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### Nominal data

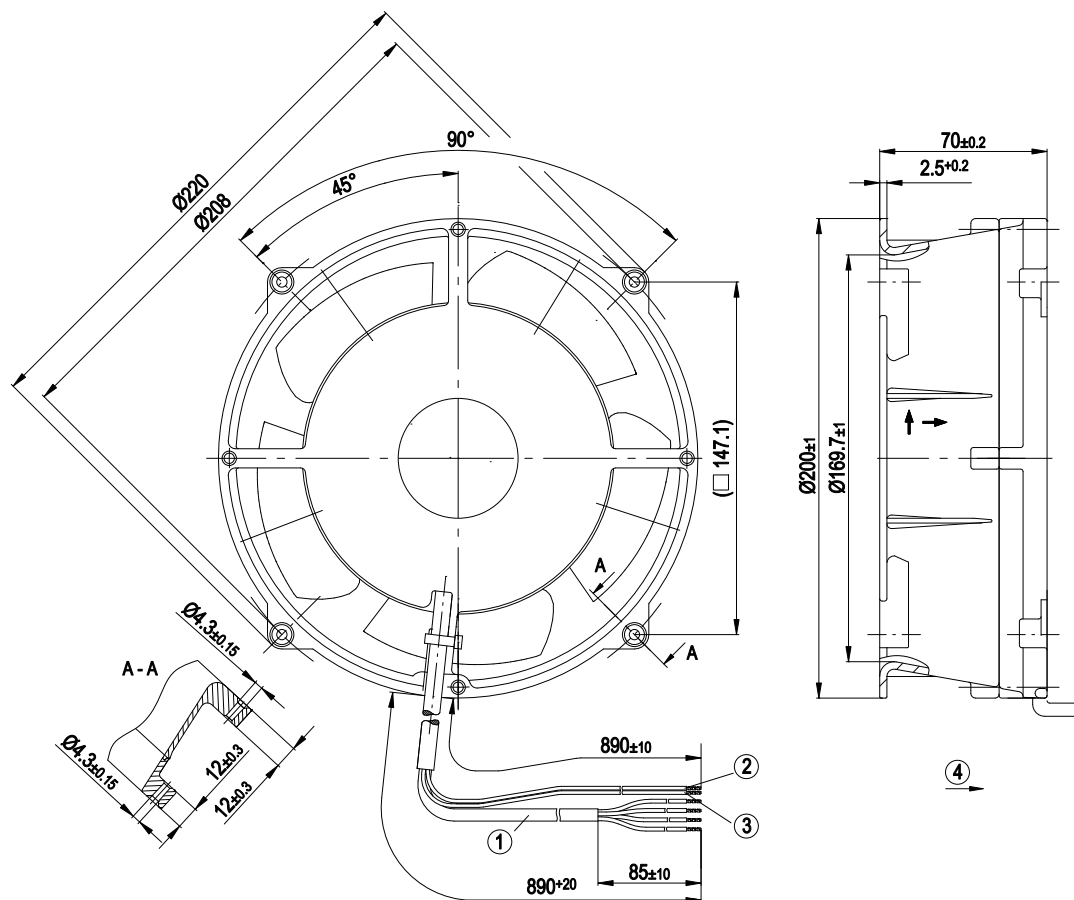
|                          |                      |          |
|--------------------------|----------------------|----------|
| Type                     | W1G180-AB31-10       |          |
| Motor                    | M1G074-BF            |          |
| Nominal voltage          | [VDC]                | 24       |
| Nominal voltage range    | [VDC]                | 16 .. 28 |
| Type of data definition  |                      | rfa      |
| Speed                    | [min <sup>-1</sup> ] | 4550     |
| Power input              | [W]                  | 93       |
| Current draw             | [A]                  | 4.3      |
| Min. ambient temperature | [°C]                 | - 25     |
| Max. ambient temperature | [°C]                 | +60      |

ml = max. load · me = max. efficiency · rfa = running at free air · cs = customer specs · cu = customer unit  
Subject to alterations

## Technical features

|                                                         |                                                                                                                                                              |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Leakage current                                         | <= 0,25 mA                                                                                                                                                   |
| Size                                                    | 180 mm                                                                                                                                                       |
| Operation mode                                          | S1                                                                                                                                                           |
| Direction of rotation                                   | Counter-clockwise, seen on rotor                                                                                                                             |
| Mounting position                                       | Any                                                                                                                                                          |
| EMC interference emission                               | Acc. to EN 55022 (Class B)                                                                                                                                   |
| EMC interference immunity                               | Acc. to EN 61000-6-2 (industrial environment)                                                                                                                |
| Direction of air flow                                   | "V"                                                                                                                                                          |
| Insulation class                                        | "B"                                                                                                                                                          |
| Cable exit                                              | Lateral                                                                                                                                                      |
| Condensate discharge holes                              | Rotor-side                                                                                                                                                   |
| Bearing motor                                           | Ball bearing                                                                                                                                                 |
| Mass                                                    | 1.92 kg                                                                                                                                                      |
| Material of impeller                                    | Plastic PA66, fibreglass-reinforced                                                                                                                          |
| Material of wall ring                                   | Die-cast aluminium, coated in black                                                                                                                          |
| Motor protection                                        | Reverse polarity and locked-rotor protection                                                                                                                 |
| Product conforming to standard                          | EN 60950-1                                                                                                                                                   |
| Surface of rotor                                        | Galvanised                                                                                                                                                   |
| Number of blades                                        | 5                                                                                                                                                            |
| Type of protection                                      | IP 44 - depending on position                                                                                                                                |
| Protection class                                        | I                                                                                                                                                            |
| 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> |
| Max. permissible ambient motor temp. (transp./ storage) | +80 °C                                                                                                                                                       |
| Min. permissible ambient motor temp. (transp./storage)  | -40 °C                                                                                                                                                       |
| Approval                                                | CSA C22.2 Nr.113; UL 507                                                                                                                                     |

## Product drawing

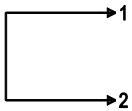


|   |                                                     |
|---|-----------------------------------------------------|
| 1 | Connecting cable AWG 20, 4x brass lead tips crimped |
| 2 | Cable AWG 22 black                                  |
| 3 | Cable AWG 22 black                                  |
| 4 | Direction of air flow "V"                           |

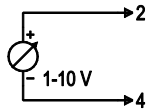
## Connection screen

## Customer circuit

## Full speed

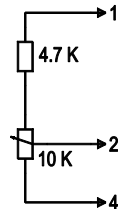


## Speed setting

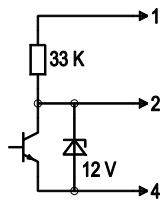


10 V → n = max  
 1 V → n = min  
 <1 V → n = 0  
 Safe start  
 at Unom -30 %  
 from 4 V Ucontr.

## Speed setting via potentiometer

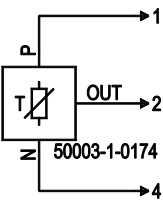


## Speed setting via PWM 1-10 kHz



100 % PWM → n = max  
 10 % PWM → n = min  
 <10 % PWM → n = 0  
 Safe start  
 at Unom -30 %  
 from 40% PWM

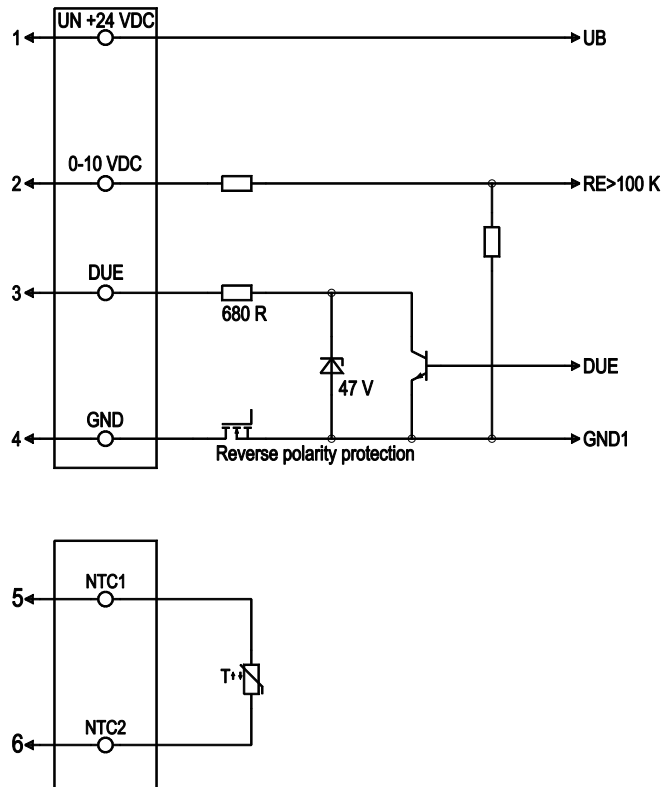
## Set value via temperature controller



T < 10 °C → n = 0  
 T > 45 °C → n = max

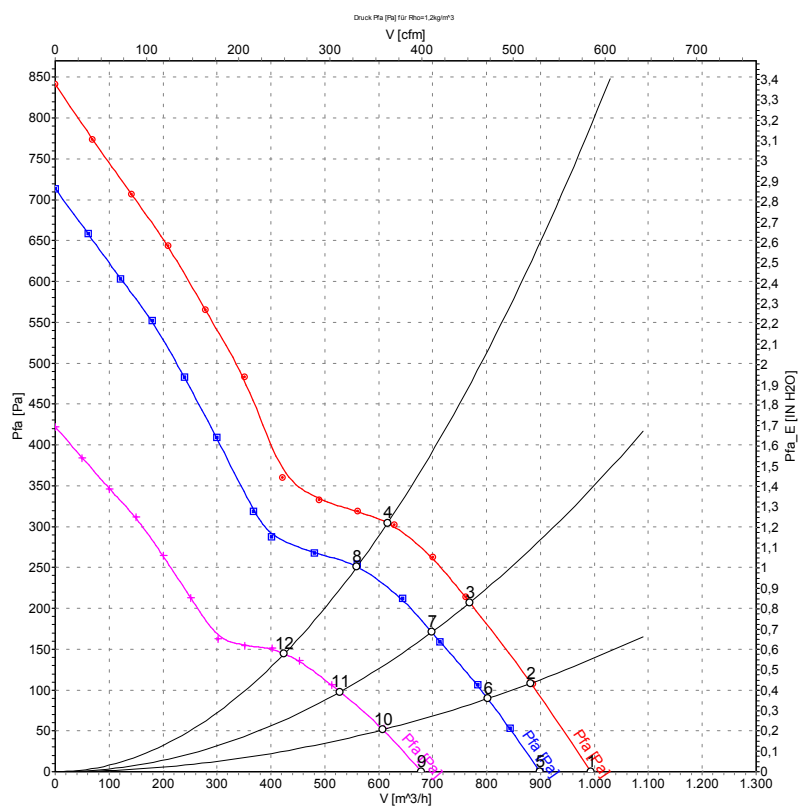
## Connection

## Fan / motor



| Line | No. | Signal     | Colour | Function / assignment                             |
|------|-----|------------|--------|---------------------------------------------------|
| 1    | 1   | Un +24 VDC | red    | Power supply 24 VDC, residual ripple 3.5 %        |
| 1    | 2   | 0 - 10 VDC | yellow | Control input Re > 100 k                          |
| 1    | 3   | DUE        | white  | Speed, 3 pulses per revolution, Isink max = 10 mA |
| 1    | 4   | GND        | blue   | Reference mass                                    |
| 2    | 5   | NTC1       | black  | NTC not connected to electronics                  |
| 3    | 6   | NTC2       | black  | NTC not connected to electronics                  |

## Charts: Air flow



Measurement: LU-76822  
 Measurement: LU-76821  
 Measurement: LU-76825

## Measured values

|    | U   | n                    | P <sub>1</sub> | I    | $\dot{V}$ | p <sub>fa</sub> |
|----|-----|----------------------|----------------|------|-----------|-----------------|
|    | [V] | [min <sup>-1</sup> ] | [W]            | [A]  | [m³/h]    | [Pa]            |
| 1  | 28  | 5060                 | 127            | 5.02 | 995       | 0               |
| 2  | 28  | 4900                 | 133            | 5.31 | 880       | 111             |
| 3  | 28  | 4780                 | 139            | 5.57 | 770       | 208             |
| 4  | 28  | 4750                 | 140            | 5.64 | 615       | 305             |
| 5  | 24  | 4550                 | 93             | 4.30 | 900       | 0               |
| 6  | 24  | 4460                 | 102            | 4.73 | 800       | 90              |
| 7  | 24  | 4350                 | 106            | 4.93 | 700       | 170             |
| 8  | 24  | 4325                 | 108            | 5.00 | 560       | 250             |
| 9  | 16  | 3465                 | 45             | 3.27 | 680       | 0               |
| 10 | 16  | 3370                 | 48             | 3.41 | 610       | 54              |
| 11 | 16  | 3315                 | 49             | 3.52 | 530       | 98              |
| 12 | 16  | 3300                 | 50             | 3.55 | 425       | 144             |