K3G280-BD13-S1

EC centrifugal module - RadiPac

backward-curved, single-intake

with support structure, 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-BD13-S1**	
Motor	**M3G084-DF**	
Nominal voltage	VDC	110
Nominal voltage range	VDC	77 .. 138
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	3100
Power consumption	W	920
Current draw	A	8.4
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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	57.7	51.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		68.6	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.91
09 Air flow q_v	m^3/h	2100
09 Pressure increase p_{fs}	Pa	835
10 Speed (rpm) n	min^{-1}	3095
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

LU-187202

EC centrifugal module - RadiPac

backward-curved, single-intake

with support structure, for rail applications

Technical description

Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PBT plastic
Spacer material	Aluminum
Inlet nozzle material	Sheet steel, galvanized
Support structure material	Aluminum
Number of blades	9
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	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 - Motor current limitation - 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 detection
EMC regulations	According to EN 50121-3-2
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; CE
Approval	EAC
Comment	If voltage (e.g. 230 VAC) is passed through the alarm relay, the SELV signal wires lose their property of reinforced insulation, meaning they then have only basic insulation The SELV property (reinforced insulation) is not lost when voltages of up to 110 VDC are passed through the alarm relay.

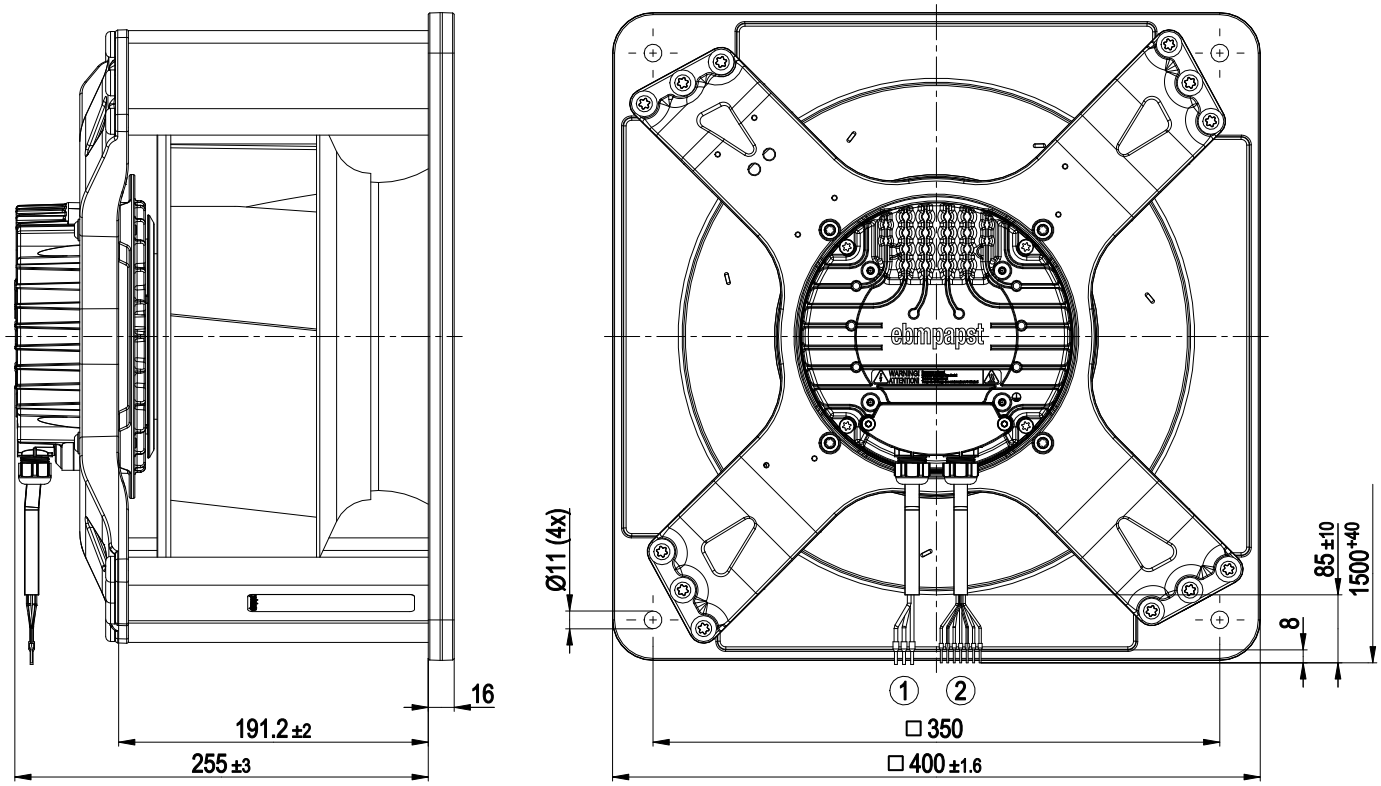
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module - RadiPac

backward-curved, single-intake

with support structure, for rail applications

Product drawing



1	Cable, halogen-free, railway application EN 45545, 4G 1.5 mm²
	3x wire-end ferrule, 1x wire not routed externally
2	Cable, halogen-free, railway application EN 45545, 7x 0.5 mm²
	7x wire-end ferrule

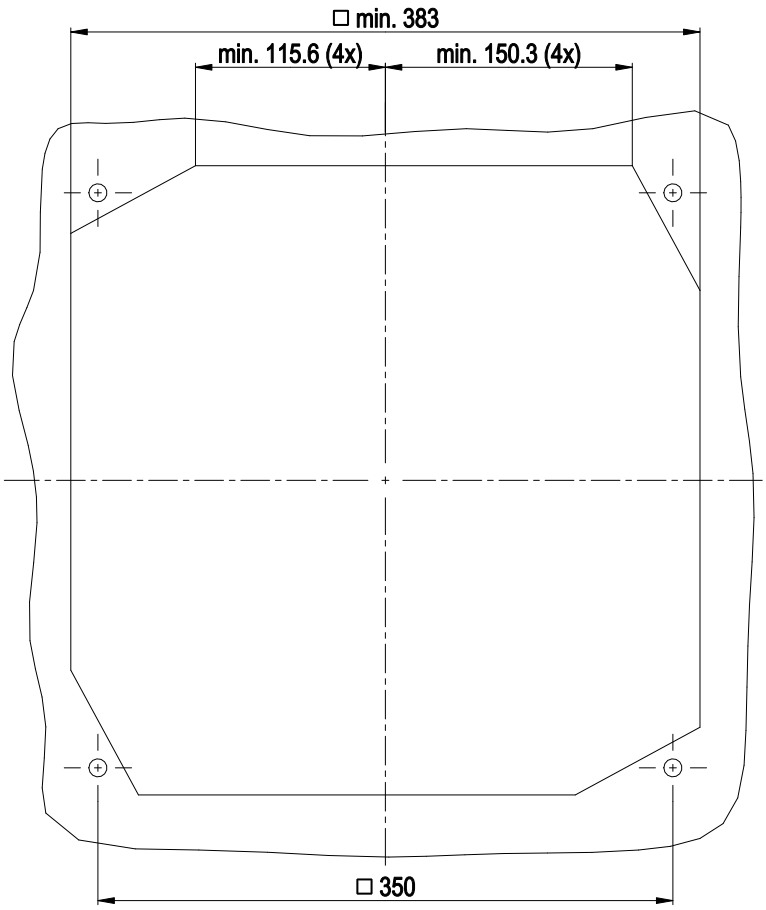
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module - RadiPac

backward-curved, single-intake

with support structure, for rail applications

Mounting dimensions



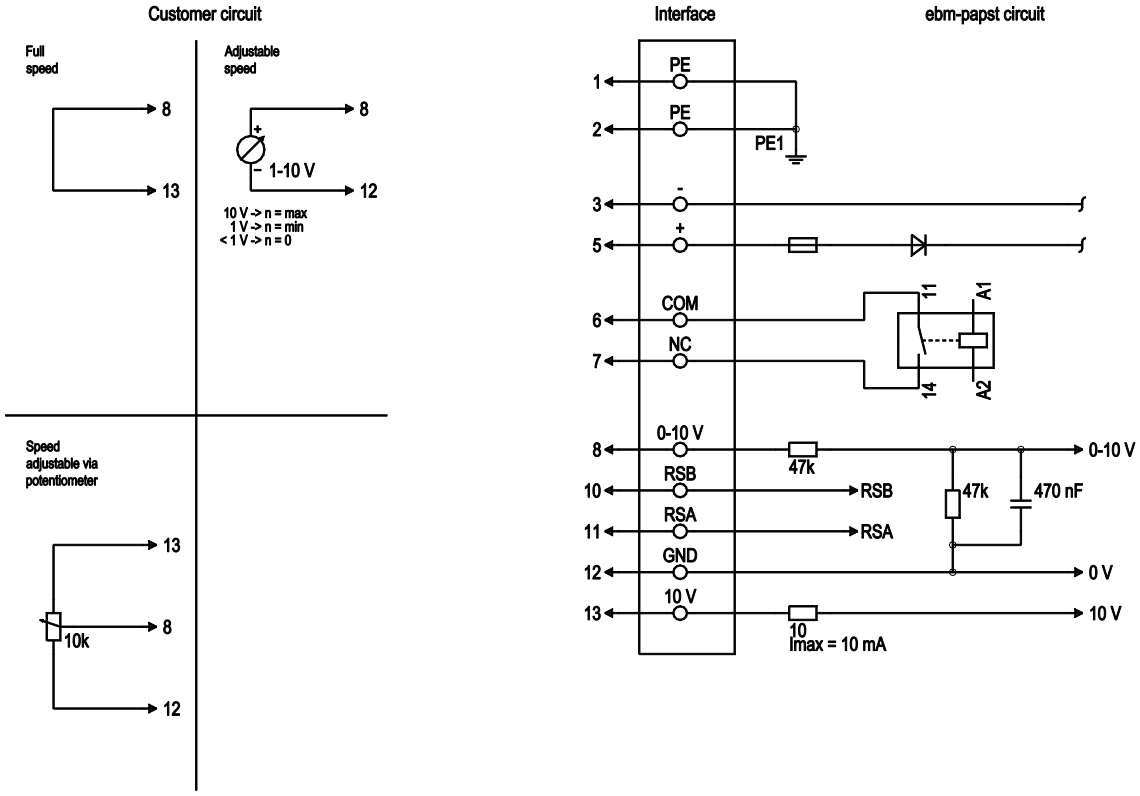
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module - RadiPac

backward-curved, single-intake

with support structure, for rail applications

Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	-	black	Power supply, GND, voltage range see nameplate
1	5	+	brown	Power supply, voltage range see nameplate
2	6	COM	gray	Status relay, floating status contact, break for failure, contact rating 250 VAC / max. 2 A (AC1) / min. 1 mA / 5 V, basic insulation on supply side and on control interface side
2	7	NC	orange	Status relay, floating status contact, common connection, contact rating 250 VAC / max. 2 A (AC1) / min. 1 mA / 5 V, basic insulation on supply side and on control interface side
2	8	0-10 V	yellow	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve; SELV
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	+10 V	red	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof power supply for external devices (e.g. pot); SELV

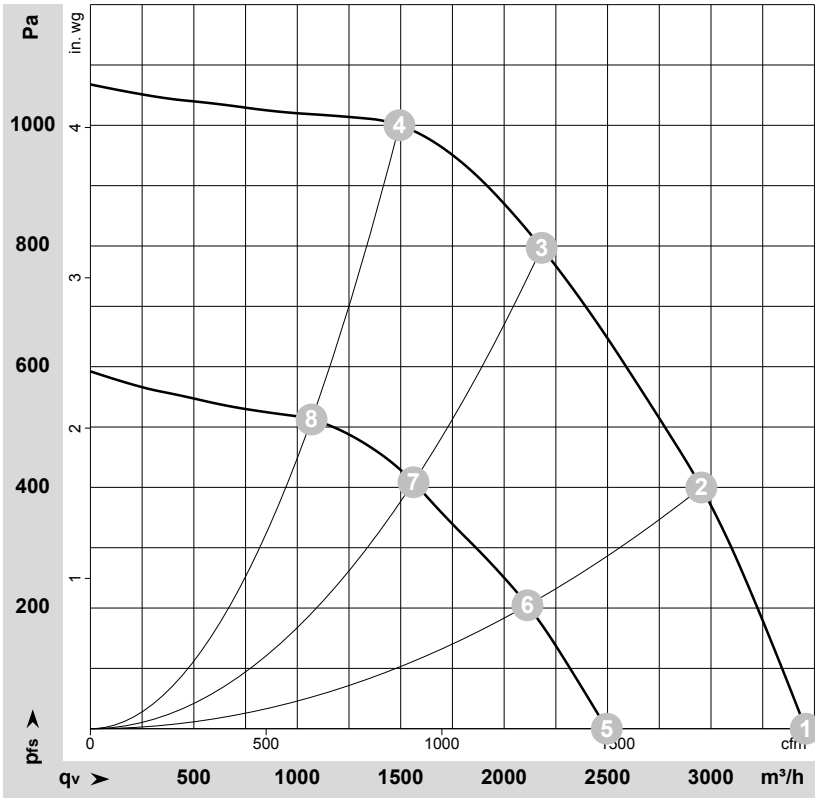
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module - RadiPac

backward-curved, single-intake

with support structure, for rail applications

Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-187202-1
Measurement: LU-187392-1

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	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	110-138	3140	743	6.80*	3460	0	2035	0.00
2	110-138	3120	882	8.00*	2955	400	1740	1.61
3	110-138	3100	920	8.40*	2180	800	1285	3.21
4	110-138	3140	861	7.80*	1495	1000	880	4.01
5	77	2270	297	3.86	2495	0	1470	0.00
6	77	2245	340	4.42	2115	206	1245	0.83
7	77	2240	355	4.61	1560	409	920	1.64
8	77	2250	332	4.31	1070	515	630	2.07

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · * = Current measured at nominal voltage · 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