K3G280-BC01-N3

EC centrifugal module

backward-curved, single-intake

with cube design, for rail applications

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Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**K3G280-BC01-N3**
Motor	**M3G084-FA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	3140
Power consumption	W	975
Current draw	A	1.5
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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Technical description

Weight	0.001 kg
Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum, painted black
Support plate material	Sheet steel, galvanized and painted black
Inlet nozzle material	Sheet steel, galvanized
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H3
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Integrated PID controller - Run monitoring - Power limiter - Motor current limitation - Emergency operation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC regulations	According to EN 50121-3-2
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Plug
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 15085-1, CPC3: 2013; EN 45545-2, HL3: 2013 + A1:2015; EN 50155: 2008; EN 61373, Cat. 1B: 2010
Approval	EAC

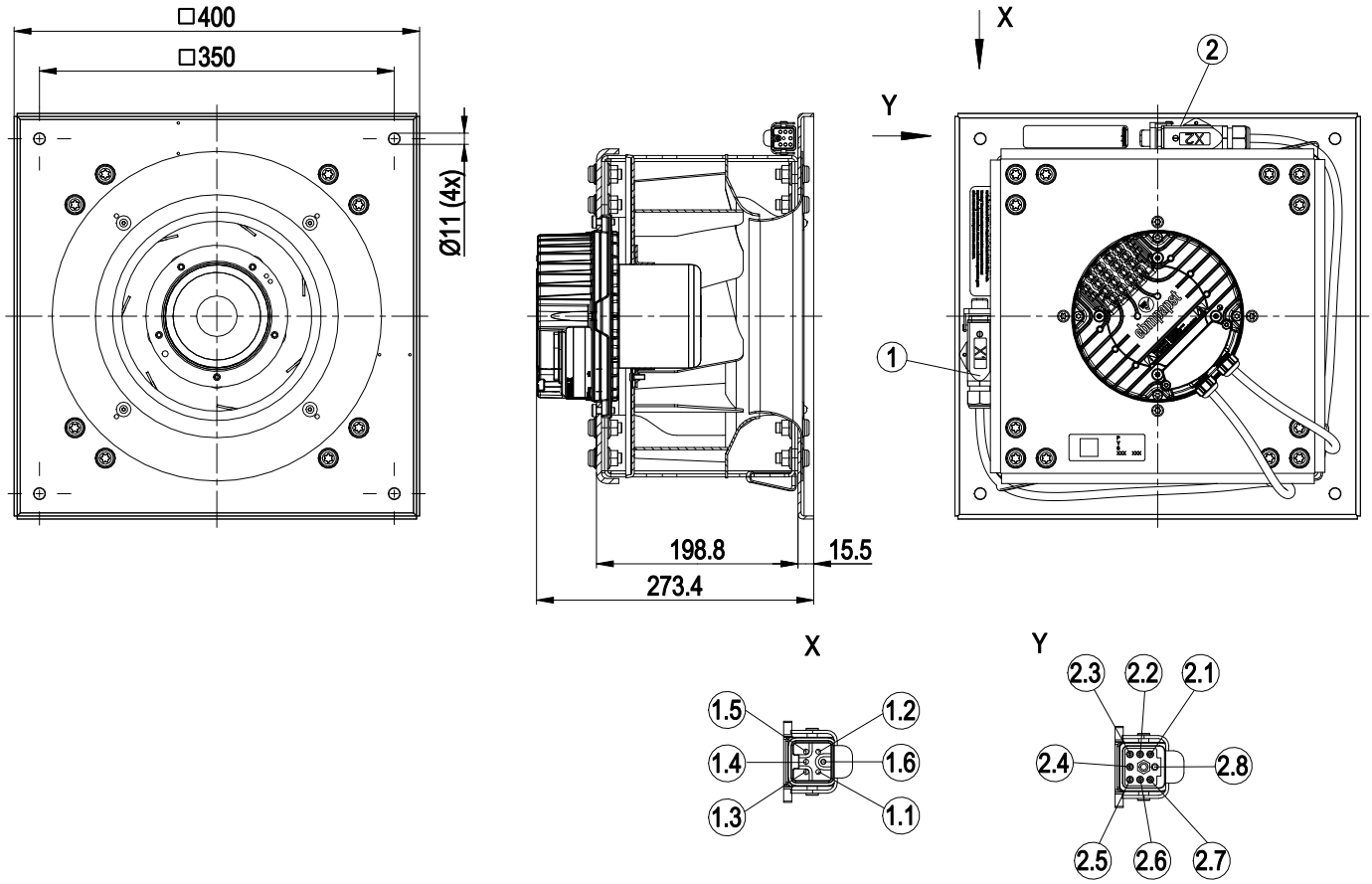
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Product drawing



1	Cable halogen-free, BETAtrans® 3 GKW flex, 4G 1.5 mm²
	Connector housing Harting 19 20 003 1250 incl. flat rubber gasket 34100-4-6730, 6-pole connector 09 12 005 3001, 4x plug pin 09 33 000 6104
1.1	not used
1.2	not used
1.3	L2
1.4	L3
1.5	L1
1.6	PE
2	Cable halogen-free, BETAtrans® 3 GKW flex, 7x 0.5 mm²
	Connector housing Harting 19 20 003 1250 incl. flat rubber gasket 34100-4-6730, 8-pole connector 09 12 007 3001, 8x plug pin 09 33 000 6105
2.1	GND
2.2	PWM/LIN
2.3	RSB
2.4	+10 V
2.5	RSA
2.6	COM
2.7	NC
2.8	not used

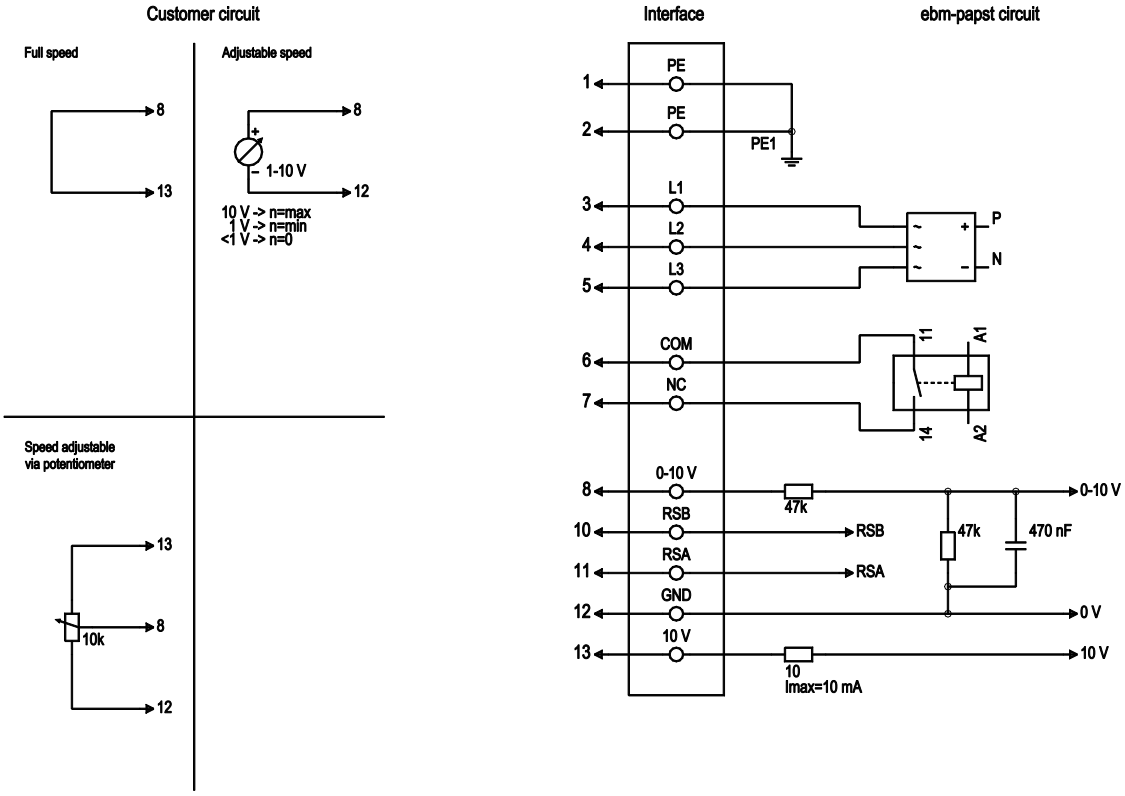
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply, phase, 50/60 Hz
1	4	L2	blue	Power supply, phase, 50/60 Hz
1	5	L3	brown	Power supply, phase, 50/60 Hz
2	6	COM	gray	Status relay, floating status contact, common connection, contact rating 250 VAC / 30 VDC 5 A minimum contact separation 1 mA / 5 VDC, reinforced insulation on supply side, basic insulation on control interface side
2	7	NC	orange	Status relay, floating status contact, break for failure, contact rating 250 VAC / 30 VDC 5 A minimum contact separation 1 mA / 5 VDC, reinforced insulation on supply side, basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
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. pot); SELV

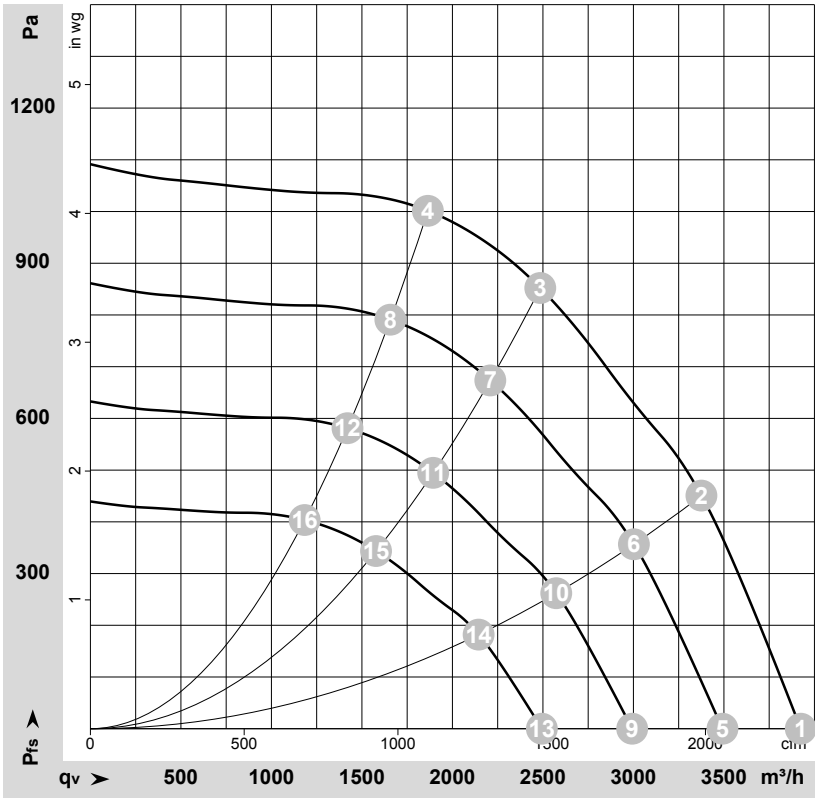
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-179468-1

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}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	400	50	3140	743	1.21	79	87	3925	0	2310	0.00
2	400	50	3140	922	1.47	74	83	3375	450	1985	1.81
3	400	50	3140	975	1.50	72	80	2485	850	1465	3.41
4	400	50	3140	931	1.48	73	82	1865	1000	1100	4.01
5	400	50	2800	523	0.85	76	84	3490	0	2055	0.00
6	400	50	2800	649	1.03	71	80	3005	359	1765	1.44
7	400	50	2800	685	1.08	69	77	2210	674	1300	2.71
8	400	50	2800	653	1.04	70	79	1655	792	975	3.18
9	400	50	2400	329	0.54	72	80	2995	0	1760	0.00
10	400	50	2400	409	0.65	68	76	2575	264	1515	1.06
11	400	50	2400	431	0.68	65	74	1895	495	1115	1.99
12	400	50	2400	411	0.65	67	75	1420	582	835	2.34
13	400	50	2000	191	0.31	68	76	2495	0	1470	0.00
14	400	50	2000	236	0.38	63	71	2145	183	1260	0.73
15	400	50	2000	250	0.39	61	69	1580	344	930	1.38
16	400	50	2000	238	0.38	62	71	1185	404	695	1.62

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
q_V = Air flow · p_{fs} = Pressure increase

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