W3GZ50-CK15-35

EC axial fan

sickled blades (S series)

with full round nozzle, for agricultural ventilation

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**W3GZ50-CK15-35**
Motor	**M3G150-NA**

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}	570
Power input	W	1780
Current draw	A	2.7
Max. back pressure	Pa	75
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	65

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 (EN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	43.7	35.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.4	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	1.79
09 Air flow q_v	m^3/h	30905
09 Pressure increase p_{fs}	Pa	86
10 Speed (rpm) n	min^{-1}	570
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-200714

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Technical features

Mass	80 kg
Size	1250 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, coated in black
Material of mounting ring	Steel, coated in black plastic (RAL 9005)
Material of wall ring	Sheet steel, galvanised and coated in black plastic (RAL 9005)
Number of blades	3
Blade angle	0°
Direction of air flow	A
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP55
Insulation class	"F"
Humidity (F) / environmental protection class (H)	H2+A
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 top; rotor on bottom on request
Condensation drainage holes	On the stator 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 - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - 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 61000-6-4 (industrial 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

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Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CSA C22.2 no. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

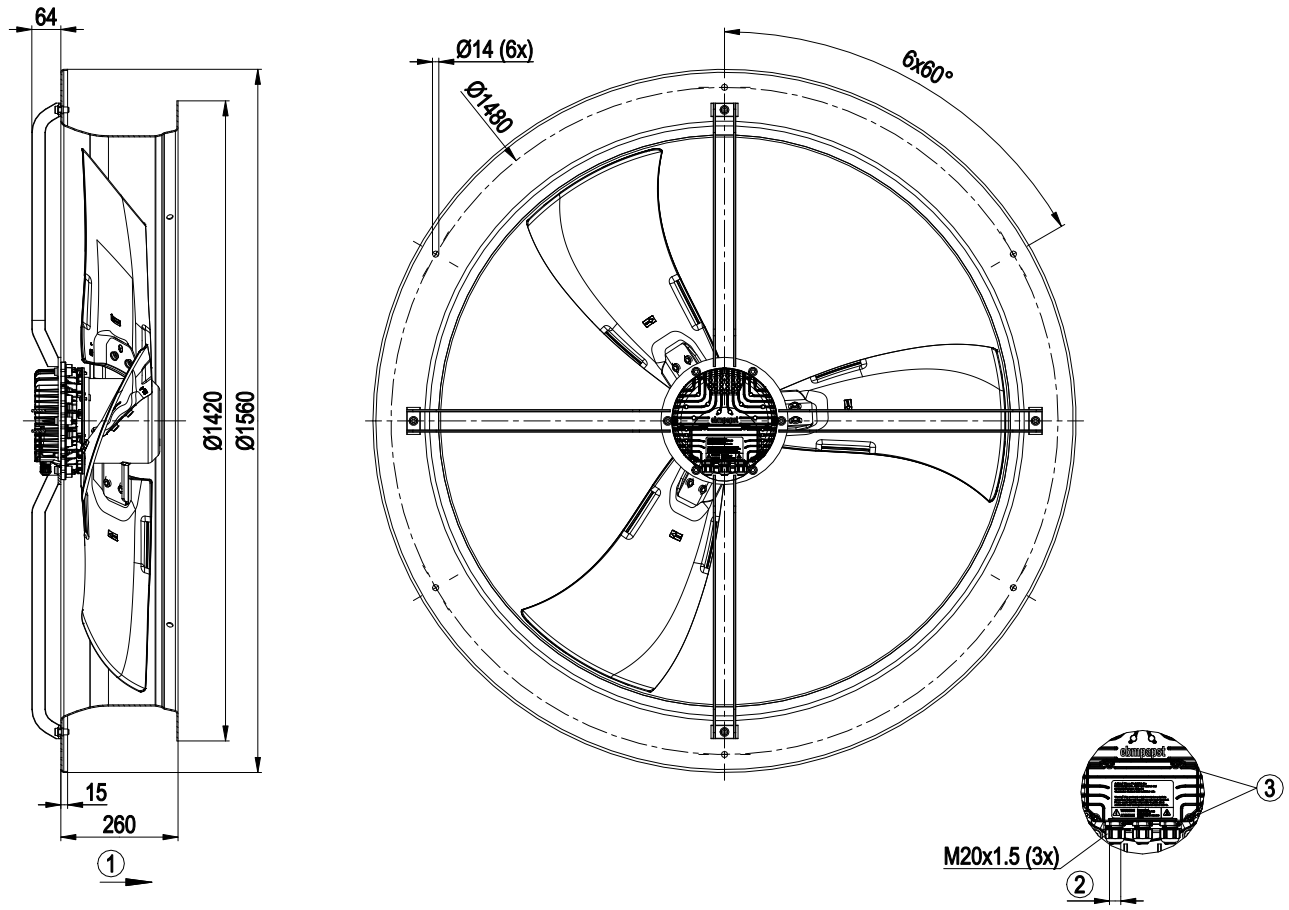
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Product drawing



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

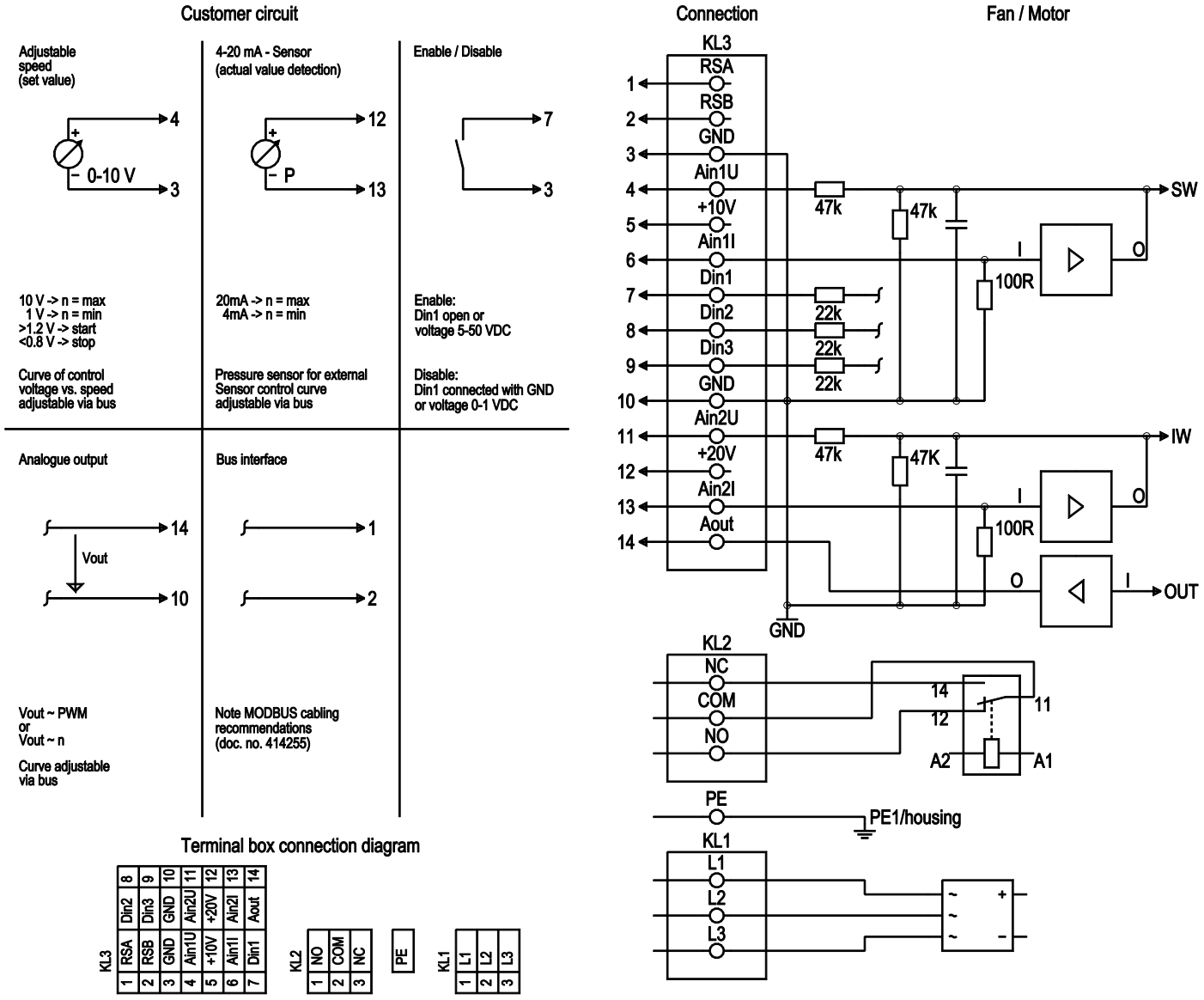
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Connection screen



Terminal box connection diagram

No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains connection, power supply; see technical data for nominal voltage range
KL 1	2	L2	Mains connection, power supply; see technical data for nominal voltage range
KL 1	3	L3	Mains connection, power supply; see technical data for nominal voltage range
PE		PE	Earth connection, PE connection
KL 2	1	NO	Status relay, floating status contact, make for failure
KL2	2	COM	Status relay, floating status contact, changeover contact, common connection, contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact, break for failure
KL 3	1	RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 3	2	RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 3	3 / 10	GND	Signal ground for control interface; SELV
KL 3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain1; SELV

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No.	Conn.	Designation	Function / assignment
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer); SELV
KL 3	6	Ain1 I	Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only usable as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: enabling of electronics, enabling: open pin or applied voltage 5-50 VDC disabling: bridge to GND or applied voltage <1 VDC reset function: triggers software reset after a level change to <1 VDC; SELV
KL 3	8	Din2	Digital input 2: parameter set switch 1/2, according to EEPROM setting, the valid/used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: open pin or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage <1 VDC; SELV
KL 3	9	Din3	Digital input 3: controller function of integrated controller, according to EEPROM setting, the controller function of the integrated controller is normally/inversely selectable per bus or per digital input Din 3 normal: open pin or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage <1 VDC; SELV
KL 3	11	Ain2 U	Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC; +20 V +25/-10%, max. 50 mA; short-circuit-proof; supply voltage for external devices (e.g. sensors); SELV Alternatively: +24 VDC input for parametrization without mains power
KL 3	13	Ain2 I	Analogue input 2, actual value: 4-20 mA, Ri = 100 Ω, parametrisable curve, only usable as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV

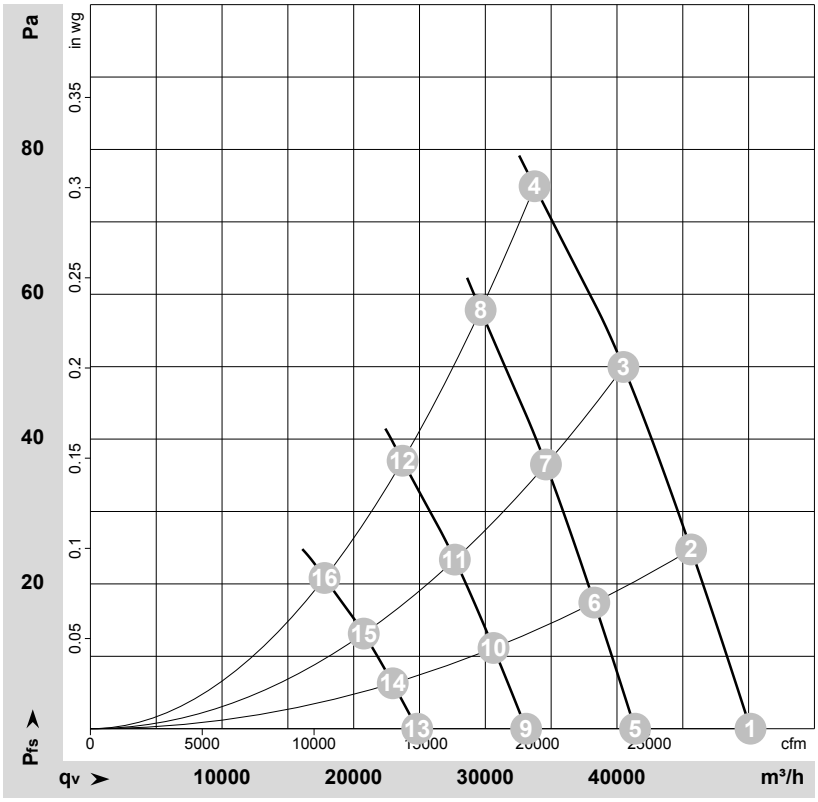
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-165730-1

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: LwA measured as per ISO 13347 / LpA 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	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	400	50	600	1670	2.55	65	73	74	50145	0	29515	0.00
2	400	50	595	1737	2.65	65	73	74	45635	25	26860	0.10
3	400	50	585	1780	2.70	65	73	74	40490	50	23830	0.20
4	400	50	570	1780	2.70	66	75	74	33740	75	19860	0.30
5	400	50	500	938	1.43	60	68	69	41375	0	24350	0.00
6	400	50	500	1021	1.56	61	68	69	38280	18	22530	0.07
7	400	50	500	1111	1.70	61	69	70	34605	37	20370	0.15
8	400	50	500	1210	1.85	63	71	71	29645	58	17450	0.23
9	400	50	400	480	0.73	54	62	63	33100	0	19480	0.00
10	400	50	400	523	0.80	55	63	63	30625	11	18025	0.04
11	400	50	400	569	0.87	56	64	64	27685	24	16295	0.10
12	400	50	400	619	0.95	58	66	65	23715	37	13960	0.15
13	400	50	300	203	0.31	47	55	56	24825	0	14610	0.00
14	400	50	300	220	0.34	48	56	56	22970	6	13520	0.02
15	400	50	300	240	0.37	49	57	57	20765	13	12220	0.05
16	400	50	300	261	0.40	50	58	58	17785	21	10470	0.08

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

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