W3G300-ZZ25-P1

EC axial fan - AxiEco

Fan housing with guard grille, for rail applications

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Nominal data

Type	**W3G300-ZZ25-P1**
Motor	**M3G074-CF**

Nominal voltage	VDC	110
Nominal voltage range	VDC	77 .. 138
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	2000
Power consumption	W	200
Current draw	A	1.85
Max. back pressure	Pa	210
Max. back pressure	in. wg	0.84
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60
-with power derating to	°C	70

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	47.6	29.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		58.3	40
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.2
09 Air flow q_v	m^3/h	1985
09 Pressure increase p_{fs}	Pa	155
10 Speed (rpm) n	min^{-1}	2030
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-216246

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

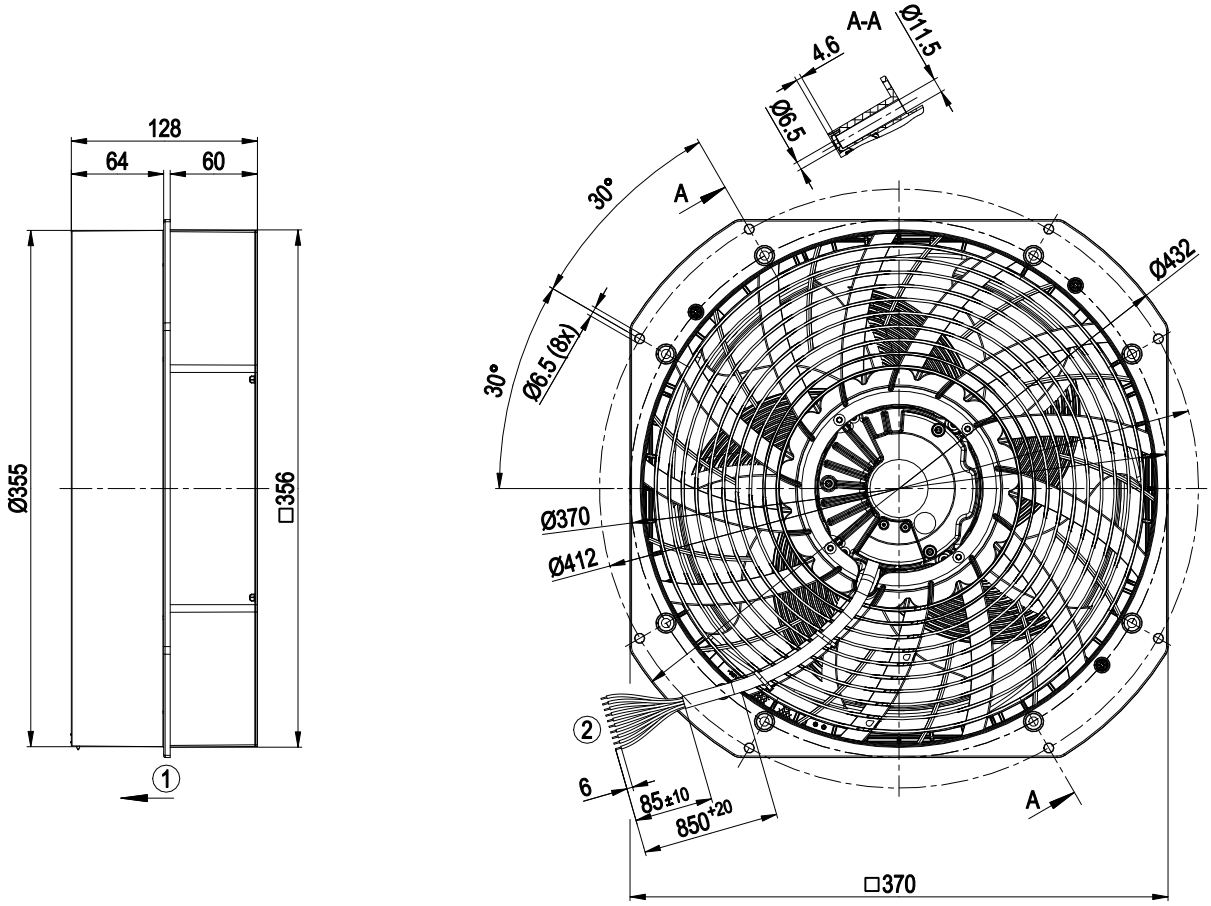
Size	300 mm
Motor size	74
Rotor surface	Galvanized
Impeller material	PA plastic
Fan housing material	PA plastic
Number of blades	5
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	6K9K
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H3
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; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Power limiter - Motor current limitation - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Line undervoltage detection - Reverse polarity protection
Motor protection	Electronic motor protection
With cable	Lateral
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 45545-2, HL3; EN 50155; EN 61373, Cat. 1B; CE
Approval	EAC
Comment	If voltage (e.g. 230 VAC) is passed through the alarm relay, the SELV signal wires lose their property of reinforced insulation, meaning they then have only basic insulation The SELV property (reinforced insulation) is not lost when voltages of up to 110 VDC are passed through the alarm relay.

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Product drawing



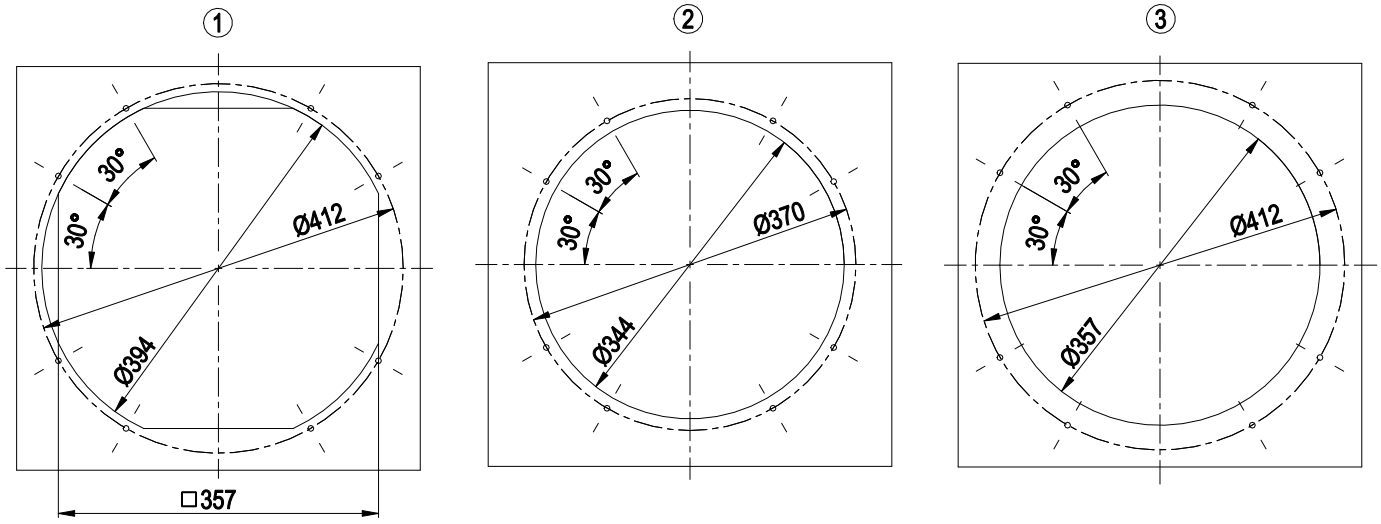
1	Airflow direction "V"
2	Cable, halogen-free, railway application EN 45545, 10G 1.0 mm²
	10x lead tip

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Mounting dimensions



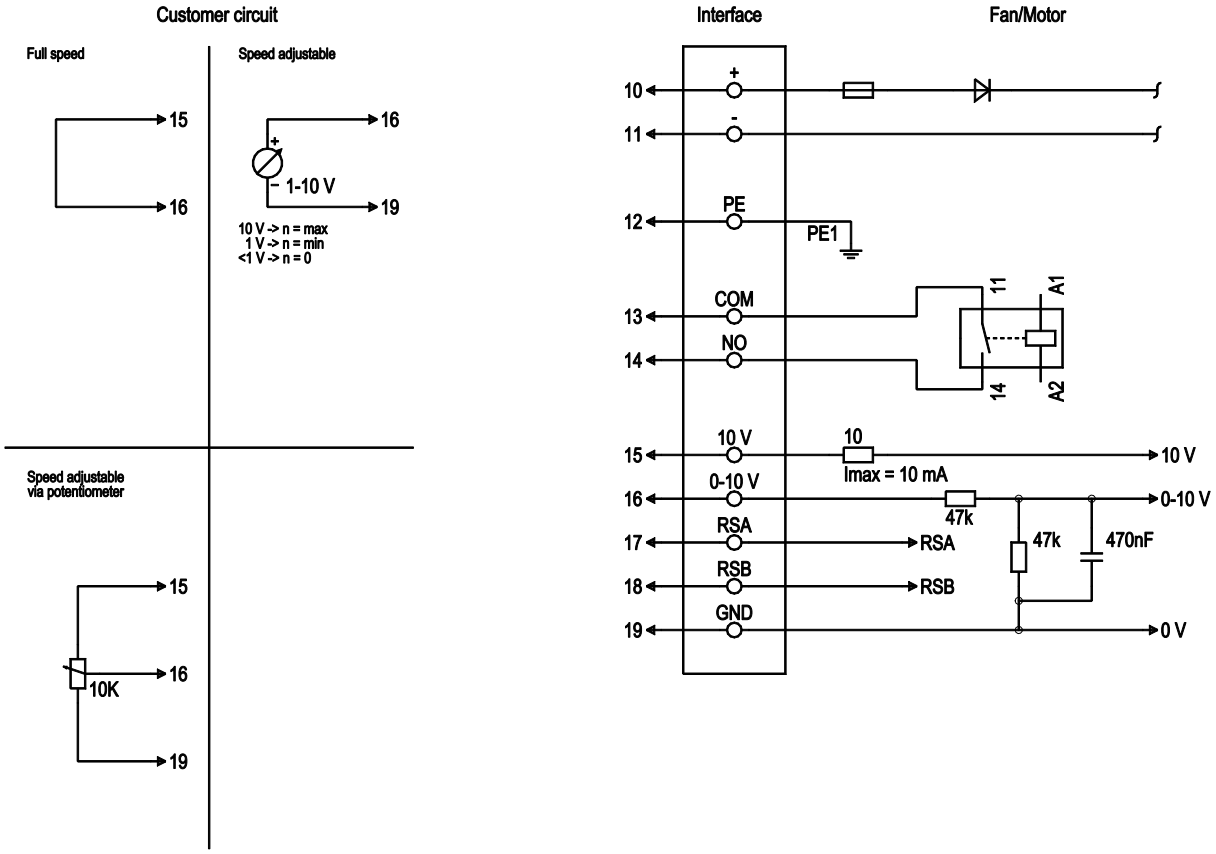
	All 8 holes on the relevant pitch circle must always be used for all types of fastening.
1	intake-side mounting on flange
2	intake-side mounting on suction nozzle
	The Ø6.5 mm holes must be pierced from the underside with a mandrel or similar tool.
	We recommend using M6 cheese-head screws with hexagon socket (DIN 912/DIN EN ISO 4762) for fastening.
3	outlet-side mounting on flange

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Connection diagram



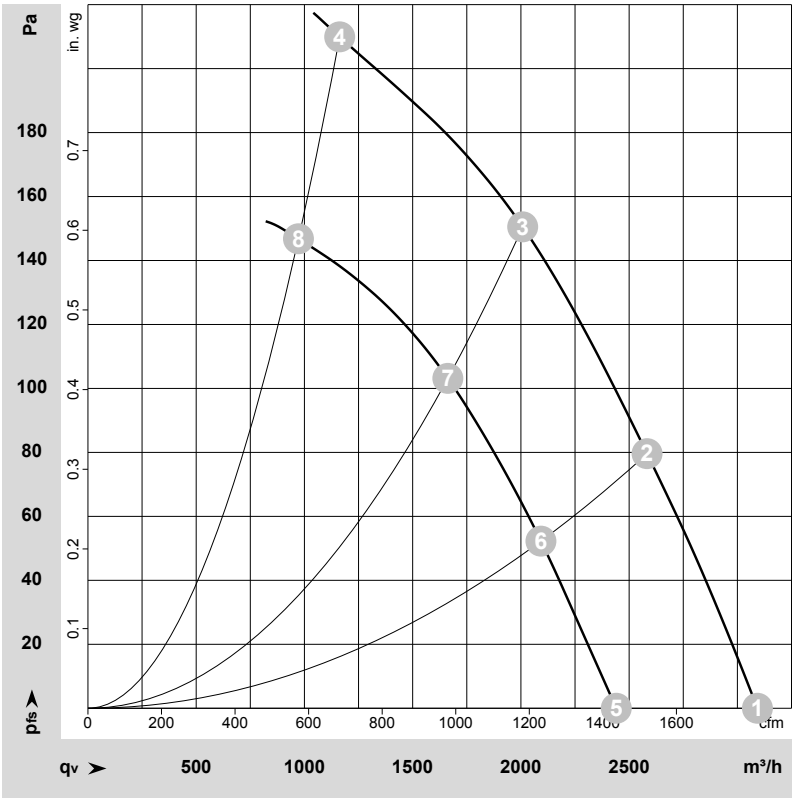
No.	Conn.	Designation	Color	Function/assignment
	10	+	brown	Power supply, see nameplate for voltage range
	11	-	black	Power supply, see nameplate for voltage range
	12	PE	green/yellow	Protective earth
	13	COM	gray	Status relay, floating status contact, common connection, contact rating 250 VAC/30 VDC max. 2 A (AC1), min. 1 mA/5 VDC, reinforced insulation on control interface side, basic insulation on supply side in accordance with EN 50124-1
	14	NO	purple	Status relay, floating status contact, normally open contact, contact rating 250 VAC/30 VDC max. 2 A (AC1), min. 1 mA/5 VDC, reinforced insulation on control interface side, basic insulation on supply side in accordance with EN 50124-1
	15	+10 V	red	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers)
	16	0-10 V	yellow	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
	17	RSA	white	RS-485 interface for MODBUS, RSA; SELV, bus termination resistor provided by customer
	18	RSB	orange	RS-485 interface for MODBUS, RSB; SELV, bus termination resistor provided by customer
	19	GND	blue	Reference ground for control interface, SELV

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Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-216246-1
Measurement: LU-216597-1

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	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	110-138	2220	200	1.85*	70	76	3095	0	1820	0.00
2	110-138	2110	200	1.85*	67	73	2585	80	1520	0.32
3	110-138	2035	200	1.85*	64	71	2010	150	1180	0.60
4	110-138	2000	200	1.85*	67	74	1165	210	685	0.84
5	77	1765	100	1.30			2440	0	1435	0.00
6	77	1725	109	1.41			2095	53	1230	0.21
7	77	1695	114	1.48			1660	104	980	0.42
8	77	1680	116	1.51			970	147	570	0.59

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · * = Current measured at nominal voltage · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_V = Air flow · p_{fs} = Pressure increase

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