

8300101045

VMA0500CSNJS

EC axial panel fan - AxiEco

with guard grille

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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Item	8300101045	
Motor	E07433-43	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	795
Power consumption	W	170
Current draw	A	1.4
Max. back pressure	Pa	90
Max. back pressure	in. wg	0.36
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

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

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	41.3	28.8	09 Power consumption P_{ed}	kW	0.16
02 Measurement category		A		09 Air flow q_v	m ³ /h	3455
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	64
04 Efficiency grade N		52.5	40	10 Speed (rpm) n	min ⁻¹	790
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-225311

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

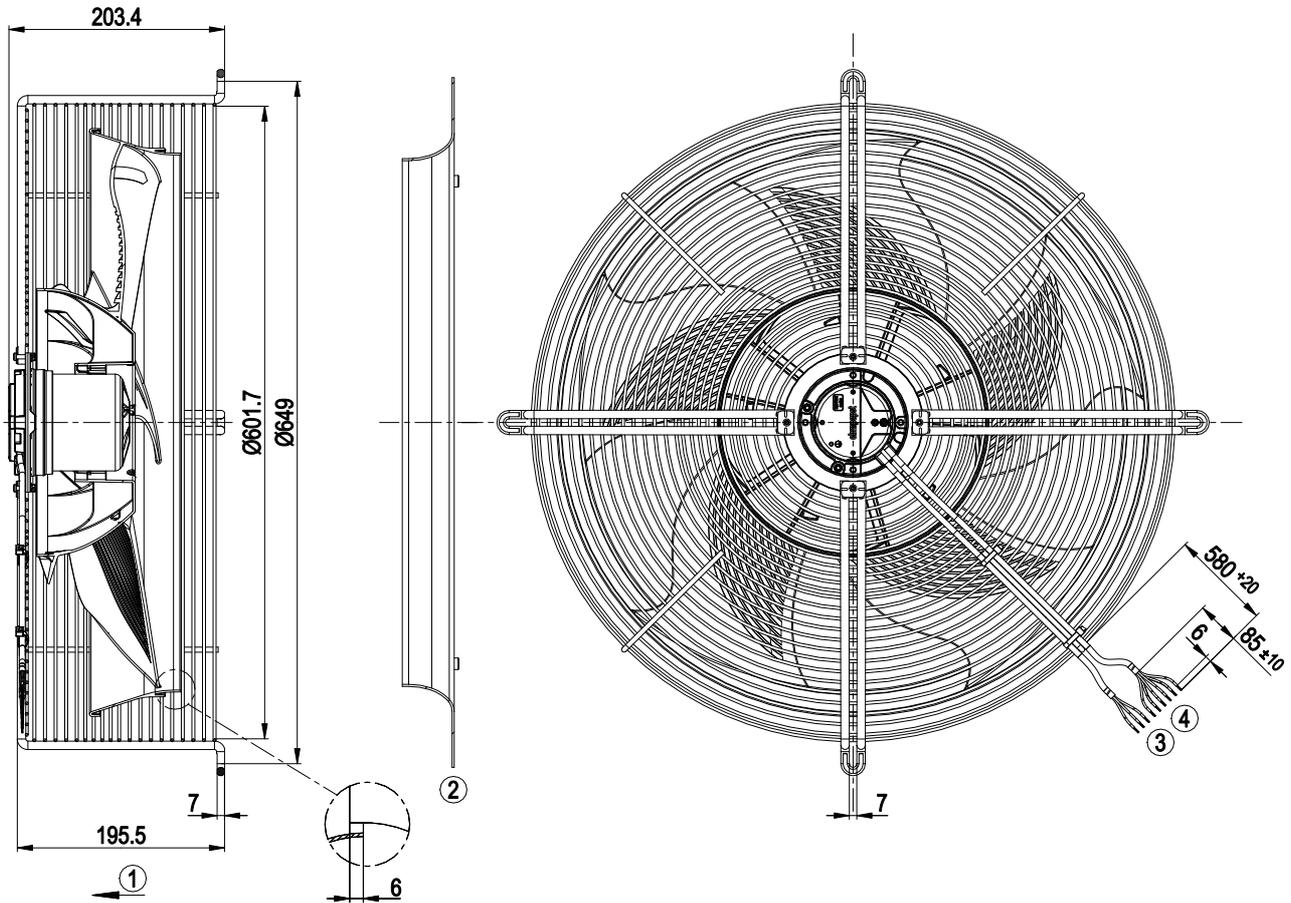
Size	500 mm
Motor size	74
Rotor surface	Galvanized
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic, galvanized sheet-metal plate
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
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, open rotor
Mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none">- Output 10 VDC, max. 10 mA- Locked-rotor detection- Tach output- Speed control- Power limiter- Motor current limitation- Soft start- Control input 0-10 VDC / PWM- Control interface with SELV potential safely disconnected from the mains- Overvoltage detection- Thermal overload protection for electronics/motor- Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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Product drawing



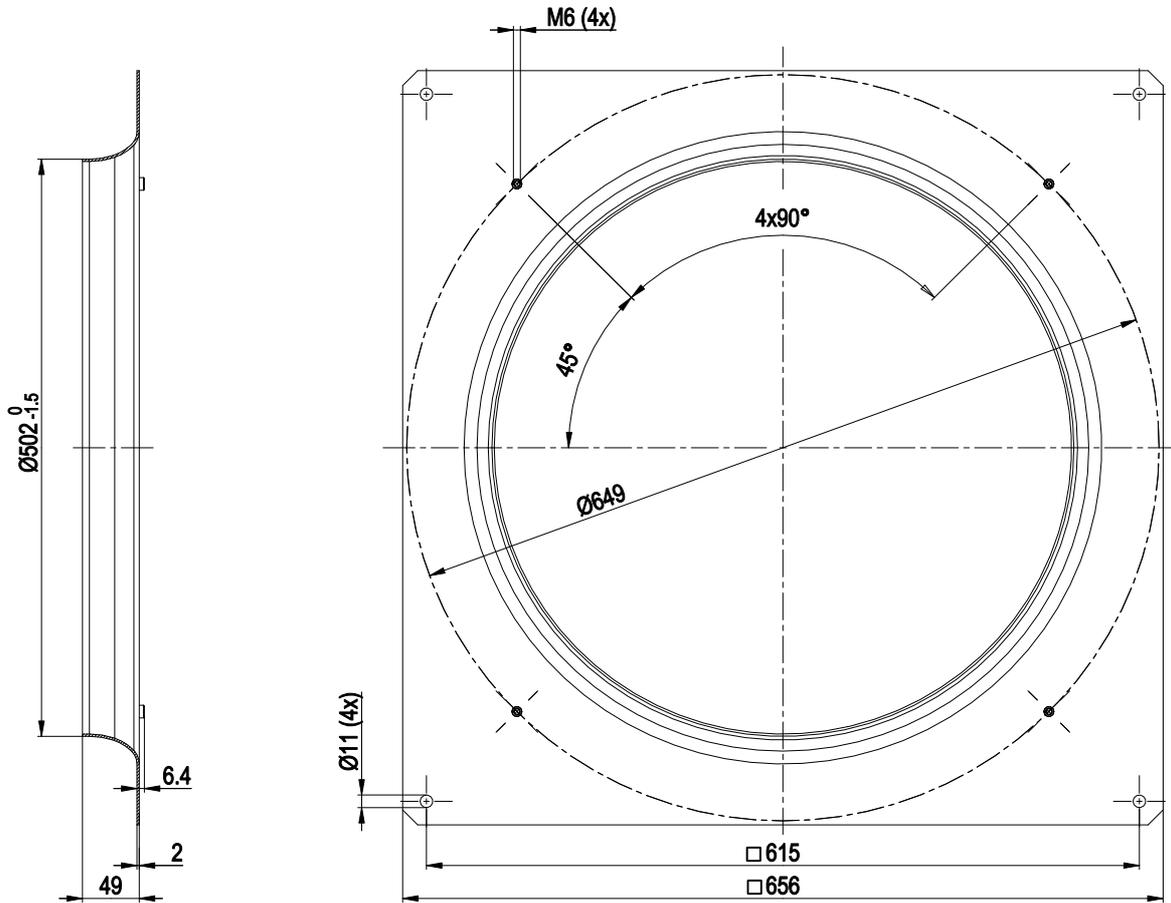
1	Airflow direction "V"
2	Accessory part: Inlet ring 50100-2-4013 not included in scope of delivery.
3	Supply line (PWR) PVC AWG20 3x splice
4	Control wire (CTRL) PVC AWG22 6x splice

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Accessory part

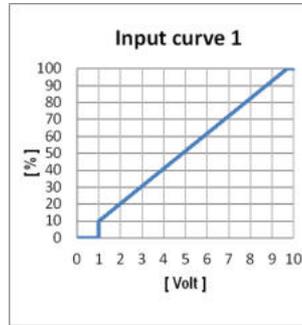


Inlet ring 50100-2-4013

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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	PWR	L	black	Power supply, phase, see nameplate for voltage range
	PWR	N	blue	Power supply, neutral conductor, see nameplate for voltage range
	PWR	PE	green/yellow	Protective earth
	CTRL	GND	blue	Reference ground for control interface, SELV
	CTRL	IO1	yellow	Factory setting: Analog input 0-10 V/PWM, Ri=100 KΩ, fPWM=1 kHz..10 kHz, Function: Speed set value Characteristic curve parameterizable (see "Input curve 1"), SELV Function parameterizable at the factory (see Optional interface functions table)
	CTRL	IO2	white	Factory setting: Open collector output, Umax=50 VDC, I _{max} = 10 mA, function: Tach output 1 pulse/revolution, SELV Function parameterizable at factory (see table Optional interface functions)
	CTRL	Vout	red	Voltage output 10 VDC +/-3%, I _{max} =10 mA Short-circuit-proof, power supply for external devices, SELV
	CTRL	-	gray	No function
	CTRL	-	brown	No function

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Terminal/plug assignment

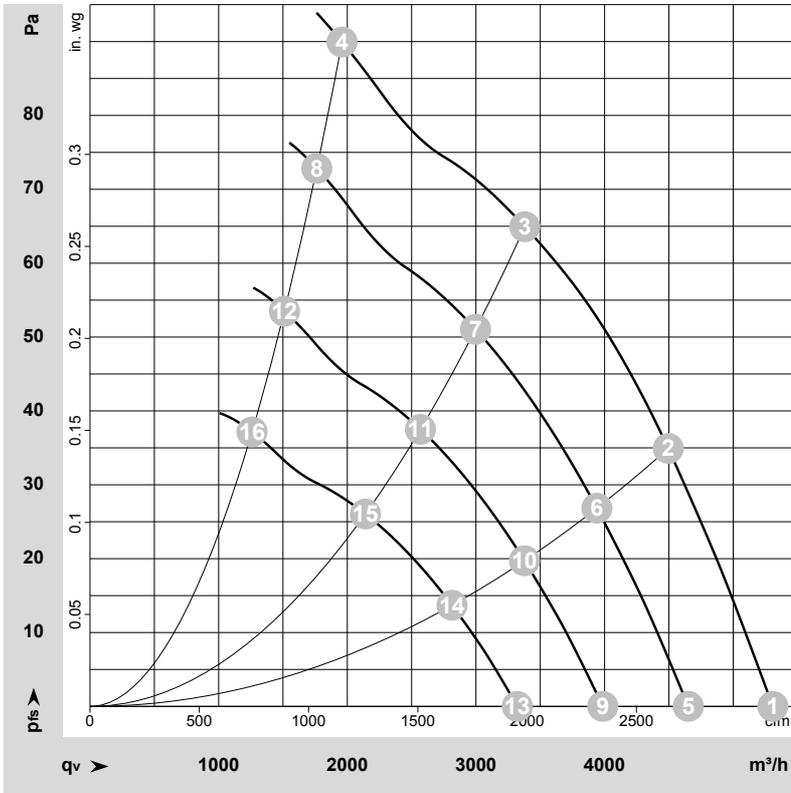
	configurable IO mode	electrical specification						
IO1	◦ Din1 (high active): digital input	active: parameterizable voltage x-30 VDC not active: pin open or parameterizable voltage <x VDC, SELV						
	◦ Ain1 0-10 V/PWM: analog input	RI = 100 kΩ, characteristic curve parameterizable, $f_{\text{PWM}} = 1\text{ k}..10\text{ kHz}$, SELV						
IO2	◦ Tach out (open collector)	Umax=50 VDC, Imax=10 mA, SELV						
	◦ Diagnostics out (open collector)	Umax=50 VDC, Imax=10 mA, SELV						
	◦ Alarm out (open collector)	Umax=50 VDC, Imax=10 mA, SELV						
	◦ Open collector	Umax=50 VDC, Imax=10 mA, SELV						
Vout	Voltage output	Voltage 10 VDC, SELV						

	INPUT	OUTPUT						
source: set value	◦							◦
switch: parameter set: #1 / #2	◦							◦
switch: direction of rotation: cw / ccw	◦							◦
switch: enable/disable input	◦							◦
configurable function	◦	◦						◦
signal: tach out						◦		
signal: diagnostics out							◦	
signal: alarm out								◦
signal: run monitoring								◦
signal: status								◦
signal: configurable function								◦

Basic (B4)
Factory configuration option upon request

◦ Factory configuration option

Curves: Air performance 50 Hz



$\rho = 1.184 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-225311-1
Date: 2023-02-08
Housing: 50100-2-4013

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 _e	I	LpA _{in}	LwA _{in}	LwA _{out}	LwA	q _v	P _{fs}	q _v	P _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	dB	m ³ /h	Pa	cfm	in. wg
1	1~	230	50	795	123	1.04	56	63	66	68	5310	0	3125	0.00
2	1~	230	50	795	155	1.29	54	61	63	65	4495	35	2645	0.14
3	1~	230	50	795	170	1.40	53	60	64	65	3380	65	1990	0.26
4	1~	230	50	795	170	1.40	56	64	69	70	1960	90	1155	0.36
5	1~	230	50	700	83	0.70	53	60	62	64	4650	0	2735	0.00
6	1~	230	50	700	104	0.87	51	58	60	62	3940	27	2320	0.11
7	1~	230	50	700	118	0.97	50	57	61	62	2995	51	1765	0.20
8	1~	230	50	700	123	1.02	53	61	66	67	1765	73	1040	0.29
9	1~	230	50	600	52	0.44	49	56	59	61	3985	0	2345	0.00
10	1~	230	50	600	66	0.55	47	54	56	58	3375	20	1990	0.08
11	1~	230	50	600	74	0.61	46	53	57	58	2570	38	1510	0.15
12	1~	230	50	600	77	0.64	50	57	62	63	1510	54	890	0.22
13	1~	230	50	500	30	0.25	44	52	54	56	3320	0	1955	0.00
14	1~	230	50	500	38	0.32	42	49	51	53	2815	14	1655	0.06
15	1~	230	50	500	43	0.35	41	49	52	54	2140	26	1260	0.10
16	1~	230	50	500	45	0.37	45	53	58	59	1260	37	740	0.15

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = 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