**W1G300-EC24-04**

# EC axial fan

with brushless DC motor

Automotive



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## Nominal data

| | | |
|---|---|---|
| **Type** | **W1G300-EC24-04** | |
| **Motor** | **M1G074-CF** | |
| Nominal voltage | VDC | 26 |
| Nominal voltage range | VDC | 18 .. 32 |
| Method of obtaining data | | fa |
| Speed (rpm) | min$^{-1}$ | 3000 |
| Power consumption | W | 225 |
| Current draw | A | 8.5 |
| Min. ambient temperature | °C | -40 |
| Max. ambient temperature | °C | 70 |
| -with power derating to | °C | 85 |

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 $\eta_{es}$ | % | 40.3 | 29.9 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 50.5 | 40 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power consumption $P_e$ | kW | 0.24 |
| 09 Air flow $q_v$ | m³/h | 1605 |
| 09 Pressure increase $p_{fs}$ | Pa | 200 |
| 10 Speed (rpm) n | min$^{-1}$ | 2910 |
| 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-188993

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## Technical description

| | |
|---|---|
| **Weight** | 2.6 kg |
| **Size** | 300 mm |
| **Motor size** | 74 |
| **Electronics housing material** | Die-cast aluminum, painted black |
| **Impeller material** | PP plastic |
| **Housing material** | Die-cast aluminum |
| **Fan housing material** | PP plastic |
| **Number of blades** | 5 |
| **Motor suspension** | Motor vibration-damped on both sides |
| **Airflow direction** | V |
| **Direction of rotation** | Clockwise, viewed toward rotor |
| **Degree of protection** | Motor IP24 KM, electronics IP6K9K |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | H4 |
| **Ambient temperature note** | Above +70°C with power derating; External sources of heat above 85°C can affect the service life |
| **Max. permitted ambient temp. for motor (transport/storage)** | +90 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | -40 °C |
| **Installation position** | Any |
| **Condensation drainage holes** | None, open rotor |
| **Cooling hole/opening** | On rotor side |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing; (sealed) |
| **Technical features** | -Start at 85 °C (2 min) permitted<br>- Motor current limitation<br>- Soft start<br>- Control input 0-10 VDC<br>- Temperature derating<br>- Thermal overload protection for electronics |
| **Electrical hookup** | Integrated connector (pluggable directly on fan) |
| **Motor protection** | Locked-rotor protection |
| **Approval** | EAC |



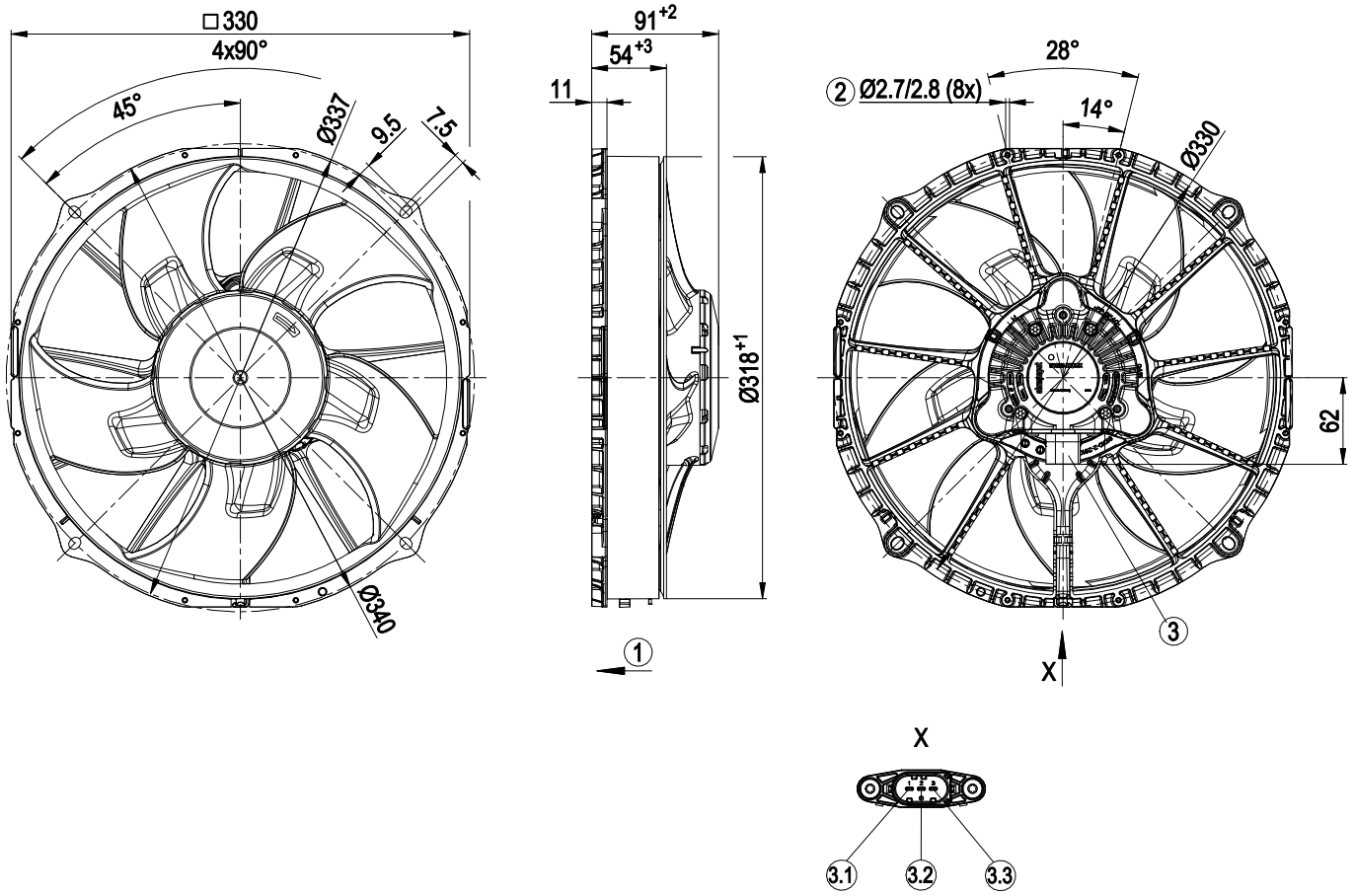
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## Product drawing




| | |
|---|---|
| 1 | Airflow direction "V" |
| 2 | on both sides for screws for fastening plastics, Ø 3.5 mm |
| 3 | Plug TE MCP 2.8, 3-pole, coded |
| 3.1 | + UN |
| 3.2 | 0-10 V |
| 3.3 | GND |
| | Cable 02020-4-1021 with mating connector not included in scope of delivery |
| | Mating connector comprising housing: TE MCP 2.8: 1-1718627-1, plug contacts: 2.8 mm TE 1241388-1 and TE 1241396-1, seal: 1.2-2.1 mm TE 963294-1 and 2.7–3.0 mm TE 963292-1 |



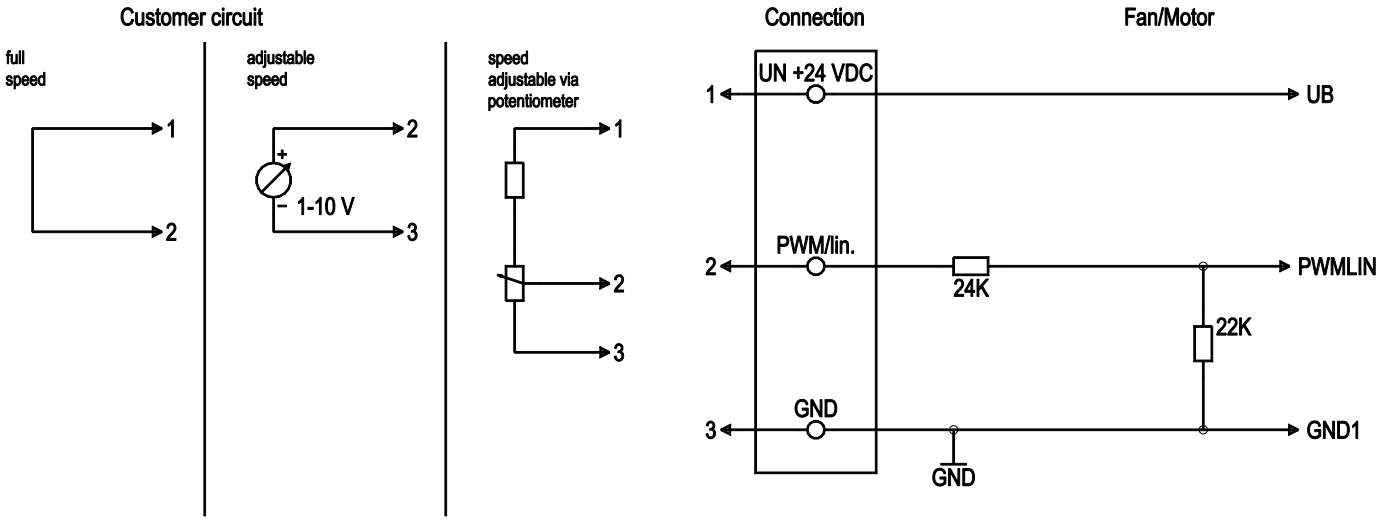
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## Connection diagram




| No. | Conn. | Designation | Function/assignment |
|---|---|---|---|
| | 1 | UN +24 VDC | Power supply 24 VDC, maximum ripple ±3.5% |
| | 2 | PWM/LIN | Control input 0-10 V |
| | 3 | GND | Reference ground |



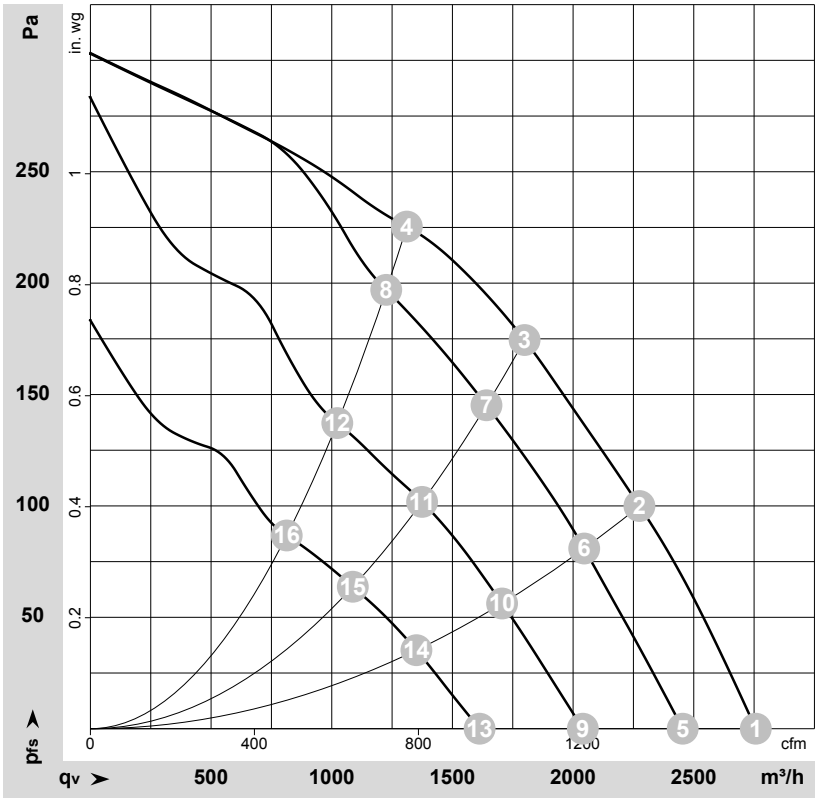
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## Curves: Air performance




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-188993-1

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 | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|
| | V | $min^{-1}$ | W | A | $m^3/h$ | Pa | cfm | in. wg |
| 1 | 26 | 3000 | 225 | 8.50 | 2755 | 0 | 1625 | 0.00 |
| 2 | 26 | 2955 | 251 | 9.64 | 2275 | 100 | 1340 | 0.40 |
| 3 | 26 | 2925 | 249 | 9.58 | 1800 | 175 | 1060 | 0.70 |
| 4 | 26 | 2850 | 247 | 9.48 | 1310 | 225 | 770 | 0.90 |
| 5 | 26 | 2680 | 165 | 6.32 | 2455 | 0 | 1445 | 0.00 |
| 6 | 26 | 2675 | 182 | 6.99 | 2045 | 81 | 1205 | 0.33 |
| 7 | 26 | 2675 | 188 | 7.22 | 1640 | 145 | 965 | 0.58 |
| 8 | 26 | 2675 | 200 | 7.69 | 1225 | 197 | 720 | 0.79 |
| 9 | 26 | 2265 | 99 | 3.79 | 2040 | 0 | 1200 | 0.00 |
| 10 | 26 | 2255 | 109 | 4.17 | 1705 | 56 | 1005 | 0.22 |
| 11 | 26 | 2260 | 112 | 4.29 | 1375 | 102 | 810 | 0.41 |
| 12 | 26 | 2255 | 118 | 4.53 | 1025 | 137 | 600 | 0.55 |
| 13 | 26 | 1815 | 53 | 2.03 | 1615 | 0 | 950 | 0.00 |
| 14 | 26 | 1815 | 58 | 2.24 | 1350 | 35 | 795 | 0.14 |
| 15 | 26 | 1815 | 60 | 2.31 | 1085 | 64 | 640 | 0.26 |
| 16 | 26 | 1815 | 63 | 2.42 | 815 | 87 | 480 | 0.35 |

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



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