EC centrifugal module - RadiCal

backward curved, single inlet

with support bracket

K3G310-RR18-R8 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**K3G310-RR18-R8**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	2100
Power input	W	375
Current draw	A	3.2
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

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Technical features

Mass	9.4 kg
Size	310 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP UL plastic
Material of mounting plate	Aluminium sheet
Material of distancing profiles	Aluminium
Material of inlet nozzle	Sheet steel, galvanised
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	Motor IP 55, electronics IP 20
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F3-1
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 - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, active - RS485 MODBUS RTU - Soft start - 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
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	With plug
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

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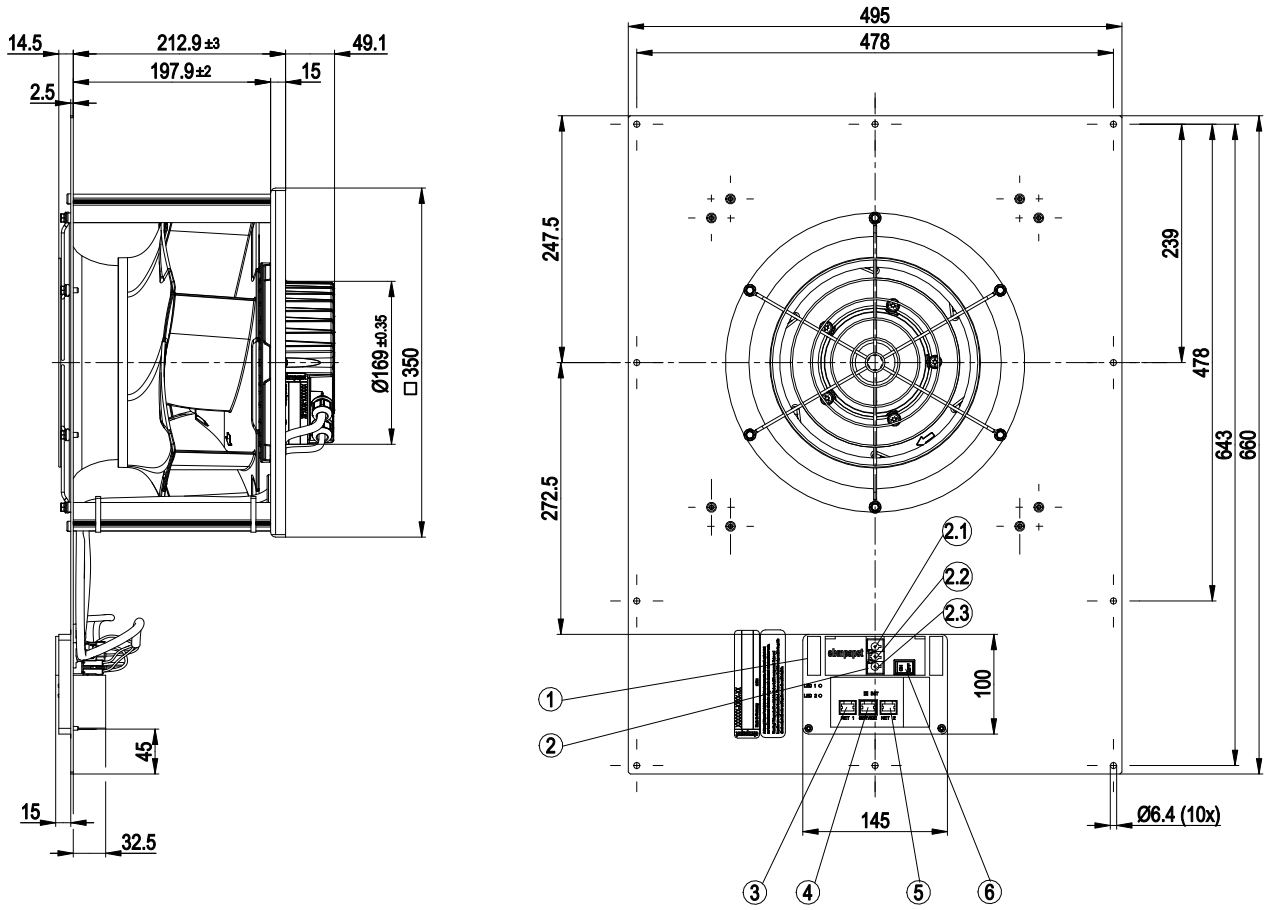
Product drawing



1	Terminal box
2	Connector housing 3-pole GST18/3 Wieland 92.032.9058.1
2.1	N
2.2	PE
2.3	L
3	Connector housing 8-pole Tyco 100616-2
4	Connector housing 8-pole Tyco 100616-2
5	Connector housing 8-pole Tyco 100616-2
6	Switch, ARCOLECTRIC SWITCHES P L C (no. H8550VBACF) As-delivered condition end customer switch set to "OFF"

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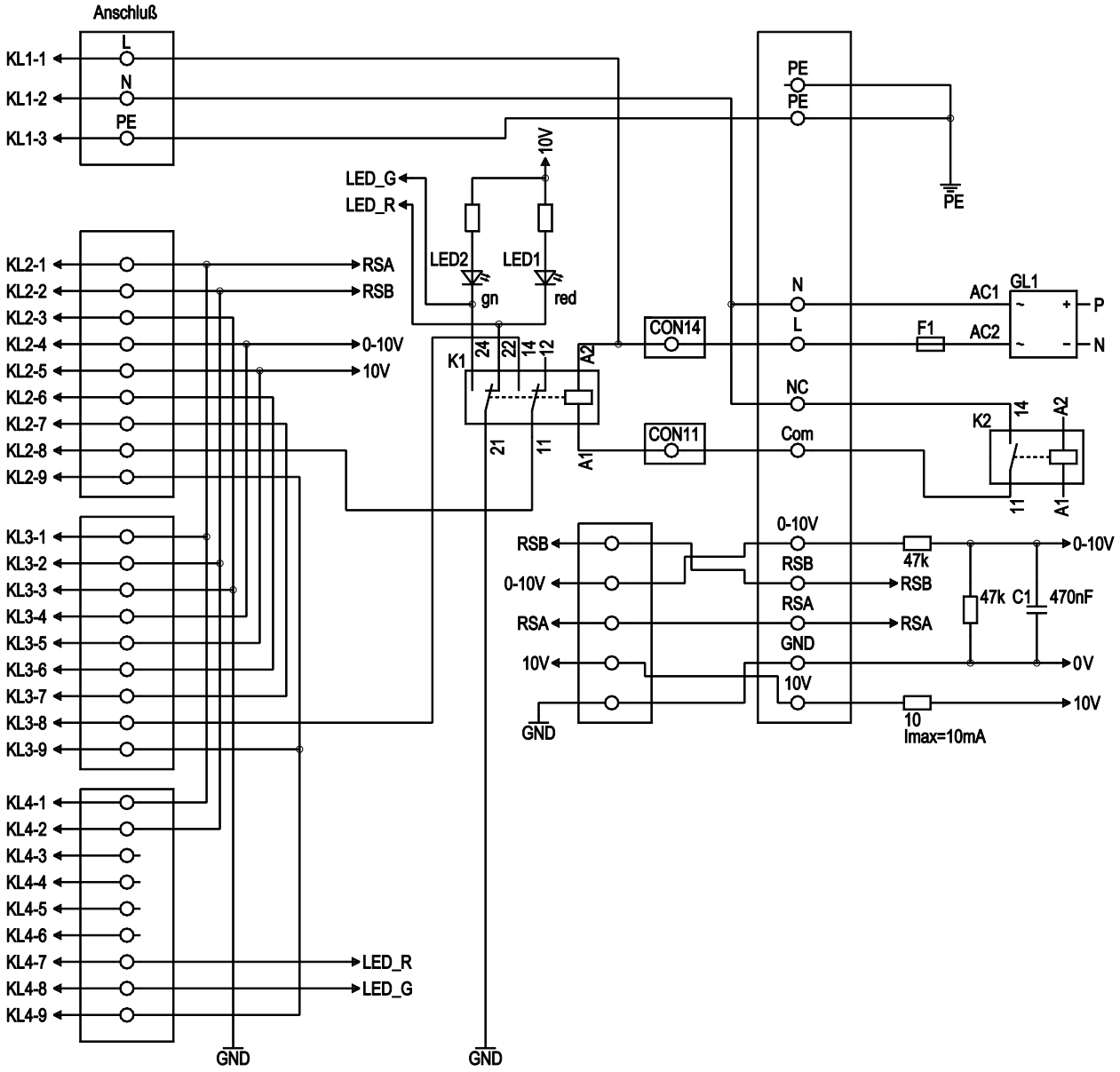
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1	L	black	Power supply, phase
1	2	N	blue	Power supply, neutral conductor
1	3	PE	green/yellow	Protective earth
2	1	RSA	-	RS-485 interface for MODBUS, RSA; SELV
2	2	RSB	-	RS-485 interface for MODBUS, RSB; SELV
2	3	GND	-	Signal ground for control interface, SELV
2	4	0-10 V / PWM	-	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable curve
2	5	+10 V	-	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers)
2	6	RES	-	Reserve
2	7	COM*	-	Alarm COM*
2	8	NC	-	NC KL2 UMAX 24 V

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No.	Conn.	Designation	Colour	Function / assignment
2	9	Schirm	-	Shield
3	1	RSA	-	RS-485 interface for MODBUS, RSA; SELV
3	2	RSB	-	RS-485 interface for MODBUS, RSB; SELV
3	3	GND	-	Signal ground for control interface, SELV
3	4	0-10 V / PWM	-	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable curve
3	5	+10 V	-	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers)
3	6	RES	-	Reserve
3	7	COM*	-	Alarm COM*
3	8	NC*	-	NC* KL3 UMAX 24 V
3	9	Schirm	-	Shield
4	1	RSA	-	RS-485 interface for MODBUS, RSA; SELV
4	2	RSB	-	RS-485 interface for MODBUS, RSB; SELV
4	7	LED R	-	External LED Red
4	8	LED G	-	External LED Green
4	9	Schirm	-	Shield

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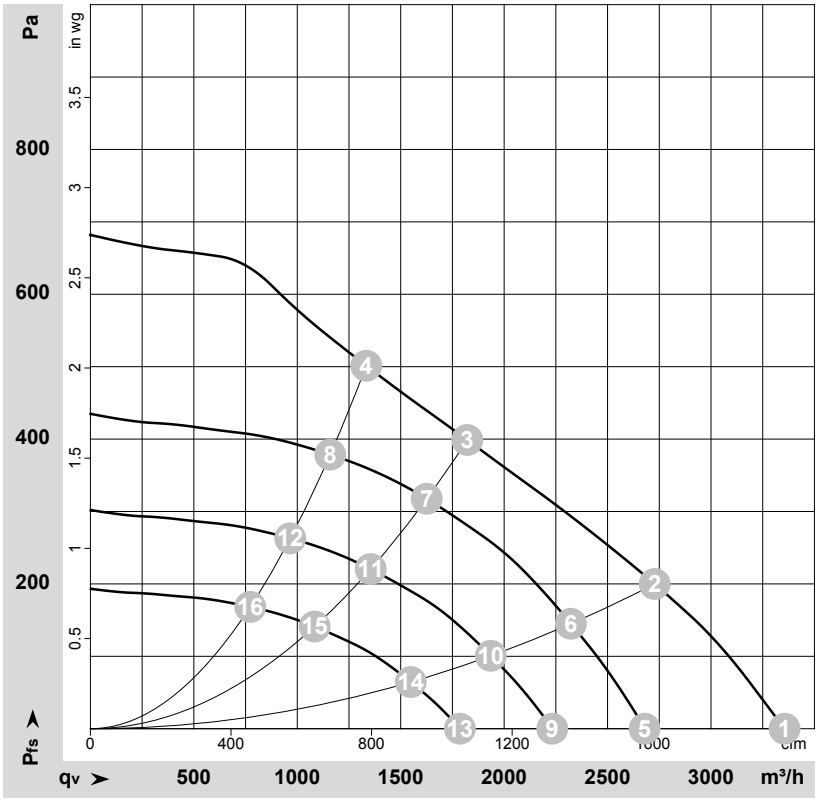
Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-173243-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	115	50	2250	331	2.88	3355	0	1975	0.00
2	115	50	2115	375	3.20	2730	200	1605	0.80
3	115	50	2100	375	3.20	1820	400	1070	1.61
4	115	50	2100	375	3.20	1335	500	785	2.01
5	115	50	1800	168	1.46	2680	0	1575	0.00
6	115	50	1800	224	1.95	2325	145	1365	0.58
7	115	50	1800	258	2.24	1625	318	955	1.28
8	115	50	1800	238	2.07	1160	379	680	1.52
9	115	50	1500	97	0.85	2235	0	1315	0.00
10	115	50	1500	130	1.13	1935	101	1140	0.41
11	115	50	1500	149	1.30	1355	221	800	0.89
12	115	50	1500	138	1.20	965	263	570	1.06
13	115	50	1200	50	0.43	1785	0	1050	0.00
14	115	50	1200	66	0.58	1550	65	910	0.26
15	115	50	1200	76	0.66	1085	141	640	0.57
16	115	50	1200	71	0.61	775	168	455	0.67

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase