

EC axial fan - AxiBlade

sickle-shaped blades (S series)
with guard grille for short nozzle

S3G800-LS26-07 ebmpapst Datasheet
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Nominal data

Type	S3G800-LS26-07		
Motor	M3G150-FF		
Phase		3~	3~
Nominal voltage	VAC	400	400
Nominal voltage range	VAC	380 .. 480	380 .. 480
Frequency	Hz	50/60	50/60
Method of obtaining data		ml	ml
Status		prelim.	prelim.
Speed (rpm)	min ⁻¹	1020	1020
Power consumption	W	1820	1930
Current draw	A	2.9	3.0
Max. back pressure	Pa	90	120
Max. back pressure	in. wg	0.36	0.48
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	70	63

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}	%	51.5	35.7	09 Power consumption P_{ed}	kW	2.11
02 Measurement category		A		09 Air flow q_v	m ³ /h	18165
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	214
04 Efficiency grade N		55.8	40	10 Speed (rpm) n	min ⁻¹	1025
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-206706

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).



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Technical description

Weight	29.2 kg
Size	800 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted gray
Impeller material	PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	0°
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
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 V6.3 - Motor current limitation - 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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable



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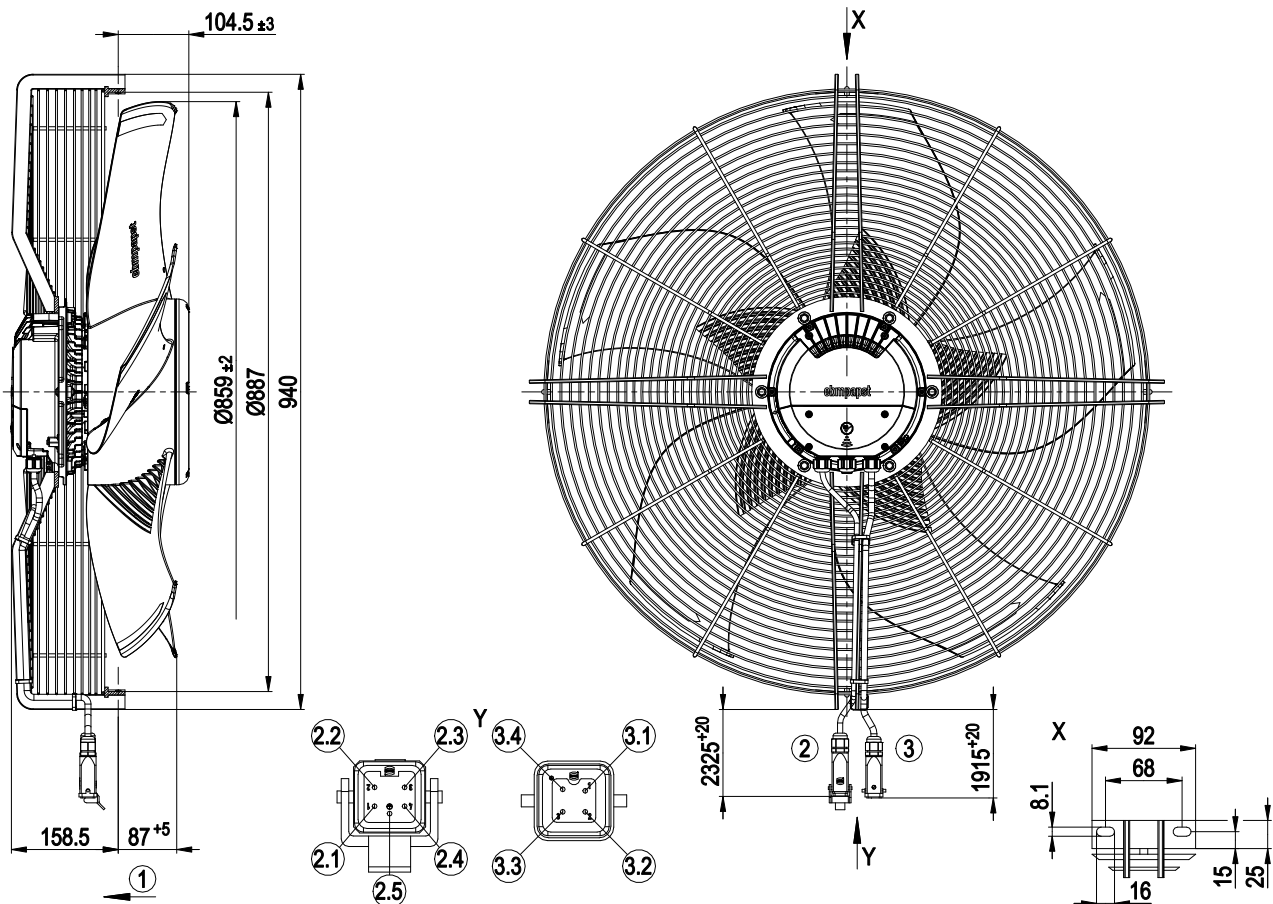
Protection class assignment	I; If a protective earth is connected by the customer This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 61800-5-1; CE
Approval	EAC



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Product drawing



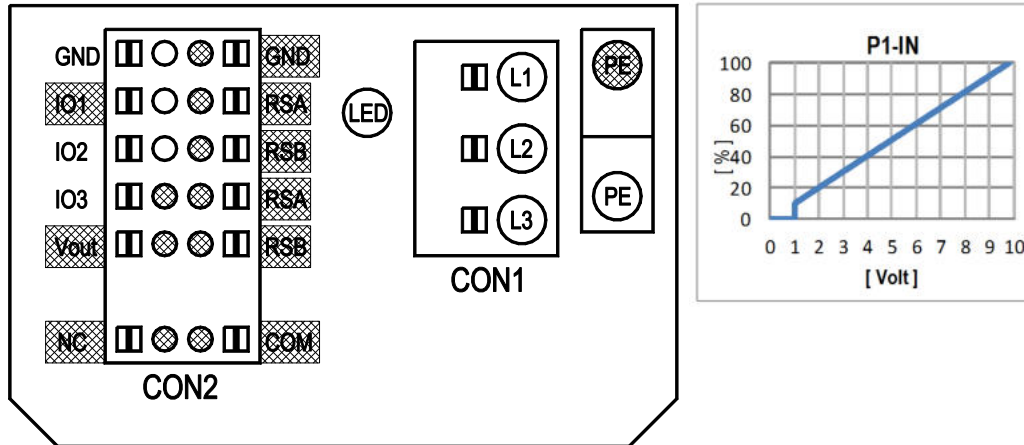
1	Airflow direction "V"
2	Cable Ölflex Heat 105 MC 3x 1.0 mm²
	Connector housing WESTEC 7803.6231.1, 5-pole pin insert WESTEC 7204.6102.4
2.1	not used
2.2	IO3
2.3	IO2
2.4	GND
2.5	not used
3	Cable Ölflex Heat 105 MC 4G 1.5 mm²
	Connector housing WESTEC 7803.6227.1, 4-pole pin insert WESTEC 7203.6101.0
3.1	L1
3.2	L2
3.3	L3
3.4	PE



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Connection diagram



shaded gray => not brought out via leads

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: Diagnostic output (open collector), SELV $U_{max} = 50 \text{ VDC}$, $I_{max} = 20 \text{ mA}$
	CON2	IO2	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog input 0-10 V/PWM, $R_i = 100 \text{ k}\Omega$, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see "Optional interface functions" table) Factory setting: Digital input - low active, function: Disable input, SELV - inactive: Pin open or applied voltage 3.5-50 VDC - active: applied voltage < 1.5 VDC
	CON2	Vout	Voltage output 3.3-24 VDC $\pm 5\%$, $P_{max} = 800 \text{ mW}$, 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
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve

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Terminal/plug assignment

configurable option																				
For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.3																				
CON2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	functions: normal / inverse	source: set value	D101 [...]	D147 [...]	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]
					switch: fan enable / disable	switch: set value source	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing				
					switch: parameter set: #1 / #2	switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing				
					switch: parameter set: #1 / #2	switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing				
	IO1	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	functions: normal / inverse	switch: parameter set: #1 / #2	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]	
						switch: parameter set: #1 / #2	switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing			
	IO2	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	functions: normal / inverse	switch: parameter set: #1 / #2	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]	
						switch: parameter set: #1 / #2	switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing			
	IO3	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	functions: normal / inverse	switch: parameter set: #1 / #2	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]	
						switch: parameter set: #1 / #2	switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing			
switch: parameter set: #1 / #2						switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing				
switch: parameter set: #1 / #2						switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing				
RSA RSB	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	functions: normal / inverse	switch: parameter set: #1 / #2	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]		
					switch: parameter set: #1 / #2	switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing				
Vout	configurable IO mode	electrical specification	MODBUS Register for IO mode configuration	functions: normal / inverse	switch: parameter set: #1 / #2	D104 [...]	D12E [...]	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	(selected directly via IO mode)	D130 [0]	D130 [1]	D130 [2]	D130 [5]	D00C [1]	D130 [4]		
					switch: parameter set: #1 / #2	switch: fan enable / disable	switch: direction of rotation: cw / ccw	switch: control function: heating (pos.) / cooling (neg.)	switch: tach out	signal: diagnostics out	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing				

◦ configurable option

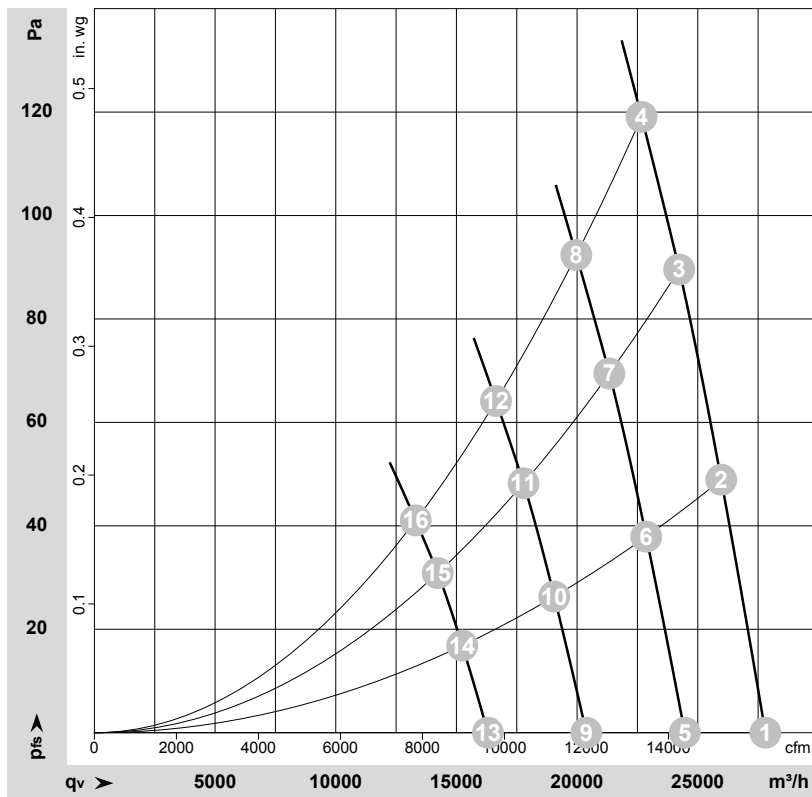
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Curves: Air performance 50 Hz



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

Measurement: LU-206683-1

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)	m ³ /h	Pa	cfm	in. wg
1	3~	400	50	1020	1442	2.33	72	79	81	27805	0	16365	0.00
2	3~	400	50	1020	1661	2.65	70	77	79	25970	50	15285	0.20
3	3~	400	50	1020	1820	2.90	70	77	79	24230	90	14260	0.36
4	3~	400	50	1020	1930	3.00	70	77	78	22670	120	13345	0.48
5	3~	400	50	900	982	1.58	68	75	77	24460	0	14395	0.00
6	3~	400	50	900	1134	1.81	67	74	76	22865	40	13455	0.16
7	3~	400	50	900	1243	1.97	66	73	75	21335	70	12560	0.28
8	3~	400	50	900	1325	2.09	67	74	75	19970	93	11755	0.37
9	3~	400	50	750	568	0.92	64	71	73	20385	0	12000	0.00
10	3~	400	50	750	656	1.05	62	69	71	19055	27	11215	0.11
11	3~	400	50	750	720	1.14	62	69	71	17780	48	10465	0.19
12	3~	400	50	750	767	1.21	62	69	71	16640	64	9795	0.26
13	3~	400	50	600	291	0.47	58	65	67	16305	0	9600	0.00
14	3~	400	50	600	336	0.54	56	64	66	15245	18	8970	0.07
15	3~	400	50	600	368	0.58	56	63	65	14225	31	8370	0.12
16	3~	400	50	600	393	0.62	57	63	65	13310	41	7835	0.16

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

