

K3G280-RR03-H2

EC centrifugal module - RadiCal®

backward curved, single inlet
with support bracket



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Nominal data

Type	K3G280-RR03-H2	
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	min ⁻¹	2700
Power input	W	500
Current draw	A	2.2
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

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	67.3	44.4	48.4
Efficiency grade N		80.9	58	62
Power input P_{ed}	kW	0.51		
Air flow q_v	m ³ /h	2105		
Pressure increase p_{fs}	Pa	535		
Speed n	min ⁻¹	2695		

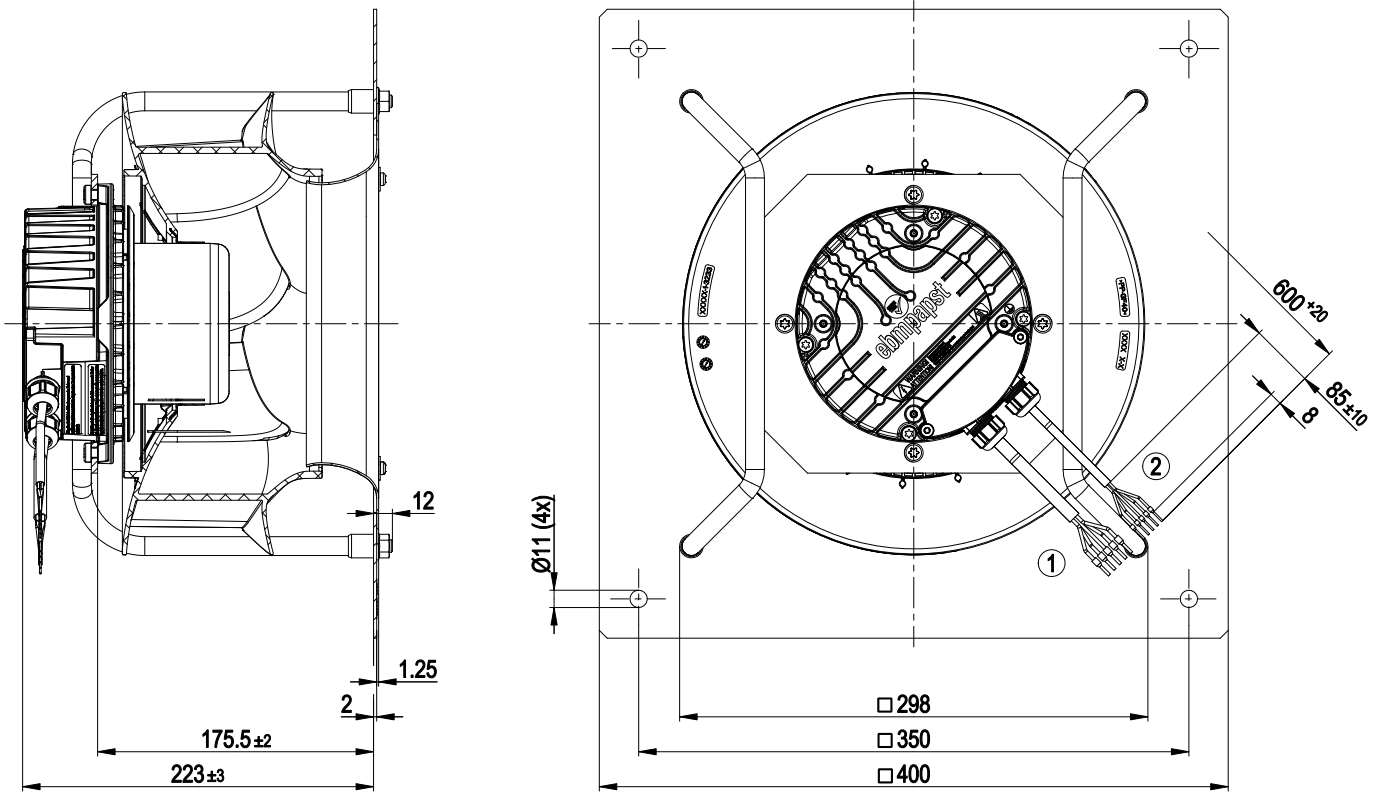
Data definition with optimum efficiency. LU-149673
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



Technical features

Mass	8.3 kg
Size	280 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Material of mounting plate	Sheet steel, galvanised
Material of support bracket	Steel, coated in black
Material of inlet nozzle	Sheet steel, galvanised
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	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
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
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; EN 60335-1; CE
Approval	EAC

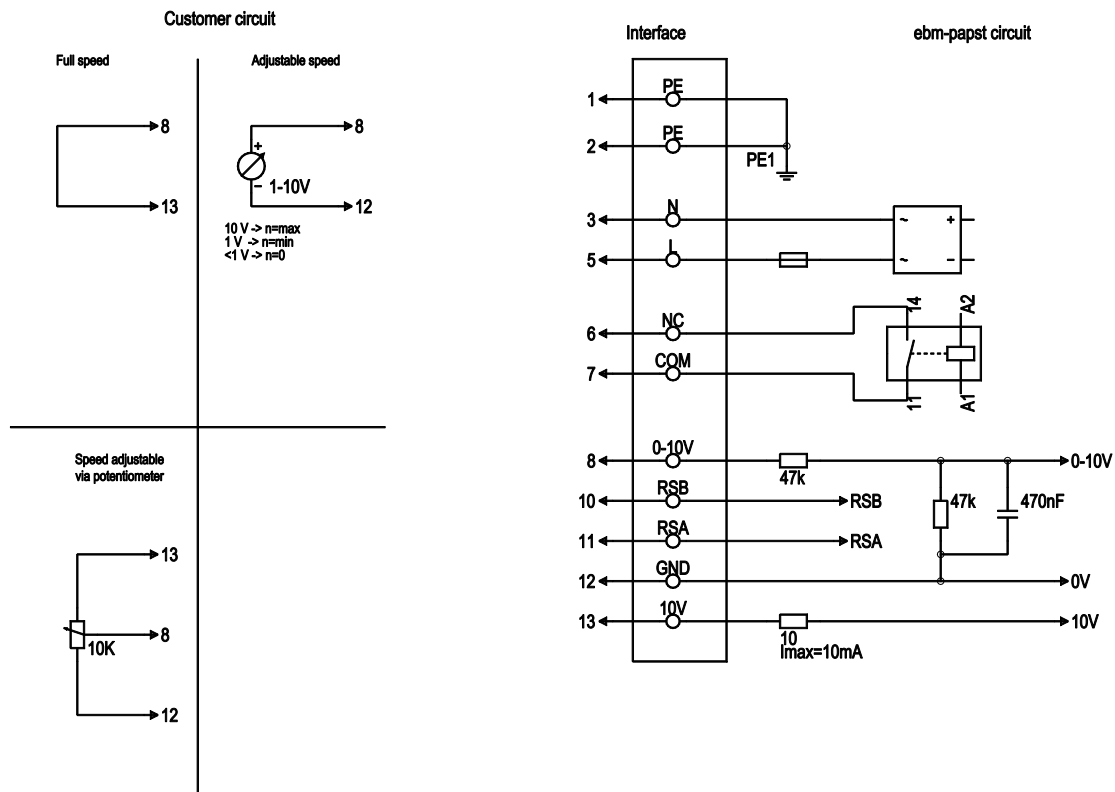
Product drawing



- | | |
|---|--|
| 1 | Connection line PVC AWG18, 5x crimped core-end sleeves |
| 2 | Connection line PVC AWG22, 5x crimped core-end sleeves |

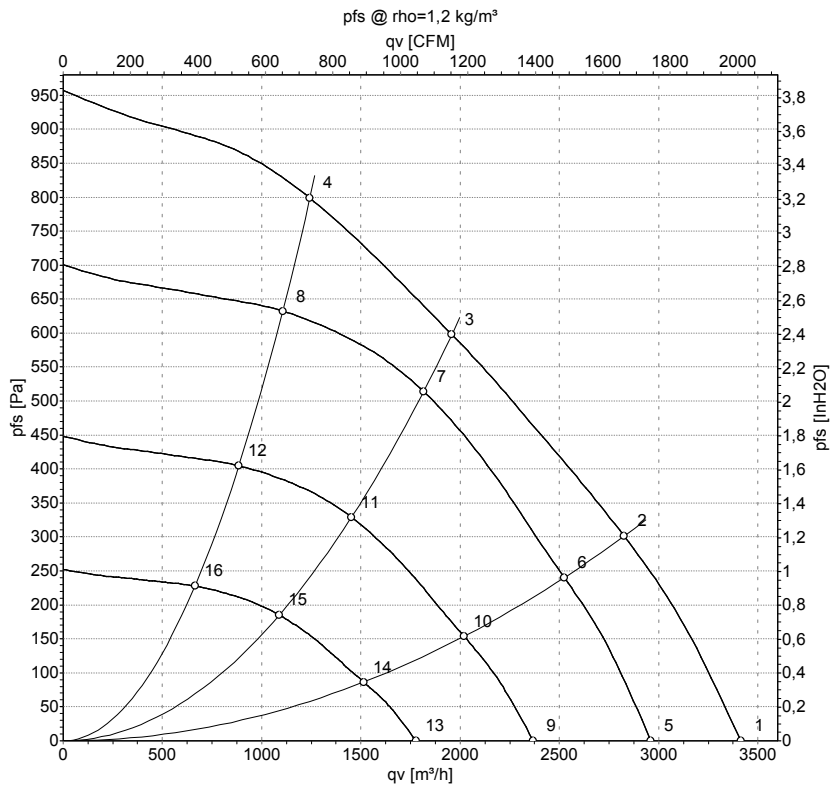
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Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, 50/60 Hz
1	5	L	black	Supply voltage, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analogue input 1 (set value); 0-10 V; Ri=100kΩ; parametrisable curve
2	10	RSB	brown	RS485 interface for Modbus, RSB
2	11	RSA	white	RS485 interface for Modbus, RSA
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC; +10 V +/-3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. potentiometer)

Charts: Air flow 50 Hz



Measurement: LU-149673

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	LpA _{in}	LwA _{in}	qv	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa
1	230	50	2880	460	2.00	77	85	3415	0
2	230	50	2800	500	2.20	73	80	2825	300
3	230	50	2700	500	2.20	66	74	1960	600
4	230	50	2810	500	2.20	70	78	1245	800
5	230	50	2500	300	1.31	74	81	2960	0
6	230	50	2500	366	1.60	70	77	2525	240
7	230	50	2500	410	1.78	64	72	1815	514
8	230	50	2500	362	1.58	67	75	1105	633
9	230	50	2000	154	0.67	68	76	2370	0
10	230	50	2000	187	0.82	64	71	2020	154
11	230	50	2000	210	0.91	58	66	1450	329
12	230	50	2000	185	0.81	62	69	885	405
13	230	50	1500	65	0.28	61	68	1775	0
14	230	50	1500	79	0.34	57	64	1515	86
15	230	50	1500	89	0.39	51	59	1090	185
16	230	50	1500	78	0.34	55	62	665	228

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · qv = Air flow
p_{fs} = Pressure increase