

W3G385-BV44-06

# EC axial fan

with brushless DC motor  
Automotive



W3G385-BV44-06 ebmpapst Datasheet  
sales@fansco.com  
www.fansco.com

## Nominal data

|                             |                   |          |
|-----------------------------|-------------------|----------|
| Type                        | W3G385-BV44-06    |          |
| Motor                       | M3G084-BF         |          |
| Nominal voltage             | VDC               | 26       |
| Nominal voltage range       | VDC               | 16 .. 32 |
| Type of data definition     |                   | fa       |
| Speed (rpm)                 | min <sup>-1</sup> | 2600     |
| Power input                 | W                 | 250      |
| Current draw                | A                 | 9.6      |
| Min. ambient temperature    | °C                | -40      |
| Max. ambient temperature    | °C                | 95       |
| - with power derating up to | °C                | 110      |

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



## Technical features

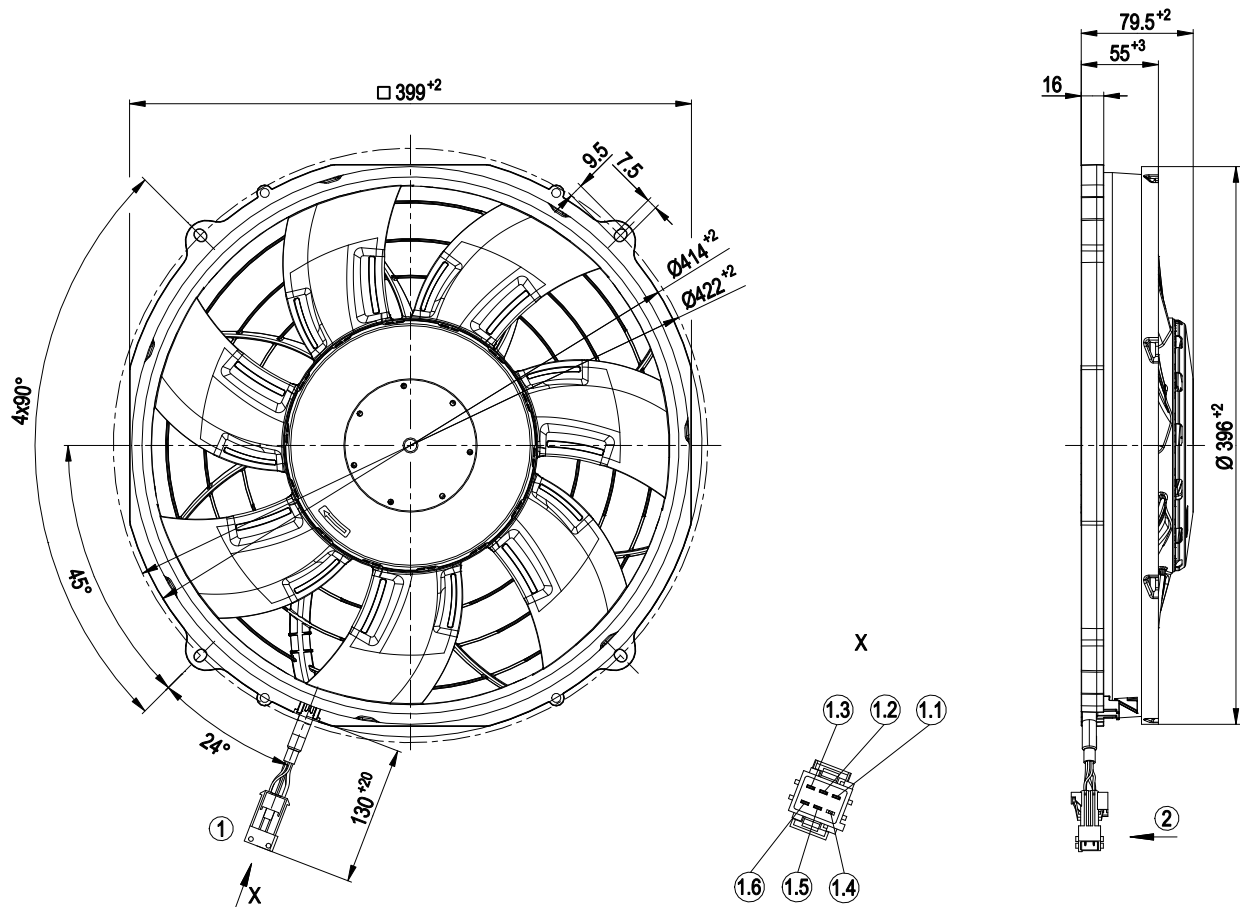
|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mass                                                    | 2.7 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Size                                                    | 385 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Motor size                                              | 84                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Material of impeller                                    | Plastic, PA UL94 HB (black)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Material of wall ring                                   | Plastic, PA UL94 HB (black)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Number of blades                                        | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Direction of air flow                                   | V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Balance quality according to DIN ISO 1940-1             | G 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Max. permissible ambient motor temp. (transp./ storage) | +110 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Min. permissible ambient motor temp. (transp./storage)  | -40 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Mounting position                                       | Any                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Condensation drainage holes                             | None, open rotor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Operation mode                                          | S1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Motor bearing                                           | Ball bearing; (sealed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Life expectancies                                       | 40,000 h (typical)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Technical features                                      | <ul style="list-style-type: none"> <li>- Lowering input</li> <li>- Tach output</li> <li>- Fault output (high-side switch max. 30 mA)</li> <li>- INVLIN (control input, inverse linear)</li> <li>- Output limit</li> <li>- Load dump (58 V)</li> <li>- Motor current limit</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Temperature derating</li> <li>- Overvoltage detection</li> <li>- Over-temperature protected electronics</li> <li>- Line undervoltage detection</li> </ul> |
| EMC directives                                          | According to ECE R10 Rev. 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Electrical connection                                   | Connector with connection line; Standby current less than 500 µA                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Motor protection                                        | Reverse polarity and locked-rotor protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Cable exit                                              | Lateral                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Approval                                                | E1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Noise level                                             | 84 dB(A), sound power level according to ISO 13347                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Remark                                                  | Type approval number – 036716                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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## Product drawing



1 Connection line FLRYW 2x 1.5 mm<sup>2</sup>, 4x 0.75 mm<sup>2</sup>

6-pole connector housing TE 1-962349-1, 2x flat connector TE 2-962916-1, 4x flat connector TE 1-962915-1  
1x seal TE 963205-1, 2x seal TE 828905-1, 4x seal TE 828904-1

1.1 + UB

1.2 Diagnostic output

1.3 PWM/LIN

1.4 INVLIN

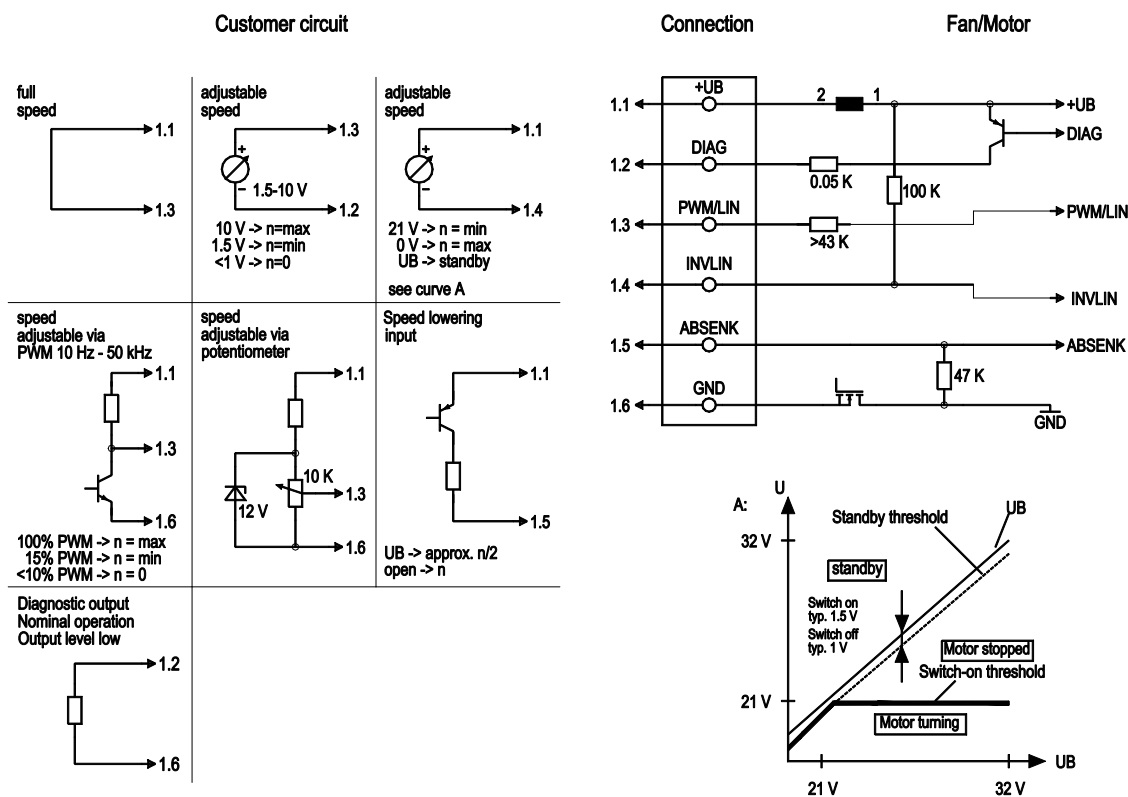
1.5 ABSENK

1.6 GND

Accessory part: Connection line (460 mm) with mating connector, part no. 02002-4-1021 not included in scope of delivery  
6-pole mating connector TE 1-963212-1, 4x receptacle TE 929939-1, 2x receptacle TE 929937-1

2 Direction of air flow "V"

## Connection screen

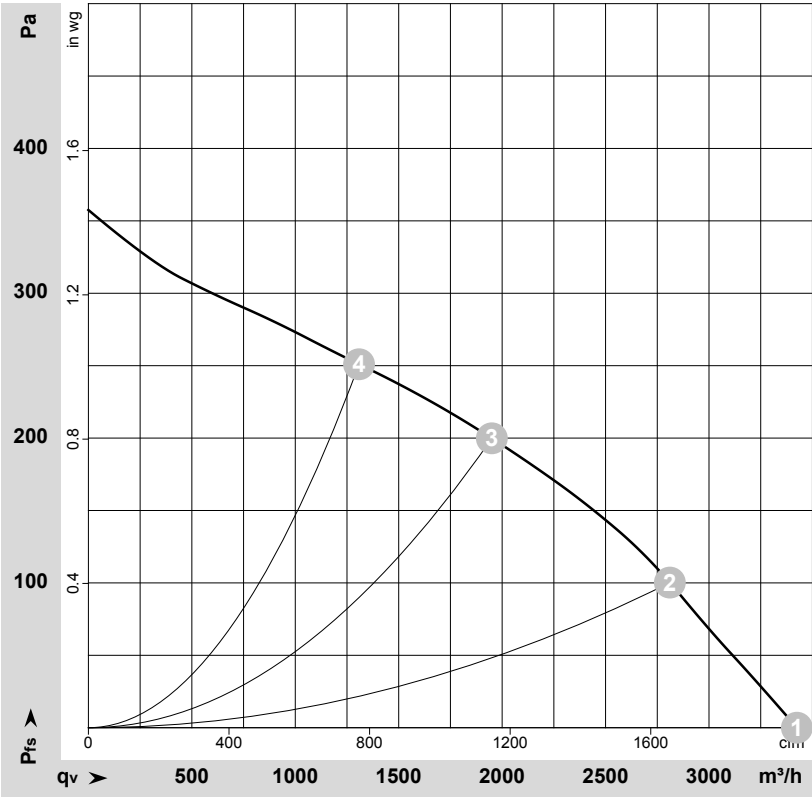


| No. | Conn. | Designation | Function / assignment                        |
|-----|-------|-------------|----------------------------------------------|
|     | 1.1   | +UB         | Power supply                                 |
|     | 1.2   | DIAG        | Diagnostic output                            |
|     | 1.3   | PWMLIN      | Analogue voltage control input 0-10 V or PWM |
|     | 1.4   | INVLIN      | Control input, inverse linear                |
|     | 1.5   | ABSENK      | Lowering input                               |
|     | 1.6   | GND         | Power supply GND, reference earth            |

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## Charts: Air flow



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

Measurement: LU-141094-1

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 <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 | 2600              | 250             | 9.60  | 76                | 84                | 3425              | 0               | 2015           | 0.00            |
| 2 | 26 | 2495              | 273             | 10.47 | 74                | 83                | 2810              | 100             | 1655           | 0.40            |
| 3 | 26 | 2315              | 273             | 10.50 | 73                | 81                | 1950              | 200             | 1150           | 0.80            |
| 4 | 26 | 2215              | 274             | 10.54 | 74                | 82                | 1310              | 250             | 770            | 1.00            |

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

