EC centrifugal fan - RadiCal

backward-curved, single-intake

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

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

Nominal data

Type	**R3G355-RR06-G8**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1450
Power consumption	W	250
Current draw	A	1.1
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60
Starting current	A	1.8

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}	%	66.2	45.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		83	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.25
09 Air flow q_v	m^3/h	2105
09 Pressure increase p_{fs}	Pa	257
10 Speed (rpm) n	min^{-1}	1445
11 Specific ratio*		1.00

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-150476

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Technical description

Weight	5.2 kg
Size	355 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP55, electronics IP20
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
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 mounting	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display with LED - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - 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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Plug
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
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; UL 1004-7 + 60730

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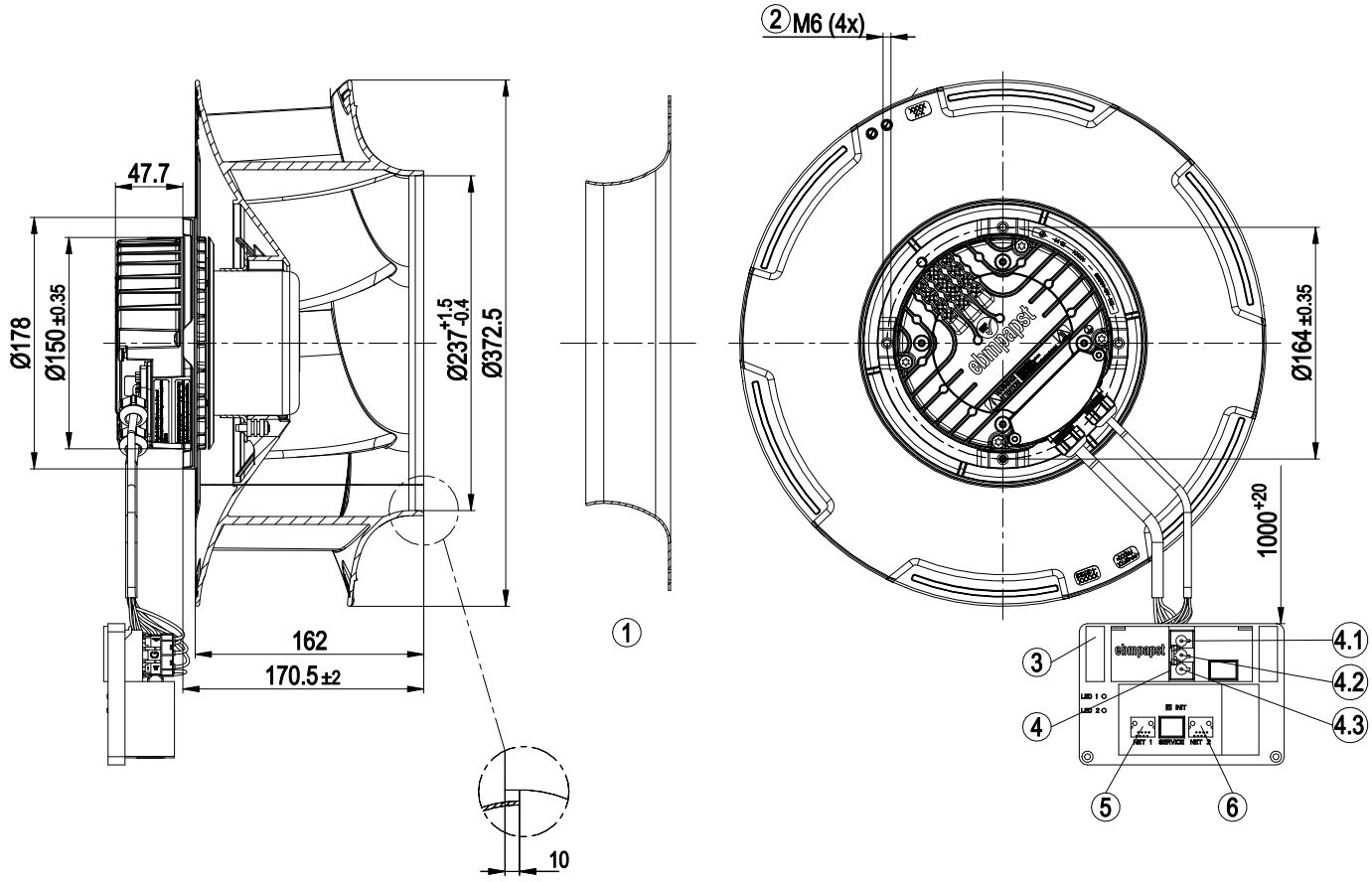
Product drawing



1	Accessory part: inlet ring 35500-2-4013 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Terminal box
4	Connector housing 3-pole GST18/3 Wieland 92.032.9058.1
4.1	N
4.2	PE
4.3	L
5	8-pole connector housing TE 100616-2
6	8-pole connector housing TE 100616-2

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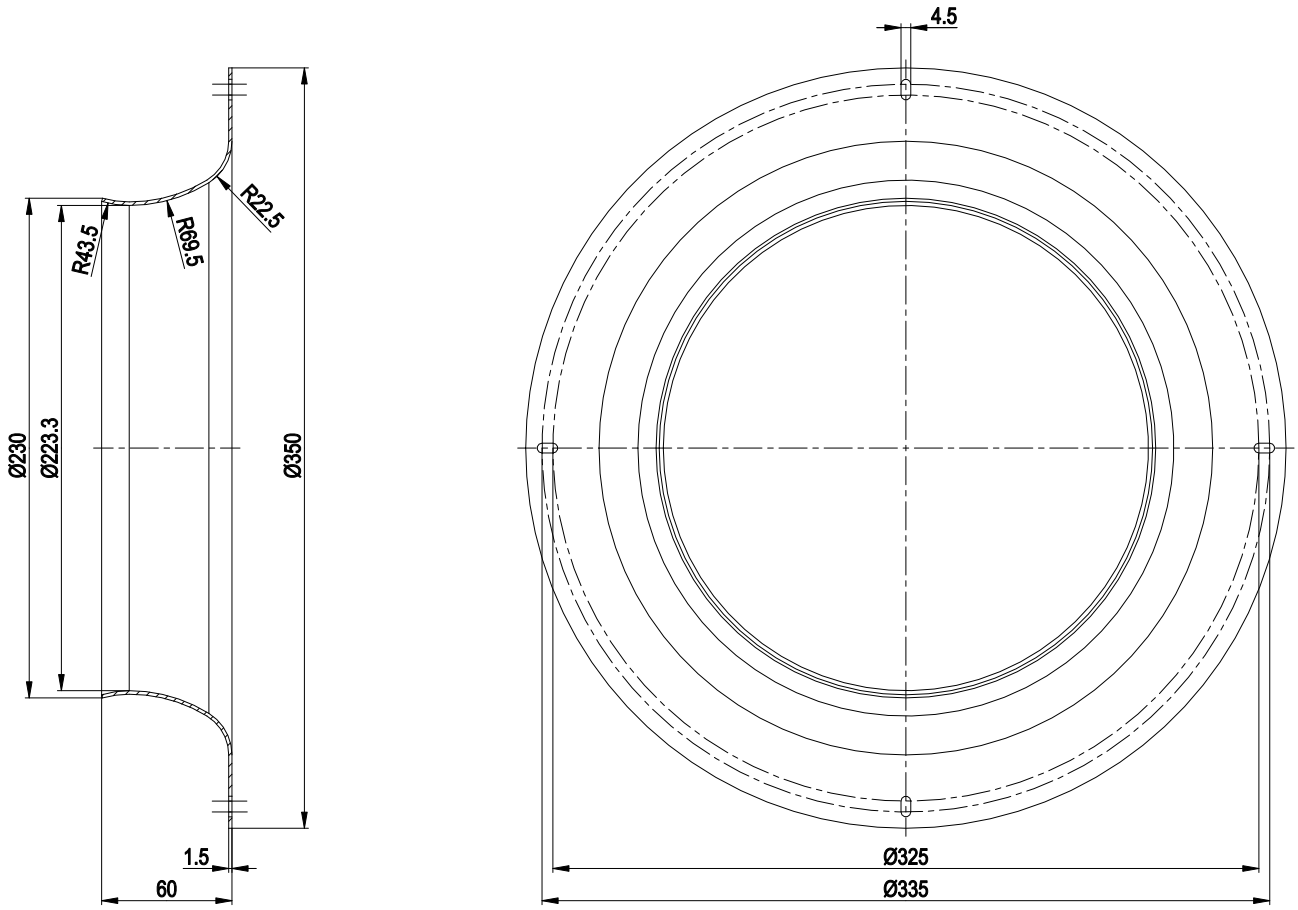
Accessory part



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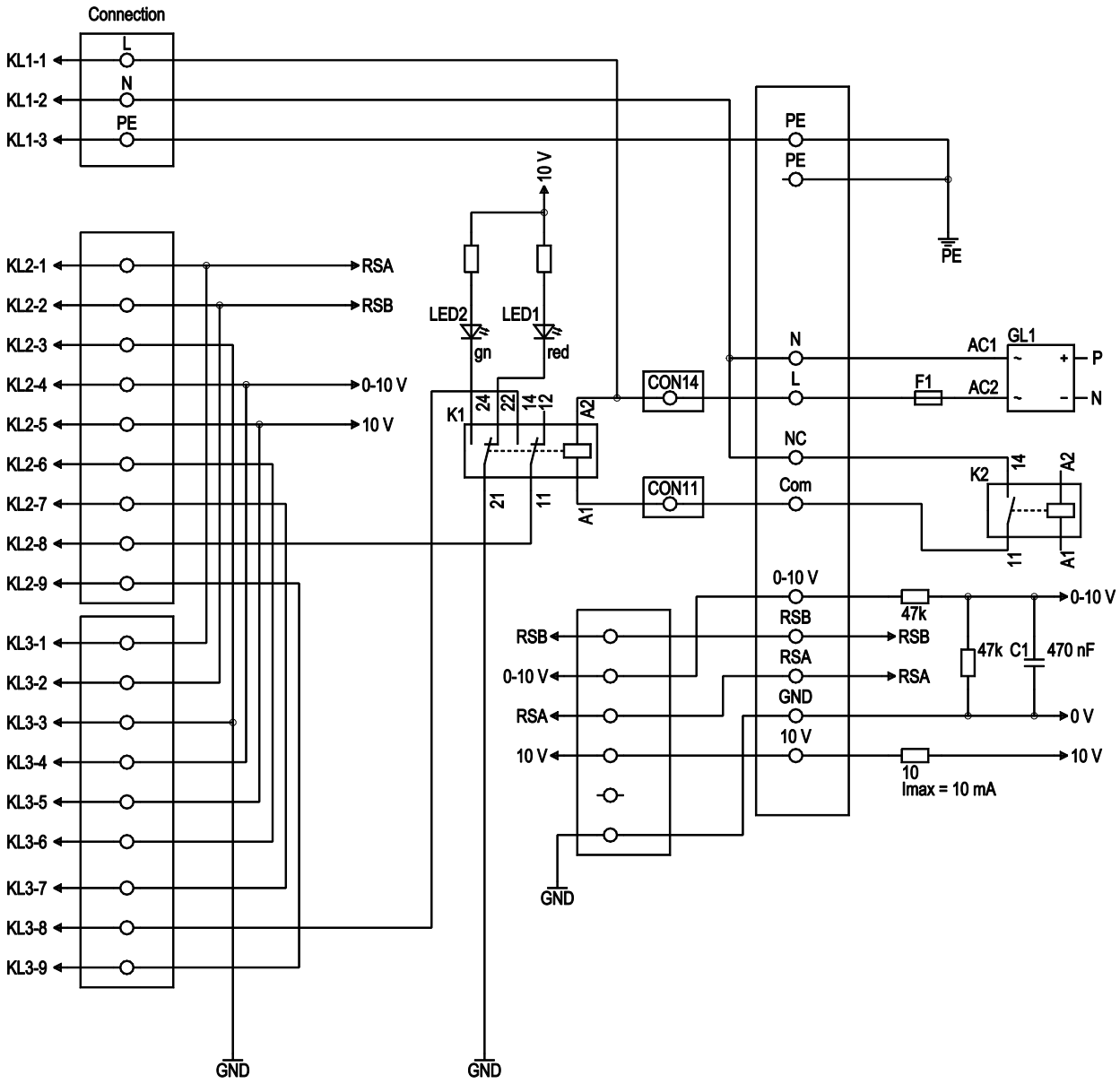
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	L	black	Supply connection, power supply single-phase 200-277 VAC, 50/60 Hz
1	2	N	blue	Power supply, single-phase 200-277 VAC, 50/60 Hz
1	3	PE	green/yellow	Ground connection
2	1	RSA	-	Bus connection RS485, RSA, MODBUS-RTU; SELV
2	2	RSB	-	Bus connection RS485, RSB, MODBUS-RTU; SELV
2	3	GND	-	Reference ground for control interface; SELV
2	4	0-10 V	-	Control input
2	5	+10 V	-	Fixed voltage output 10 VDC
2	6	RES	-	Reserve
2	7	COM*	-	Alarm COM*
2	8	NC	-	NC KL2 UMAX 24 V
2	9	Schirm	-	Shield

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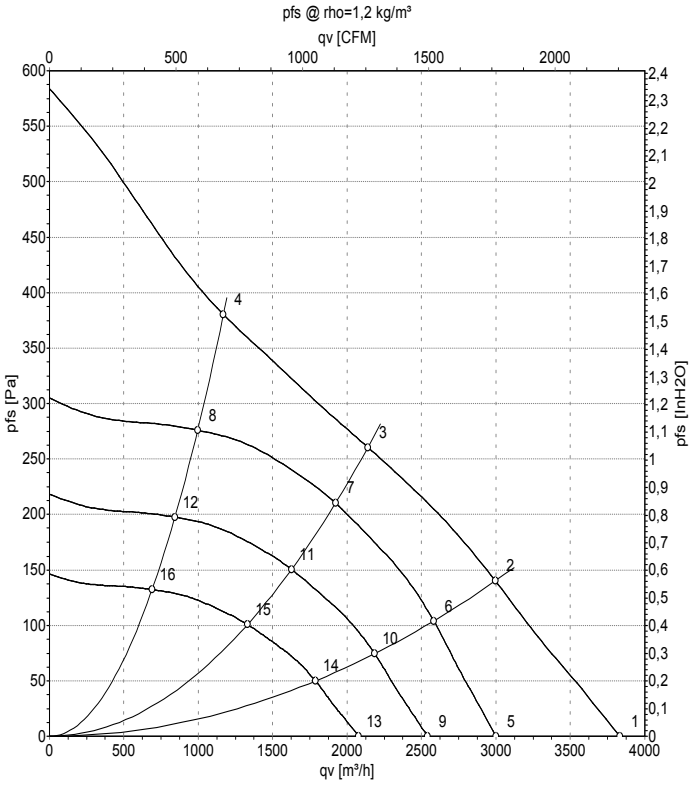
Curves: Air performance 50 Hz



Measurement: LU-150476-1

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	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	in. wg
1	230	50	1660	250	1.10	70	77	3830	0	2255	0.00
2	230	50	1505	250	1.10	61	68	2995	140	1765	0.56
3	230	50	1450	250	1.10	56	63	2140	260	1260	1.04
4	230	50	1525	250	1.10	60	68	1170	380	690	1.53
5	230	50	1300	121	0.54	63	71	3000	0	1765	0.00
6	230	50	1300	164	0.72	57	65	2580	105	1520	0.42
7	230	50	1300	185	0.82	53	60	1920	211	1130	0.85
8	230	50	1300	158	0.70	56	63	995	276	585	1.11
9	230	50	1100	73	0.32	59	67	2540	0	1495	0.00
10	230	50	1100	99	0.44	53	60	2185	75	1285	0.30
11	230	50	1100	112	0.50	49	56	1625	151	955	0.61
12	230	50	1100	96	0.42	52	59	840	198	495	0.79
13	230	50	900	40	0.18	54	61	2080	0	1225	0.00
14	230	50	900	54	0.24	48	55	1785	50	1050	0.20
15	230	50	900	61	0.27	44	51	1330	101	785	0.41
16	230	50	900	53	0.23	47	54	690	132	405	0.53

U = Power supply · 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
q_V = Air flow · p_{fs} = Pressure increase