R3G630-AB21-67

EC centrifugal fan

backward-curved, single-intake



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Nominal data

Type	**R3G630-AB21-67**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1230
Power consumption	W	2770
Current draw	A	4.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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}	%	60.5	56.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		66.4	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	2.75
09 Air flow q_v	m^3/h	8315
09 Pressure increase p_{fs}	Pa	682
10 Speed (rpm) n	min^{-1}	1245
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-132496

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Technical description

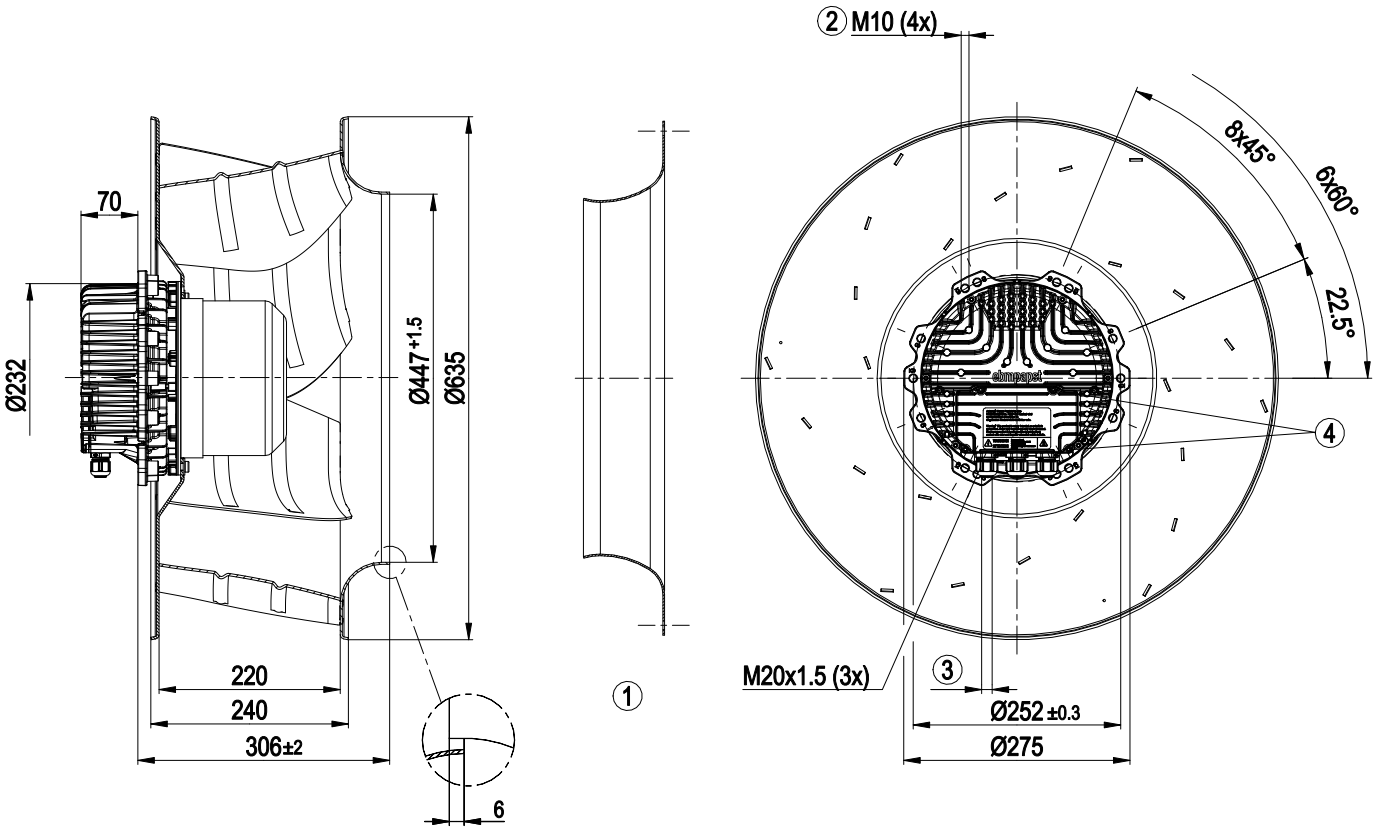
Weight	29.3 kg
Size	630 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) 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	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
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 (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - 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 - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	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



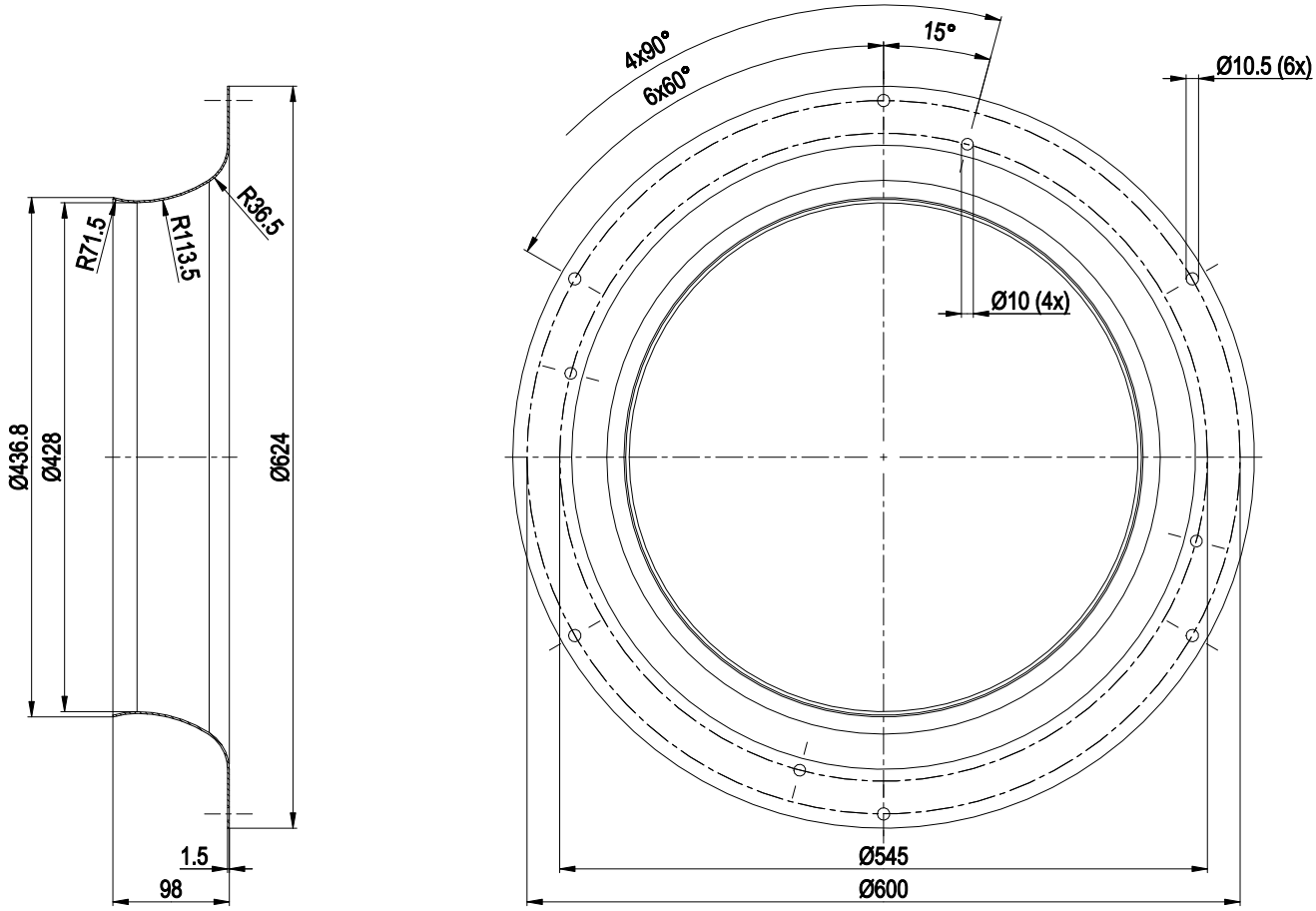
1	Accessory part: inlet ring 63070-2-4013 not included in scope of delivery
2	Max. clearance for screw 25 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
4	Tightening torque 3.5 ± 0.5 Nm

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Accessory part



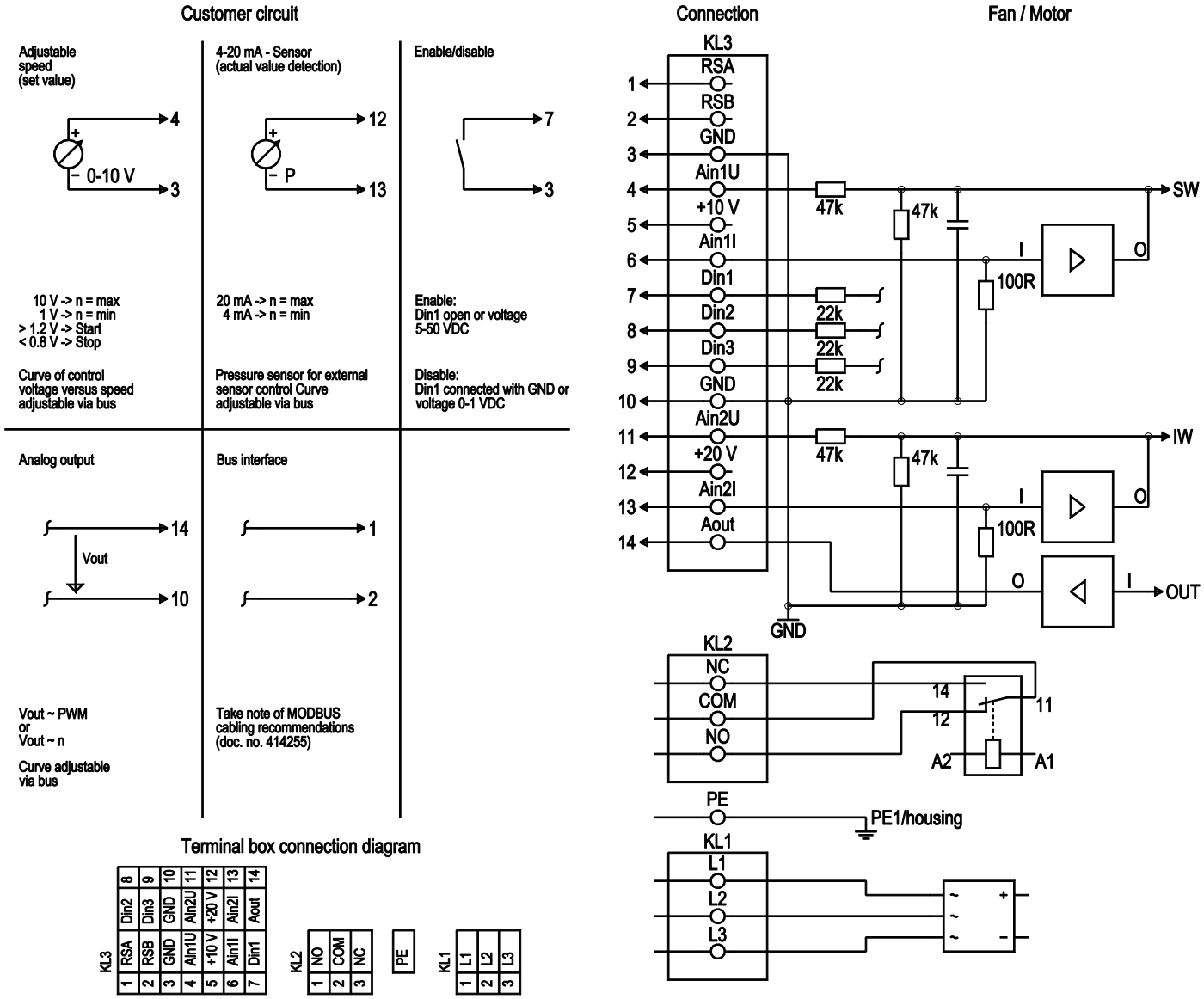
Inlet ring 63070-2-4013

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Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply; for nominal voltage range see technical data
KL 1	2	L2	Supply connection, power supply; for nominal voltage range see technical data
KL 1	3	L3	Supply connection, power supply; for nominal voltage range see technical data
PE		PE	Ground 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 RS485, RSA, MODBUS-RTU; SELV
KL 3	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 3	3 / 10	GND	Reference ground for control interface; SELV
KL 3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1I; SELV

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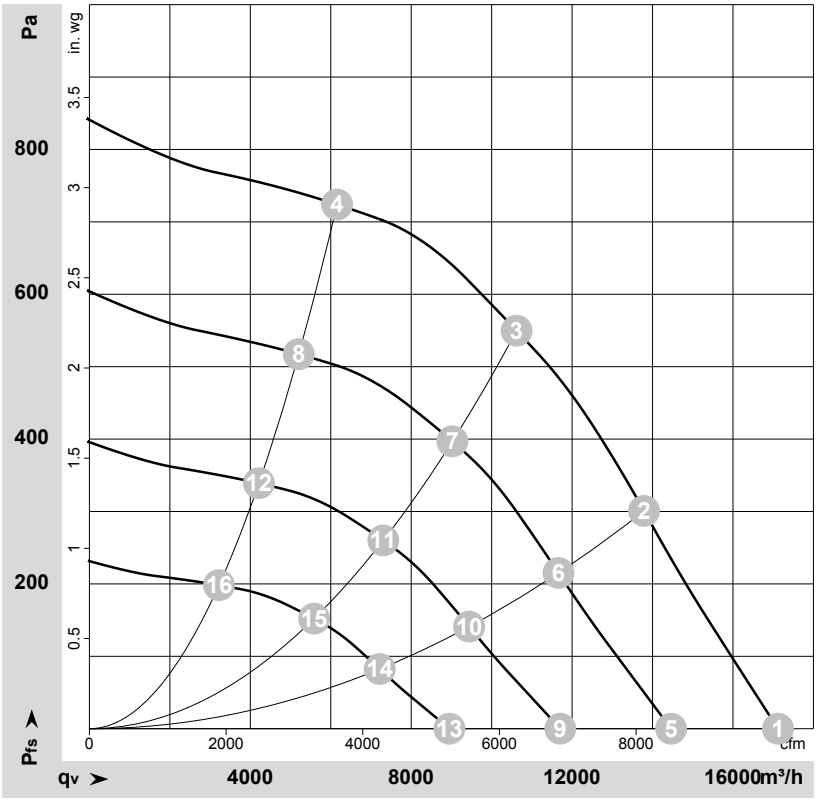
No.	Conn.	Designation	Function/assignment
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof power supply for external devices (e.g. pot); SELV
KL 3	6	Ain1 I	Analog input 1, set value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain1U; SELV
KL 3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: 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: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open 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: according to EEPROM setting, the integrated controller's direction of action can be selected via bus or digital input Din3; normal: pin open or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	11	Ain2 U	Analog input 2, measured value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2I; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof power supply for external devices (e.g. sensors); SELV or: +24 VDC input for parameter setting without line voltage
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2U; SELV
KL 3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV

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Curves: Air performance 50 Hz



ρ = 1.18 kg/m³ ± 2 %

Measurement: LU-132496-1

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

	Wired	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	Y	400	50	1230	2052	3.42	78	85	91	17120	0	10075	0.00
2	Y	400	50	1230	2611	4.26	73	81	87	13790	300	8115	1.20
3	Y	400	50	1230	2770	4.30	72	80	86	10620	550	6250	2.21
4	Y	400	50	1230	2467	4.03	73	82	88	6155	725	3625	2.91
5	Y	400	50	1050	1237	2.06	73	81	86	14460	0	8510	0.00
6	Y	400	50	1050	1579	2.58	69	77	83	11660	215	6865	0.86
7	Y	400	50	1050	1785	2.90	67	76	82	9025	398	5310	1.60
8	Y	400	50	1050	1491	2.43	69	77	83	5205	518	3065	2.08
9	Y	400	50	850	656	1.09	68	76	81	11705	0	6890	0.00
10	Y	400	50	850	838	1.37	64	72	78	9440	141	5555	0.57
11	Y	400	50	850	947	1.54	62	71	77	7305	261	4300	1.05
12	Y	400	50	850	791	1.29	64	72	78	4215	340	2480	1.36
13	Y	400	50	650	293	0.49	61	69	74	8950	0	5270	0.00
14	Y	400	50	650	375	0.61	57	65	71	7220	82	4250	0.33
15	Y	400	50	650	423	0.69	55	64	70	5585	152	3290	0.61
16	Y	400	50	650	354	0.58	57	65	71	3220	199	1895	0.80

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = 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

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