A3G400-BK11-M1

EC axial fan - HyBlade

sickled blades (S series)

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Nominal data

Type	**A3G400-BK11-M1**
Motor	**M3G084-DF**

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}	1760
Power input	W	500
Current draw	A	0.80
Max. back pressure	Pa	180
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 according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	40.3	31.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.6	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.49
09 Air flow q_v	m^3/h	3505
09 Pressure increase p_{fs}	Pa	185
10 Speed (rpm) n	min^{-1}	1730
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-159916

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Technical features

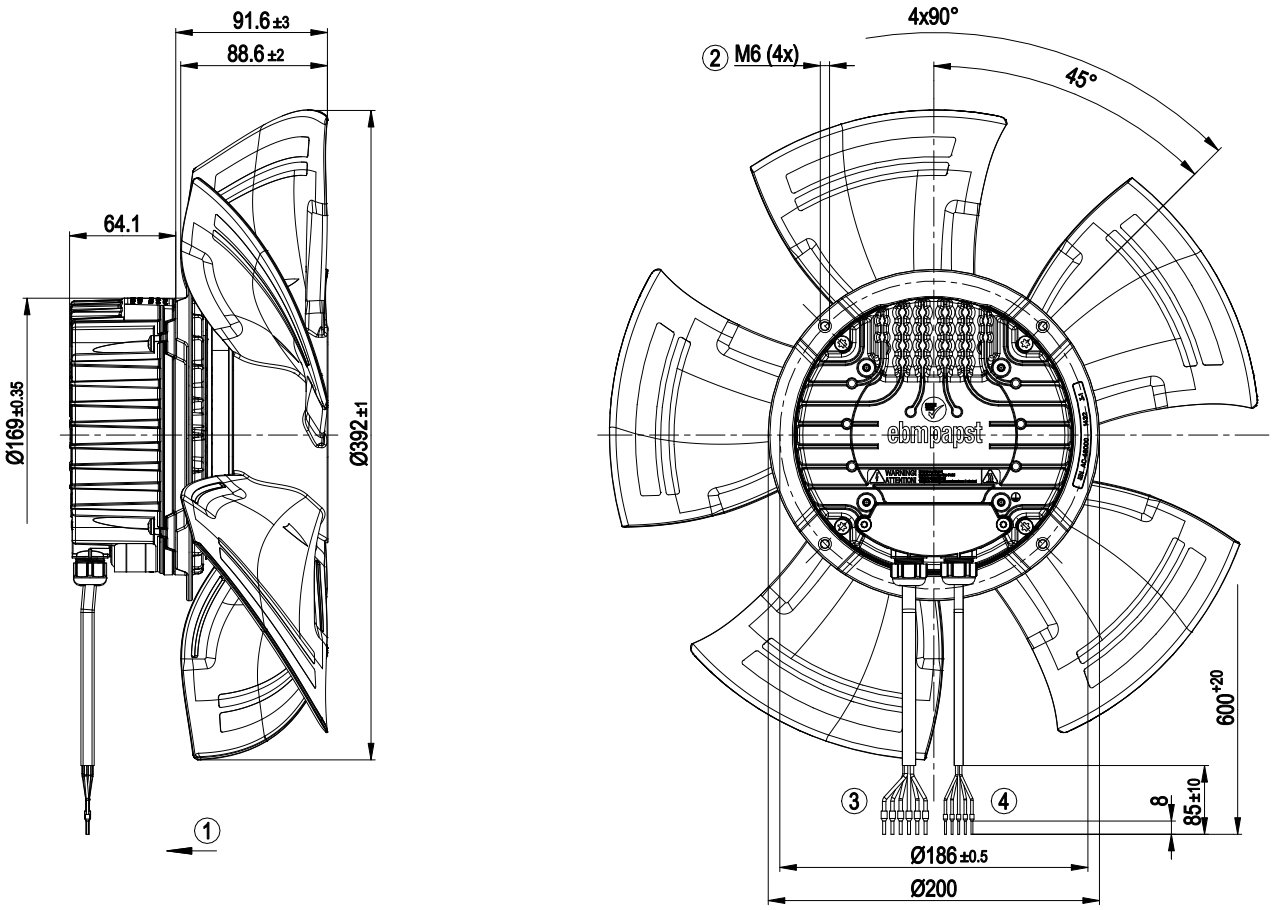
Mass	5 kg
Size	400 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F4-1
Note ambient temperature	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings.
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
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - 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 harmonics	Acc. to EN 61000-3-2/3
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
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CCC; EAC; UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1

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Product drawing



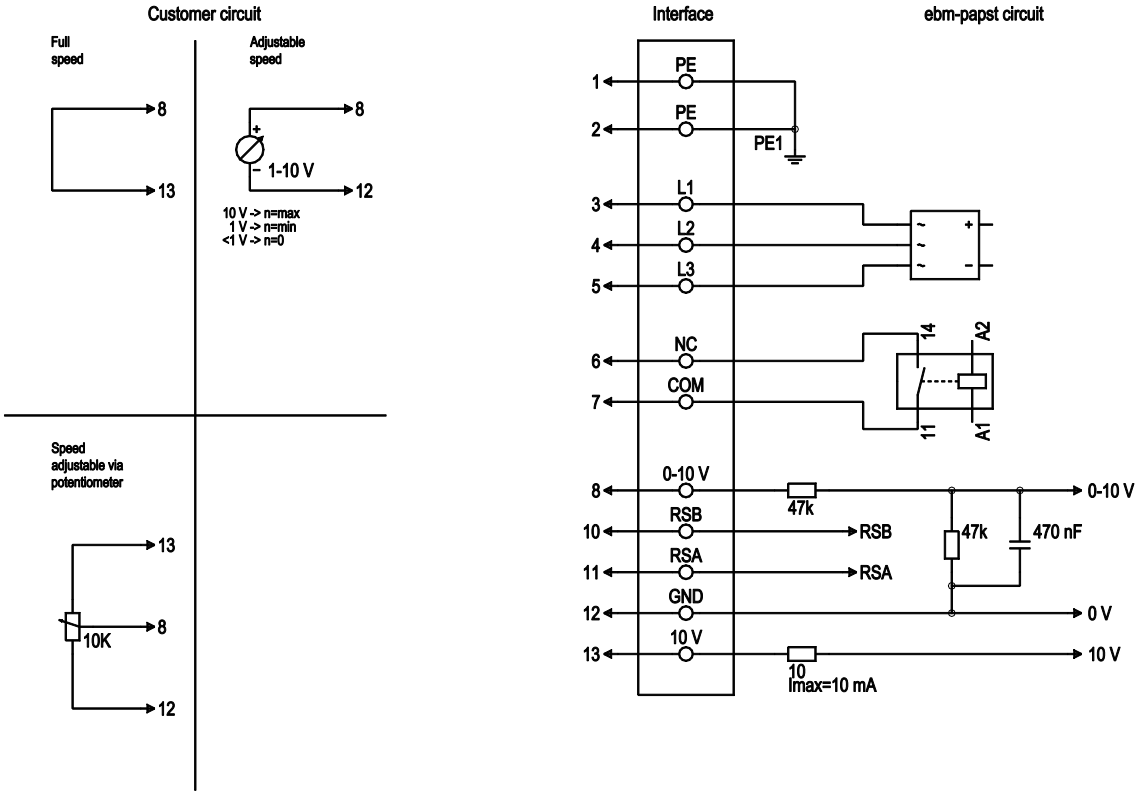
1	Direction of air flow "V"
2	Screw depth max. 16 mm
3	Connection line PVC AWG18, 6x crimped core-end sleeves
4	Connection line PVC AWG22, 5x crimped core-end sleeves

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Connection screen



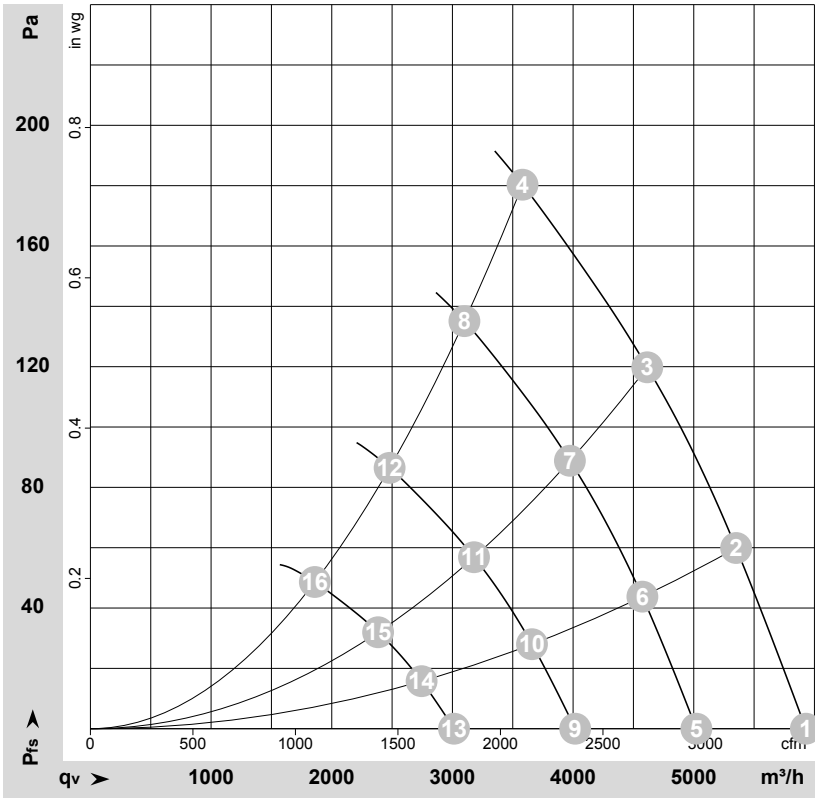
No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
2	8	0-10V	yellow	Analogue input (set value), 0-10 V, Ri=100 kΩ; parametrisable curve, SELV
2	10	RSB	brown	RS-485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS-485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Signal 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. potentiometer); SELV Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply

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Charts: Air flow 50 Hz



ρ = 1.173 kg/m³ ± 2 %

Measurement: LU-159916-1

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}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	400	50	1760	452	0.72	72	79	5930	0	3490	0.00
2	400	50	1760	474	0.75	70	77	5350	60	3150	0.24
3	400	50	1760	489	0.78	66	73	4615	120	2715	0.48
4	400	50	1760	500	0.80	66	74	3580	180	2110	0.72
5	400	50	1500	275	0.44			5020	0	2955	0.00
6	400	50	1500	296	0.47			4575	44	2690	0.18
7	400	50	1500	312	0.50			3975	89	2340	0.36
8	400	50	1500	322	0.51			3100	135	1825	0.54
9	400	50	1200	141	0.22			4015	0	2365	0.00
10	400	50	1200	152	0.24			3660	28	2155	0.11
11	400	50	1200	160	0.25			3180	57	1870	0.23
12	400	50	1200	165	0.26			2480	87	1460	0.35
13	400	50	900	59	0.09			3015	0	1775	0.00
14	400	50	900	64	0.10			2745	16	1615	0.06
15	400	50	900	67	0.11			2385	32	1405	0.13
16	400	50	900	69	0.11			1860	49	1095	0.20

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 · q_V = Air flow
p_{fs} = Pressure increase

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