K3G280-PR03-H9

EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

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Nominal data

Type	**K3G280-PR03-H9**
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}	2670
Power consumption	W	500
Current draw	A	2.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	45

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	66.9	48.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		80.3	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.52
09 Air flow q_v	m^3/h	2100
09 Pressure increase p_{fs}	Pa	551
10 Speed (rpm) n	min^{-1}	2685
11 Specific ratio*		1.01

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

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Technical description

Weight	8.38 kg
Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Support plate material	Sheet steel, galvanized
Support bracket material	Steel, painted black
Inlet nozzle material	Sheet steel, galvanized
Guard grille material	Steel, coated with pebble gray plastic (RAL 7032)
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
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 bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - 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	Connector with cable
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	EAC; CCC

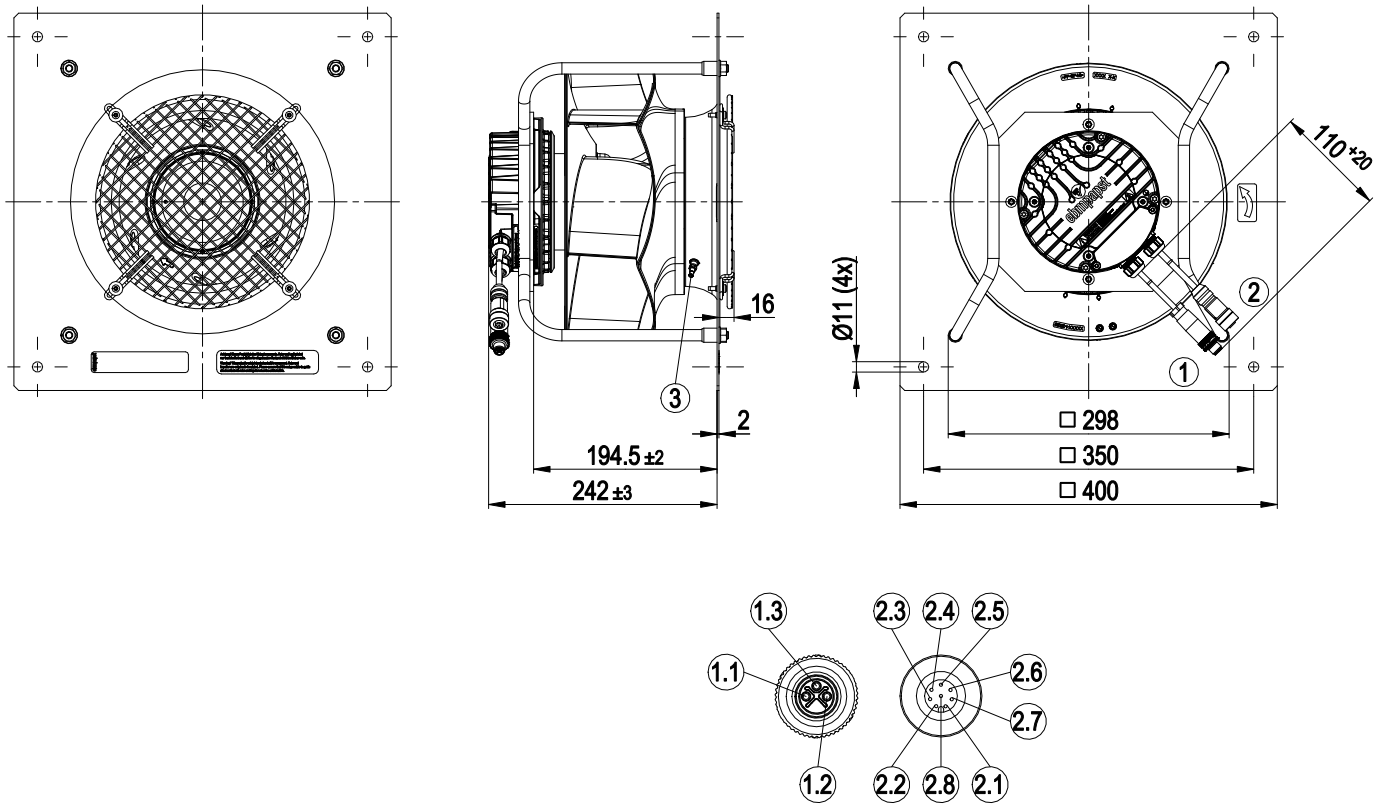
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Product drawing



1	Cable AWG18
	3-pole connector Phoenix 1419639
1.1	L
1.2	N
1.3	PE
2	Cable AWG24
	8-pole connector Phoenix 1511860
2.1	0-10 V
2.2	RSA
2.3	not used
2.4	+10 V
2.5	RSB
2.6	COM
2.7	GND
2.8	NC
3	Inlet ring with pressure tap (k-factor: 77)

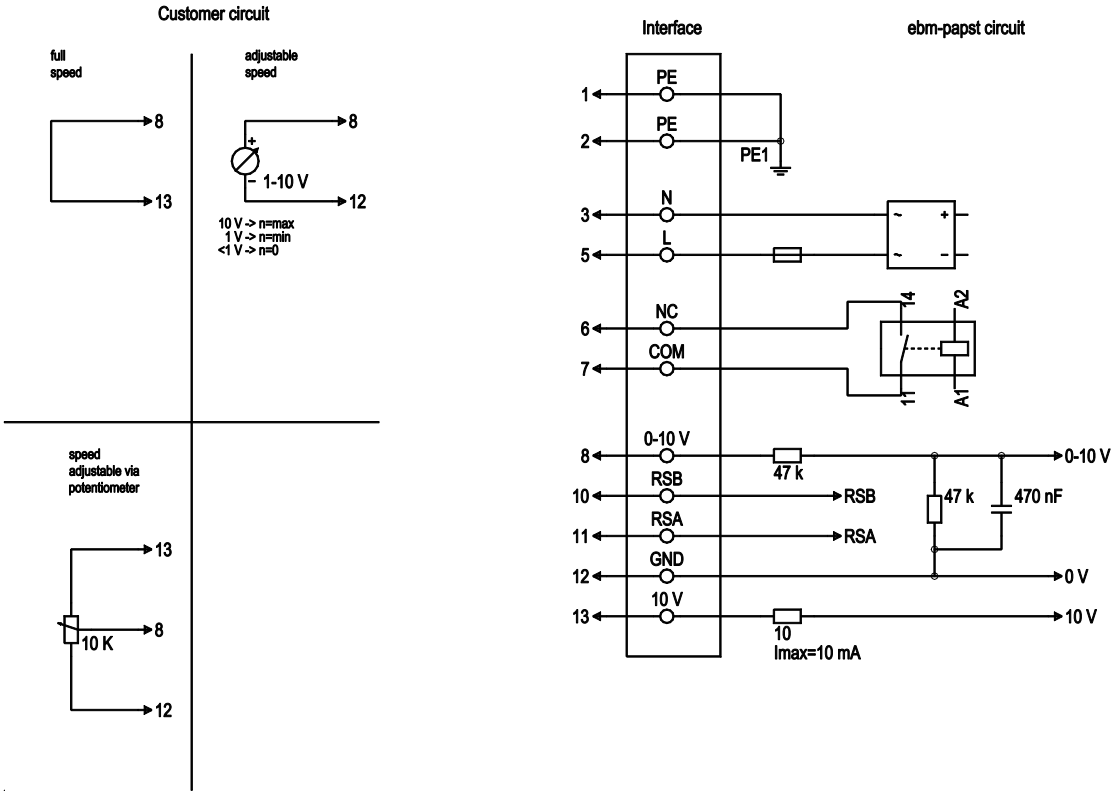
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 30 VAC/2A (AC1) min. 10 mA, basic insulation on supply side and basic insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 30 VAC/2A (AC1) min. 10 mA, basic insulation on supply side and basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value); 0-10 V; Ri = 100 kΩ; adjustable 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
2	13	+10V	red	Fixed voltage output 10 VDC; +10 V +/-3%; max. 10 mA; short-circuit-proof; power supply for ext. devices (e.g. potentiometer)

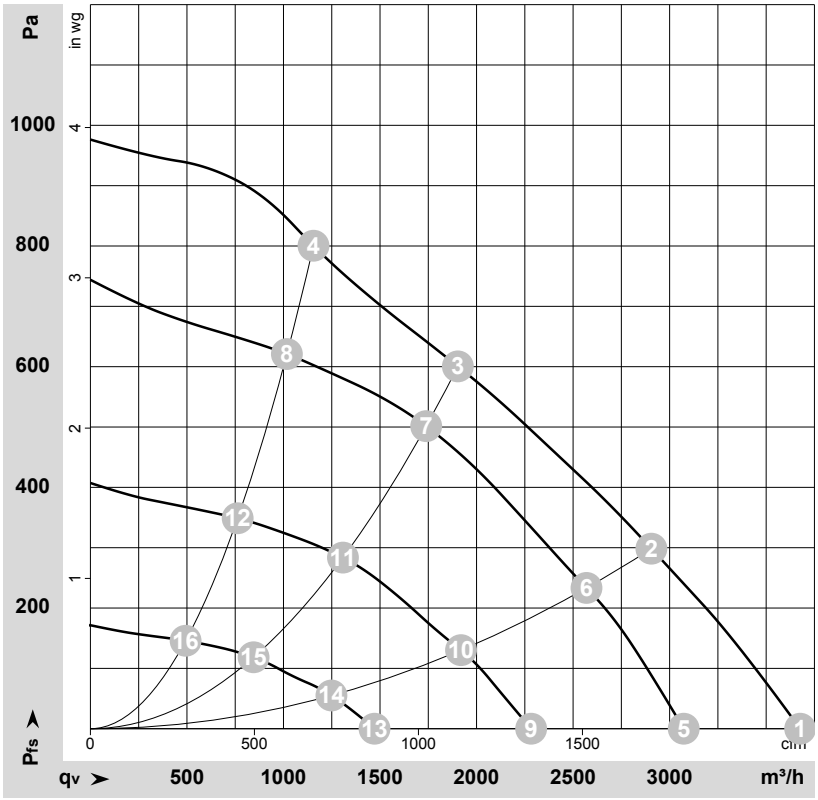
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-176737-1

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}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	230	50	2990	500	2.18	77	85	89	3675	0	2165	0.00
2	230	50	2785	500	2.30	71	79	85	2905	300	1710	1.20
3	230	50	2670	500	2.30	65	72	78	1905	600	1120	2.41
4	230	50	2835	500	2.30	69	77	81	1155	800	680	3.21
5	230	50	2520	303	1.34	74	82	84	3075	0	1810	0.00
6	230	50	2470	371	1.63	68	76	82	2570	233	1510	0.94
7	230	50	2440	400	1.76	64	71	77	1740	504	1025	2.02
8	230	50	2485	363	1.60	67	75	80	1020	622	600	2.50
9	230	50	1880	137	0.62	67	74	77	2285	0	1345	0.00
10	230	50	1860	165	0.74	61	69	74	1920	130	1130	0.52
11	230	50	1850	180	0.81	55	63	68	1310	284	770	1.14
12	230	50	1865	161	0.72	58	66	71	765	349	450	1.40
13	230	50	1225	48	0.26	56	64	66	1470	0	865	0.00
14	230	50	1210	57	0.30	50	58	63	1250	55	735	0.22
15	230	50	1205	60	0.31	45	53	58	845	118	495	0.47
16	230	50	1215	55	0.29	47	55	60	495	146	290	0.59

U = Voltage · 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
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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