K3G280-BC01-N3

EC centrifugal module

backward-curved, single-intake

with cube design, for rail applications

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
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
Speed (rpm)	min^{-1}	3140
Power consumption	W	940
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

EC centrifugal module

backward-curved, single-intake

with cube design, for rail applications

Technical description

Weight	16.8 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
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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; (sealed)
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)

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module

backward-curved, single-intake

with cube design, for rail applications

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

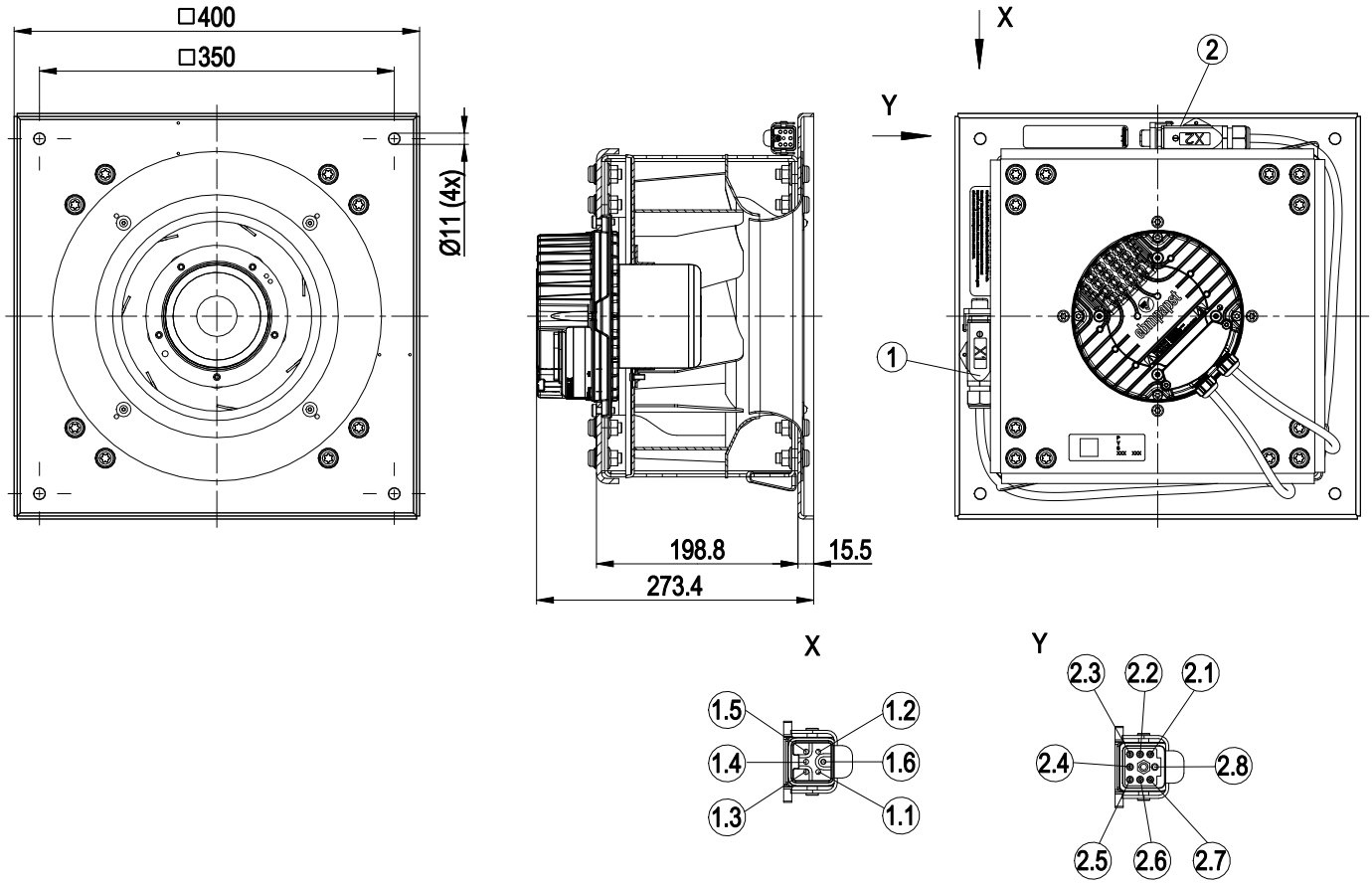
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module

backward-curved, single-intake

with cube design, for rail applications

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

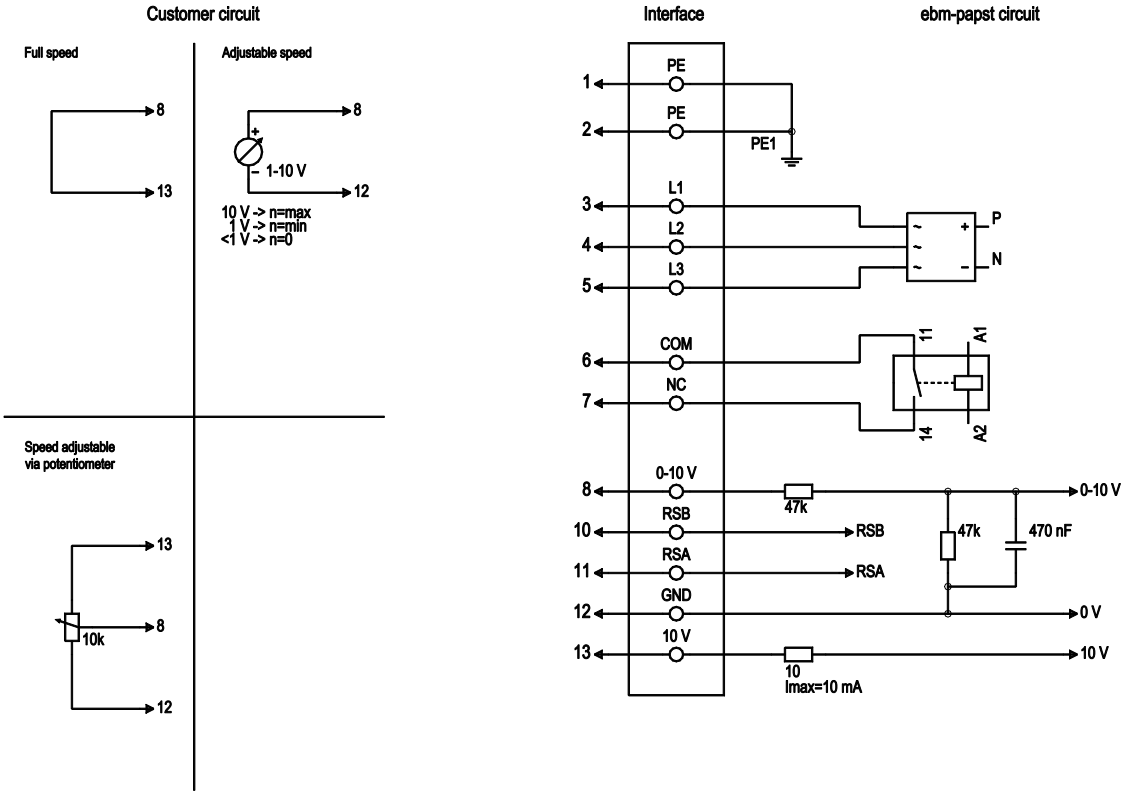
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module

backward-curved, single-intake

with cube design, for rail applications

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

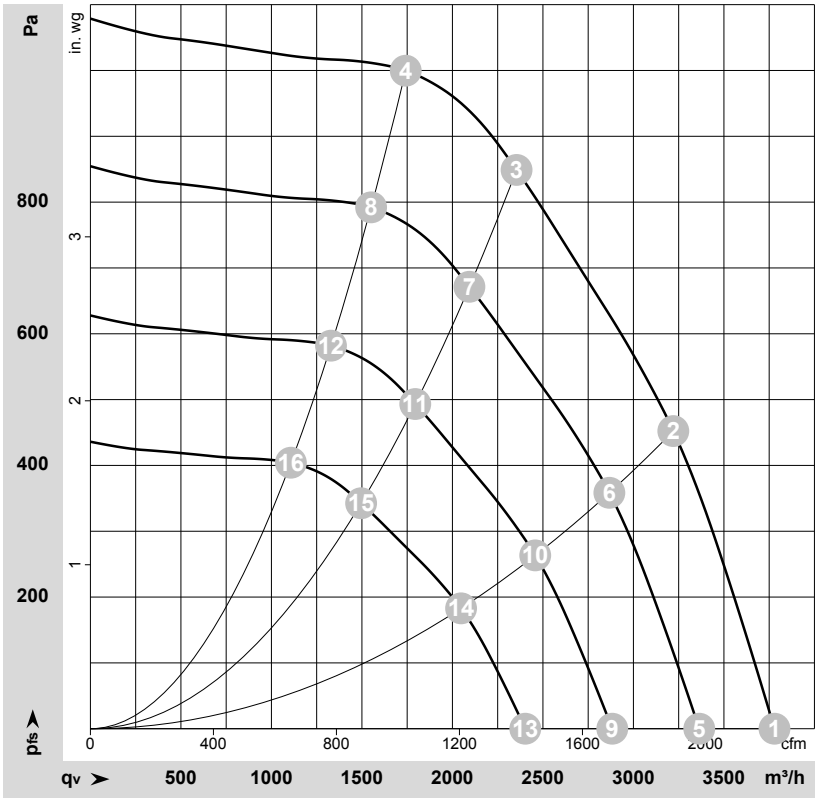
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module

backward-curved, single-intake

with cube design, for rail applications

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-195494-1

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

	Wired	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	in. wg
1	3~	400	50	3140	697	1.09	3780	0	2225	0.00
2	3~	400	50	3140	885	1.37	3220	450	1895	1.81
3	3~	400	50	3140	940	1.50	2355	850	1385	3.41
4	3~	400	50	3140	889	1.37	1740	1000	1025	4.01
5	3~	400	50	2800	491	0.77	3365	0	1980	0.00
6	3~	400	50	2800	625	0.96	2865	360	1685	1.45
7	3~	400	50	2800	659	1.01	2095	672	1230	2.70
8	3~	400	50	2800	627	0.97	1550	794	915	3.19
9	3~	400	50	2400	309	0.48	2885	0	1695	0.00
10	3~	400	50	2400	393	0.61	2460	265	1445	1.06
11	3~	400	50	2400	415	0.64	1795	494	1055	1.98
12	3~	400	50	2400	395	0.61	1330	583	780	2.34
13	3~	400	50	2000	179	0.28	2405	0	1415	0.00
14	3~	400	50	2000	228	0.35	2050	184	1205	0.74
15	3~	400	50	2000	240	0.37	1495	343	880	1.38
16	3~	400	50	2000	229	0.35	1110	405	650	1.63

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com