R3G595-AB31-76

Stulz GmbH

EC centrifugal fan

backward-curved, single-intake

R3G595-AB31-76 ebmpapst Datasheet
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Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G595-AB31-76**
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}	1400
Power consumption	W	2950
Current draw	A	4.5
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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	67.1	56.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.8	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	2.87
09 Air flow q_v	m^3/h	9910
09 Pressure increase p_{fs}	Pa	663
10 Speed (rpm) n	min^{-1}	1400
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-162390

ebmpapst

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Technical description

Weight	27.7 kg
Size	595 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic (black)
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
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - 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 supply - 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 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Plug
Motor protection	Reverse polarity and locked-rotor protection
With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

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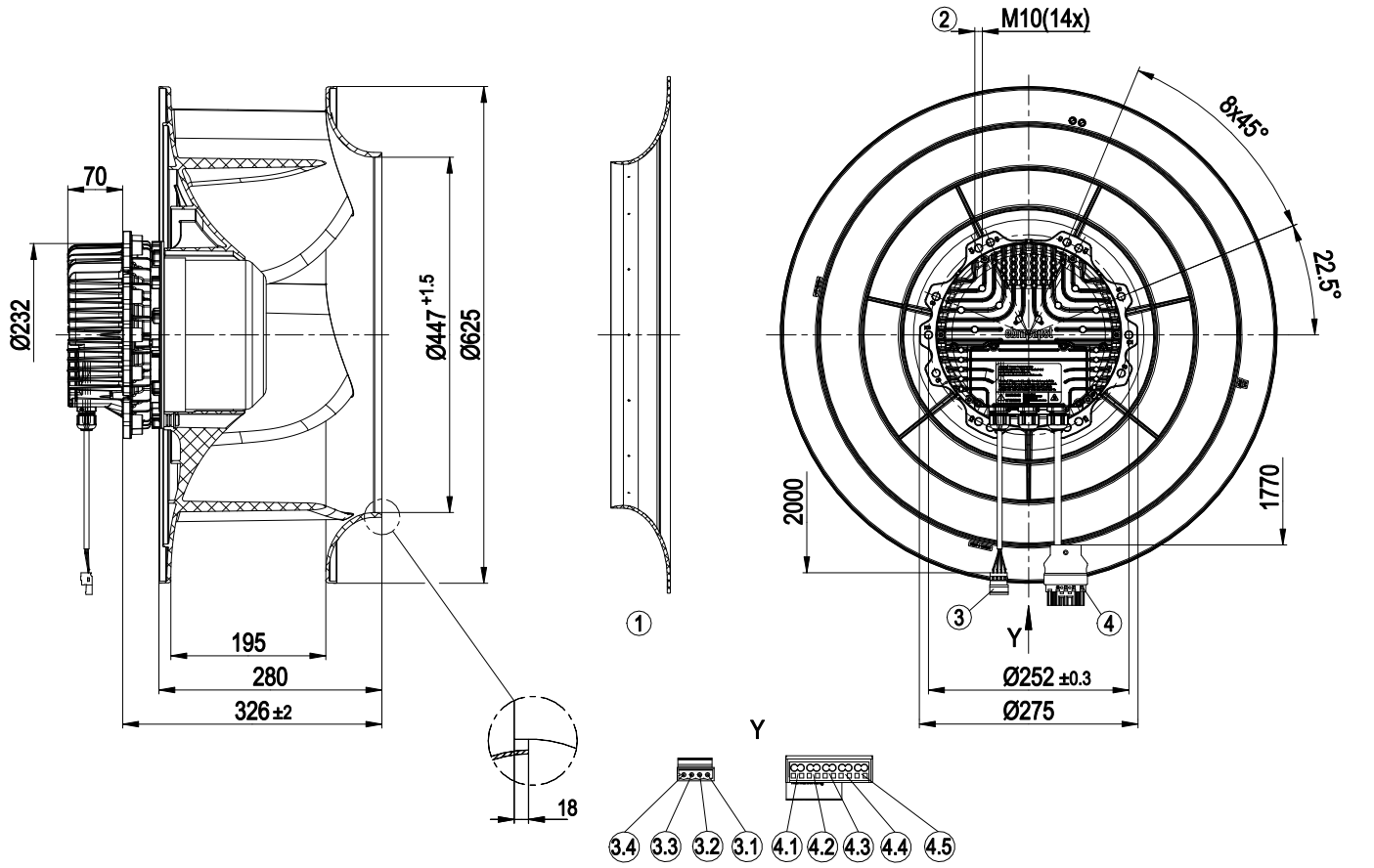
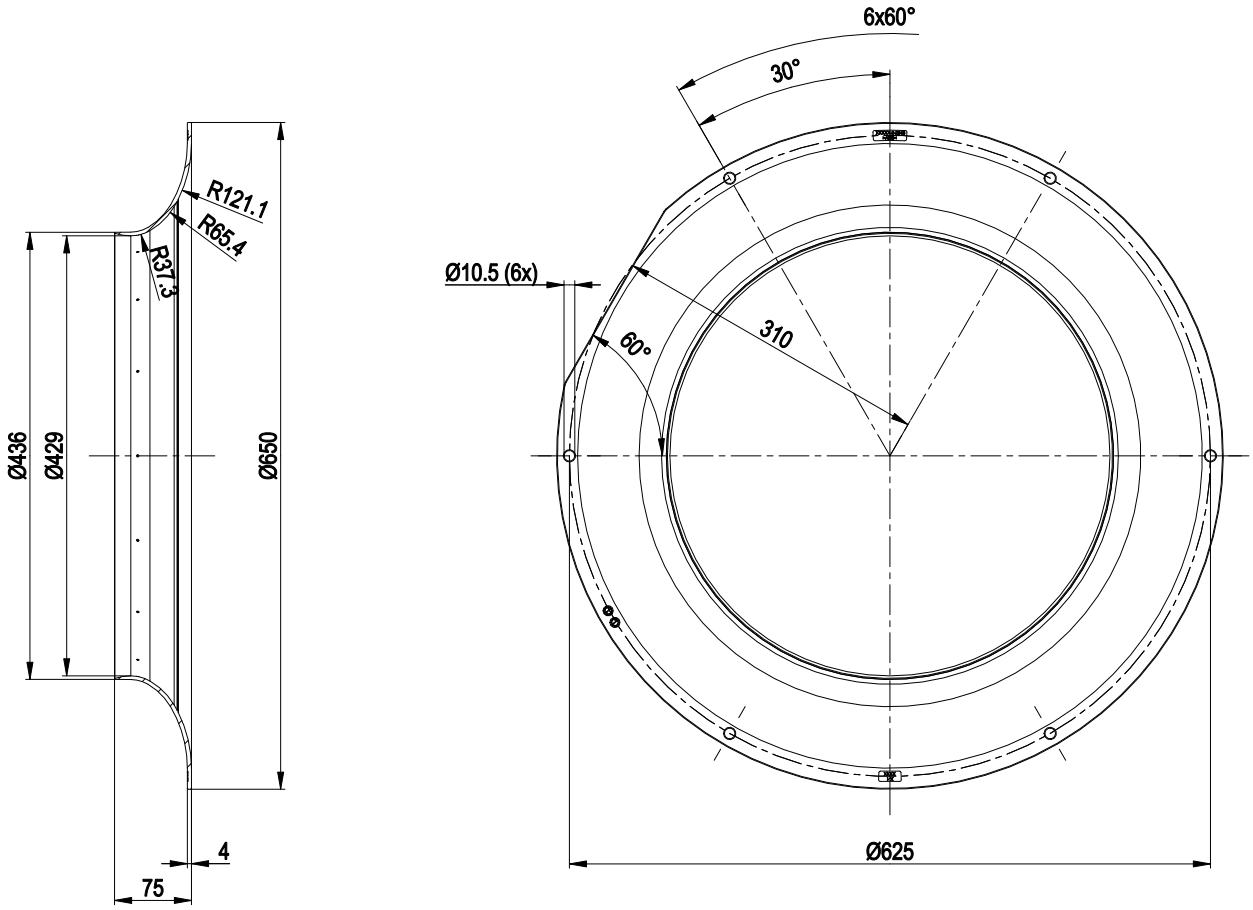
Product drawing



1	Accessory part: inlet ring 59520-2-2943 not included in scope of delivery
2	Max. clearance for screw 25 mm
3	4-pole header, contact spacing 5, WAGO no. 231-604, mating connector (not included in scope of delivery), cable Ölflex Classic 110 gray 4x 0.75 without GNYE
3.1	GND
3.2	Ain1U / Din1
3.3	C / DIN1
3.4	NC
4	Plug WAGO no. 0770-001/K011-0174/0000-0300, mating connector (not included in scope of delivery), cable Ölflex Classic 110 gray 4G2.5 with GNYE
4.1	not used
4.2	PE
4.3	L1
4.4	L2
4.5	L3

Accessory part



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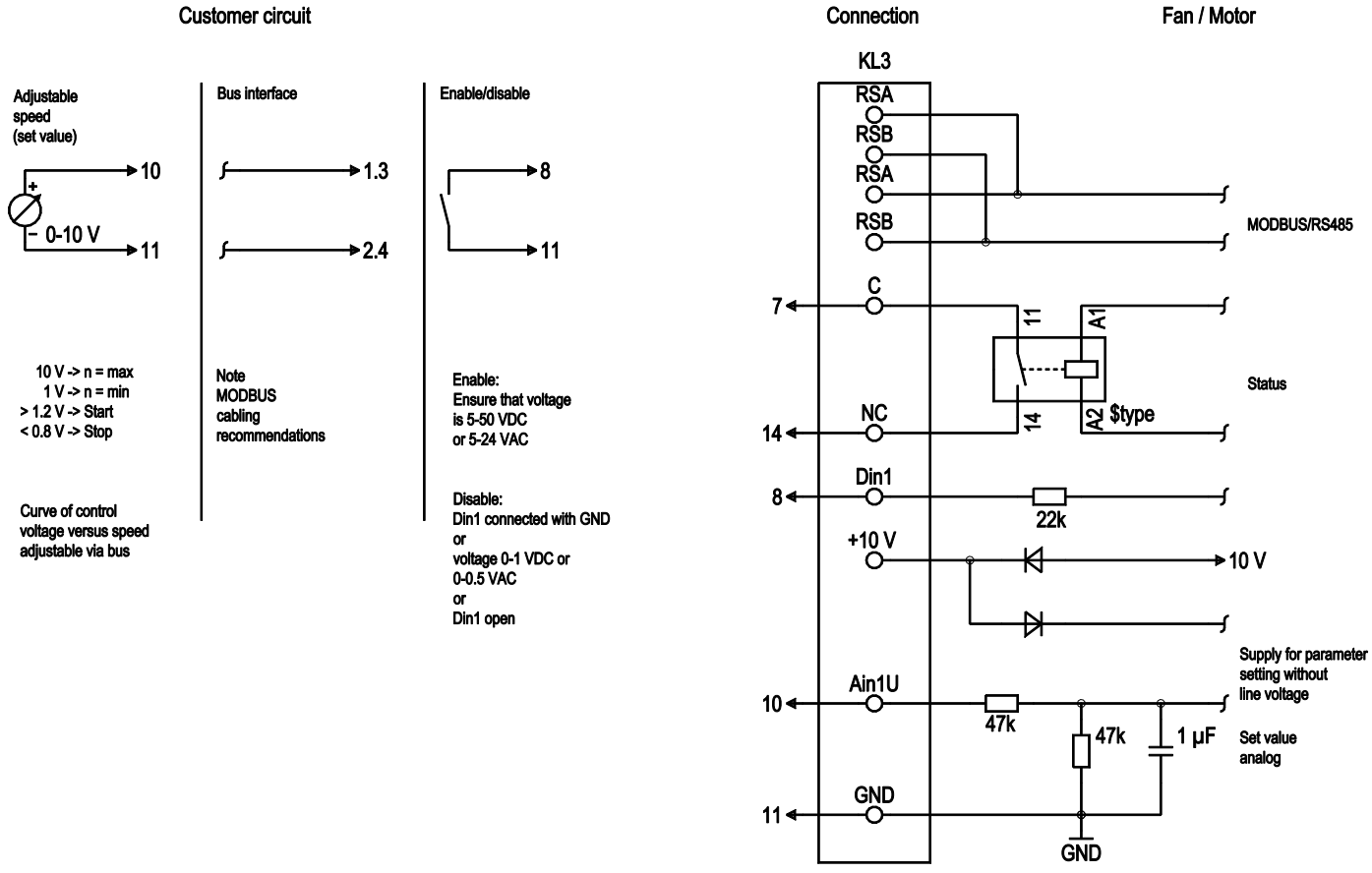
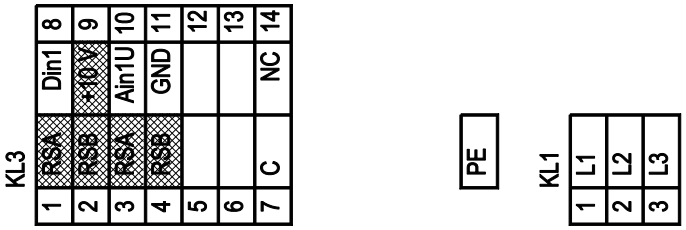
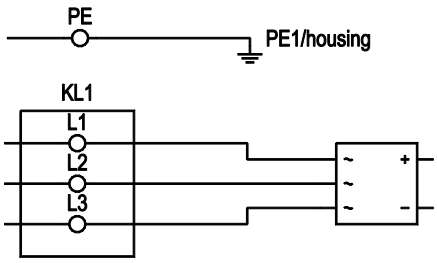
Connection diagram



Terminal box connection diagram





shaded gray => not brought out via leads

No.	Conn.	Designation	Function/assignment
KL1	1, 2, 3	L1, L2, L3	Supply connection, power supply; for nominal voltage range see technical data
PE	PE	PE	Ground connection, PE connection
KL3	7	C	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL3	14	NC	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL3	1.3	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL3	2, 4	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL3	11	GND	Reference ground for control interface; SELV
KL3	10	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV
KL3	9	+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

No.	Conn.	Designation	Function/assignment
KL3	8	Din1	Digital input 1: enable electronics; SELV Enable -> 5-50 VDC / 5-24 VAC Disable -> 0-1 VDC / 0-0.5 VAC or bridge to GND or open

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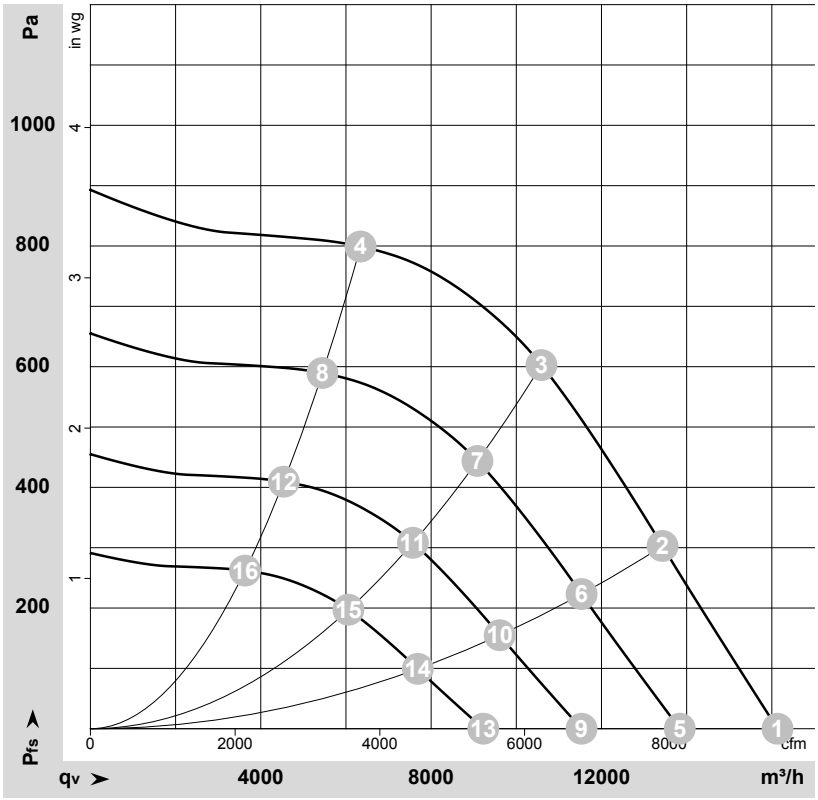
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-162390-1

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	1400	2273	3.52	86	93	94	16135	0	9495	0.00
2	Y	400	50	1400	2774	4.27	85	91	92	13435	300	7905	1.20
3	Y	400	50	1400	2950	4.50	75	83	87	10590	600	6235	2.41
4	Y	400	50	1400	2534	3.90	73	81	86	6345	800	3735	3.21
5	Y	400	50	1200	1434	2.22	82	89	90	13840	0	8145	0.00
6	Y	400	50	1200	1755	2.70	81	87	88	11530	223	6785	0.90
7	Y	400	50	1200	1856	2.85	71	79	83	9085	444	5350	1.78
8	Y	400	50	1200	1606	2.47	69	77	82	5450	592	3205	2.38
9	Y	400	50	1000	830	1.28	77	84	85	11530	0	6785	0.00
10	Y	400	50	1000	1016	1.56	77	83	84	9610	155	5655	0.62
11	Y	400	50	1000	1074	1.65	67	74	78	7575	308	4455	1.24
12	Y	400	50	1000	929	1.43	65	73	78	4540	411	2670	1.65
13	Y	400	50	800	425	0.66	72	79	80	9225	0	5430	0.00
14	Y	400	50	800	520	0.80	71	77	78	7690	99	4525	0.40
15	Y	400	50	800	550	0.84	61	68	72	6060	197	3565	0.79
16	Y	400	50	800	476	0.73	59	67	72	3630	263	2140	1.06

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