

# EC axial fan

with brushless DC motor

Fan housing with guide vanes, Automotive

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## Nominal data

|                          |                   |          |
|--------------------------|-------------------|----------|
| Type                     | W3G300-ME48-11    |          |
| Motor                    | M3G084-BF         |          |
| Nominal voltage          | VDC               | 26       |
| Nominal voltage range    | VDC               | 16 .. 32 |
| Method of obtaining data |                   | fa       |
| Status                   |                   | prelim.  |
| Speed (rpm)              | min <sup>-1</sup> | 3650     |
| Power consumption        | W                 | 320      |
| Current draw             | A                 | 12.4     |
| 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 $\eta_{es}$ | % | 54.4   | 30.9      |
| 02 Measurement category           |   | A      |           |
| 03 Efficiency category            |   | Static |           |
| 04 Efficiency grade N             |   | 63.5   | 40        |
| 05 Variable speed drive           |   | Yes    |           |

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

|                               |                   |      |
|-------------------------------|-------------------|------|
| 09 Power consumption $P_e$    | kW                | 0.36 |
| 09 Air flow $q_v$             | m <sup>3</sup> /h | 1930 |
| 09 Pressure increase $p_{fs}$ | Pa                | 331  |
| 10 Speed (rpm) $n$            | min <sup>-1</sup> | 3595 |
| 11 Specific ratio*            |                   | 1.00 |

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

LU-199780



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## Technical description

|   |  |
|---|--|
| <b>Weight</b>   | 2 kg   |
| <b>Size</b>   | 300 mm   |
| <b>Motor size</b>   | 84   |
| <b>Blade material</b>   | PA plastic   |
| <b>Fan housing material</b>                                       | PP plastic   |
| <b>Number of blades</b>   | 7  |
| <b>Airflow direction</b>  | V  |
| <b>Balancing grade according to DIN ISO 1940-1</b>                | G 16   |
| <b>Direction of rotation</b>                                      | Clockwise, viewed toward rotor   |
| <b>Degree of protection</b>                                       | Motor IP24 KM, electronics IP6K9K (mating connector installed)   |
| <b>Insulation class</b>   | "B"  |
| <b>Moisture (F) / Environmental (H) protection class</b>          | H4   |
| <b>Ambient temperature note</b>                                   | Over +70°C with power derating; Occasional start-up between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), a fan design with special low-temperature bearings must be used.  |
| <b>Max. permitted ambient temp. for motor (transport/storage)</b> | +85 °C   |
| <b>Min. permitted ambient temp. for motor (transport/storage)</b> | -40 °C   |
| <b>Installation position</b>                                      | Any  |
| <b>Mode</b>   | S1   |
| <b>Motor bearing</b>  | Ball bearing; (sealed)   |
| <b>Life expectancy</b>  | 40,000 h (typical)   |
| <b>Technical features</b>   | <ul style="list-style-type: none"> <li>- Fault output (open collector)</li> <li>- Power limiter</li> <li>- Load dump (58 V)</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Temperature derating</li> <li>- Thermal overload protection for electronics</li> <li>- Reverse polarity protection</li> </ul> |
| <b>Electrical hookup</b>  | Plug; Standby current less than 500 µA   |
| <b>Approval</b>   | EAC  |



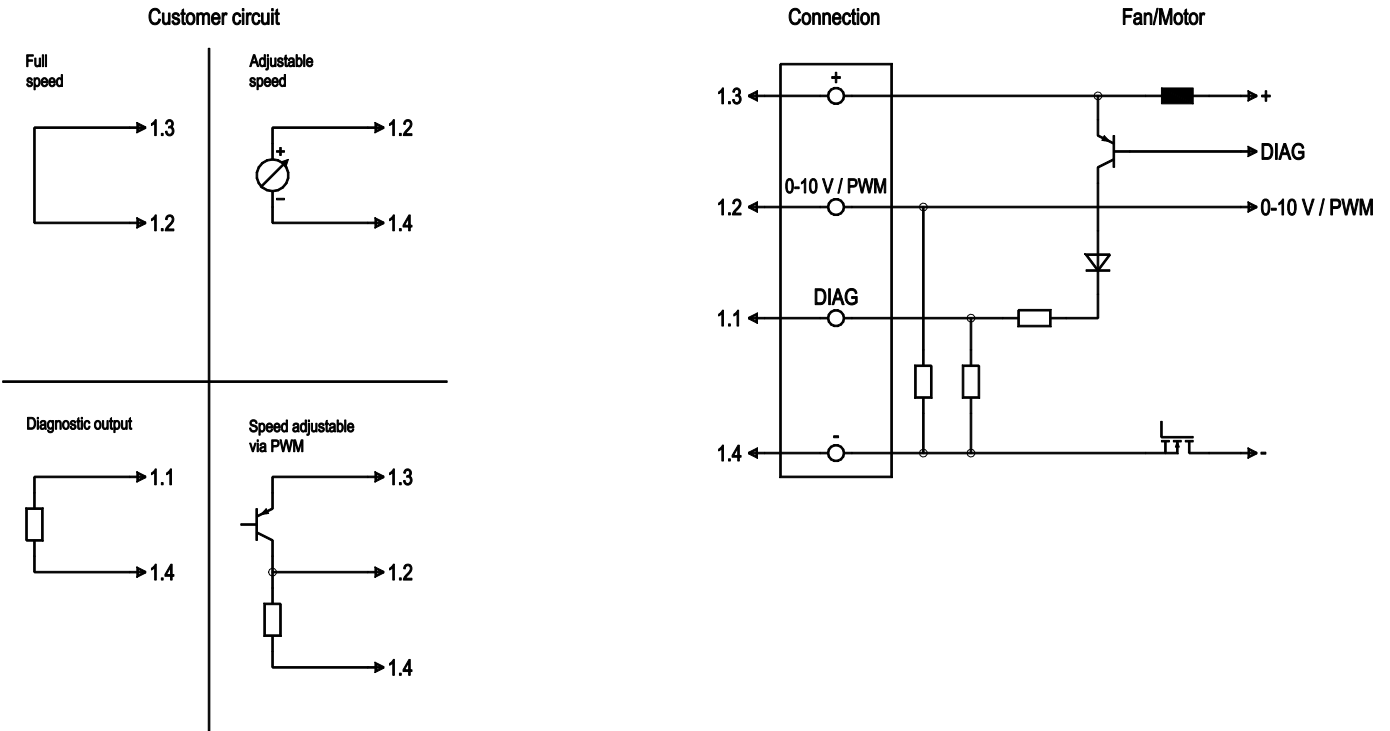


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## Connection diagram



| No. | Conn. | Designation  | Function/assignment  |
|-----|-------|--------------|--|
|     | 1.3   | +            | Power supply +   |
|     | 1.4   | -            | Power supply -   |
|     | 1.2   | 0-10 V / PWM | Control input: $R_i > 27\text{ k}\Omega$<br>0-10 V: (typ. 0.5 V -> Standby; 1.5 V -> n = min.; 9.5 V -> n = max.)<br>or PWM: (12 V - $U_b$ ; 1 kHz - 10 kHz; typ. < 1% -> standby; 10% -> n = min.; 95% -> n = max.) |
|     | 1.1   | DIAG         | Diagnostic output: Open Collector, $I_{source\ max} = 10\text{ mA}$ , $R_{source} = 2\text{ k}\Omega$ ; $R_{sink} = 100\text{ k}\Omega$<br>fan OK -> low; fan error -> high  |

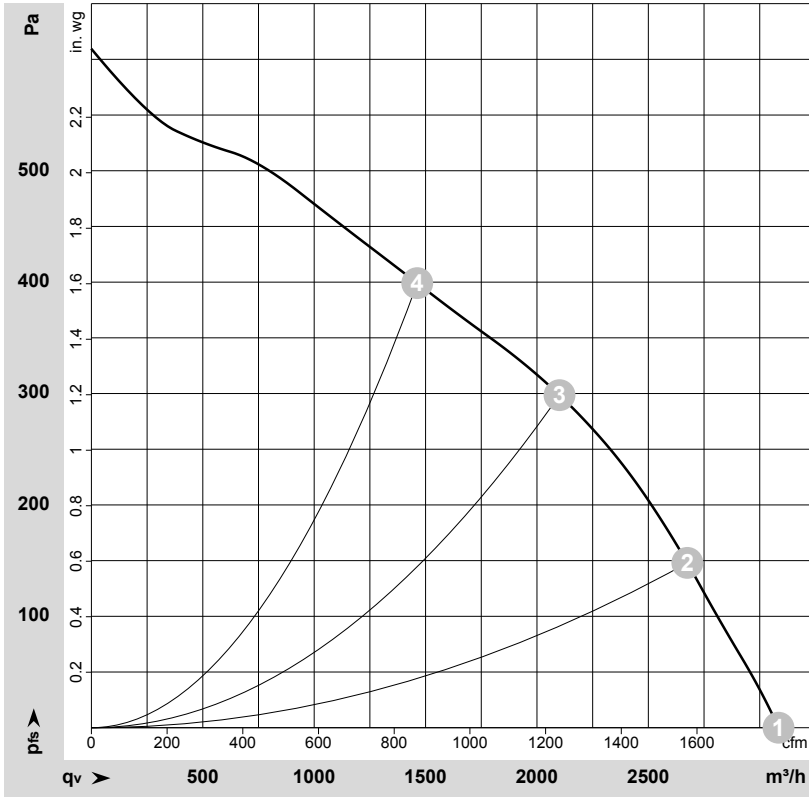


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## Curves: Air performance



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-199780-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>ed</sub> | I     | LpA <sub>in</sub> | LwA <sub>in</sub> | q <sub>v</sub>    | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|---|----|-------------------|-----------------|-------|-------------------|-------------------|-------------------|-----------------|----------------|-----------------|
|   | V  | min <sup>-1</sup> | W               | A     | dB(A)             | dB(A)             | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1 | 26 | 3650              | 320             | 12.40 | 80                | 88                | 3085              | 0               | 1815           | 0.00            |
| 2 | 26 | 3650              | 347             | 13.33 | 79                | 87                | 2675              | 150             | 1575           | 0.60            |
| 3 | 26 | 3650              | 365             | 14.03 | 81                | 88                | 2100              | 300             | 1235           | 1.20            |
| 4 | 26 | 3650              | 376             | 14.46 | 84                | 91                | 1465              | 400             | 860            | 1.61            |

U = Voltage · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side · q<sub>v</sub> = Air flow  
 p<sub>fs</sub> = Pressure increase

