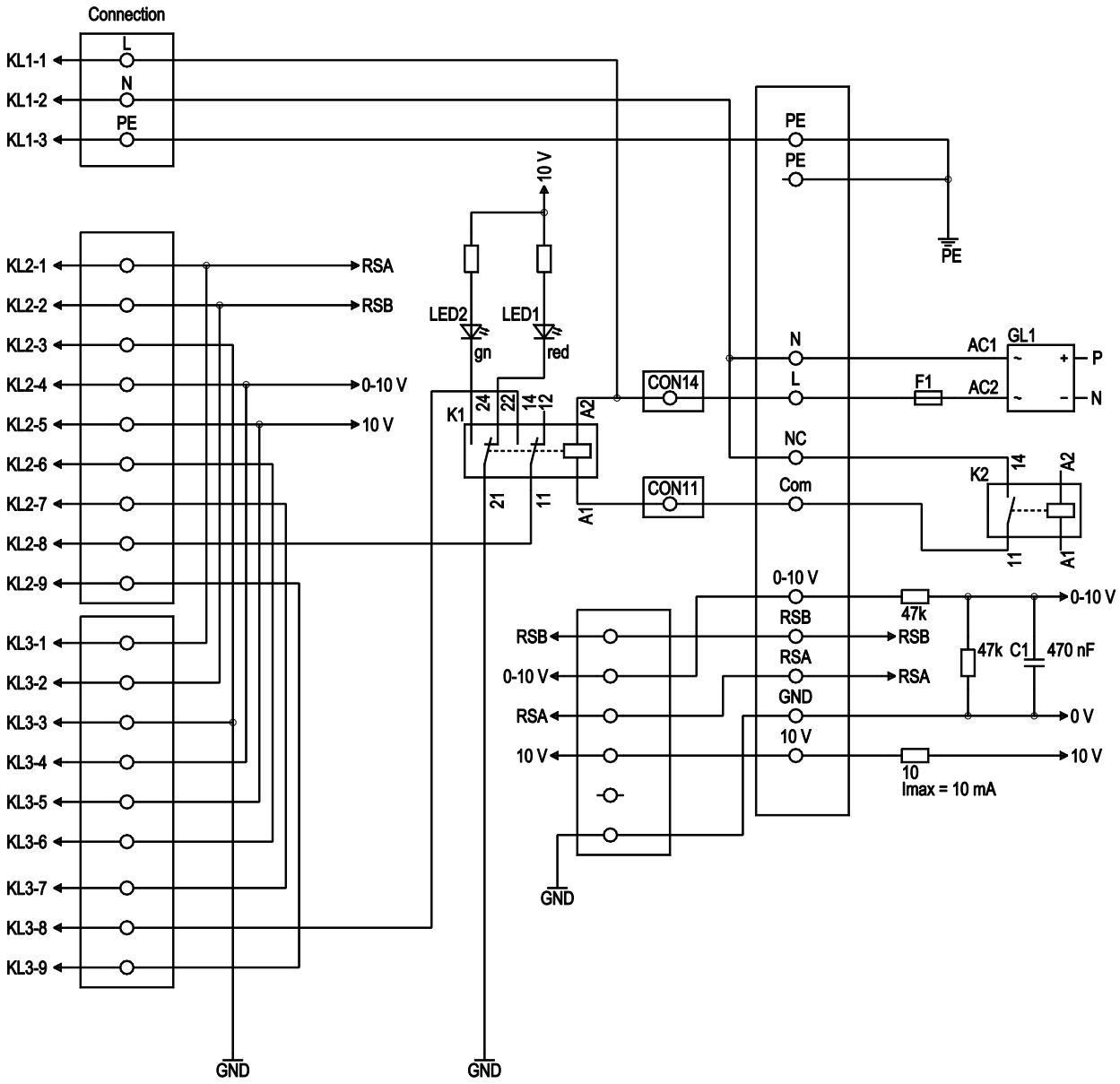
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## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| 1 | 1 | L | black | Supply connection, power supply single-phase 200-277 VAC, 50/60 Hz |
| 1 | 2 | N | blue | Power supply, single-phase 200-277 VAC, 50/60 Hz |
| 1 | 3 | PE | green/yellow | Ground connection |
| 2 | 1 | RSA | - | Bus connection RS485, RSA, MODBUS-RTU; SELV |
| 2 | 2 | RSB | - | Bus connection RS485, RSB, MODBUS-RTU; SELV |
| 2 | 3 | GND | - | Reference ground for control interface; SELV |
| 2 | 4 | 0-10 V | - | Control input |
| 2 | 5 | +10 V | - | Fixed voltage output 10 VDC |
| 2 | 6 | RES | - | Reserve |
| 2 | 7 | COM* | - | Alarm COM* |
| 2 | 8 | NC | - | NC KL2 UMAX 24 V |
| 2 | 9 | Schirm | - | Shield |



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| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| 3 | 1 | RSA | - | Bus connection RS485, RSA, MODBUS-RTU; SELV |
| 3 | 2 | RSB | - | Bus connection RS485, RSB, MODBUS-RTU; SELV |
| 3 | 3 | GND | - | Reference ground for interface; SELV |
| 3 | 4 | 0-10 V | - | Control input |
| 3 | 5 | +10 V | - | Fixed voltage output 10 VDC |
| 3 | 6 | RES | - | Reserve |
| 3 | 7 | COM* | - | Alarm COM* |
| 3 | 8 | NC* | - | NC* KL3 UMAX 24 V |
| 3 | 9 | Schirm | - | Shield |



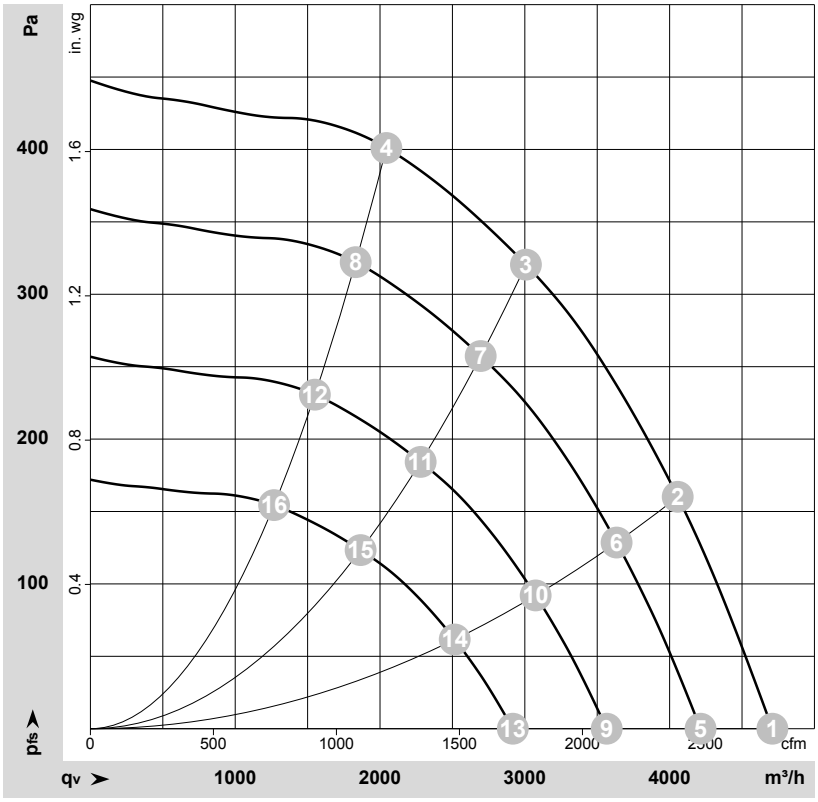
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-195014-1

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

| | Wired | U | f | n | $P_{ed}$ | I | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | V | Hz | $min^{-1}$ | W | A | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 1~ | 230 | 50 | 1450 | 306 | 1.36 | 4710 | 0 | 2770 | 0.00 |
| 2 | 1~ | 230 | 50 | 1450 | 415 | 1.82 | 4055 | 160 | 2385 | 0.64 |
| 3 | 1~ | 230 | 50 | 1450 | 500 | 2.20 | 3010 | 320 | 1770 | 1.28 |
| 4 | 1~ | 230 | 50 | 1450 | 431 | 1.89 | 2045 | 400 | 1205 | 1.61 |
| 5 | 1~ | 230 | 50 | 1300 | 219 | 0.97 | 4215 | 0 | 2480 | 0.00 |
| 6 | 1~ | 230 | 50 | 1300 | 298 | 1.31 | 3635 | 129 | 2140 | 0.52 |
| 7 | 1~ | 230 | 50 | 1300 | 335 | 1.47 | 2695 | 258 | 1585 | 1.04 |
| 8 | 1~ | 230 | 50 | 1300 | 310 | 1.36 | 1830 | 322 | 1080 | 1.29 |
| 9 | 1~ | 230 | 50 | 1100 | 133 | 0.59 | 3565 | 0 | 2100 | 0.00 |
| 10 | 1~ | 230 | 50 | 1100 | 181 | 0.79 | 3075 | 92 | 1810 | 0.37 |
| 11 | 1~ | 230 | 50 | 1100 | 203 | 0.89 | 2280 | 184 | 1345 | 0.74 |
| 12 | 1~ | 230 | 50 | 1100 | 188 | 0.82 | 1550 | 231 | 910 | 0.93 |
| 13 | 1~ | 230 | 50 | 900 | 73 | 0.32 | 2915 | 0 | 1715 | 0.00 |
| 14 | 1~ | 230 | 50 | 900 | 99 | 0.43 | 2515 | 62 | 1480 | 0.25 |
| 15 | 1~ | 230 | 50 | 900 | 111 | 0.49 | 1865 | 123 | 1100 | 0.49 |
| 16 | 1~ | 230 | 50 | 900 | 103 | 0.45 | 1270 | 154 | 745 | 0.62 |

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



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