

W3G650-CK02-03

EC axial fan

sickled blades (S series)

with full square nozzle

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Nominal data

Type	W3G650-CK02-03	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min ⁻¹	1500
Power input	W	2870
Current draw	A	4.4
Max. back pressure	Pa	350
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011

		Actual	Request 2015
01 Overall efficiency η_{es}	%	44.6	36.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48	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	2.87
09 Air flow q_v	m³/h	13505
09 Pressure increase p_{fs}	Pa	325
10 Speed (rpm) n	min ⁻¹	1510
11 Specific ratio*		1.00

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

LU-109527



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Technical features

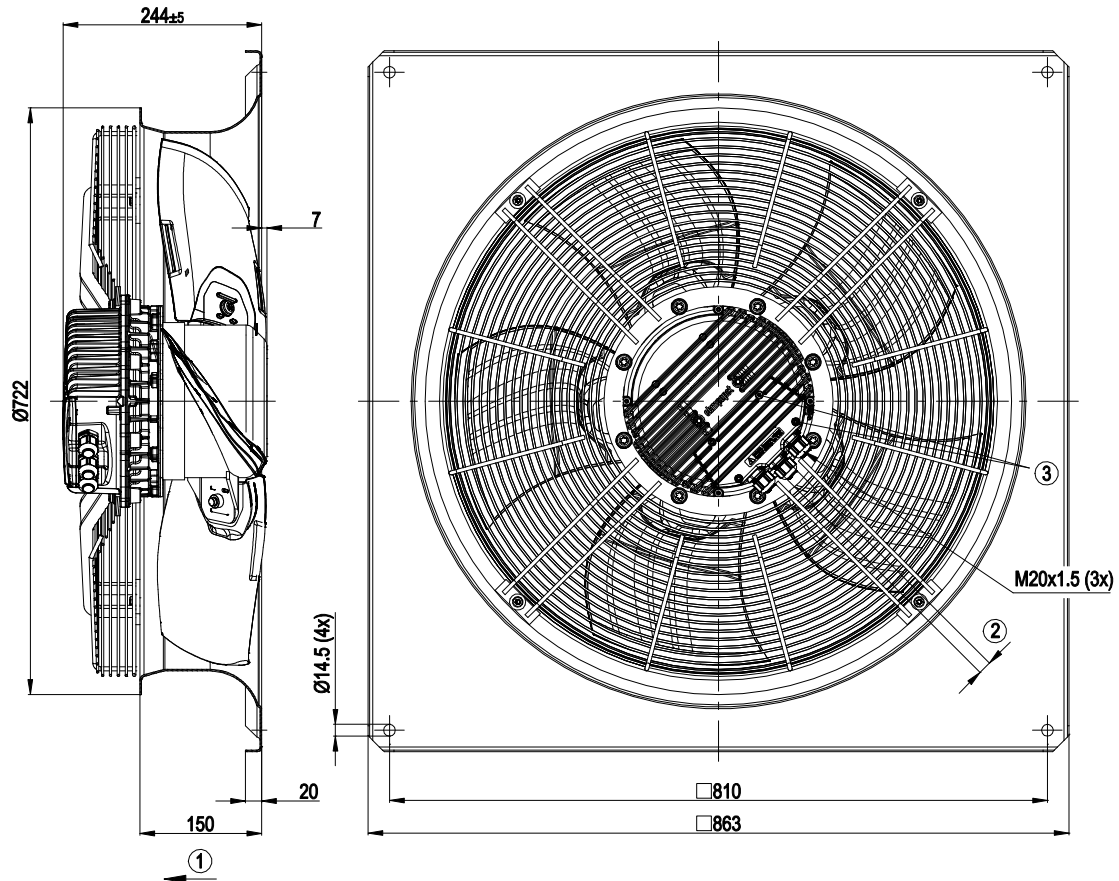
Mass	42 kg
Size	650 mm
Motor size	150
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Die-cast aluminium
Material of wall ring	Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Blade angle	-5°
Direction of rotation	Clockwise, seen on rotor
Protection rating	IP54
Insulation class	"F"
Humidity (F) / environmental protection class (H)	F4-1
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
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 ebmbus - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3,5 mA
Electrical connection	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	VDE; CSA C22.2 no. 77; EAC



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Product drawing



1	Direction of air flow "V"
2	Cable diameter: min. 4 mm, max. 10 mm, tightening torque: 4 ± 0.6 Nm
3	Tightening torque 3.5 ± 0.5 Nm

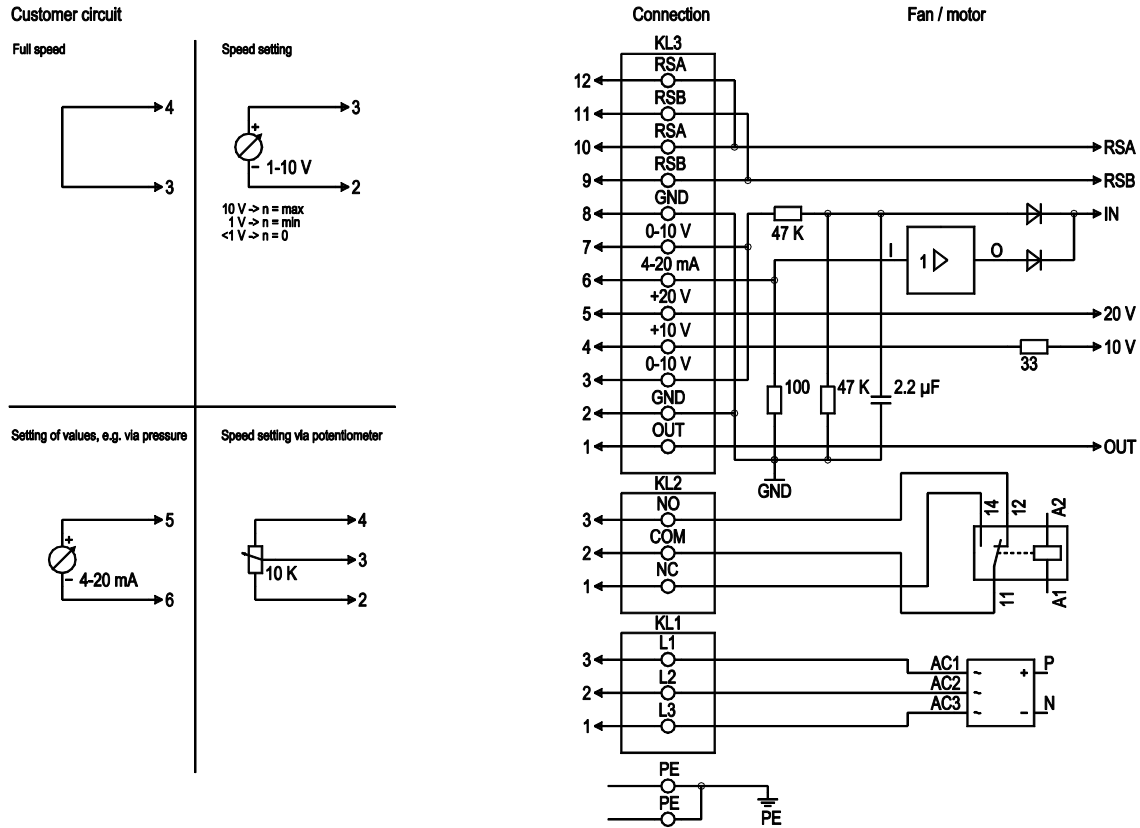


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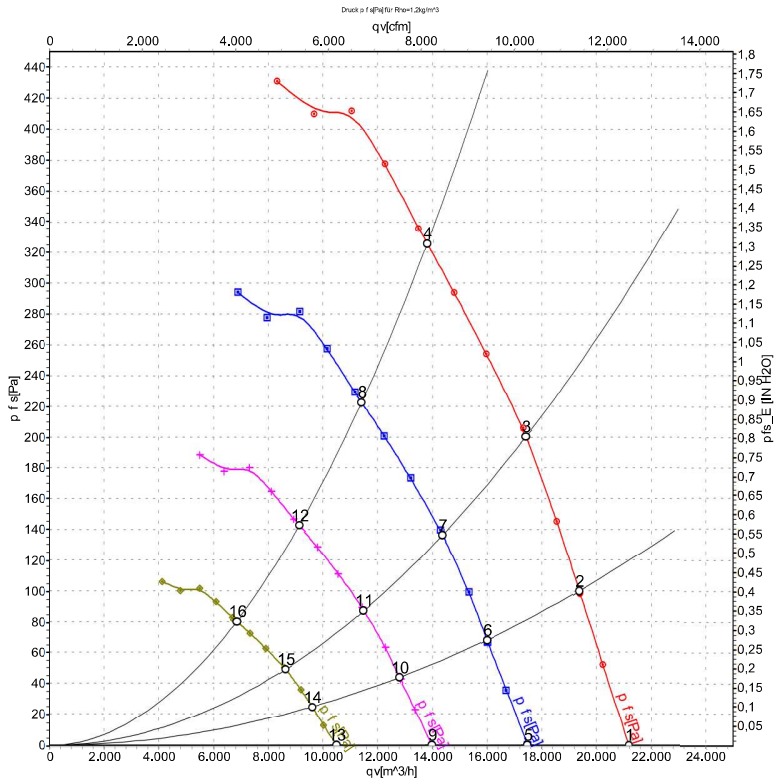
Connection screen



No.	Conn.	Designation	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, normally closed connection
KL2	2	COM	Floating status message contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status message contact, normally open connection
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of the current level control coefficient: 1 V equates to 10 % level control coefficient. 10 V equate to 100 % level control coefficient.
KL3	2, 8	GND	Reference mass for control interface, SELV
KL3	3, 7	0-10 V	Use control / actual value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (+/-3 %), max. 10 mA, supply voltage for ext. devices (e.g. potentiometers), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25 %/-10 %), max. 50 mA, supply voltage for ext. devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / actual value input 4-20 mA, impedance 100 Ω, only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for ebmBus, RSB, SELV
KL3	10, 12	RSA	RS485 interface for ebmBus, RSA, SELV



Charts: Air flow 50 Hz



Measurement: LU-109527-1

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_{WA} measured as per ISO 13347 / L_{pA} 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 _{ed}	I	L _{pA_{in}}	L _{WA_{in}}	L _{WA_{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	400	50	1500	2011	3.05	76	82	83	21180	0	12465	0.00
2	400	50	1500	2292	3.46	75	81	82	19370	100	11400	0.40
3	400	50	1500	2628	4.00	75	82	82	17410	200	10245	0.80
4	400	50	1500	2870	4.40	79	86	86	13810	325	8130	1.30
5	400	50	1250	1132	1.71	72	78	79	17490	0	10295	0.00
6	400	50	1250	1290	1.95	70	77	77	15990	68	9410	0.27
7	400	50	1250	1473	2.24	71	78	78	14360	137	8450	0.55
8	400	50	1250	1619	2.48	75	82	82	11410	223	6715	0.90
9	400	50	1000	580	0.88	67	73	74	13990	0	8235	0.00
10	400	50	1000	660	1.00	66	72	73	12790	44	7530	0.18
11	400	50	1000	754	1.15	66	73	73	11490	88	6765	0.35
12	400	50	1000	829	1.27	70	77	77	9130	142	5375	0.57
13	400	50	750	244	0.37	61	67	68	10490	0	6175	0.00
14	400	50	750	279	0.42	59	66	66	9595	24	5645	0.10
15	400	50	750	318	0.48	60	67	67	8620	49	5070	0.20
16	400	50	750	350	0.53	64	70	71	6850	80	4030	0.32

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · L_{pA_{in}} = Sound pressure level inlet side · L_{WA_{in}} = Sound power level inlet side · L_{WA_{out}} = Sound power level outlet side
q_v = Air flow · P_{fs} = Pressure increase

