

# EC axial fan - HyBlade

sickled blades (S series)  
with guard grille for full nozzle

S3G630-CD02-50 ebmpapst Datasheet  
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www.fansco.com

## Nominal data

|                          |                   |       |
|--------------------------|-------------------|-------|
| Type                     | S3G630-CD02-50    |       |
| Motor                    | M3G084-GF         |       |
| Phase                    |                   | 1~    |
| Nominal voltage          | VAC               | 230   |
| Frequency                | Hz                | 50/60 |
| Type of data definition  |                   | ml    |
| Speed (rpm)              | min <sup>-1</sup> | 750   |
| Power input              | W                 | 250   |
| Current draw             | A                 | 1.6   |
| Min. ambient temperature | °C                | -25   |
| Max. ambient temperature | °C                | 40    |

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 $\eta_{es}$ | % | 45.5   | 29.1         |
| 02 Measurement category           |   | A      |              |
| 03 Efficiency category            |   | Static |              |
| 04 Efficiency grade N             |   | 56.4   | 40           |
| 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 $P_{ed}$       | kW                | 0.19 |
| 09 Air flow $q_v$             | m³/h              | 6220 |
| 09 Pressure increase $p_{fs}$ | Pa                | 46   |
| 10 Speed (rpm) n              | min <sup>-1</sup> | 755  |
| 11 Specific ratio*            |                   | 1.00 |

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

LU-119952



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## Technical features

|                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mass                                                               | 9.3 kg                                                                                                                                                                                                                                                                                                                                                                                                          |
| Size                                                               | 630 mm                                                                                                                                                                                                                                                                                                                                                                                                          |
| Surface of rotor                                                   | Coated in black                                                                                                                                                                                                                                                                                                                                                                                                 |
| Material of electronics housing                                    | Die-cast aluminium                                                                                                                                                                                                                                                                                                                                                                                              |
| Material of blades                                                 | Press-fitted sheet steel blank, sprayed with PP plastic                                                                                                                                                                                                                                                                                                                                                         |
| Material of guard grille                                           | Steel, coated in black plastic (RAL9005)                                                                                                                                                                                                                                                                                                                                                                        |
| Number of blades                                                   | 5                                                                                                                                                                                                                                                                                                                                                                                                               |
| Direction of air flow                                              | "A"                                                                                                                                                                                                                                                                                                                                                                                                             |
| Direction of rotation                                              | Clockwise, seen on rotor                                                                                                                                                                                                                                                                                                                                                                                        |
| Type of protection                                                 | IP 54; Depending on installation and position                                                                                                                                                                                                                                                                                                                                                                   |
| Insulation class                                                   | "B"                                                                                                                                                                                                                                                                                                                                                                                                             |
| Humidity (F)/environmental protection class (H)                    | H2                                                                                                                                                                                                                                                                                                                                                                                                              |
| 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; (sealed)                                                                                                                                                                                                                                                                                                                                                                                          |
| Technical features                                                 | <ul style="list-style-type: none"> <li>- Output 10 VDC, max. 1.1 mA</li> <li>- Alarm relay</li> <li>- Motor current limit</li> <li>- PFC, passive</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 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                                                                                                                                                                                                                                                                                                                                                               |
| Cable exit                                                         | Variable                                                                                                                                                                                                                                                                                                                                                                                                        |
| Protection class                                                   | I (if protective earth is connected by customer)                                                                                                                                                                                                                                                                                                                                                                |
| Product conforming to standard                                     | EN 60335-1; CE                                                                                                                                                                                                                                                                                                                                                                                                  |

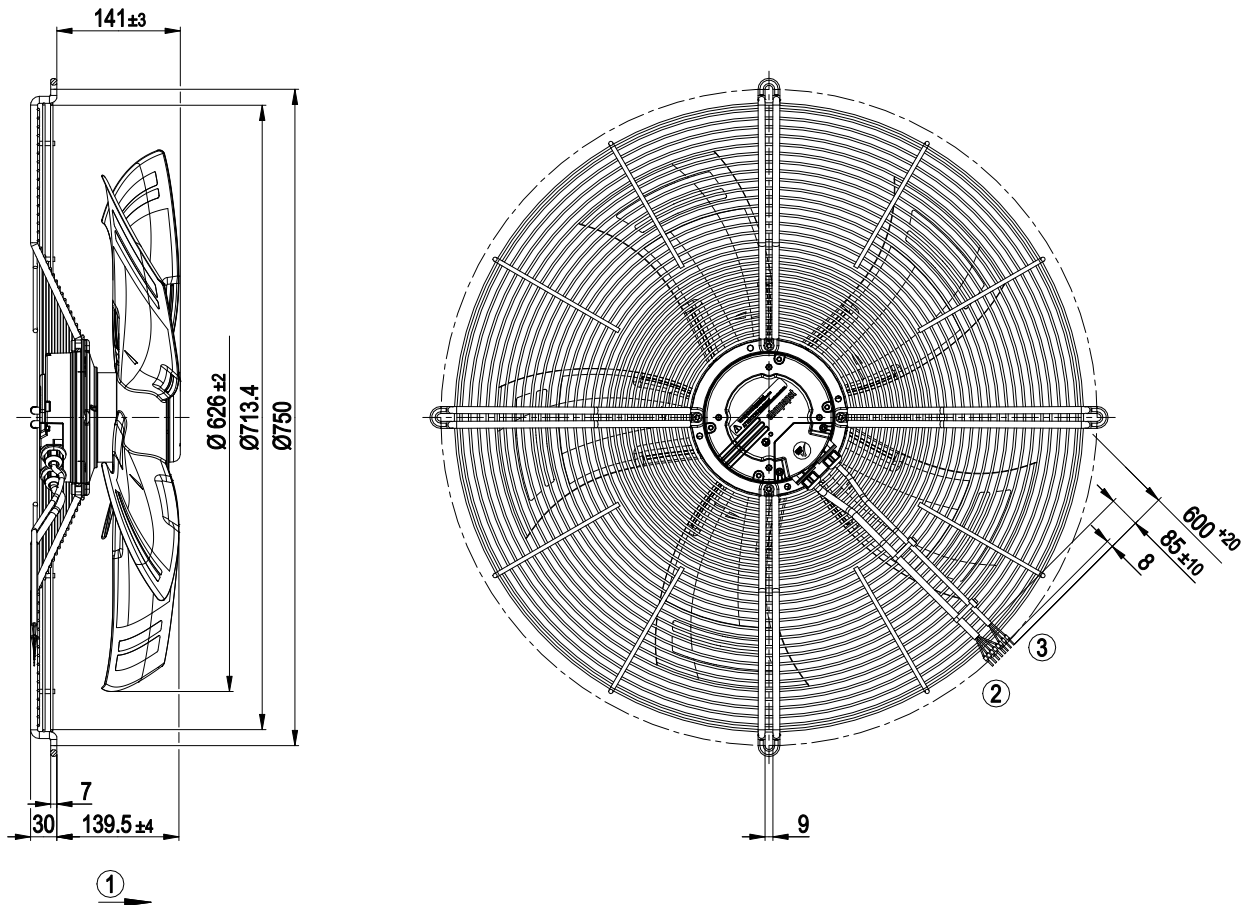


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## Product drawing



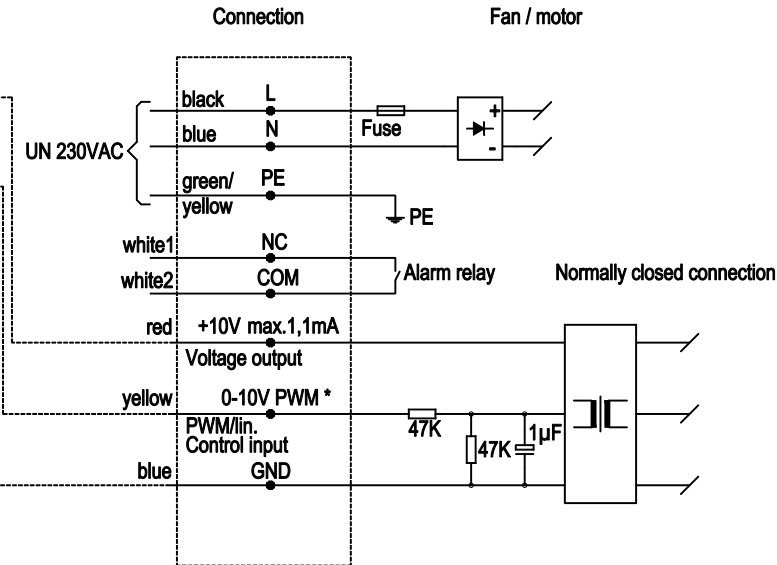
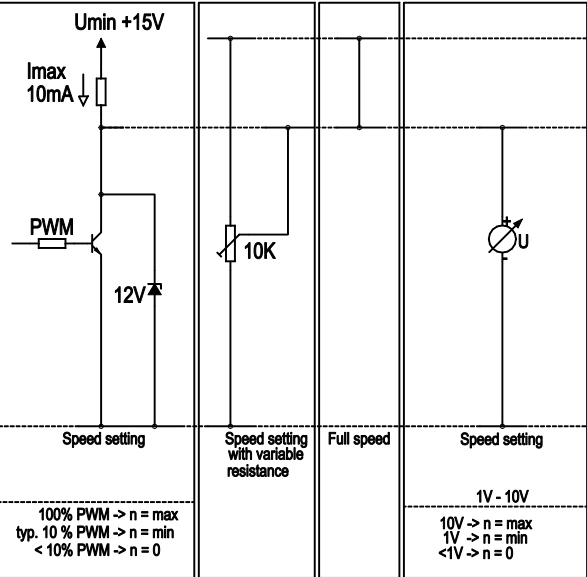
|   |                                                        |
|---|--------------------------------------------------------|
| 1 | Direction of air flow "A"                              |
| 2 | Connection line PVC AWG18, 5x crimped core-end sleeves |
| 3 | Connection line PVC AWG22, 3x crimped core-end sleeves |

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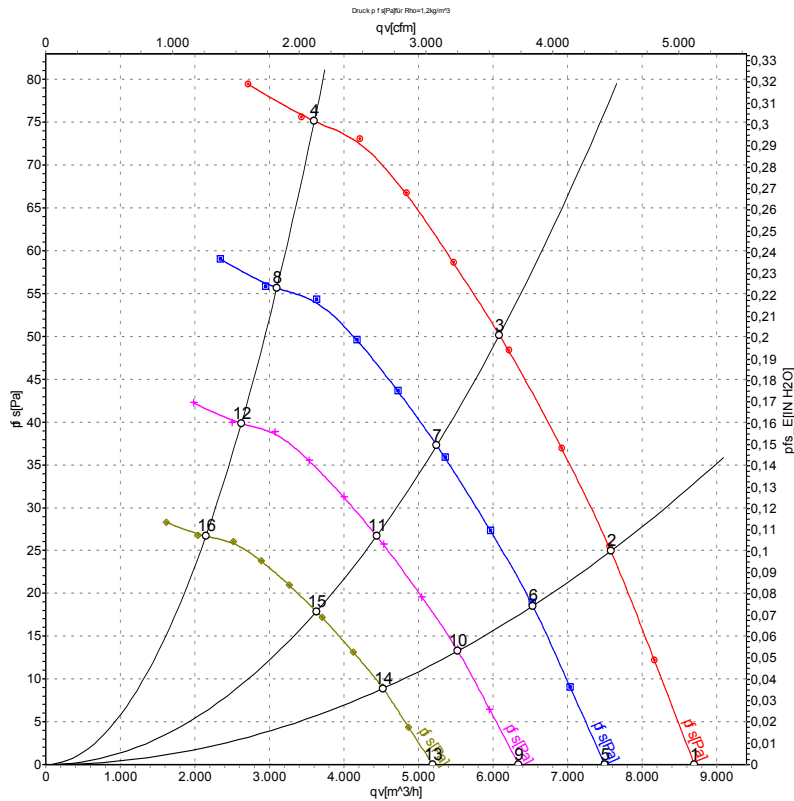
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## Connection screen

Customer circuit  
Notes on various control possibilities and their applications



## Charts: Air flow 50 Hz



Measurement: LU-119952-1

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: L<sub>wA</sub> measured as per ISO 13347 /  
L<sub>pA</sub> 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            | inH <sub>2</sub> O |
| 1  | 230 | 50 | 750               | 139             | 0.90 | 55                | 62                | 62                 | 8700           | 0               | 5120           | 0.00               |
| 2  | 230 | 50 | 750               | 177             | 1.12 | 56                | 62                | 62                 | 7580           | 25              | 4460           | 0.10               |
| 3  | 230 | 50 | 750               | 201             | 1.26 | 56                | 63                | 62                 | 6085           | 50              | 3580           | 0.20               |
| 4  | 230 | 50 | 750               | 250             | 1.60 | 64                | 71                | 71                 | 3600           | 75              | 2120           | 0.30               |
| 5  | 230 | 50 | 650               | 89              | 0.58 | 52                | 59                | 59                 | 7500           | 0               | 4415           | 0.00               |
| 6  | 230 | 50 | 650               | 113             | 0.72 | 53                | 59                | 59                 | 6535           | 19              | 3845           | 0.08               |
| 7  | 230 | 50 | 650               | 129             | 0.81 | 53                | 59                | 59                 | 5245           | 37              | 3085           | 0.15               |
| 8  | 230 | 50 | 650               | 149             | 0.93 | 60                | 68                | 68                 | 3100           | 56              | 1825           | 0.22               |
| 9  | 230 | 50 | 550               | 54              | 0.35 | 49                | 55                | 55                 | 6345           | 0               | 3735           | 0.00               |
| 10 | 230 | 50 | 550               | 69              | 0.44 | 49                | 55                | 55                 | 5530           | 14              | 3255           | 0.06               |
| 11 | 230 | 50 | 550               | 78              | 0.49 | 49                | 56                | 56                 | 4440           | 27              | 2610           | 0.11               |
| 12 | 230 | 50 | 550               | 90              | 0.56 | 57                | 65                | 65                 | 2625           | 40              | 1545           | 0.16               |
| 13 | 230 | 50 | 450               | 30              | 0.19 | 44                | 51                | 51                 | 5190           | 0               | 3055           | 0.00               |
| 14 | 230 | 50 | 450               | 38              | 0.24 | 45                | 51                | 51                 | 4525           | 9               | 2660           | 0.04               |
| 15 | 230 | 50 | 450               | 43              | 0.27 | 45                | 51                | 51                 | 3630           | 18              | 2135           | 0.07               |
| 16 | 230 | 50 | 450               | 49              | 0.31 | 52                | 60                | 60                 | 2145           | 27              | 1265           | 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