**D3G225-HE11-02**

# EC centrifugal fan

forward curved, dual inlet

with housing (flange)

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## Nominal data

| | |
|---|---|
| **Type** | **D3G225-HE11-02** |
| **Motor** | **M3G084-GF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200 .. 277 |
| Frequency | Hz | 50/60 |
| Type of data definition | | ml |
| Speed (rpm) | $min^{-1}$ | 1420 |
| Power input | W | 750 |
| Current draw | A | 3.3 |
| Min. back pressure | Pa | 200 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 40 |

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

## Data according to ErP directive

| | | Actual | Request 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 49.6 | 36.6 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 57 | 44 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power input $P_{ed}$ | kW | 0.68 |
| 09 Air flow $q_v$ | $m^3/h$ | 2100 |
| 09 Pressure increase $p_{fs}$ | Pa | 532 |
| 10 Speed (rpm) n | $min^{-1}$ | 1800 |
| 11 Specific ratio* | | 1.01 |

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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

LU-168865

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## Technical features

| | |
|---|---|
| **Mass** | 12.5 kg |
| **Size** | 225 mm |
| **Surface of rotor** | Coated in black |
| **Material of impeller** | Sheet steel, galvanised |
| **Housing material** | Sheet steel, galvanised |
| **Motor suspension** | Motor anti-vibration mounted on one side via brackets |
| **Direction of rotation** | Counter-clockwise, seen on rotor |
| **Type of protection** | IP 54 |
| **Insulation class** | "F" |
| **Humidity (F)/environmental protection class (H)** | F3-1 |
| **Max. permissible ambient motor temp. (transp./ storage)** | +85 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | -40 °C |
| **Mounting position** | Shaft horizontal or rotor on bottom; rotor on top on request |
| **Condensate discharge holes** | Rotor-side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Output 10 VDC, max. 10 mA<br>- Operation and alarm display<br>- Tach output<br>- Alarm relay<br>- Integrated PID controller<br>- Output limit<br>- Motor current limit<br>- PFC, active<br>- RS485 MODBUS RTU<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from the mains<br>- Over-temperature protected electronics / motor<br>- Line undervoltage / phase failure detection |
| **EMC interference immunity** | Acc. to EN 61000-6-2 (industrial environment) |
| **EMC harmonics** | Acc. to EN 61000-3-2/3 |
| **EMC interference emission** | Acc. to EN 61000-6-3 (household environment) |
| **Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)** | <= 3.5 mA |
| **Electrical leads** | With plug |
| **Motor protection** | Thermal overload protector (TOP) wired internally |
| **Cable exit** | Variable |
| **Degree of soiling** | 2 |
| **Protection class** | I (if protective earth is connected by customer) |
| **Product conforming to standard** | CE |
| **Remark** | Norm conformity as per EN 61800-5-1 and EN 60335-1 in preparation |



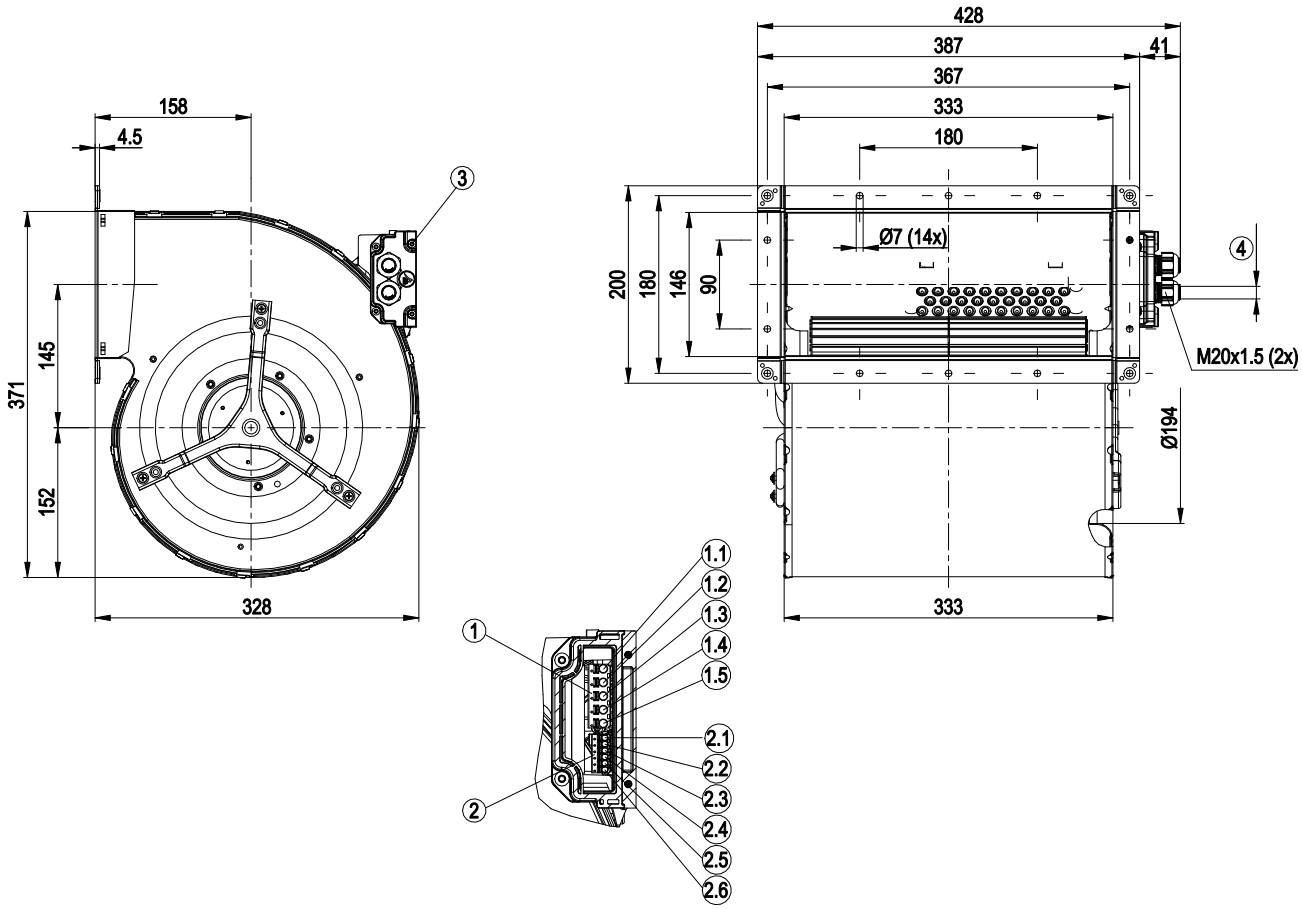
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## Product drawing




| | |
|---|---|
| 1 | Terminal 1 |
| 1.1 | PE |
| 1.2 | L |
| 1.3 | N |
| 1.4 | NC |
| 1.5 | COM |
| 2 | Terminal 2 |
| 2.1 | 0-10 V |
| 2.2 | +10 V |
| 2.3 | GND |
| 2.4 | RSA |
| 2.5 | RSB |
| 2.6 | Tach |
| 3 | Tightening torque 3±0.5 Nm |
| 4 | Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0.4 Nm<br>Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided) |



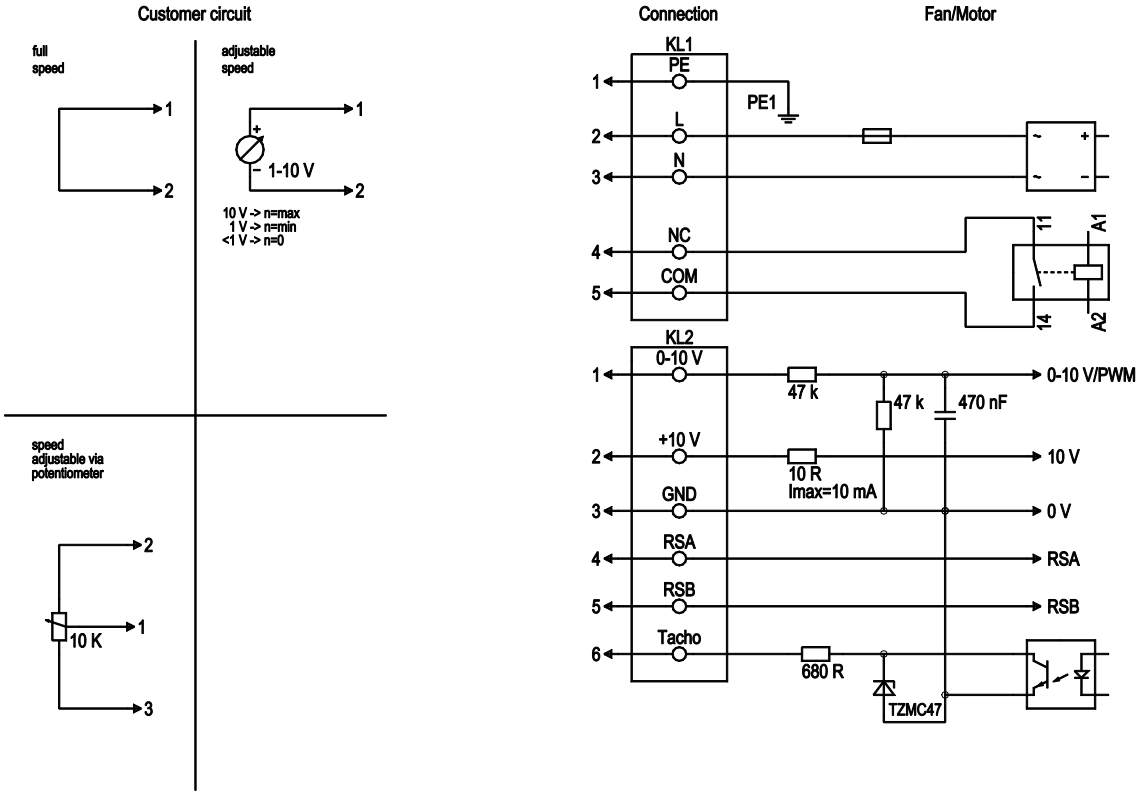
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## Connection screen




| No. | Conn. | Designation | Function / assignment |
|---|---|---|---|
| KL1 | 1 | PE | Protective earth |
| KL1 | 2 | L | Power supply, phase, 50/60 Hz |
| KL1 | 3 | N | Power supply, neutral conductor, 50/60 Hz |
| KL1 | 4 | NC | Status relay, floating status contact, break for failure, contact rating 250 VAC/2 A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side |
| KL1 | 5 | COM | Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side |
| KL2 | 1 | 0-10 V | Analogue input (set value), 0-10 V, Ri=100 kΩ, parametrisable curve, SELV |
| KL2 | 2 | +10 V | Fixed voltage output 10 VDC, SELV |
| KL2 | 3 | GND | Signal ground for control interface, SELV |
| KL2 | 4 | RSA | RS-485 interface for MODBUS, RSA; SELV |
| KL2 | 5 | RSB | RS-485 interface for MODBUS, RSB; SELV |
| KL2 | 6 | Tacho | Speed monitoring output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV |



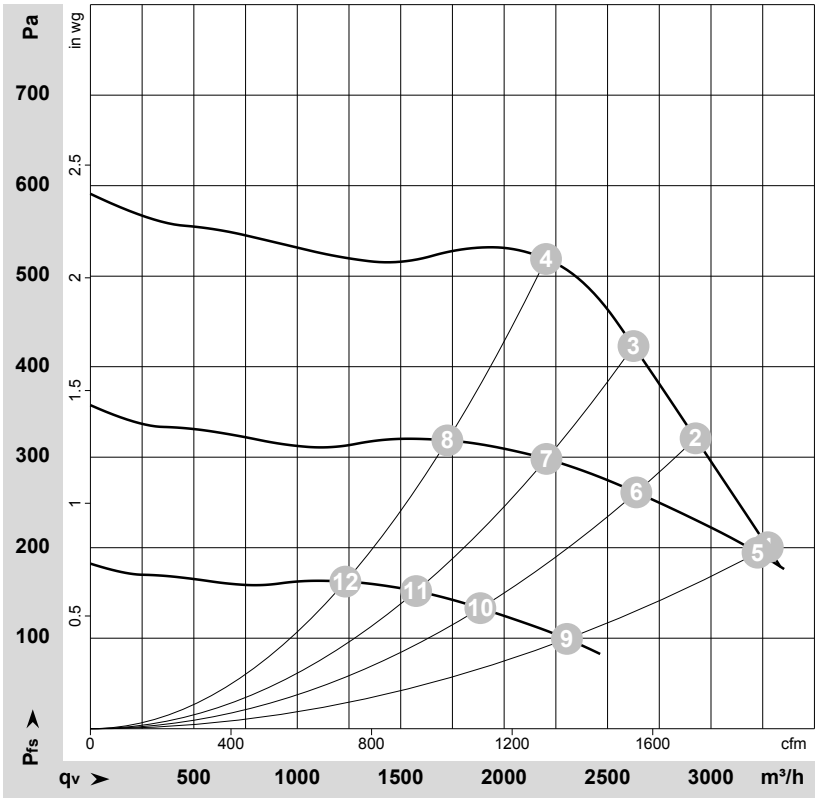
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## Charts: Air flow 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-168865-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. 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

| | Conn. | 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 | inH2O |
| 1 | Y | 230 | 50 | 1420 | 750 | 3.30 | 67 | 80 | 3275 | 200 | 1930 | 0.80 |
| 2 | Y | 230 | 50 | 1550 | 750 | 3.30 | 67 | 79 | 2925 | 320 | 1720 | 1.28 |
| 3 | Y | 230 | 50 | 1665 | 750 | 3.30 | 67 | 79 | 2625 | 420 | 1545 | 1.69 |
| 4 | Y | 230 | 50 | 1785 | 713 | 3.13 | 67 | 79 | 2205 | 520 | 1295 | 2.09 |
| 5 | Y | 230 | 50 | 1400 | 737 | 3.23 | 67 | 80 | 3225 | 197 | 1900 | 0.79 |
| 6 | Y | 230 | 50 | 1400 | 557 | 2.44 | 64 | 76 | 2640 | 261 | 1555 | 1.05 |
| 7 | Y | 230 | 50 | 1400 | 450 | 1.97 | 63 | 75 | 2205 | 299 | 1295 | 1.20 |
| 8 | Y | 230 | 50 | 1400 | 343 | 1.51 | 61 | 73 | 1725 | 319 | 1015 | 1.28 |
| 9 | Y | 230 | 50 | 1000 | 269 | 1.18 | 58 | 71 | 2305 | 100 | 1355 | 0.40 |
| 10 | Y | 230 | 50 | 1000 | 203 | 0.89 | 55 | 68 | 1885 | 133 | 1110 | 0.53 |
| 11 | Y | 230 | 50 | 1000 | 164 | 0.72 | 54 | 66 | 1575 | 152 | 925 | 0.61 |
| 12 | Y | 230 | 50 | 1000 | 125 | 0.55 | 52 | 64 | 1235 | 163 | 725 | 0.65 |

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · $P_{ed}$ = Power input · I = Current draw · $LpA_{in}$ = Sound pressure level inlet side · $LwA_{in}$ = Sound power level inlet side
$q_V$ = Air flow · $p_{fs}$ = Pressure increase



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