**W1G300-EC12-20**

# EC axial fan

with brushless DC motor

Automotive



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## Nominal data

| | | |
|---|---|---|
| **Type** | **W1G300-EC12-20** | |
| **Motor** | **M1G074-CF** | |
| Nominal voltage | VDC | 13 |
| Nominal voltage range | VDC | 9 .. 16 |
| Type of data definition | | fa |
| State | | prelim. |
| Speed (rpm) | $min^{-1}$ | 2500 |
| Power input | W | 145 |
| Current draw | A | 11.0 |
| Max. back pressure | Pa | 160 |
| Min. ambient temperature | °C | -40 |
| Max. ambient temperature | °C | 85 |

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

## Data in accordance with ecodesign regulation EU 327/2011

| | | Actual | Request 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 41.7 | 28.3 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 53.4 | 40 |
| 05 Variable speed drive | | Yes | |

| | | |
|---|---|---|
| 09 Power input $P_e$ | kW | 0.14 |
| 09 Air flow $q_v$ | $m^3/h$ | 1400 |
| 09 Pressure increase $p_{fs}$ | Pa | 135 |
| 10 Speed (rpm) n | $min^{-1}$ | 2415 |
| 11 Specific ratio* | | 1.00 |

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-168487

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## Technical features

| | |
|---|---|
| **Mass** | 2.6 kg |
| **Size** | 300 mm |
| **Motor size** | 74 |
| **Material of electronics housing** | Die-cast aluminium, coated in black |
| **Material of impeller** | PA6 plastic |
| **Housing material** | Die-cast aluminium |
| **Material of wall ring** | PP plastic |
| **Number of blades** | 5 |
| **Motor suspension** | Motor mounted vibration-free on both sides |
| **Direction of air flow** | V |
| **Direction of rotation** | Clockwise, seen on rotor |
| **Type of protection** | Motor IP24 KM, electronics IP6K9K (mating connector fitted) |
| **Insulation class** | "B" |
| **Humidity (F) / environmental protection class (H)** | H4 |
| **Note ambient temperature** | Above +70 °C with power derating; External sources of heat above 85 °C can affect the service life; External sources of heat above 85 °C can affect the service life |
| **Max. permissible ambient motor temp. (transp./ storage)** | +85 °C |
| **Min. permissible ambient motor temp. (transp./storage)** | -40 °C |
| **Mounting position** | Any |
| **Condensation drainage holes** | None, open rotor |
| **Cooling bore / aperture** | Rotor-side |
| **Operation mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Technical features** | - Motor current limit<br>- Soft start<br>- Control input 0-10 VDC<br>- Temperature derating<br>- Over-temperature protected electronics |
| **Speed steps** | 2 |
| **Electrical connection** | Plug |
| **Motor protection** | Locked-rotor protection |
| **Approval** | EAC |
| **Remark** | E1 approval in preparation |



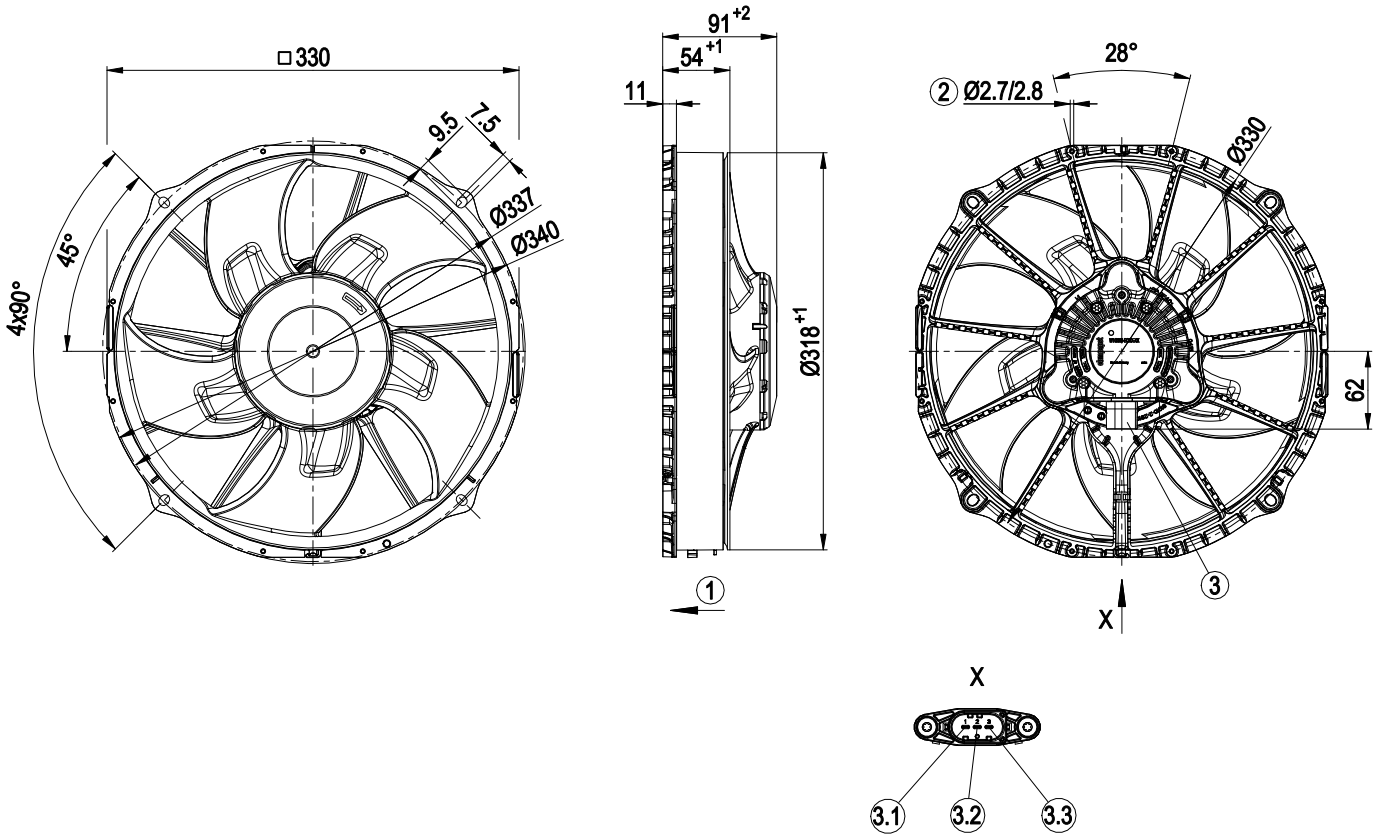
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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "V" |
| 2 | On both sides for plastic screws dia. 3.5 mm |
| 3 | 3-pole plug, pluggable with connection line from accessories |
| 3.1 | + UB |
| 3.2 | 0-10 V |
| 3.3 | GND |
| | Accessory part: Connection line (420 mm) with mating connector, part no. 02020-4-1021 not included in scope of delivery<br>3-pole mating connector TE 1-1718627-1, 2x female connector TE 1241396-1, 1x female connector TE 1241388-1, 2x seal TE 963292-1, 1x seal TE 963294-1 |



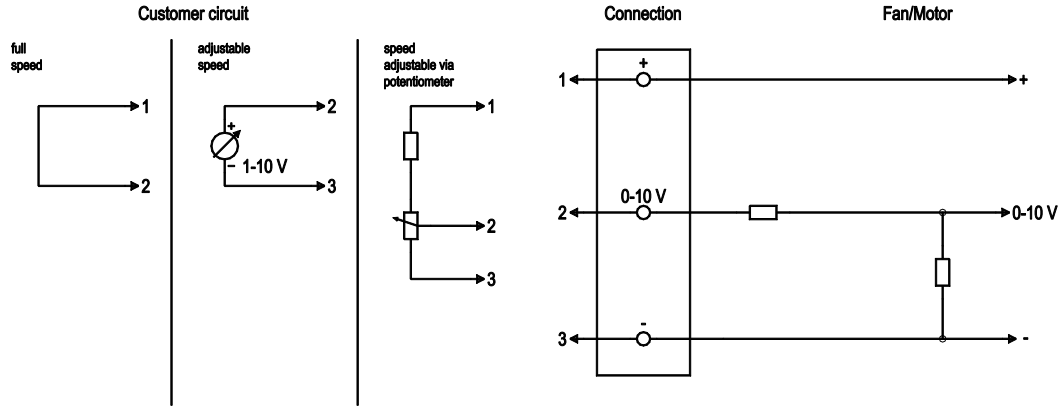
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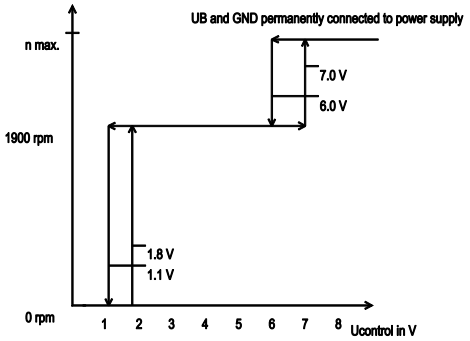
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## Connection screen




n max. = 0-10 V with +UB or 10 V
1900 rpm = 0-10 V with 4.0 V
0 rpm = 0-10 V with GND or 0 V




| No. | Conn. | Designation | Function / assignment |
|---|---|---|---|
| 1 | 1 | UN +13 VDC | Power supply 13 VDC, maximum ripple 3.5 % |
| 2 | 2 | 0-10 VDC | Control input, 2 speed levels |
| 3 | 3 | GND | Reference earth |



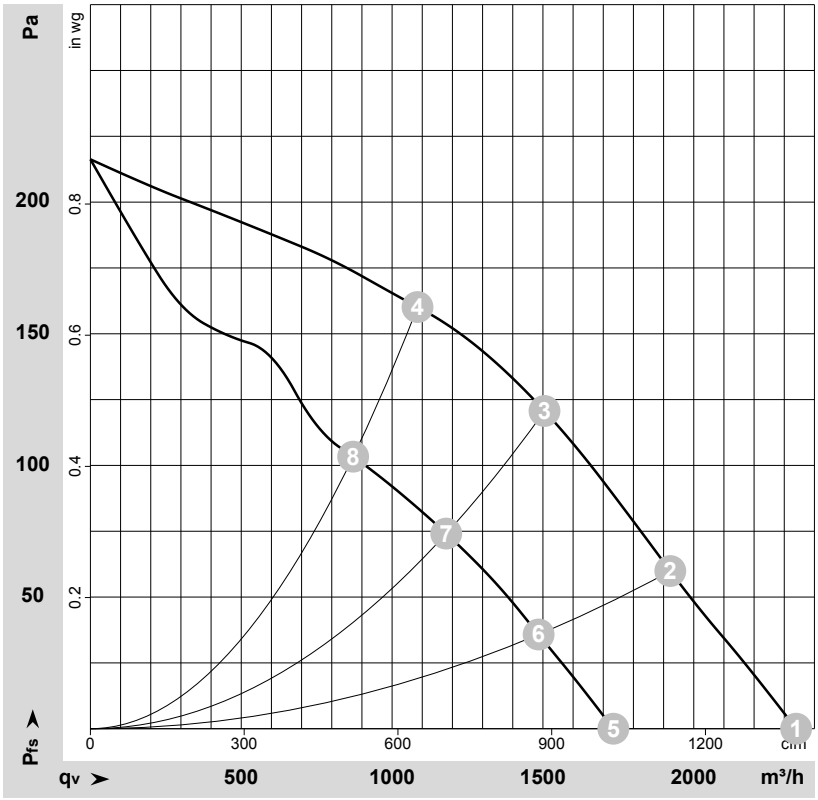
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## Charts: Air flow




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-168487-1

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

| | 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 | 2500 | 145 | 11.00 | 69 | 76 | 2340 | 0 | 1375 | 0.00 |
| 2 | 13 | 2455 | 145 | 11.00 | 70 | 78 | 1920 | 60 | 1130 | 0.24 |
| 3 | 13 | 2415 | 145 | 11.00 | 71 | 79 | 1505 | 120 | 885 | 0.48 |
| 4 | 13 | 2365 | 142 | 10.90 | 72 | 80 | 1085 | 160 | 640 | 0.64 |
| 5 | 13 | 1900 | 62 | 4.71 | 63 | 71 | 1735 | 0 | 1020 | 0.00 |
| 6 | 13 | 1900 | 68 | 5.22 | 64 | 72 | 1485 | 36 | 875 | 0.14 |
| 7 | 13 | 1900 | 71 | 5.46 | 65 | 73 | 1180 | 74 | 695 | 0.30 |
| 8 | 13 | 1900 | 74 | 5.69 | 66 | 75 | 870 | 103 | 515 | 0.41 |

U = Supply voltage · 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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