W3G650-DL06-G4

EC axial fan

sickle-shaped blades (S series)

with square full nozzle

W3G650-DL06-G4 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**W3G650-DL06-G4**
Motor	**M3G084-FA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	710
Power consumption	W	220
Current draw	A	1.0
Max. back pressure	Pa	65
Max. back pressure	inH2O	0.26
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60
Starting current	A	1.0

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

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	43.7	29.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		54.6	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.19
09 Air flow q_v	m^3/h	6025
09 Pressure increase p_{fs}	Pa	46
10 Speed (rpm) n	min^{-1}	710
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 Pa

LU-161116

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Technical description

Weight	22 kg
Fan size	650 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55; installation- and position-dependent
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F3-1
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; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - 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 circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; EN 61800-5-1; CE
Approval	C22.2 No.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730

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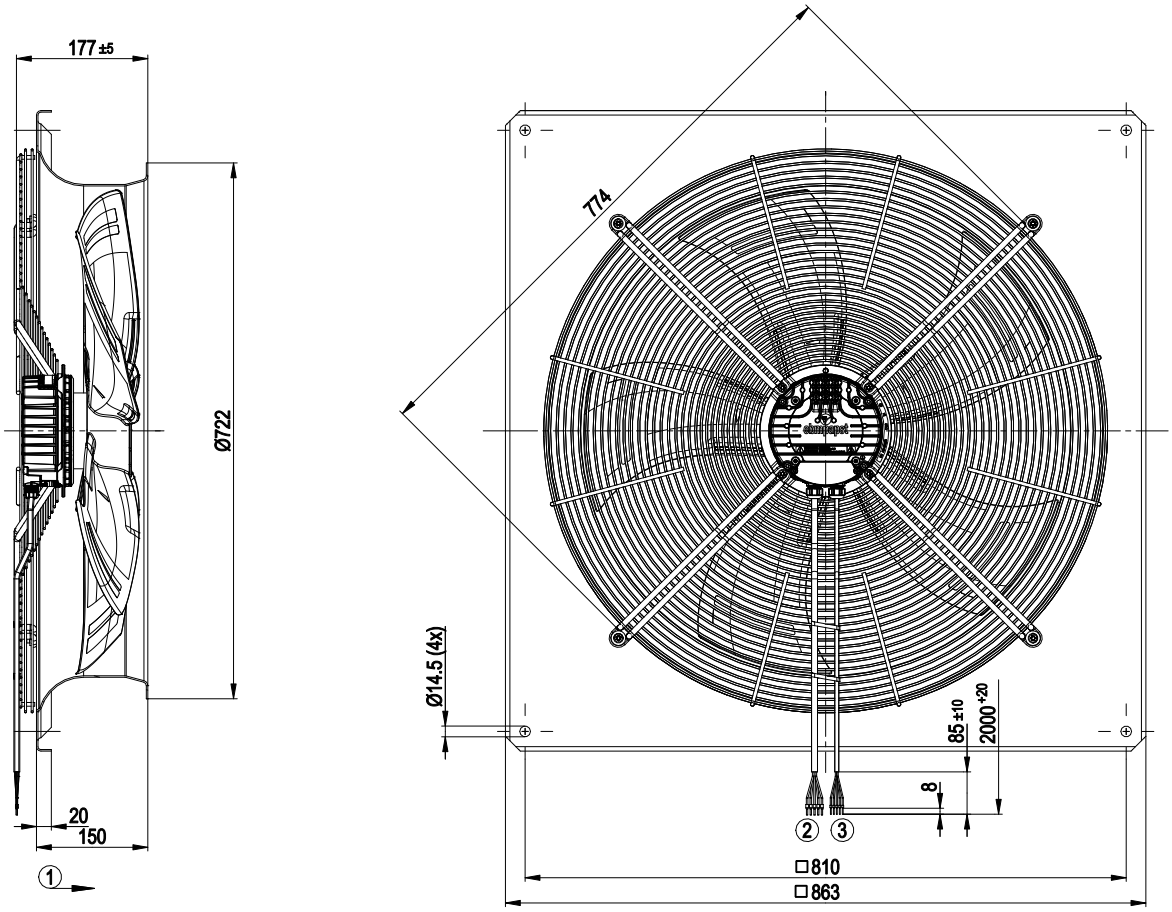
Product drawing



1	Direction of air flow "A"
2	Cable PVC AWG22, 5x crimped ferrules
3	Cable PVC AWG18, 5x crimped ferrules

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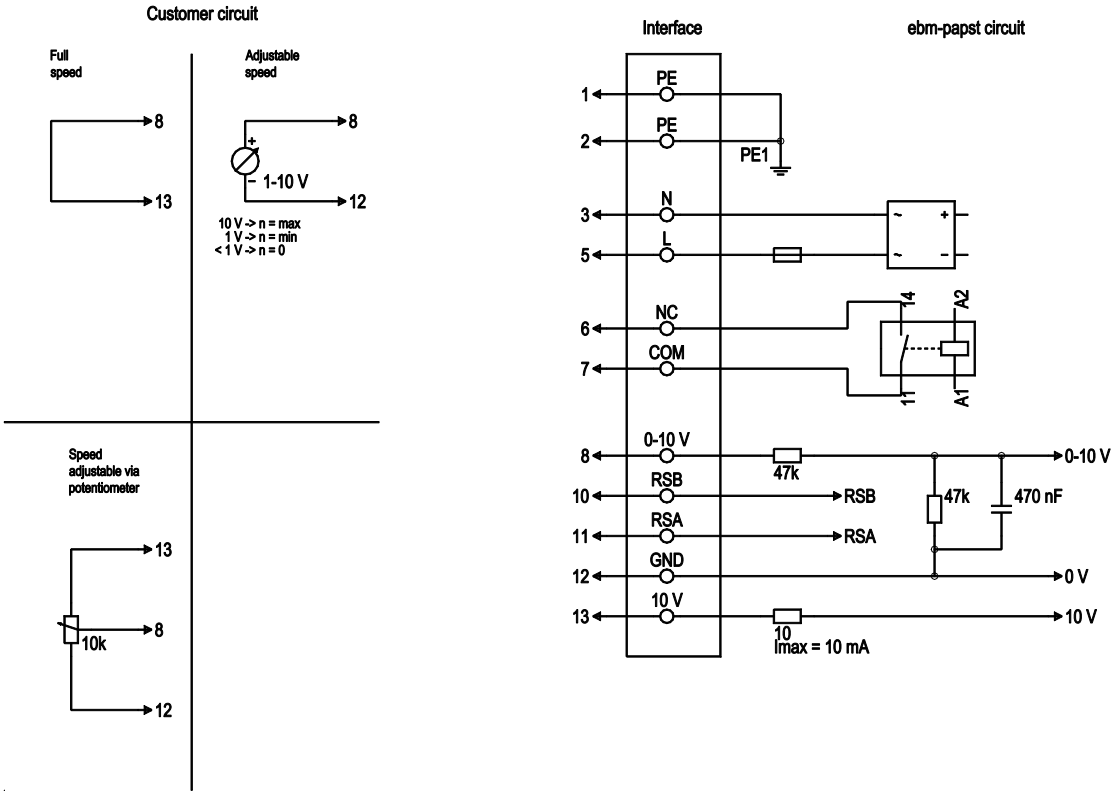
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analog input (set value); 0-10 V; Ri = 100 kΩ; adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB
2	11	RSA	white	RS485 interface for MODBUS, RSA
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ±3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. pot)

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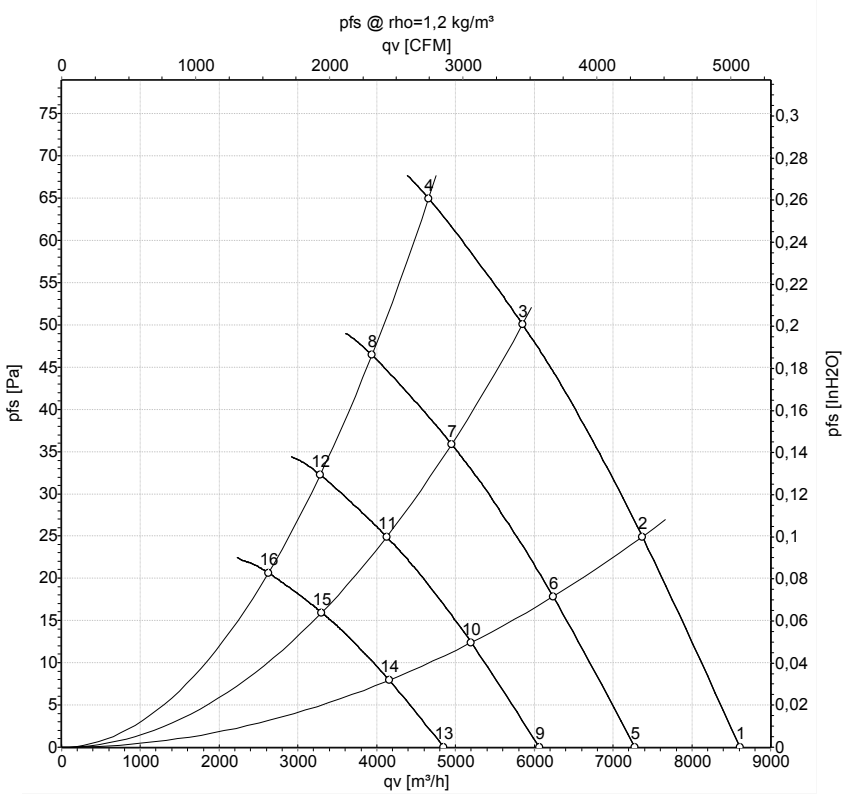
Curves: Air performance 50 Hz



Measurement: LU-161116-1

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	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	230	50	710	138	0.65	54	60	59	8610	0	5070	0.00
2	230	50	710	172	0.79	55	60	60	7375	25	4340	0.10
3	230	50	710	201	0.91	55	61	61	5850	50	3445	0.20
4	230	50	710	220	1.00	58	65	65	4660	65	2745	0.26
5	230	50	600	83	0.39	50	56	55	7275	0	4285	0.00
6	230	50	600	104	0.48	51	56	55	6240	18	3670	0.07
7	230	50	600	122	0.55	51	57	56	4950	36	2915	0.14
8	230	50	600	134	0.60	53	61	61	3940	47	2320	0.19
9	230	50	500	48	0.23	45	51	50	6065	0	3570	0.00
10	230	50	500	60	0.28	46	52	51	5200	13	3060	0.05
11	230	50	500	70	0.32	46	53	52	4125	25	2430	0.10
12	230	50	500	77	0.35	49	56	56	3285	32	1930	0.13
13	230	50	400	25	0.12	39	45	45	4850	0	2855	0.00
14	230	50	400	31	0.14	40	46	45	4160	8	2450	0.03
15	230	50	400	36	0.16	41	47	46	3300	16	1945	0.06
16	230	50	400	40	0.18	43	50	50	2625	21	1545	0.08

U = Power supply · 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 · qv = Air flow · p_{fs} = Pressure increase