

# EC axial fan - HyBlade

sickled blades (S series)  
with full square nozzle

W3G910-GO90-92 ebmpapst Datasheet  
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## Nominal data

|                          |                   |            |
|--------------------------|-------------------|------------|
| Type                     | W3G910-GO90-92    |            |
| Motor                    | M3G112-IA         |            |
| Phase                    |                   | 3~         |
| Nominal voltage          | VAC               | 200        |
| Nominal voltage range    | VAC               | 200 .. 240 |
| Frequency                | Hz                | 50/60      |
| Type of data definition  |                   | ml         |
| State                    |                   | prelim.    |
| Speed (rpm)              | min <sup>-1</sup> | 610        |
| Power input              | W                 | 625        |
| Current draw             | A                 | 2.2        |
| 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



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## Technical features

|                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mass                                                               | 35.62 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Size                                                               | 910 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Surface of rotor                                                   | Coated in black                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Material of electronics housing                                    | Die-cast aluminium, coated in black                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Material of blades                                                 | Press-fitted, coated sheet steel blank, sprayed with PP plastic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Material of wall ring                                              | Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Material of guard grille                                           | Steel, coated in black plastic (RAL9005)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Number of blades                                                   | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Direction of air flow                                              | "V"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Direction of rotation                                              | Clockwise, seen on rotor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Type of protection                                                 | IP 54                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Insulation class                                                   | "B"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Humidity (F)/environmental protection class (H)                    | F4-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Max. permissible ambient motor temp. (transp./ storage)            | +80 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Min. permissible ambient motor temp. (transp./storage)             | -40 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Mounting position                                                  | Shaft horizontal or rotor on bottom; rotor on top on request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Condensate discharge holes                                         | Rotor-side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Operation mode                                                     | S1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Motor bearing                                                      | Ball bearing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Technical features                                                 | <ul style="list-style-type: none"> <li>- Output 10 VDC, max. 10 mA</li> <li>- Output 20 VDC, max. 50 mA</li> <li>- Output for slave 0-10 V</li> <li>- Operation and alarm display</li> <li>- Input for sensor 0-10 V or 4-20 mA</li> <li>- Alarm relay</li> <li>- Integrated PID controller</li> <li>- Motor current limit</li> <li>- PFC, passive</li> <li>- RS485 MODBUS RTU</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Over-temperature protected electronics / motor</li> <li>- Line undervoltage / phase failure detection</li> </ul> |
| Touch current acc. IEC 60990 (measuring network Fig. 4, TN system) | <= 3.5 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Motor protection                                                   | Thermal overload protector (TOP) wired internally                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Protection class                                                   | I (if protective earth is connected by customer)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Product conforming to standard                                     | EN 61800-5-1; CE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Approval                                                           | EAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

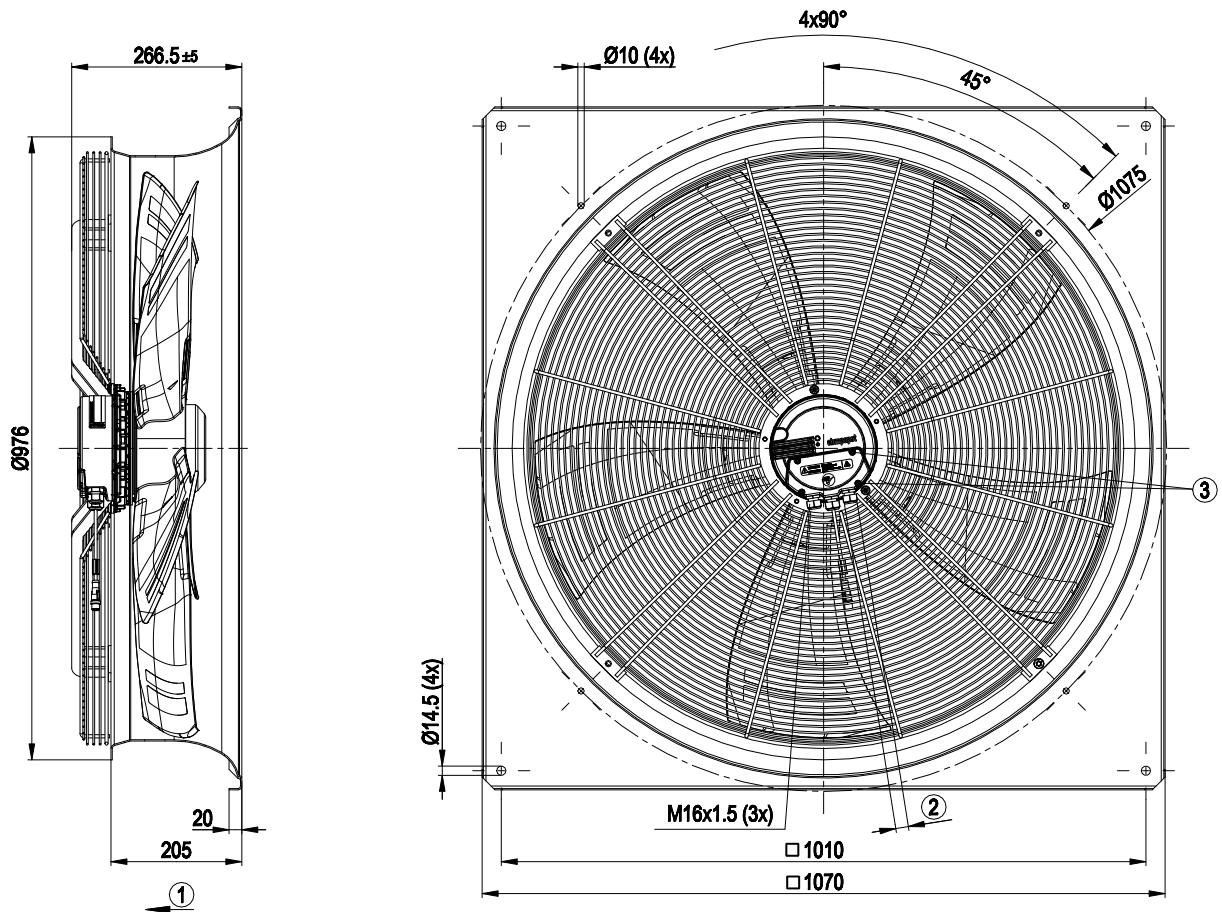


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## Product drawing



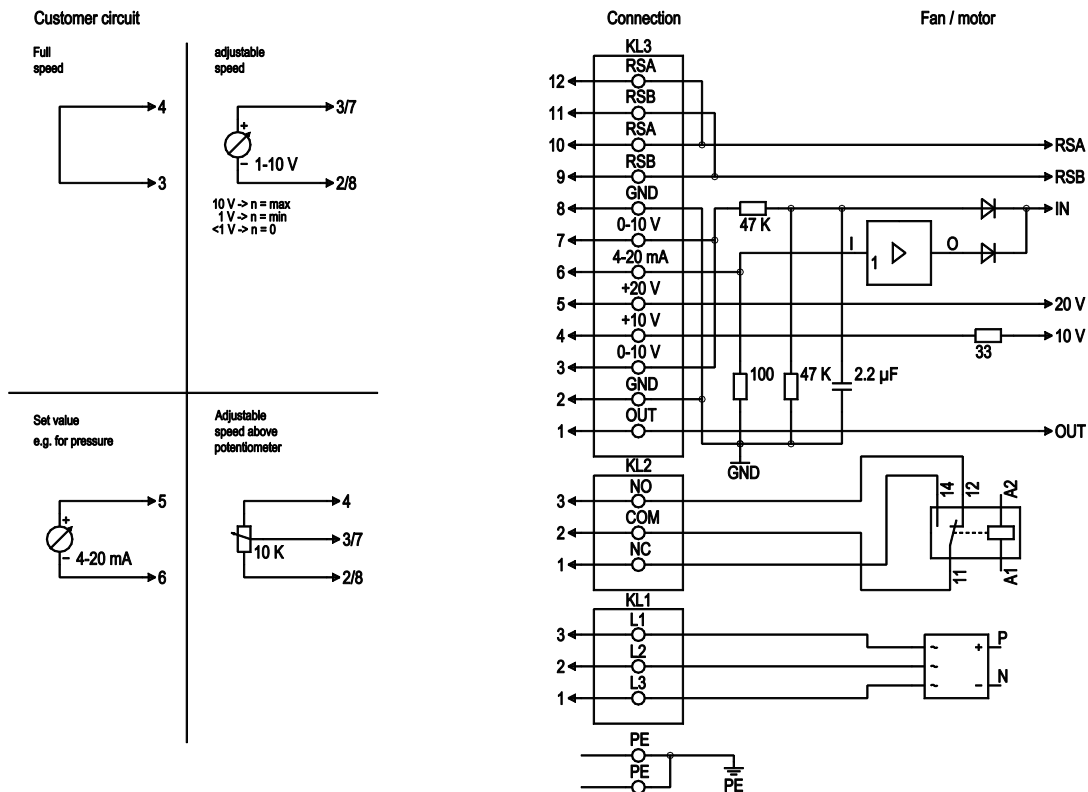
|   |                                                                        |
|---|------------------------------------------------------------------------|
| 1 | Direction of air flow "V"                                              |
| 2 | Cable diameter min. 4 mm, max. 10 mm; tightening torque $2 \pm 0.3$ Nm |
| 3 | Tightening torque $3.5 \pm 0.5$ Nm                                     |

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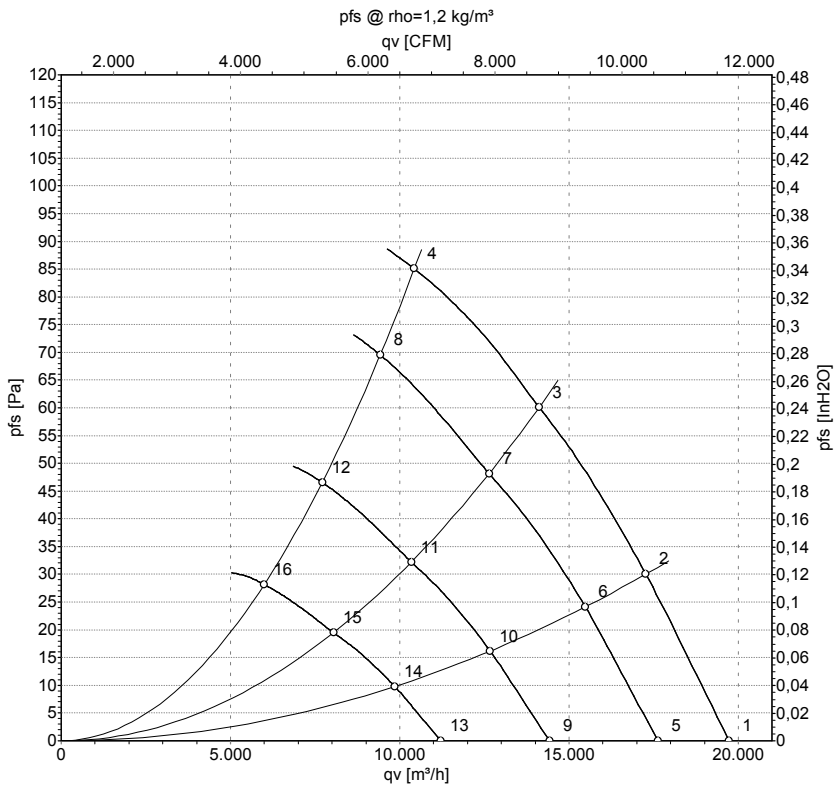
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## Connection screen



| No. | Conn.   | Designation | Function / assignment                                                                                                                             |
|-----|---------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| PE  |         | PE          | Protective earth connection                                                                                                                       |
| KL1 | 1, 2, 3 | L1, L2, L3  | Supply voltage, voltage range (see type plate), 50/60 Hz                                                                                          |
| KL2 | 1       | NC          | Floating status contact, break with error                                                                                                         |
| KL2 | 2       | COM         | Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)                                               |
| KL2 | 3       | NO          | Floating status contact, close with error                                                                                                         |
| KL3 | 1       | OUT         | Analogue output, 0-10 VDC, max. 3 mA, SELV, Output of the actual motor duty cycle (PWM): 1 V corresponds to 10% PWM, 10 V correspond to 100% PWM. |
| KL3 | 2, 8    | GND         | Signal ground for control interface, SELV                                                                                                         |
| KL3 | 3, 7    | 0-10 V      | Set value / actual sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV                                       |
| KL3 | 4       | +10 V       | Voltage output 10 VDC (+/-3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV                                           |
| KL3 | 5       | +20 V       | Voltage output 20 VDC (+25%/-10%), max. 50 mA, supply voltage for external devices (e.g. sensors), SELV                                           |
| KL3 | 6       | 4-20 mA     | Set value / actual sensor value input 4-20 mA, impedance 100 Ω, only as alternative to 0-10 V input, SELV                                         |
| KL3 | 9, 11   | RSB         | RS485 interface for MODBUS, RSB                                                                                                                   |
| KL3 | 10, 12  | RSA         | RS485 interface for MODBUS, RSA                                                                                                                   |

## Charts: Air flow 50 Hz



Measurement: LU-126896-1

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   | f  | n                 | P <sub>ed</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | LwA <sub>out</sub> | q <sub>v</sub> | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|----|-----|----|-------------------|-----------------|------|-------------------|-------------------|--------------------|----------------|-----------------|----------------|-----------------|
|    | V   | Hz | min <sup>-1</sup> | W               | A    | dB(A)             | dB(A)             | dB(A)              | m³/h           | Pa              | cfm            | inH2O           |
| 1  | 200 | 50 | 610               | 380             | 1.20 | 61                | 68                | 67                 | 19730          | 0               | 11610          | 0.00            |
| 2  | 200 | 50 | 610               | 470             | 1.48 | 59                | 66                | 65                 | 17275          | 30              | 10165          | 0.12            |
| 3  | 200 | 50 | 610               | 551             | 1.74 | 58                | 65                | 65                 | 14125          | 60              | 8315           | 0.24            |
| 4  | 200 | 50 | 610               | 625             | 2.20 | 62                | 70                | 70                 | 10430          | 85              | 6140           | 0.34            |
| 5  | 200 | 50 | 550               | 271             | 0.86 | 58                | 65                | 64                 | 17635          | 0               | 10380          | 0.00            |
| 6  | 200 | 50 | 550               | 340             | 1.07 | 56                | 63                | 63                 | 15490          | 24              | 9115           | 0.10            |
| 7  | 200 | 50 | 550               | 395             | 1.25 | 56                | 63                | 62                 | 12645          | 48              | 7440           | 0.19            |
| 8  | 200 | 50 | 550               | 447             | 1.40 | 60                | 67                | 67                 | 9430           | 70              | 5550           | 0.28            |
| 9  | 200 | 50 | 450               | 148             | 0.47 | 53                | 60                | 59                 | 14425          | 0               | 8490           | 0.00            |
| 10 | 200 | 50 | 450               | 186             | 0.59 | 51                | 58                | 57                 | 12670          | 16              | 7460           | 0.06            |
| 11 | 200 | 50 | 450               | 216             | 0.68 | 51                | 58                | 57                 | 10345          | 32              | 6090           | 0.13            |
| 12 | 200 | 50 | 450               | 245             | 0.77 | 55                | 62                | 62                 | 7715           | 47              | 4540           | 0.19            |
| 13 | 200 | 50 | 350               | 70              | 0.22 | 47                | 54                | 53                 | 11220          | 0               | 6605           | 0.00            |
| 14 | 200 | 50 | 350               | 87              | 0.28 | 45                | 52                | 51                 | 9855           | 10              | 5800           | 0.04            |
| 15 | 200 | 50 | 350               | 102             | 0.32 | 44                | 51                | 51                 | 8045           | 19              | 4735           | 0.08            |
| 16 | 200 | 50 | 350               | 115             | 0.36 | 48                | 56                | 56                 | 6000           | 28              | 3530           | 0.11            |

U = Supply voltage · f = Frequency · 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 · LwA<sub>out</sub> = Sound power level outlet side  
q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

