

EC axial fan

sickle-shaped blades (S series)
Fan housing with mounting grille

W3G560-CI09-N1 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Nominal data

Type	W3G560-CI09-N1	
Motor	M3G112-IA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	1850
Power consumption	W	1860
Current draw	A	2.9
Max. back pressure	Pa	330
Max. back pressure	in. wg	1.32
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · oe = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	45.6	35.5	09 Power consumption P_{ed}	kW	1.96
02 Measurement category		A		09 Air flow q_v	m³/h	8155
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	390
04 Efficiency grade N		50.1	40	10 Speed (rpm) n	min ⁻¹	1860
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$ LU-203592



Technical description

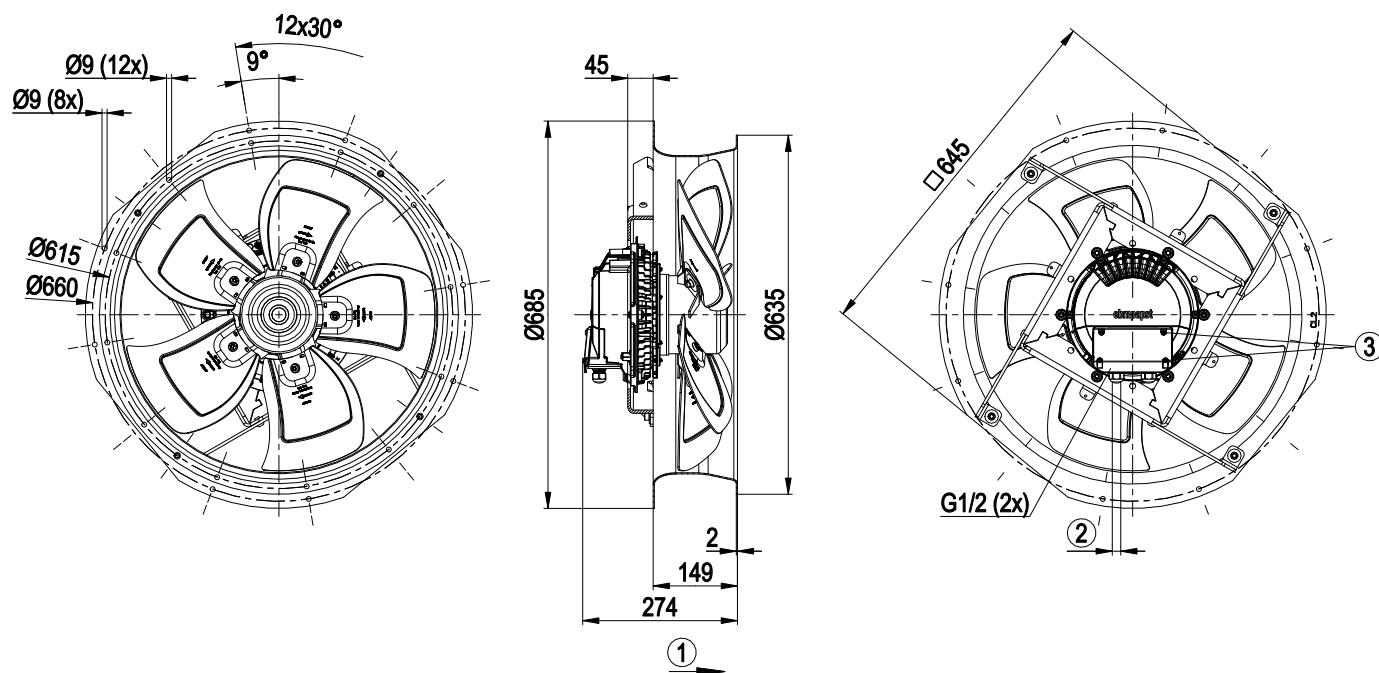
Weight	24.3 kg
Size	560 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted gray
Blade material	Sheet aluminum, painted black
Support ring material	Stainless steel
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	-10°
Airflow direction	A
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H3
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6.0 - Motor current limitation - RFID - ISO 15693 compatible - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Electronic motor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 45545-2, HL3: 2013 + A1:2015; EN 50155: 2008; CE
Approval	EAC
Comment	EMC regulation: EN 50121-3-2 in preparation

EC axial fan

sickle-shaped blades (S series)

Fan housing with mounting grille

Product drawing



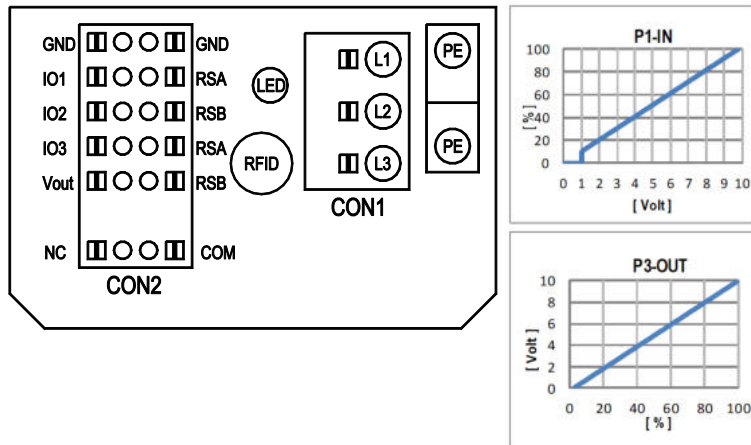
1	Direction of air flow "A"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
3	Tightening torque 1.5 ± 0.2 Nm

EC axial fan

sickle-shaped blades (S series)

Fan housing with mounting grille

Connection diagram



No.	Conn.	Designation	Function/assignment
	CON1	L1, L2, L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see "Optional interface functions" table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function: Triggering of error reset on change of state from "enabled" to "disabled"
	CON2	IO2	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog input 0-10 V/PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure or n < 1 rpm
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve



Terminal/plug assignment

configurable IO functions: normal / inverse																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	OUTPUT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
				INPUT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
				source: set value																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
				source: sensor value																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
IO1	Din1 (active high): digital input	not active: pin open or applied voltage < 1,5VDC active: applied voltage 3,5-50VDC, SELV	D158 [0]																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

○ configurable option

For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.0

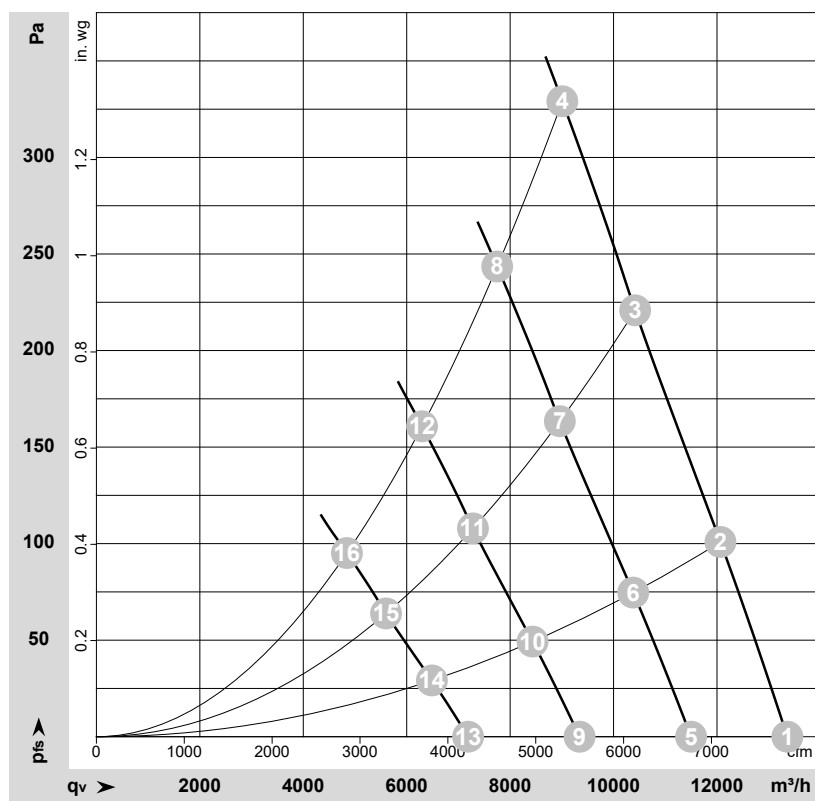


EC axial fan

sickle-shaped blades (S series)

Fan housing with mounting grille

Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-203592-1

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

	Wired	U	f	n	P _{ed}	I	LpA _{in}	LwA _{in}	LwA _{out}	q _v	p _{fs}	q _v	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m³/h	Pa	cfm	in. wg
1	3~	400	50	1850	1424	2.29	82	88	89	13360	0	7865	0.00
2	3~	400	50	1850	1606	2.55	79	85	86	12065	100	7100	0.40
3	3~	400	50	1850	1757	2.77	82	89	89	10415	220	6130	0.88
4	3~	400	50	1850	1860	2.90	87	94	94	9010	330	5300	1.32
5	3~	400	50	1600	908	1.46	78	85	85	11500	0	6770	0.00
6	3~	400	50	1600	1022	1.62	75	82	82	10380	75	6110	0.30
7	3~	400	50	1600	1119	1.76	79	85	85	8960	163	5275	0.65
8	3~	400	50	1600	1179	1.85	83	90	90	7750	244	4560	0.98
9	3~	400	50	1300	487	0.78	73	79	80	9345	0	5500	0.00
10	3~	400	50	1300	548	0.87	70	76	77	8435	49	4965	0.20
11	3~	400	50	1300	600	0.95	73	80	80	7280	108	4285	0.43
12	3~	400	50	1300	633	0.99	78	85	85	6295	161	3705	0.65
13	3~	400	50	1000	222	0.36	66	73	73	7185	0	4230	0.00
14	3~	400	50	1000	250	0.40	64	70	70	6485	29	3820	0.12
15	3~	400	50	1000	273	0.43	67	73	73	5600	64	3295	0.26
16	3~	400	50	1000	288	0.45	71	78	79	4845	95	2850	0.38

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
 LwA_{out} = Sound power level outlet side · q_v = Air flow · p_{fs} = Pressure increase

