K3G310-RR05-H1

EC centrifugal module - RadiCal

backward curved, single inlet

with support plate

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Nominal data

Type	**K3G310-RR05-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}	2250
Power input	W	500
Current draw	A	2.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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}	%	63.9	48.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.7	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.49
09 Air flow q_v	m^3/h	2005
09 Pressure increase p_{fs}	Pa	508
10 Speed (rpm) n	min^{-1}	2255
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	8.66 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 and coated in black
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)	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
Cable exit	Variable
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

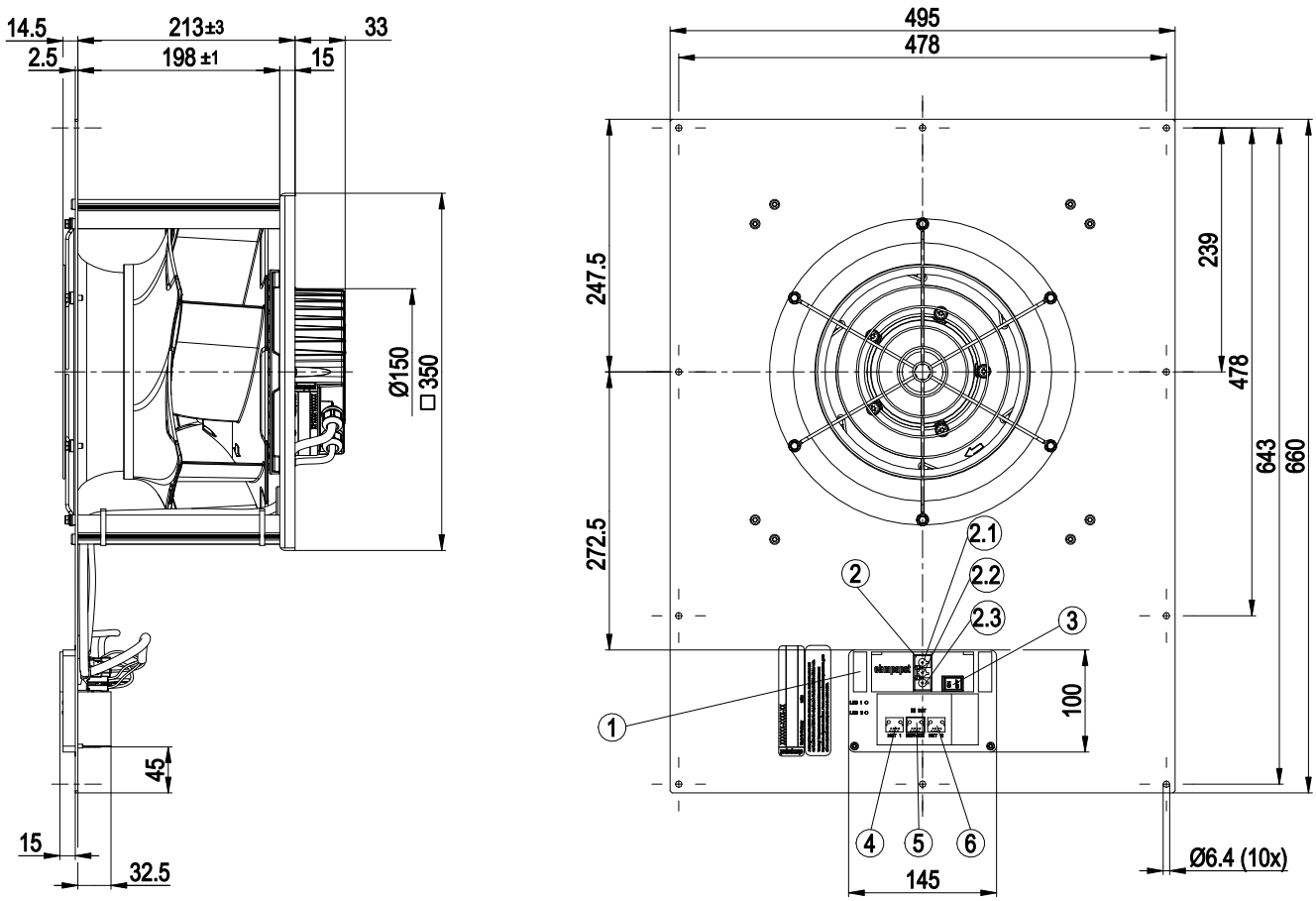
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Product drawing



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

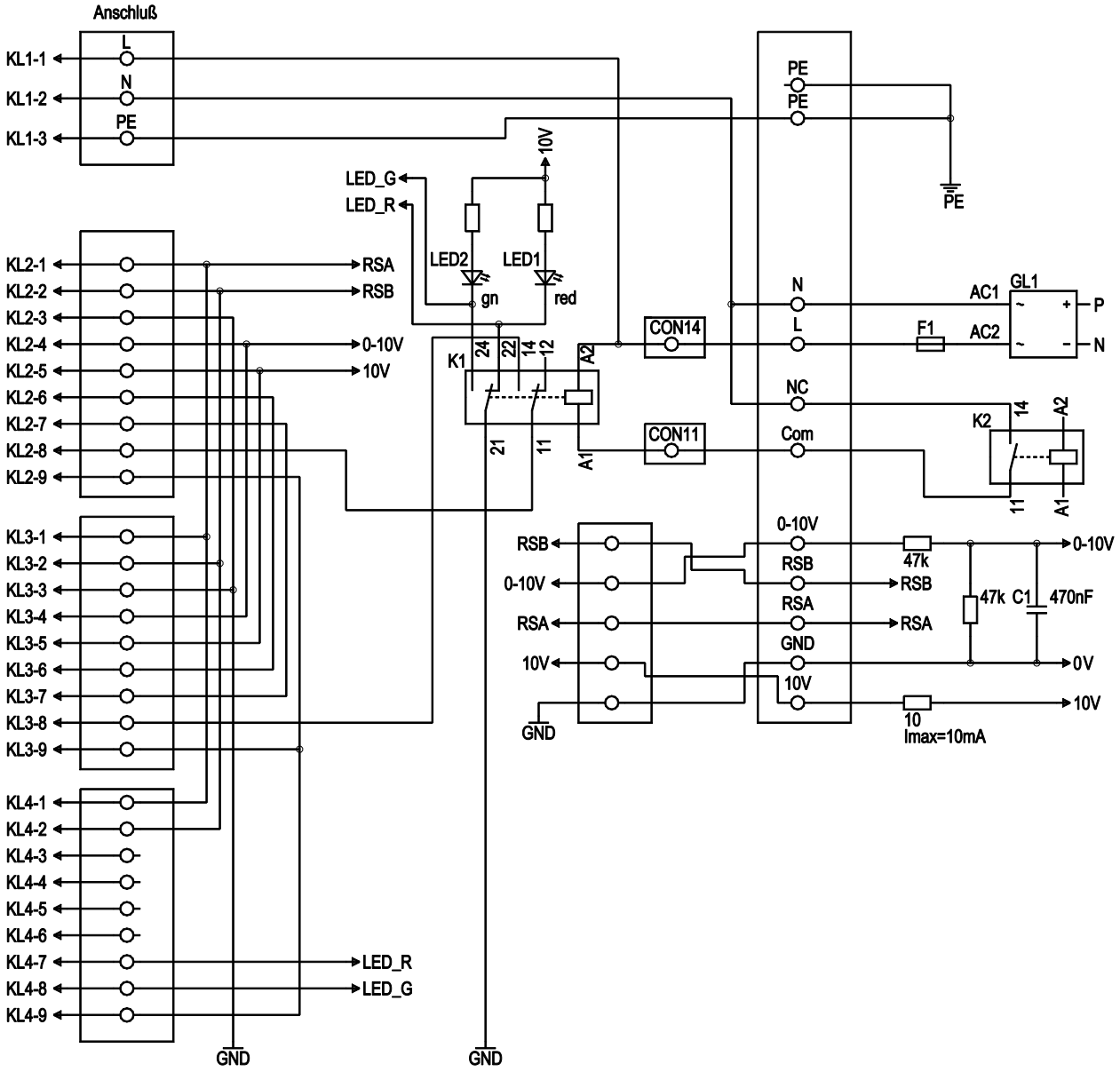
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Connection screen



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

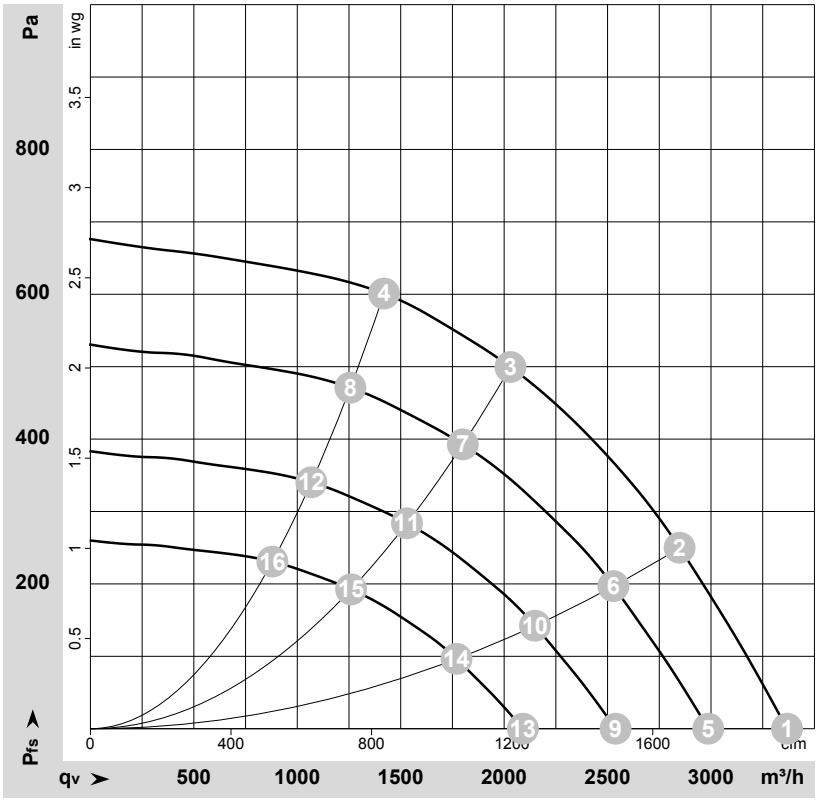
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-165322-1

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	2250	327	1.44	3365	0	1980	0.00
2	230	50	2250	422	1.85	2850	250	1675	1.00
3	230	50	2250	500	2.20	2030	500	1195	2.01
4	230	50	2250	449	1.97	1420	600	835	2.41
5	230	50	2000	228	1.01	2985	0	1760	0.00
6	230	50	2000	295	1.29	2530	197	1490	0.79
7	230	50	2000	342	1.50	1800	393	1060	1.58
8	230	50	2000	312	1.37	1255	471	740	1.89
9	230	50	1700	140	0.62	2540	0	1495	0.00
10	230	50	1700	181	0.79	2150	142	1265	0.57
11	230	50	1700	210	0.92	1530	284	900	1.14
12	230	50	1700	191	0.84	1070	340	630	1.36
13	230	50	1400	78	0.35	2090	0	1230	0.00
14	230	50	1400	101	0.44	1770	97	1040	0.39
15	230	50	1400	117	0.51	1260	193	740	0.77
16	230	50	1400	107	0.47	880	231	520	0.93

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

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