K3G250-RR01-H1

EC centrifugal module - RadiCal

backward curved, single inlet

with support plate

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

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

Nominal data

Type	**K3G250-RR01-H1**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	3600
Power input	W	480
Current draw	A	2.1
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}	%	52	48.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		65.9	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.47
09 Air flow q_v	m^3/h	1055
09 Pressure increase p_{fs}	Pa	756
10 Speed (rpm) n	min^{-1}	3610
11 Specific ratio*		1.01

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

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Technical features

Mass	5.5 kg
Size	250 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	Plastic PA, round sheet-metal plate coated in black
Material of mounting plate	Aluminium sheet
Material of distancing profiles	Aluminium
Material of inlet nozzle	Aluminium sheet
Material of guard grille	Steel, coated in white aluminium plastic (RAL 9006)
Number of blades	7
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)	H0 - dry environment
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 top; rotor on bottom 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 - Operation and alarm display via LED - 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
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
Electrical leads	With plug
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CSA C22.2 No.113; UL 507

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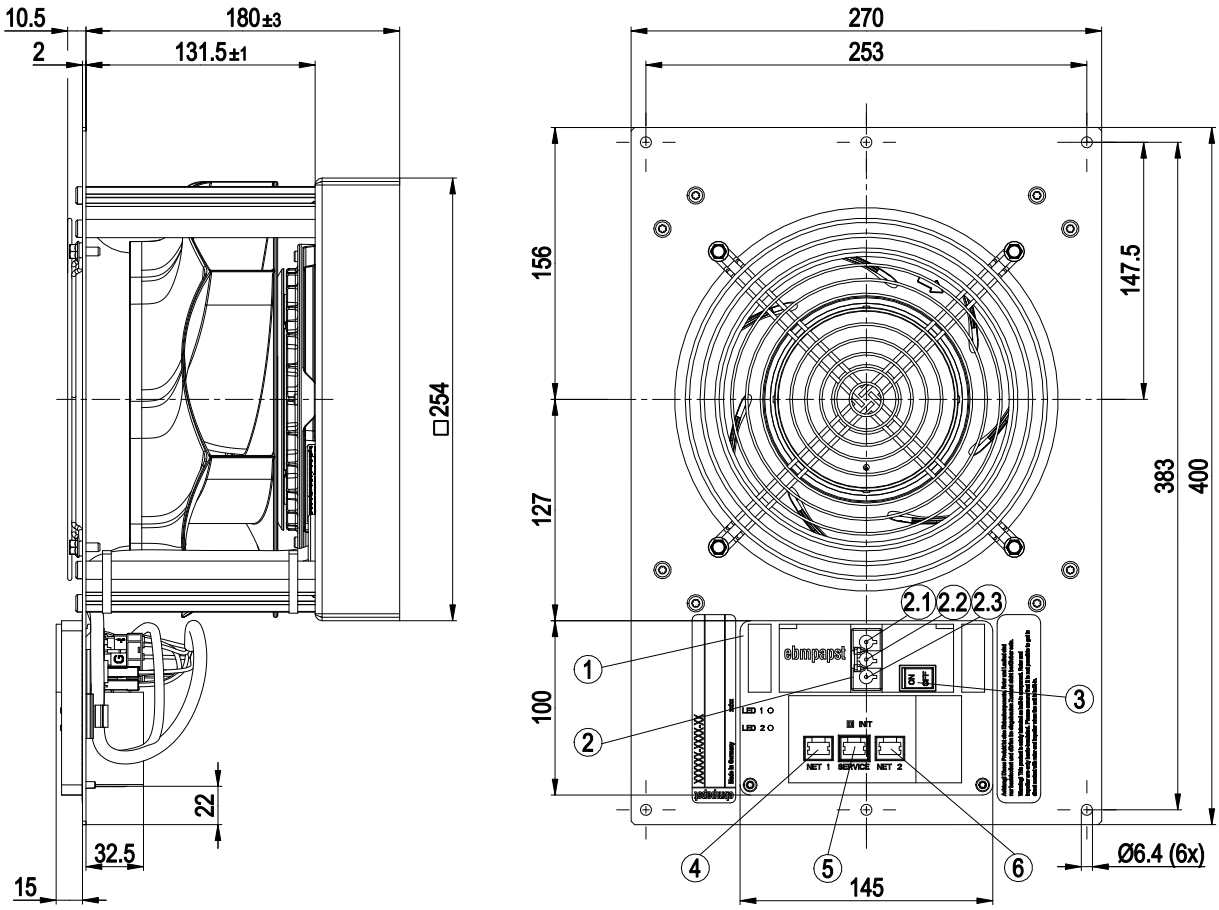
Product drawing



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	Switch, ARCOLECTRIC SWITCHES P L C (no. H8550VBACF) As-delivered condition end customer switch set to "OFF"
4	Connector housing 8-pole Tyco 100616-2
5	Connector housing 8-pole Tyco 100616-2
6	Connector housing 8-pole Tyco 100616-2

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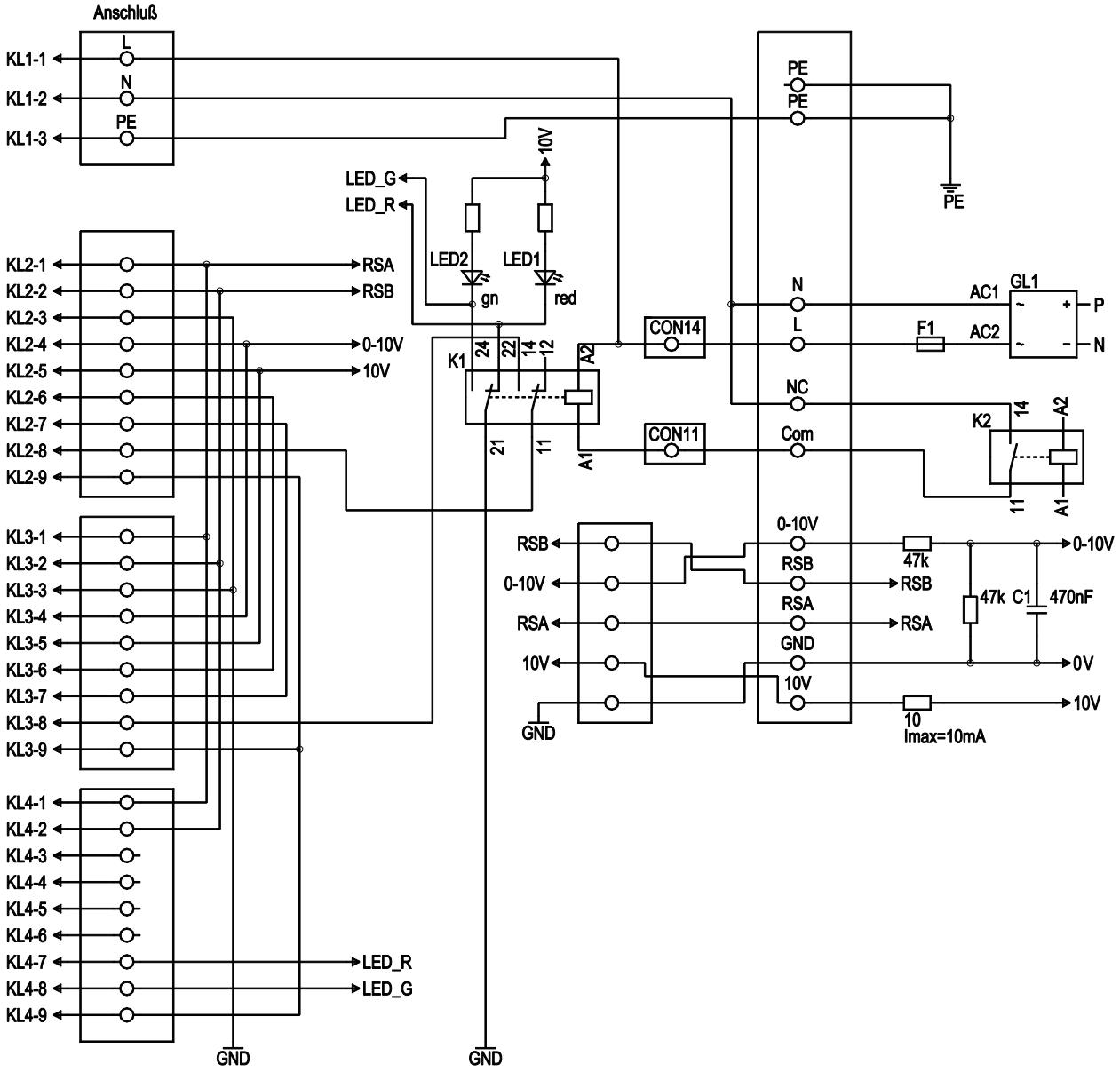
Connection screen



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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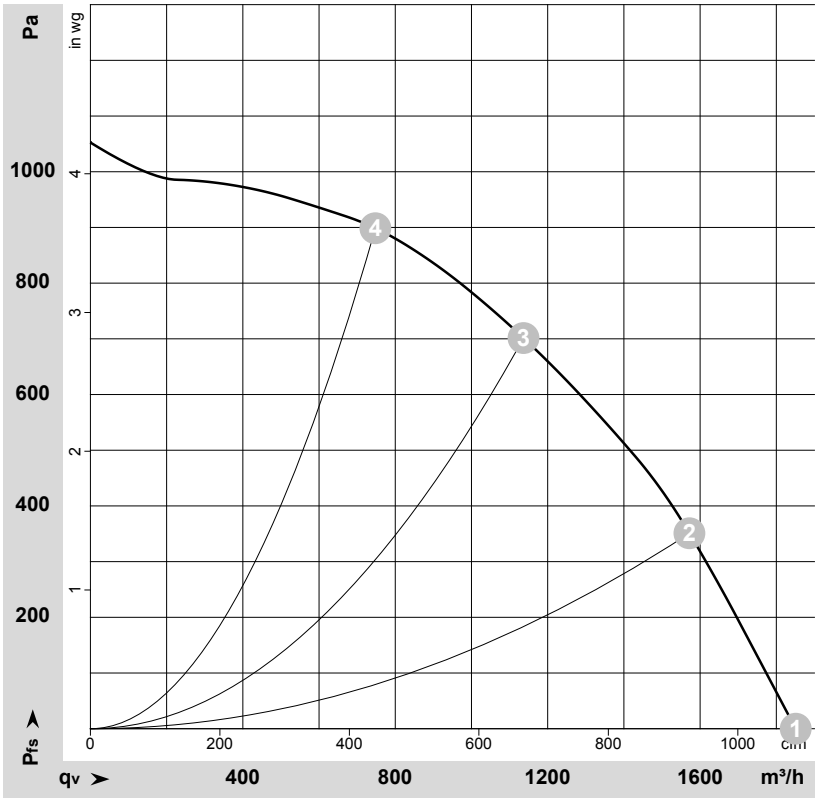
Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-172033-1

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	230	50	3600	364	1.60	1850	0	1090	0.00
2	230	50	3600	438	1.92	1570	350	925	1.41
3	230	50	3600	480	2.10	1135	700	670	2.81
4	230	50	3600	438	1.92	750	900	440	3.61

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