

EC centrifugal fan

forward curved, dual inlet
with housing (without flange)

D1G097-EF63-13 ebmpapst Datasheet
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County court Stuttgart · HRA 590344

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

Nominal data

| | | |
|--------------------------|-------------------|----------|
| Type | D1G097-EF63-13 | |
| Motor | M1G055-BD | |
| Nominal voltage | VDC | 24 |
| Nominal voltage range | VDC | 16 .. 28 |
| Type of data definition | | fa |
| Speed (rpm) | min ⁻¹ | 2170 |
| Power input | W | 50 |
| Current draw | A | 2.6 |
| Min. ambient temperature | °C | -25 |
| 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 | 1.7 kg |
| Size | 97 mm |
| Surface of rotor | Coated in black |
| Material of impeller | Sheet steel, galvanised |
| Housing material | Sheet steel, galvanised |
| Material of guard grille | Steel, coated in white aluminium plastic (RAL 9006) |
| Motor suspension | Motor anti-vibration mounted on one side |
| Direction of rotation | Clockwise, seen on rotor |
| Type of protection | IP 20 |
| Insulation class | "B" |
| Humidity (F)/environmental protection class (H) | H0 - dry environment |
| Max. permissible ambient motor temp. (transp./ storage) | + 80 °C |
| Min. permissible ambient motor temp. (transp./storage) | - 40 °C |
| Mounting position | Shaft horizontal, discharge on right side or on left side |
| Condensate discharge holes | None |
| Operation mode | S1 |
| Motor bearing | Ball bearing |
| Technical features | <ul style="list-style-type: none"> - Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM |
| Motor protection | Reverse polarity and locked-rotor protection |
| Product conforming to standard | EN 60950 |

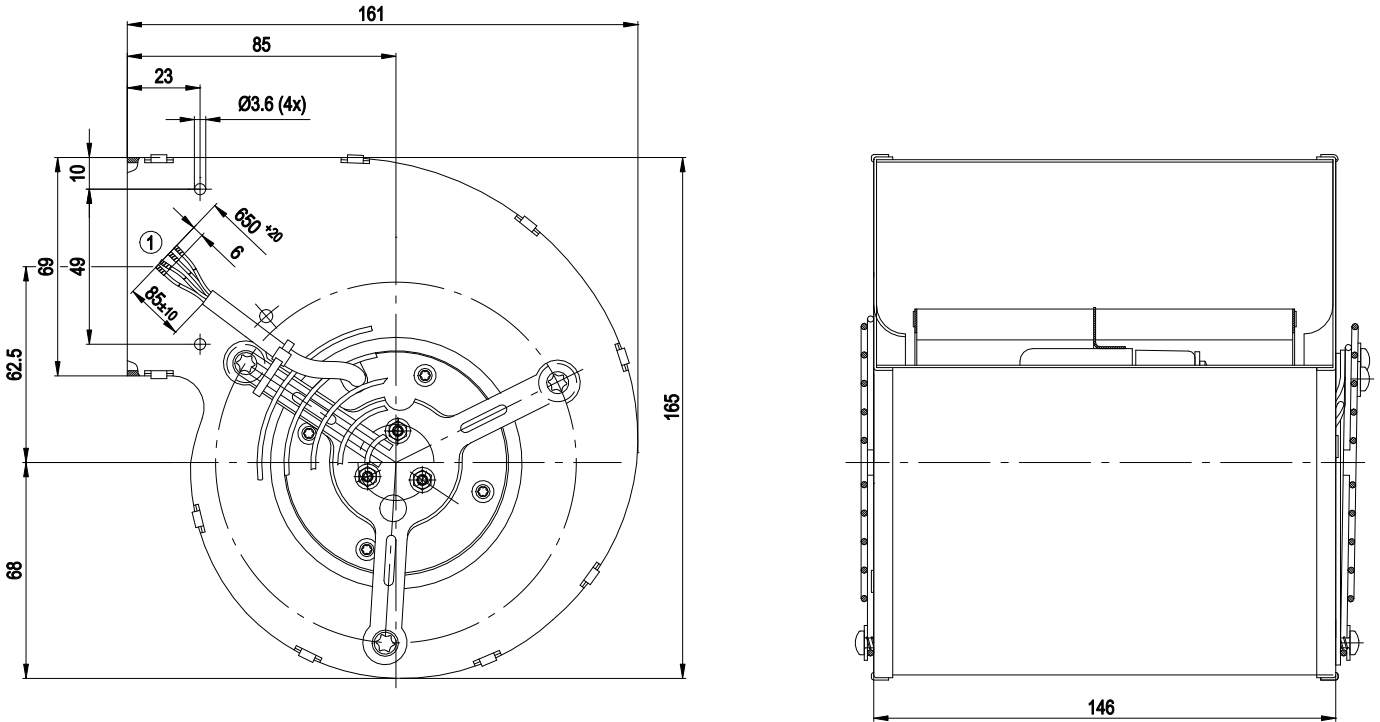


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Product drawing



1 Connection line PVC AWG20, 4x lead tips crimped



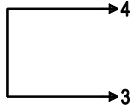
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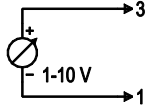
Connection screen

Customer circuit

Full speed

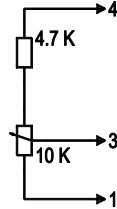


Speed setting

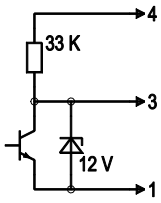


10 V → n = max
1 V → n = min
<1 V → n = 0
Safe start-up at Unom -30 %
from 4 V Ucontr.

Speed setting with fixed resistance

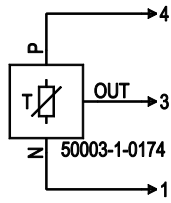


Speed setting via PWM 1-10 kHz



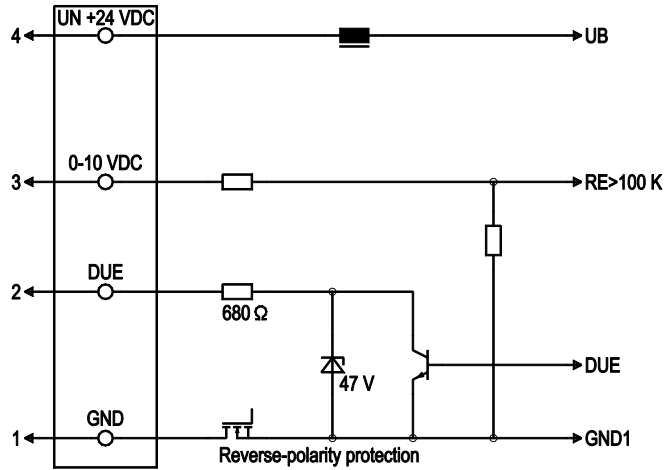
100 % PWM → n = max
10 % PWM → n = min
<10 % PWM → n = 0
Safe start-up at Unom -30 %
from 40 % PWM

Setting of values via temperature controller



Connection

Fan / motor



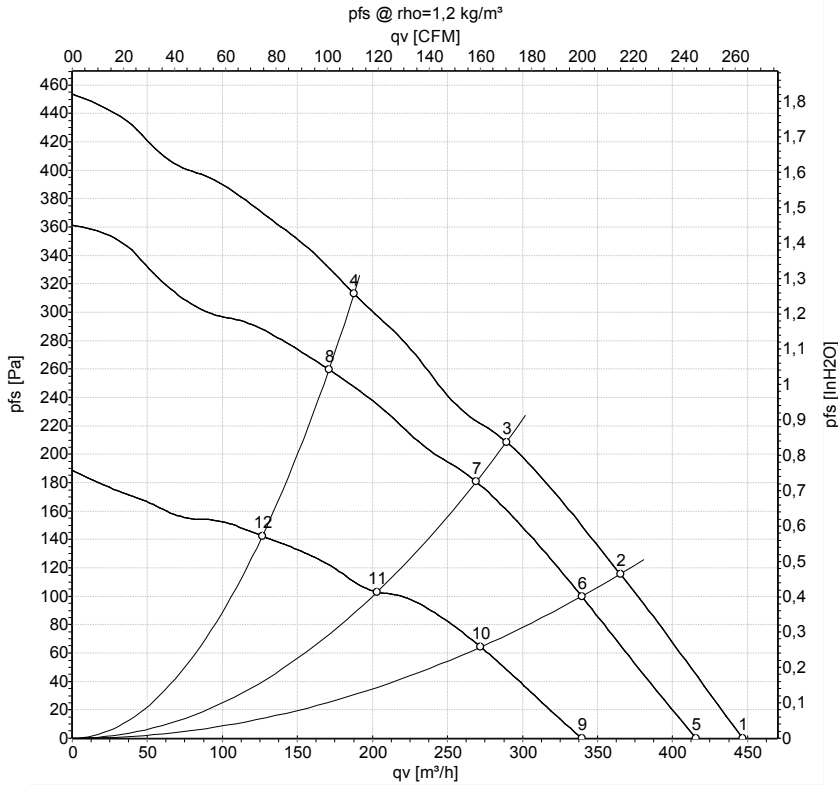
| No. | Conn. | Designation | Colour | Function / assignment |
|-----|-------|-------------|--------|---|
| 1 | 1 | GND | blue | Reference mass |
| 1 | 2 | Tach | white | Speed monitoring output, 2 pulses per rotation, Isink max = 10 mA |
| 1 | 3 | 0-10 VDC | yellow | Control input Re > 100 K |
| 1 | 4 | Un +24 VDC | red | Power supply 24 VDC, residual ripple 3.5 % |



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Charts: Air flow



Measurement: LU-161768-1
Measurement: LU-161765-1
Measurement: LU-161414-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. 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 | q _v | p _{fs} | q _v | p _{fs} |
|----|----|-------------------|-----------------|------|-------------------|-----------------|----------------|--------------------|
| | V | min ⁻¹ | W | A | m ³ /h | Pa | cfm | inH ₂ O |
| 1 | 28 | 2350 | 66 | 3.05 | 445 | 0 | 265 | 0.00 |
| 2 | 28 | 2635 | 58 | 2.56 | 365 | 116 | 215 | 0.47 |
| 3 | 28 | 2935 | 51 | 2.19 | 290 | 211 | 170 | 0.85 |
| 4 | 28 | 3445 | 45 | 1.81 | 190 | 313 | 110 | 1.26 |
| 5 | 24 | 2170 | 50 | 2.60 | 415 | 0 | 245 | 0.00 |
| 6 | 24 | 2450 | 45 | 2.24 | 340 | 100 | 200 | 0.40 |
| 7 | 24 | 2735 | 41 | 1.96 | 270 | 180 | 160 | 0.72 |
| 8 | 24 | 3135 | 35 | 1.60 | 170 | 260 | 100 | 1.04 |
| 9 | 16 | 1805 | 27 | 1.91 | 340 | 0 | 200 | 0.00 |
| 10 | 16 | 1975 | 23 | 1.62 | 270 | 64 | 160 | 0.26 |
| 11 | 16 | 2140 | 20 | 1.36 | 205 | 103 | 120 | 0.41 |
| 12 | 16 | 2350 | 15 | 1.08 | 125 | 142 | 75 | 0.57 |

U = Supply voltage · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

