

G3G160-AC70-01

# EC centrifugal fan

forward-curved, single-intake  
with housing (flange)



G3G160-AC70-01 ebmpapst Datasheet  
sales@fansco.com  
www.fansco.com

## Nominal data

|                          |                   |       |
|--------------------------|-------------------|-------|
| Type                     | G3G160-AC70-01    |       |
| Motor                    | M3G074-CF         |       |
| Phase                    |                   | 1~    |
| Nominal voltage          | VAC               | 115   |
| Frequency                | Hz                | 50/60 |
| Method of obtaining data |                   | fa    |
| Speed (rpm)              | min <sup>-1</sup> | 2110  |
| Power consumption        | W                 | 170   |
| Current draw             | A                 | 2.2   |
| Min. ambient temperature | °C                | -25   |
| Max. ambient temperature | °C                | 60    |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change



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## Technical description

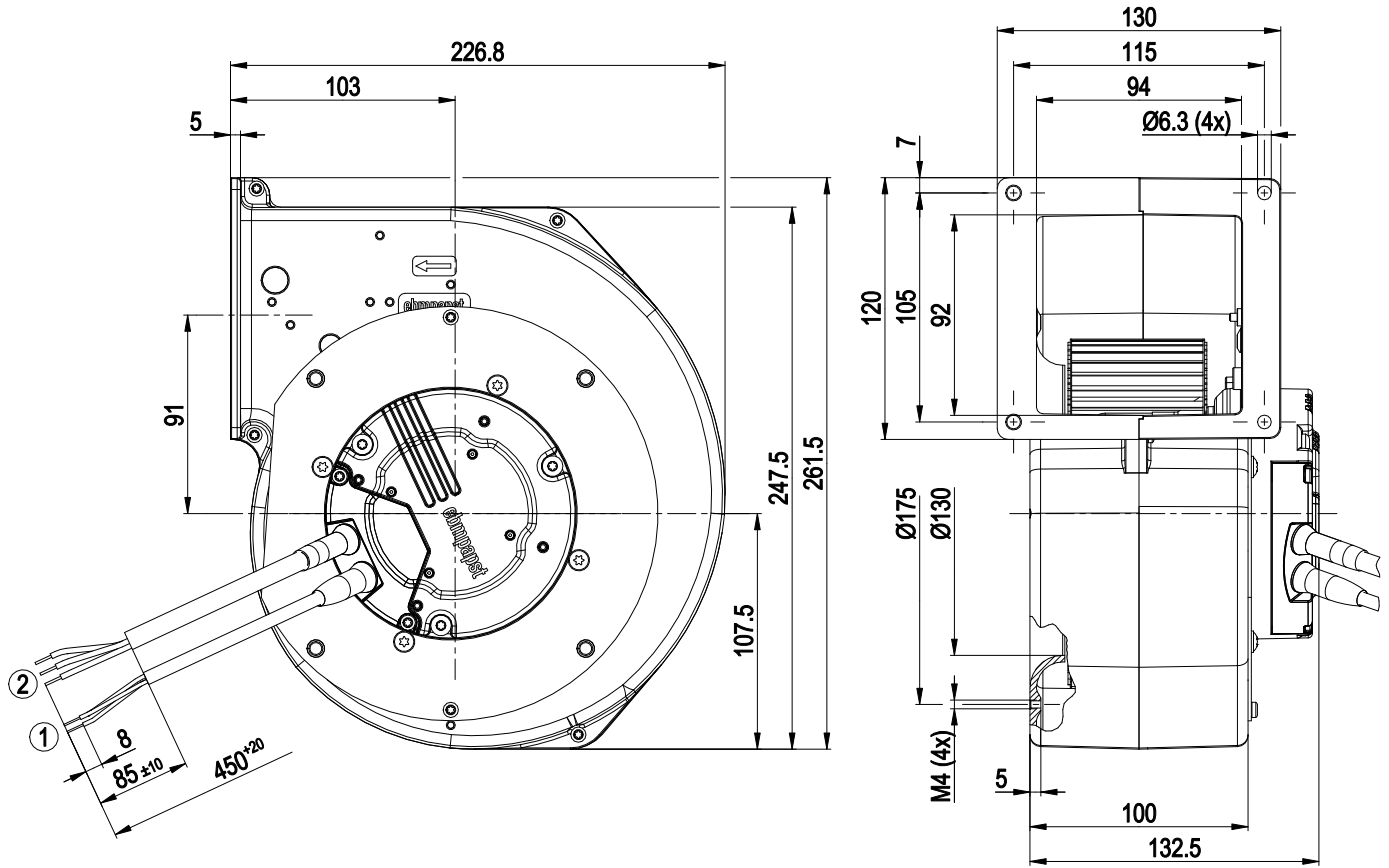
|                                                                            |                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                                                                     | 2.0 kg                                                                                                                                                                                                                                                                                                                                                             |
| Fan size                                                                   | 160 mm                                                                                                                                                                                                                                                                                                                                                             |
| Rotor surface                                                              | Thick-film passivated                                                                                                                                                                                                                                                                                                                                              |
| Impeller material                                                          | Sheet steel, galvanized                                                                                                                                                                                                                                                                                                                                            |
| Housing material                                                           | Die-cast aluminum                                                                                                                                                                                                                                                                                                                                                  |
| Direction of rotation                                                      | Clockwise, viewed toward rotor                                                                                                                                                                                                                                                                                                                                     |
| Degree of protection                                                       | IP44; installation- and position-dependent                                                                                                                                                                                                                                                                                                                         |
| Insulation class                                                           | "B"                                                                                                                                                                                                                                                                                                                                                                |
| Moisture (F) / Environmental (H) protection class                          | F3-1                                                                                                                                                                                                                                                                                                                                                               |
| Max. permitted ambient temp. for motor (transport/storage)                 | + 80 °C                                                                                                                                                                                                                                                                                                                                                            |
| Min. permitted ambient temp. for motor (transport/storage)                 | - 40 °C                                                                                                                                                                                                                                                                                                                                                            |
| Installation position                                                      | Any                                                                                                                                                                                                                                                                                                                                                                |
| Condensation drainage holes                                                | None                                                                                                                                                                                                                                                                                                                                                               |
| Mode                                                                       | S1                                                                                                                                                                                                                                                                                                                                                                 |
| Motor bearing                                                              | Ball bearing                                                                                                                                                                                                                                                                                                                                                       |
| Technical features                                                         | <ul style="list-style-type: none"> <li>- Output 10 VDC, max. 1.1 mA</li> <li>- Tach output</li> <li>- Power limiter</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from supply</li> <li>- Thermal overload protection for motor</li> </ul> |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | <= 3.5 mA                                                                                                                                                                                                                                                                                                                                                          |
| Motor protection                                                           | Thermal overload protector (TOP) internally connected                                                                                                                                                                                                                                                                                                              |
| With cable                                                                 | Variable                                                                                                                                                                                                                                                                                                                                                           |
| Protection class                                                           | I (with customer connection of protective earth)                                                                                                                                                                                                                                                                                                                   |
| Approval                                                                   | UL 2111; CSA C22.2 No. 77                                                                                                                                                                                                                                                                                                                                          |



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## Product drawing

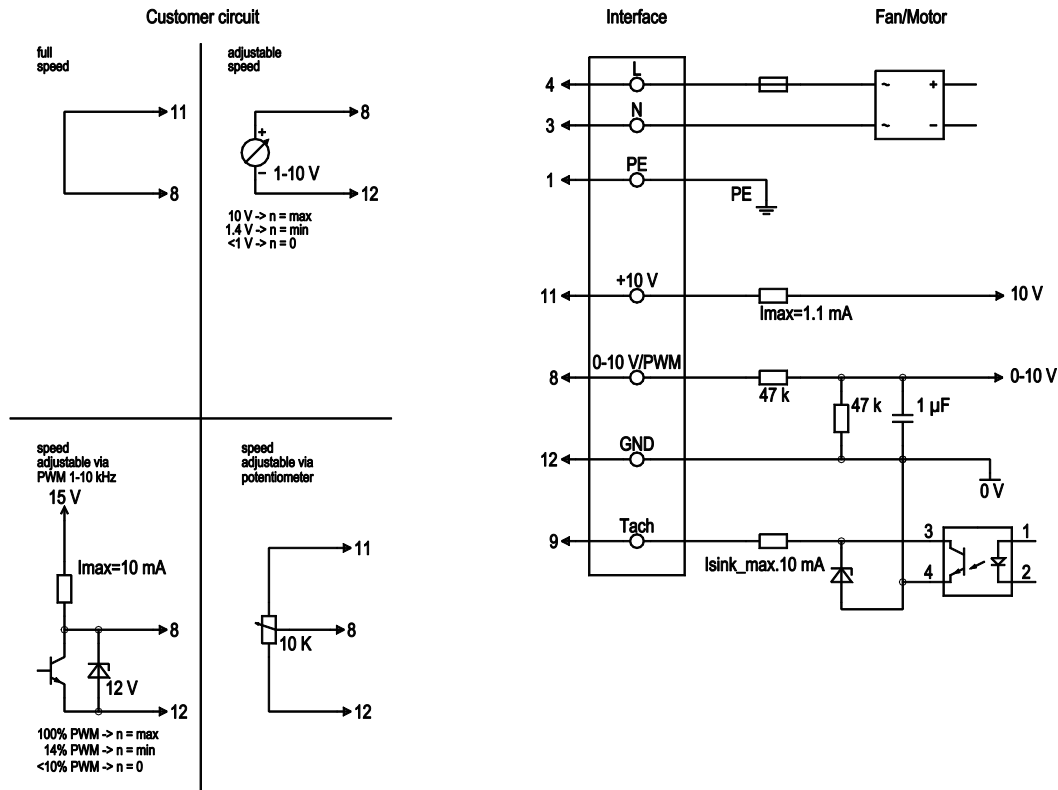


- |   |                                      |
|---|--------------------------------------|
| 1 | Cable PVC AWG22, 4x crimped ferrules |
| 2 | Cable PVC AWG18, 3x crimped ferrules |

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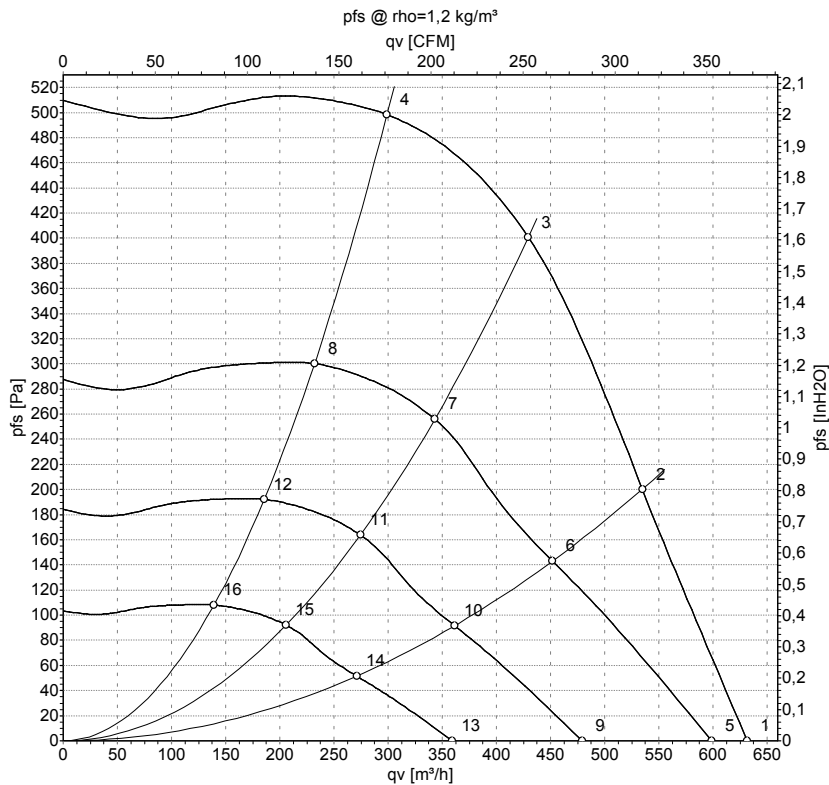
## Connection diagram



Not switchable via power supply. Restart via input voltage only after 5 minute delay.

| No. | Conn.        | Designation | Color        | Function/assignment                                                                                                                                   |
|-----|--------------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4   | L            |             | black        | Supply connection, power supply, phase, voltage range see nameplate, 50/60 Hz                                                                         |
| 3   | N            |             | blue         | Supply connection, power supply, neutral conductor, voltage range see nameplate, 50/60 Hz                                                             |
| 1   | PE           |             | green/yellow | Ground connection                                                                                                                                     |
| 8   | 0-10 V / PWM |             | yellow       | 0-10 V / PWM control input, $R_i=100 \text{ k}\Omega$ , SELV                                                                                          |
| 9   | Tacho        |             | white        | Tach output, open collector, 1 pulse per revolution, $I_{sink \text{ max}} = 10 \text{ mA}$ , SELV                                                    |
| 11  | +10 V        |             | red          | Fixed voltage output 10 VDC $\pm 3 \%$ , $I_{max.} = 1.1 \text{ mA}$ , short-circuit-proof, power supply for ext. devices (e.g. potentiometers), SELV |
| 12  | GND          |             | blue         | Reference ground for control interface, SELV                                                                                                          |

## Curves: Air performance 50 Hz



Measurement: LU-141592-1

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   | f  | n                 | P <sub>ed</sub> | I    | q <sub>v</sub> | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|----|-----|----|-------------------|-----------------|------|----------------|-----------------|----------------|-----------------|
|    | V   | Hz | min <sup>-1</sup> | W               | A    | m³/h           | Pa              | cfm            | inH2O           |
| 1  | 115 | 50 | 2110              | 170             | 2.20 | 630            | 0               | 370            | 0.00            |
| 2  | 115 | 50 | 2365              | 171             | 2.16 | 535            | 200             | 315            | 0.80            |
| 3  | 115 | 50 | 2500              | 146             | 1.89 | 430            | 400             | 255            | 1.61            |
| 4  | 115 | 50 | 2575              | 113             | 1.50 | 300            | 500             | 175            | 2.01            |
| 5  | 115 | 50 | 2000              | 145             | 1.85 | 600            | 0               | 355            | 0.00            |
| 6  | 115 | 50 | 2000              | 104             | 1.31 | 450            | 143             | 265            | 0.57            |
| 7  | 115 | 50 | 2000              | 74              | 0.96 | 345            | 256             | 200            | 1.03            |
| 8  | 115 | 50 | 2000              | 53              | 0.70 | 230            | 301             | 135            | 1.21            |
| 9  | 115 | 50 | 1600              | 74              | 0.95 | 480            | 0               | 280            | 0.00            |
| 10 | 115 | 50 | 1600              | 53              | 0.67 | 360            | 92              | 215            | 0.37            |
| 11 | 115 | 50 | 1600              | 38              | 0.49 | 275            | 164             | 160            | 0.66            |
| 12 | 115 | 50 | 1600              | 27              | 0.36 | 185            | 193             | 110            | 0.77            |
| 13 | 115 | 50 | 1200              | 31              | 0.40 | 360            | 0               | 210            | 0.00            |
| 14 | 115 | 50 | 1200              | 22              | 0.28 | 270            | 52              | 160            | 0.21            |
| 15 | 115 | 50 | 1200              | 16              | 0.21 | 205            | 92              | 120            | 0.37            |
| 16 | 115 | 50 | 1200              | 11              | 0.15 | 140            | 108             | 80             | 0.43            |

U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase