**W3G300-BV12-41**

# EC axial fan

with brushless DC motor

Automotive



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## Nominal data

| | | |
|---|---|---|
| **Type** | **W3G300-BV12-41** | |
| **Motor** | **M3G084-BF** | |
| Nominal voltage | VDC | 13 |
| Nominal voltage range | VDC | 9 .. 16 |
| Method of obtaining data | | fa |
| Speed (rpm) | min$^{-1}$ | 3200 |
| Power consumption | W | 220 |
| Current draw | A | 16.7 |
| Min. ambient temperature | °C | -40 |
| Max. ambient temperature | °C | 85 |
| -with power derating to | °C | 105 |

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 (EN 17166)

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 41.5 | 29.8 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 51.7 | 40 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_e$ | kW | 0.24 |
| 09 Air flow $q_v$ | m³/h | 1600 |
| 09 Pressure increase $p_{fs}$ | Pa | 205 |
| 10 Speed (rpm) n | min$^{-1}$ | 2945 |
| 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-141600

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## Technical description

| | |
|---|---|
| **Weight** | 2 kg |
| **Size** | 300 mm |
| **Motor size** | 84 |
| **Impeller material** | PA plastic UL94 HB (black) |
| **Fan housing material** | PA plastic UL94 HB (black) |
| **Number of blades** | 7 |
| **Airflow direction** | V |
| **Balancing grade according to DIN ISO 21940-11** | G 10 |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | Motor IP24 KM, electronics IP6K9K (mating connector installed) |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H4 |
| **Max. permitted ambient temp. for motor (transport/storage)** | +105 °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; (sealed) |
| **Technical features** | - Lowering input - Start-up at 85°C (2 min) permissible - Fault output (high-side switch max. 30 mA) - Power limiter - Load dump (58 V) - Motor current limitation - Soft start - Control input 0-10 VDC/PWM - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Undervoltage detection |
| **EMC regulations** | ECE R10 Rev. 3 |
| **Electrical hookup** | Connector with cable |
| **Motor protection** | Reverse polarity and locked-rotor protection |
| **With cable** | Lateral |
| **Approval** | EAC; E1 |
| **Sound level** | 83 dB(A), sound power level according to ISO 13347 |
| **Comment** | Type approval number – 036433 |



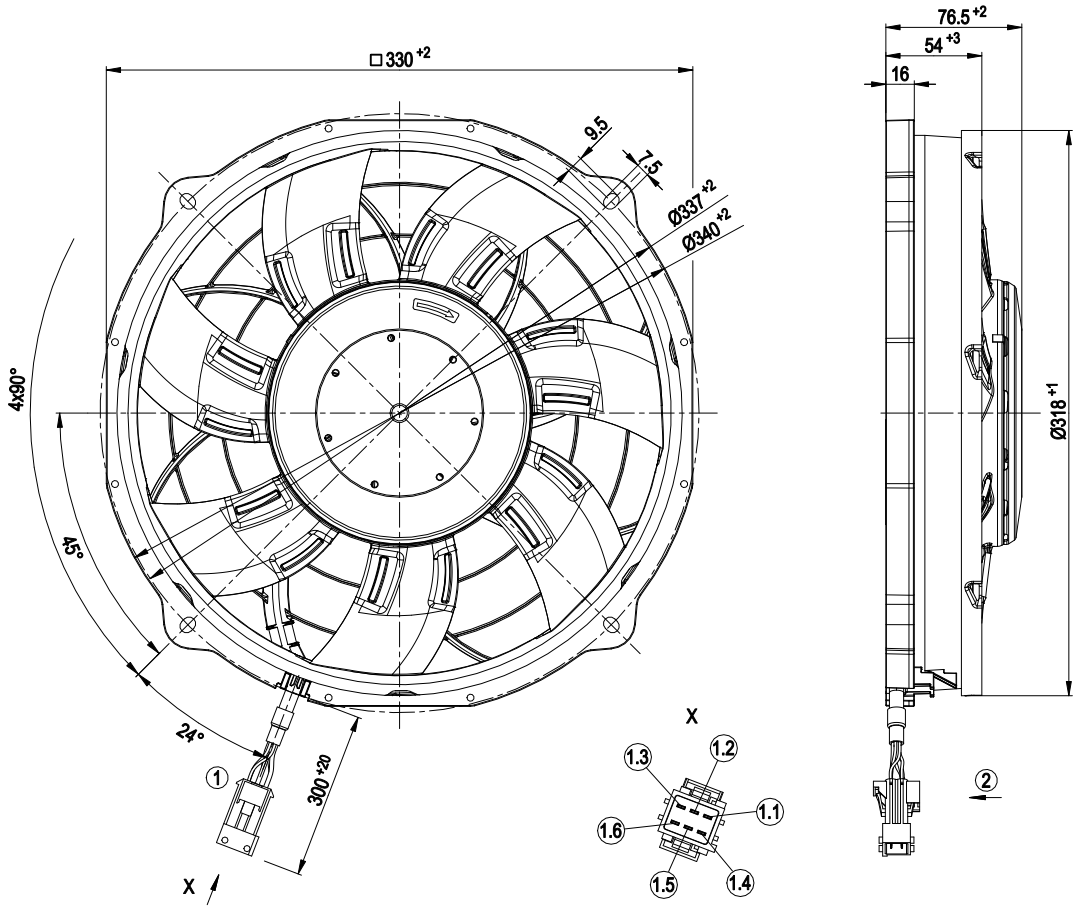
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## Product drawing




| | |
|---|---|
| 1 | Cable FLRYW 2x 3 mm², 4x 0.75 mm² |
| | 6-pole connector housing TE 1-962349-1, 2x flat plug TE 2-962916-1, 3x flat plug TE 1-962915-1<br>1x seal TE 963205-1, 2x seal TE 828905-1, 3x seal TE 828904-1, 1x dummy plug TE 828922-1 |
| 1.1 | + UB |
| 1.2 | GND |
| 1.3 | PWM/LIN |
| 1.4 | Not used / no function |
| 1.5 | ABSENK |
| 1.6 | Diagnostic output |
| | 6-pole mating connector TE 1-963212-1, 3x receptacle TE 929939-1, 2x receptacle TE 929937-1, 1x dummy plug TE 828922-1 |
| 2 | Airflow direction "V" |



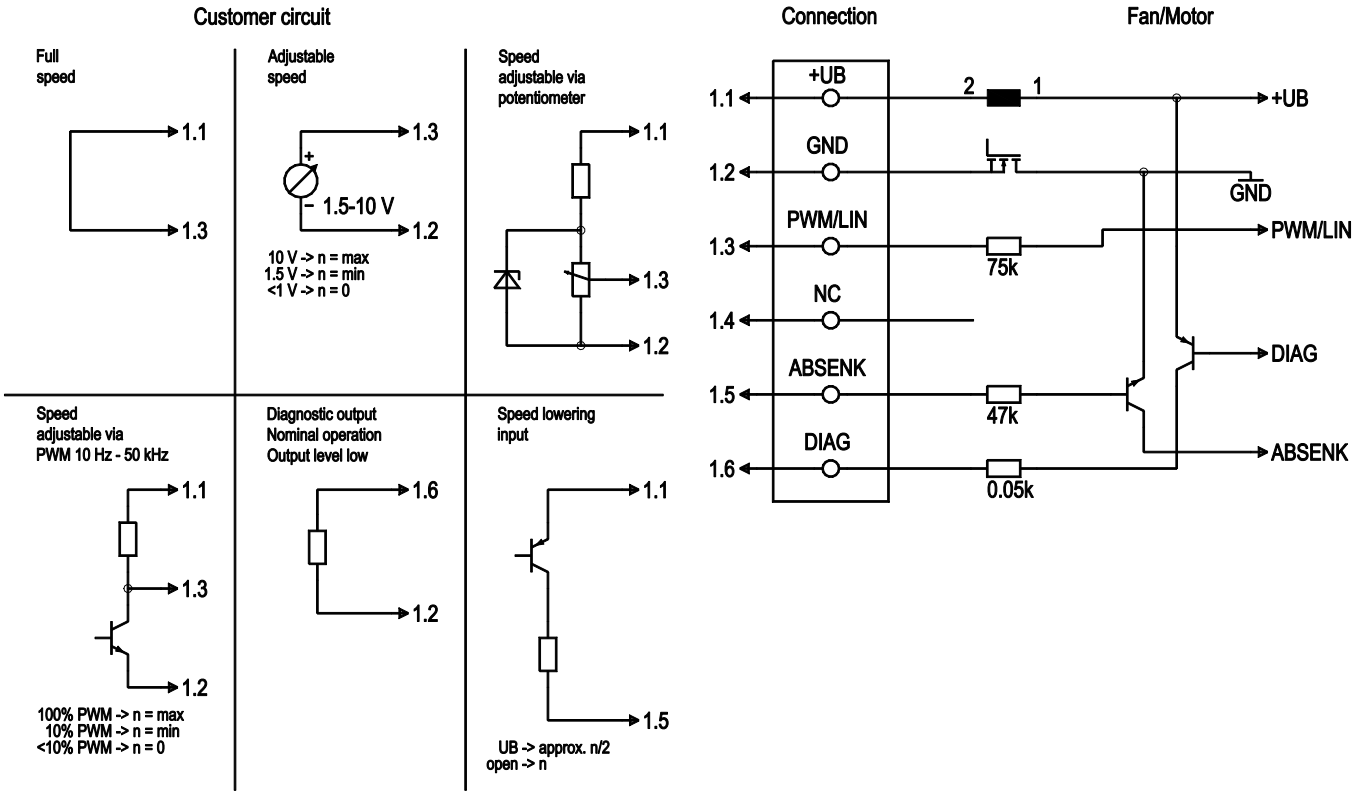
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## Connection diagram




| No. | Conn. | Designation | Function/assignment |
|---|---|---|---|
| | 1.1 | +UB | Power supply |
| | 1.2 | GND | Power supply GND, reference ground |
| | 1.3 | PWM/LIN | Analog voltage control input 0-10 V or PWM |
| | 1.4 | NC | Not used / no function |
| | 1.5 | ABSENK | Lowering input |
| | 1.6 | DIAG | Diagnostic output |



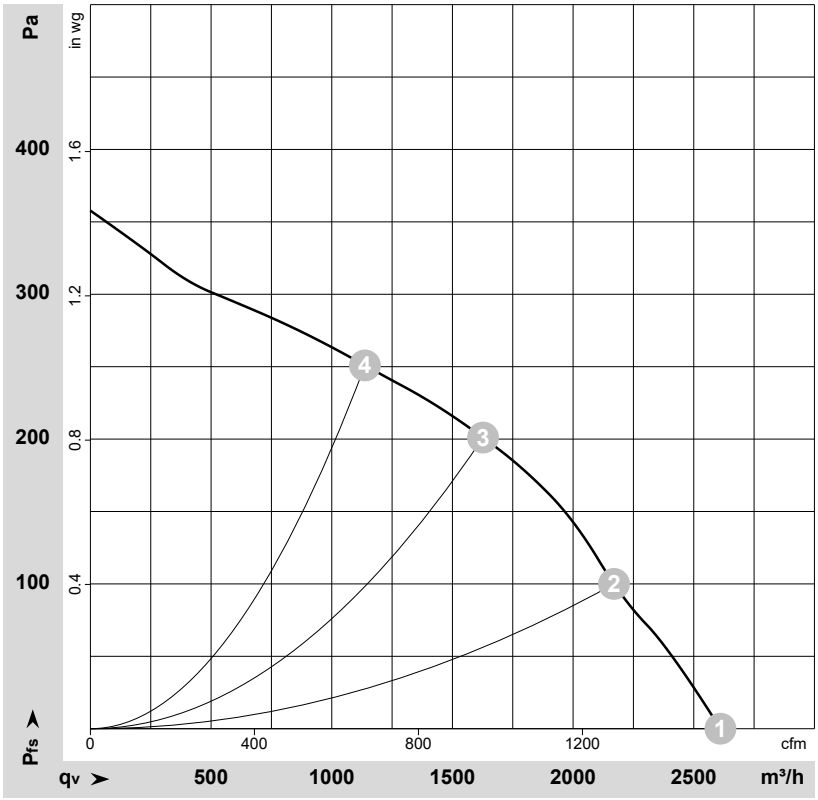
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## Curves: Air performance




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-141600-1

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 | n | $P_{ed}$ | I | $LpA_{in}$ | $LwA_{in}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | V | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 13 | 3200 | 220 | 16.70 | 75 | 83 | 2610 | 0 | 1535 | 0.00 |
| 2 | 13 | 3135 | 237 | 18.18 | 75 | 83 | 2170 | 100 | 1275 | 0.40 |
| 3 | 13 | 2955 | 248 | 18.98 | 72 | 80 | 1625 | 200 | 960 | 0.80 |
| 4 | 13 | 2845 | 248 | 19.01 | 73 | 81 | 1140 | 250 | 670 | 1.00 |

U = Voltage · 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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