**S3G400-LA46-93**

# EC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle, for rail applications

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## Nominal data

| | | |
|---|---|---|
| **Type** | **S3G400-LA46-93** | |
| **Motor** | **M3G084-FA** | |
| Nominal voltage | VDC | 110 |
| Nominal voltage range | VDC | 77 .. 145 |
| Method of obtaining data | | ml |
| Speed (rpm) | min$^{-1}$ | 1600 |
| Power consumption | W | 400 |
| Current draw | A | 3.6 |
| Min. ambient temperature | °C | -40 |
| 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** | 7 kg |
| **Fan size** | 400 mm |
| **Rotor surface** | Painted black |
| **Electronics housing material** | Die-cast aluminum, painted black |
| **Blade material** | Sheet steel, painted black |
| **Support ring material** | Steel, coated with black plastic (RAL 9005) |
| **Number of blades** | 5 |
| **Airflow direction** | "V" |
| **Direction of rotation** | Counterclockwise, viewed toward rotor |
| **Degree of protection** | IP54 |
| **Insulation class** | "B" |
| **Moisture (F) / Environmental (H) protection class** | F4-1 |
| **Max. permitted ambient temp. for motor (transport/storage)** | + 80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | - 40 °C |
| **Installation position** | Shaft horizontal or rotor on bottom |
| **Condensation drainage holes** | On rotor side |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing; (sealed) |
| **Technical features** | - Output 10 VDC, max. 1.1 mA<br>- Alarm relay<br>- Motor current limitation<br>- Soft start<br>- Control input 0-10 VDC / PWM<br>- Control interface with SELV potential safely disconnected from the mains<br>- Thermal overload protection for electronics/motor<br>- Line undervoltage detection |
| **EMC immunity to interference** | According to EN 61000-6-2 (industrial environment) |
| **EMC interference emission** | According to EN 61000-6-4 (industrial environment) |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **With cable** | Variable |
| **Protection class** | I (with customer connection of protective earth) |
| **Conformity with standards** | EN 61800-5-1 |
| **Approval** | CCC |



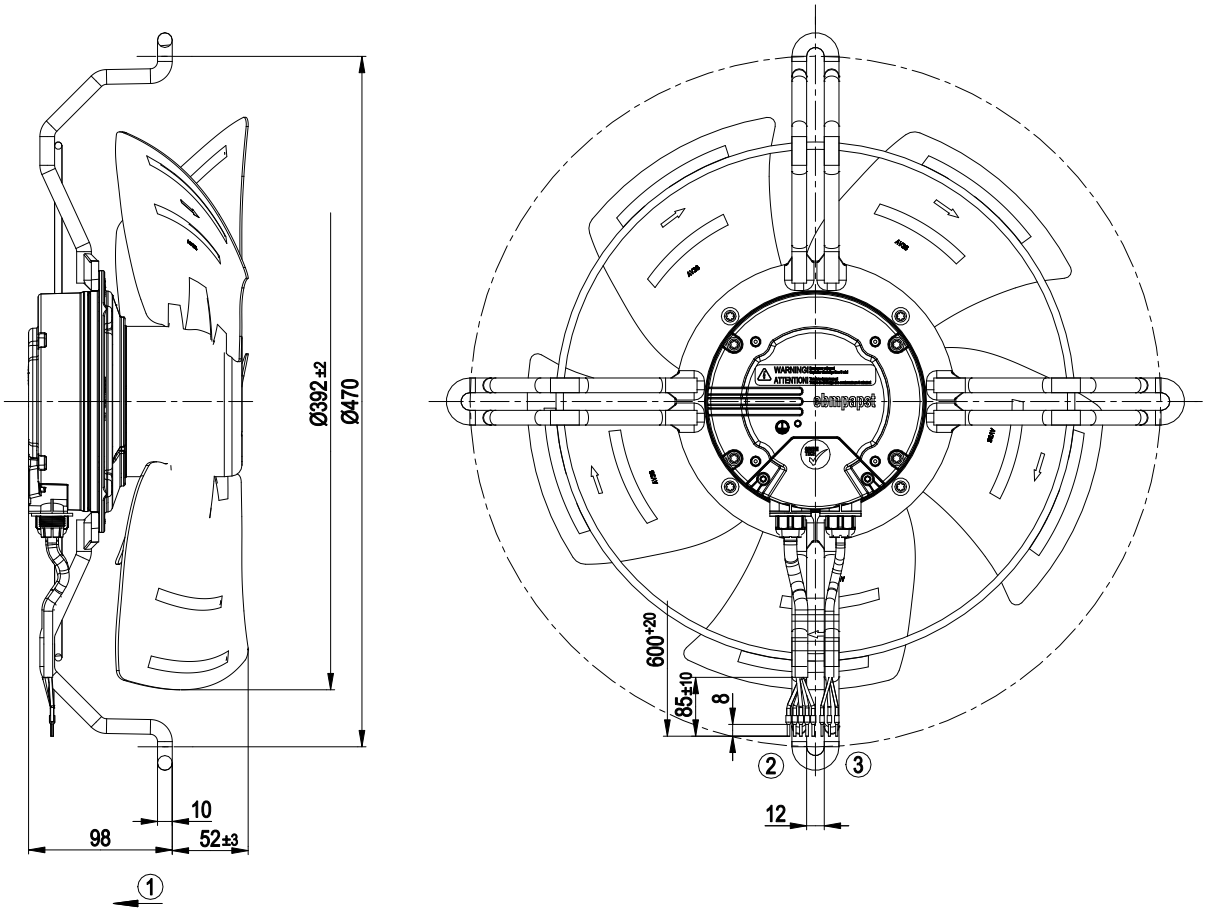
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## Product drawing




| | |
|---|---|
| 1 | Direction of air flow "V" |
| 2 | Cable halogen-free 5G 1.0 mm², 5 x crimped ferrules |
| 3 | Control cable halogen-free 3X 0.34 mm², 3 x crimped ferrules |



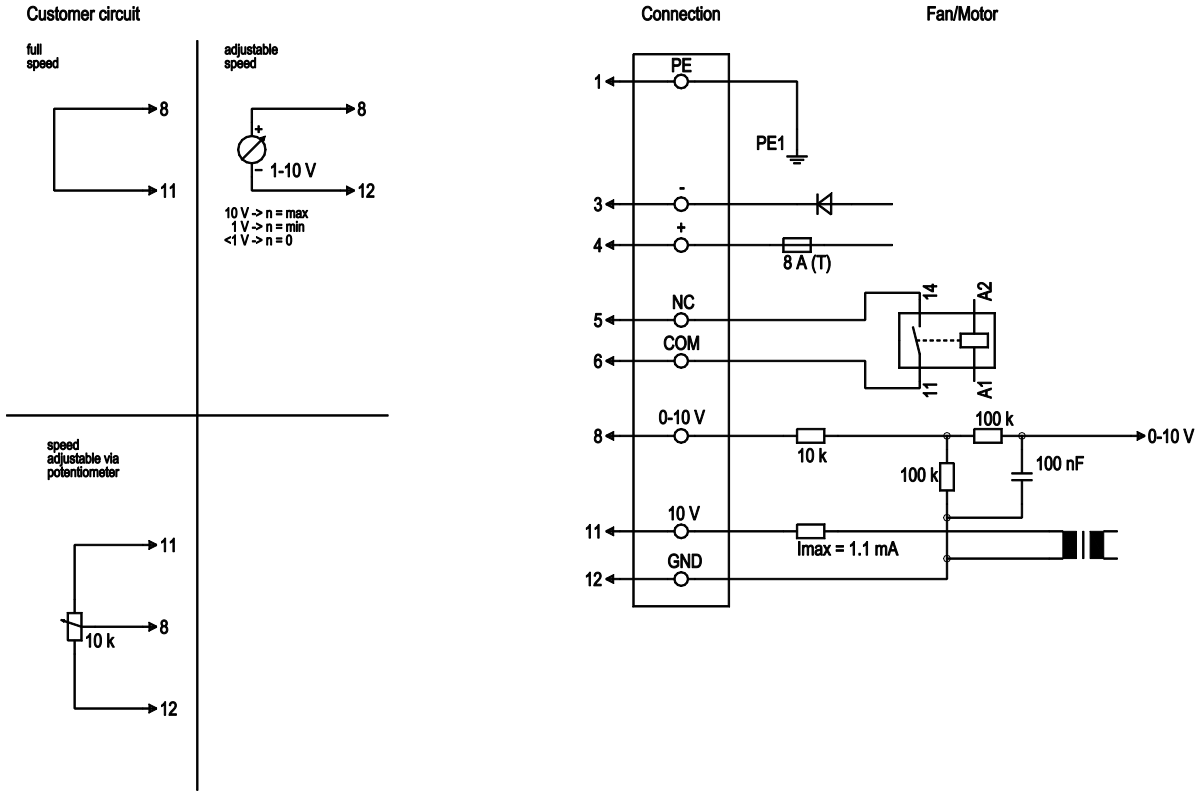
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## Connection diagram




| No. | Conn. | Designation | Color | Function/assignment |
|---|---|---|---|---|
| 1 | 1 | PE | green/yellow | Protective earth |
| 1 | 3 | - | blue | Power supply, GND (110 VDC) |
| 1 | 4 | + | black | Power supply, 110 VDC |
| 1 | 5 | NC | white 2 | Floating status contact, break for failure |
| 1 | 6 | COM | white 1 | Floating status contact, break for failure<br>(0.6 A-110 VDC, 1 A-80 VDC, 3 A-30 VDC) |
| 2 | 8 | 0-10 V | yellow | Control input, set value 0-10 VDC, impedance 100 kΩ, SELV |
| 2 | 11 | 10 VDC | red | Voltage output 10 VDC (±3%), max. 1.1 mA,<br>power supply for external devices (e.g. potentiometers), SELV |
| 2 | 12 | GND | blue | Reference ground for control interface, SELV |



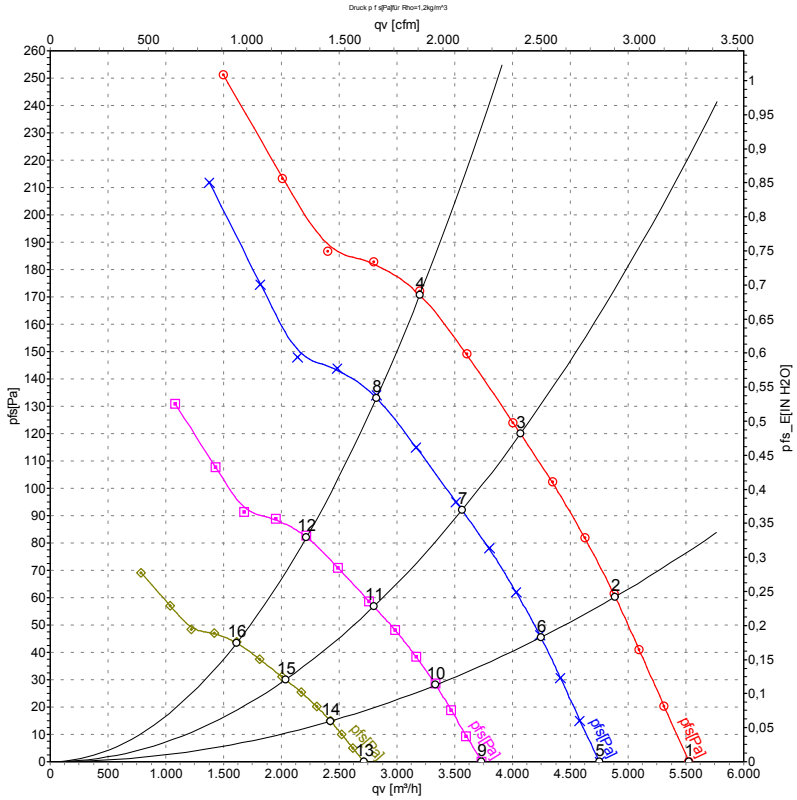
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## Curves: Air performance




Measurement: LU-77668-1

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 | n | $P_{ed}$ | I | qv | $p_{fs}$ | qv | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|
| | V | $min^{-1}$ | W | A | $m^3/h$ | Pa | CFM | inH2O |
| 1 | 110 | 1630 | 336 | 3.03 | 5525 | 0 | 3250 | 0.00 |
| 2 | 110 | 1610 | 361 | 3.26 | 4890 | 60 | 2875 | 0.24 |
| 3 | 110 | 1605 | 377 | 3.41 | 4070 | 120 | 2395 | 0.48 |
| 4 | 110 | 1600 | 400 | 3.60 | 3195 | 170 | 1880 | 0.68 |
| 5 | 110 | 1400 | 213 | 1.93 | 4750 | 0 | 2795 | 0.00 |
| 6 | 110 | 1400 | 236 | 2.14 | 4245 | 46 | 2500 | 0.18 |
| 7 | 110 | 1400 | 253 | 2.29 | 3565 | 92 | 2095 | 0.37 |
| 8 | 110 | 1400 | 274 | 2.48 | 2820 | 134 | 1660 | 0.54 |
| 9 | 110 | 1100 | 104 | 0.94 | 3735 | 0 | 2195 | 0.00 |
| 10 | 110 | 1100 | 115 | 1.04 | 3335 | 28 | 1965 | 0.11 |
| 11 | 110 | 1100 | 123 | 1.11 | 2800 | 57 | 1645 | 0.23 |
| 12 | 110 | 1100 | 133 | 1.20 | 2215 | 83 | 1305 | 0.33 |
| 13 | 110 | 800 | 40 | 0.36 | 2715 | 0 | 1600 | 0.00 |
| 14 | 110 | 800 | 44 | 0.40 | 2425 | 15 | 1430 | 0.06 |
| 15 | 110 | 800 | 47 | 0.43 | 2035 | 30 | 1200 | 0.12 |
| 16 | 110 | 800 | 51 | 0.46 | 1615 | 44 | 950 | 0.18 |

U = Power supply · n = Speed (rpm) · $P_{ed}$ = Power consumption · I = Current draw · qv = Air flow · $p_{fs}$ = Pressure increase



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