

EC centrifugal fan

backward curved, single inlet



R1G225-AG39-10 ebmpapst Datasheet  
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Nominal data

|                          |                   |          |
|--------------------------|-------------------|----------|
| Type                     | R1G225-AG39-10    |          |
| Motor                    | M1G074-CF         |          |
| Nominal voltage          | VDC               | 54.5     |
| Nominal voltage range    | VDC               | 36 .. 57 |
| Type of data definition  |                   | fa       |
| Speed                    | min <sup>-1</sup> | 3250     |
| Power input              | W                 | 165      |
| Current draw             | A                 | 3.8      |
| Min. ambient temperature | °C                | -25      |
| Max. ambient temperature | °C                | 60       |

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

Data according to ErP directive

|                                   |   | Actual | Request 2015 |
|-----------------------------------|---|--------|--------------|
| 01 Overall efficiency $\eta_{es}$ | % | 50.5   | 43.4         |
| 02 Measurement category           |   | A      |              |
| 03 Efficiency category            |   | Static |              |
| 04 Efficiency grade N             |   | 69.1   | 62           |
| 05 Variable speed drive           |   | Yes    |              |

Data definition with optimum efficiency.  
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

|                               |                   |      |
|-------------------------------|-------------------|------|
| 09 Power input $P_e$          | kW                | 0.17 |
| 09 Air flow $q_v$             | m³/h              | 790  |
| 09 Pressure increase $p_{fs}$ | Pa                | 350  |
| 10 Speed n                    | min <sup>-1</sup> | 2970 |
| 11 Specific ratio*            |                   | 1.00 |

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

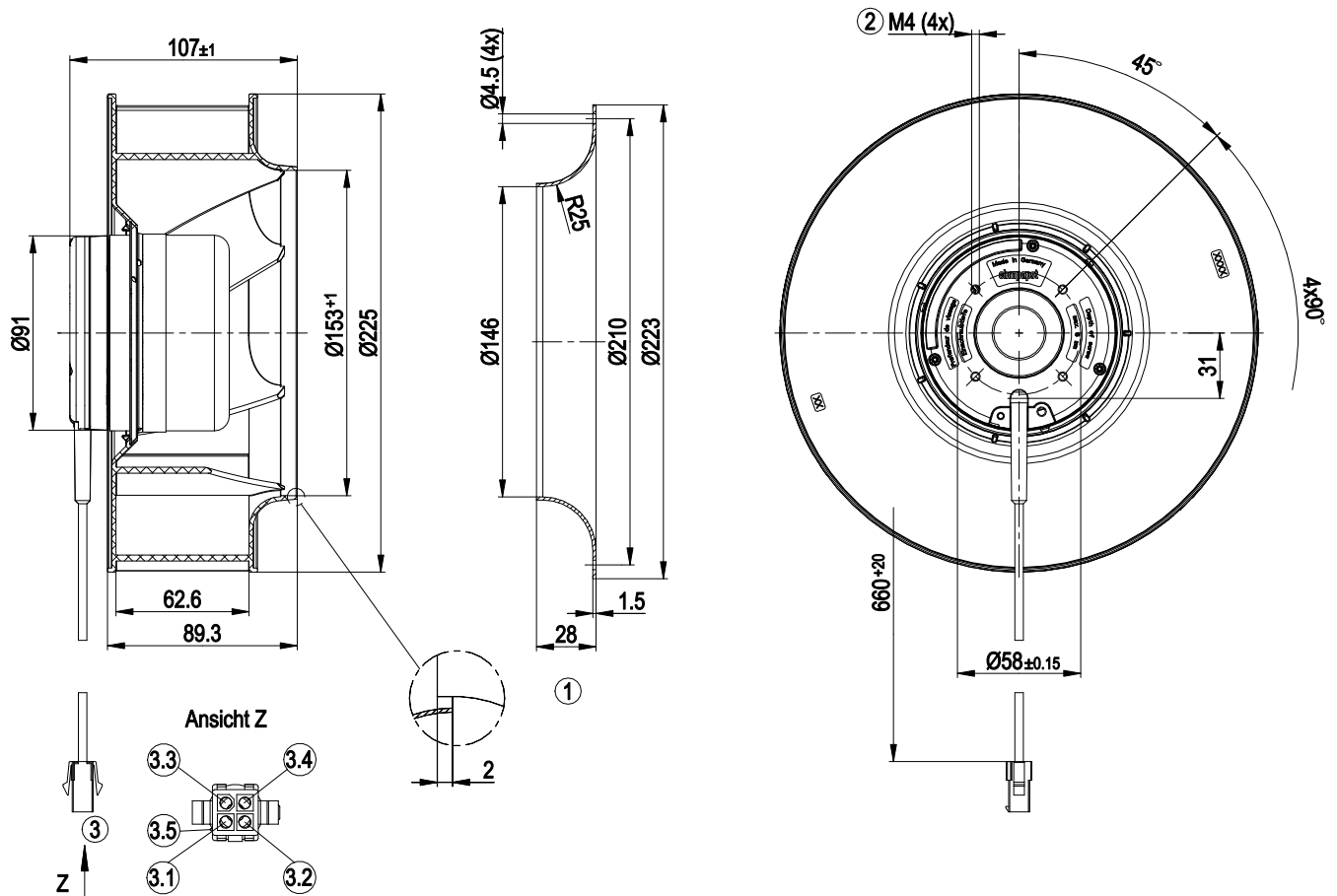
LU-63727



## Technical features

|                                                         |                                                                                                                                                              |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mass                                                    | 1.8 kg                                                                                                                                                       |
| Size                                                    | 225 mm                                                                                                                                                       |
| Surface of rotor                                        | Coated in black                                                                                                                                              |
| Material of impeller                                    | PA plastic                                                                                                                                                   |
| Number of blades                                        | 7                                                                                                                                                            |
| Direction of rotation                                   | Clockwise, seen on rotor                                                                                                                                     |
| Type of protection                                      | IP 20                                                                                                                                                        |
| Insulation class                                        | "B"                                                                                                                                                          |
| Humidity (F)/environmental protection class (H)         | F0                                                                                                                                                           |
| Max. permissible ambient motor temp. (transp./ storage) | +80 °C                                                                                                                                                       |
| Min. permissible ambient motor temp. (transp./storage)  | -40 °C                                                                                                                                                       |
| Mounting position                                       | Any                                                                                                                                                          |
| Cooling bore / aperture                                 | Rotor-side                                                                                                                                                   |
| Operation mode                                          | S1                                                                                                                                                           |
| Motor bearing                                           | Ball bearing                                                                                                                                                 |
| Technical features                                      | <ul style="list-style-type: none"> <li>- Control input 0-10 VDC / PWM</li> <li>- Tach output</li> <li>- Motor current limit</li> <li>- Soft start</li> </ul> |
| EMC interference immunity                               | Acc. to EN 61000-6-2 (industrial environment)                                                                                                                |
| EMC interference emission                               | Acc. to EN 55022 (Class B)                                                                                                                                   |
| Electrical leads                                        | With plug                                                                                                                                                    |
| Motor protection                                        | Reverse polarity and locked-rotor protection                                                                                                                 |
| Cable exit                                              | Variable                                                                                                                                                     |
| Product conforming to standard                          | EN 60950-1                                                                                                                                                   |
| Approval                                                | CCC; CSA C22.2 No.77; UL 1004-1                                                                                                                              |

## Product drawing

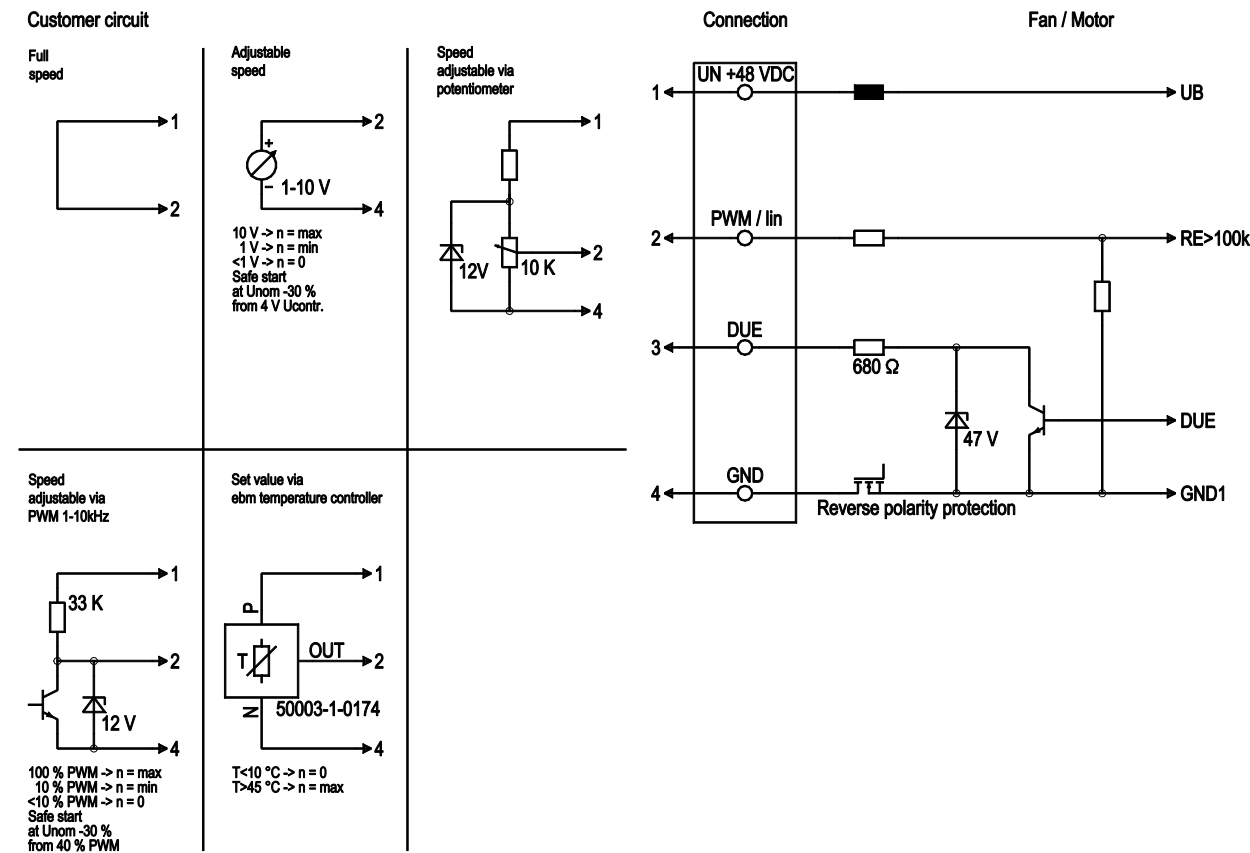


|     |                                                                                                  |
|-----|--------------------------------------------------------------------------------------------------|
| Z   | View Z shown magnified                                                                           |
| 1   | Accessory part: Inlet nozzle 96358-2-4013 not included in scope of delivery                      |
| 2   | Depth of screw max. 6 mm                                                                         |
| 3   | Connection line PVC AWG20 with connector housing 4-pole Tyco 172159-1, 4x plug pin Tyco 170360-3 |
| 3.1 | + (red)                                                                                          |
| 3.2 | - (blue)                                                                                         |
| 3.3 | Tach (white)                                                                                     |
| 3.4 | PWM/LIN (yellow)                                                                                 |
| 3.5 | Polarising rib                                                                                   |

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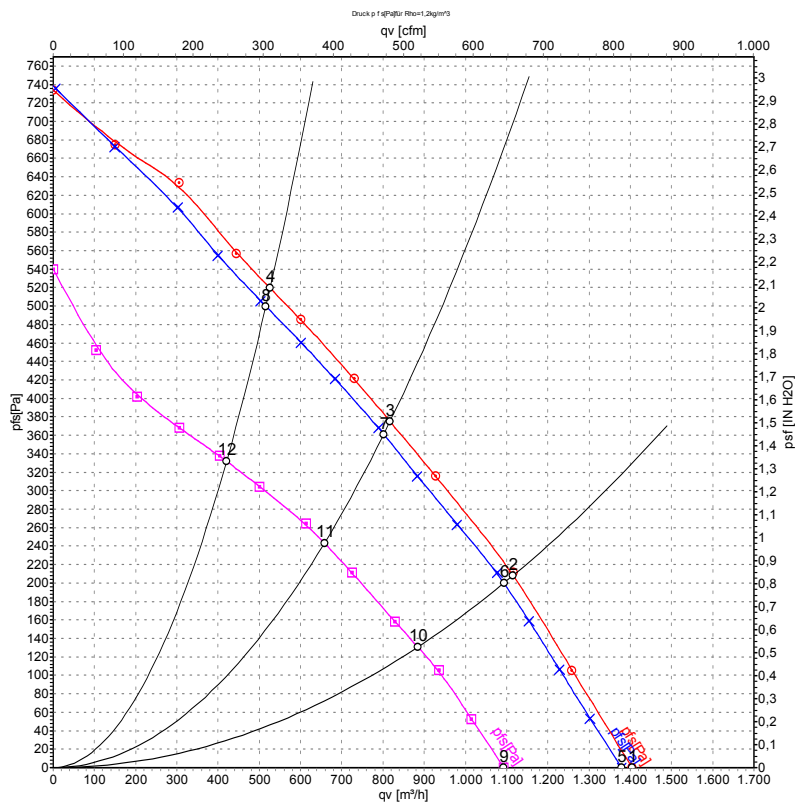
## Connection screen



| No. | Conn. | Designation | Colour | Function / assignment                                             |
|-----|-------|-------------|--------|-------------------------------------------------------------------|
| 1   | 1     | Un +48 VDC  | red    | Power supply 48 VDC, residual ripple 3.5 %                        |
| 1   | 2     | PWM / lin   | yellow | PWM / lin. control input, 0-10 V                                  |
| 1   | 3     | Tach        | white  | Speed monitoring output, 3 pulses per rotation, Isink max = 10 mA |
| 1   | 4     | GND         | blue   | Reference mass                                                    |



## Charts: Air flow



Measurement: LU-63731-1  
 Measurement: LU-63727-1  
 Measurement: LU-63730-1

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    | q <sub>v</sub>    | p <sub>fs</sub> |
|----|------|-------------------|-----------------|------|-------------------|-----------------|
|    | V    | min <sup>-1</sup> | W               | A    | m <sup>3</sup> /h | Pa              |
| 1  | 57   | 3300              | 176             | 3.94 | 1405              | 0               |
| 2  | 57   | 3105              | 181             | 4.16 | 1115              | 212             |
| 3  | 57   | 3040              | 183             | 4.24 | 815               | 375             |
| 4  | 57   | 3085              | 181             | 4.19 | 525               | 520             |
| 5  | 54.5 | 3250              | 165             | 3.80 | 1380              | 0               |
| 6  | 54.5 | 3110              | 170             | 3.99 | 1095              | 200             |
| 7  | 54.5 | 2970              | 173             | 4.14 | 800               | 360             |
| 8  | 54.5 | 3025              | 172             | 4.08 | 515               | 500             |
| 9  | 36   | 2580              | 85              | 2.88 | 1095              | 0               |
| 10 | 36   | 2480              | 92              | 3.10 | 885               | 131             |
| 11 | 36   | 2435              | 96              | 3.21 | 660               | 243             |
| 12 | 36   | 2465              | 94              | 3.15 | 420               | 332             |

U = Supply voltage · n = Speed · P<sub>ed</sub> = Power input · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase