

8300100667

VHD0146XUNEZ

EC centrifugal fan

forward-curved, dual-intake

with housing (flange), for rail applications

8300100667 ebmpapst Datasheet FansCo

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Nominal data

Item	8300100667	
Motor	E07431-25	
Nominal voltage	VDC	110
Nominal voltage range	VDC	56 .. 138
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	1350
Power consumption	W	120
Current draw	A	1.1
Min. back pressure	Pa	0
Min. back pressure	in. wg	0
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

Size	146 mm
Motor size	74
Rotor surface	Painted black
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Motor suspension	Motor mounted with brackets on one side
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	6K9K
Insulation class	"B"
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, open rotor
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	<ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Alarm relay - Power limiter - 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 - Line undervoltage detection - Reverse polarity protection
Electrical hookup	Plug
Motor protection	Electronic motor protection
With cable	Axial
Protection class assignment	<p>I; If a protective earth is connected by the customer</p> <p>This component for installation may have several local protection classes. This information relates to this component's basic design.</p> <p>The final protection class is based on the component's intended installation and connection.</p>
Conformity with standards	EN 45545-2:2020, HL3; EN 50155:2021; EN 61373, cat. 1B: 2010
Approval	EAC
Comment	<p>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</p> <p>The SELV property (reinforced insulation) is not lost when voltages of up to 110 VDC are passed through the alarm relay.</p>

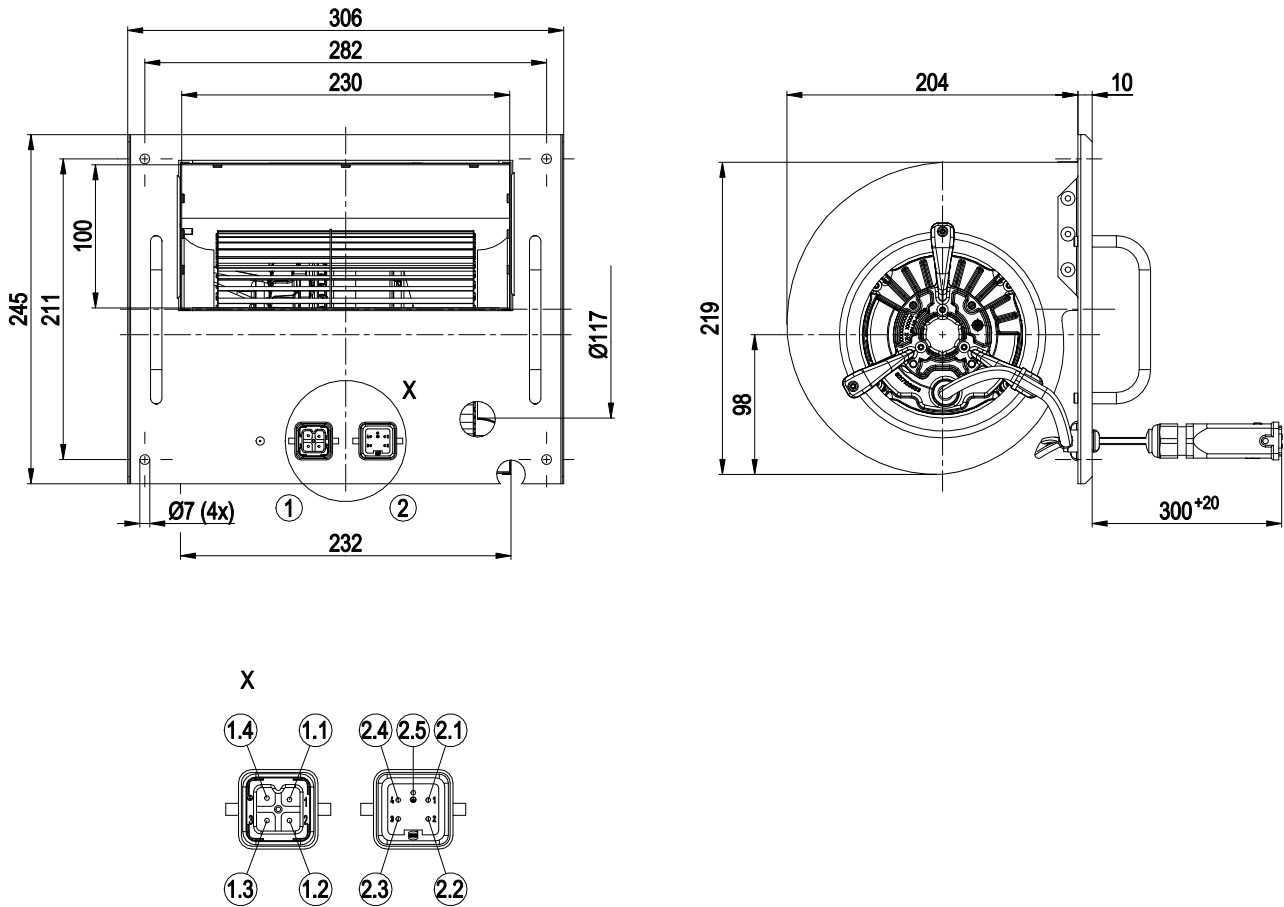


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Product drawing



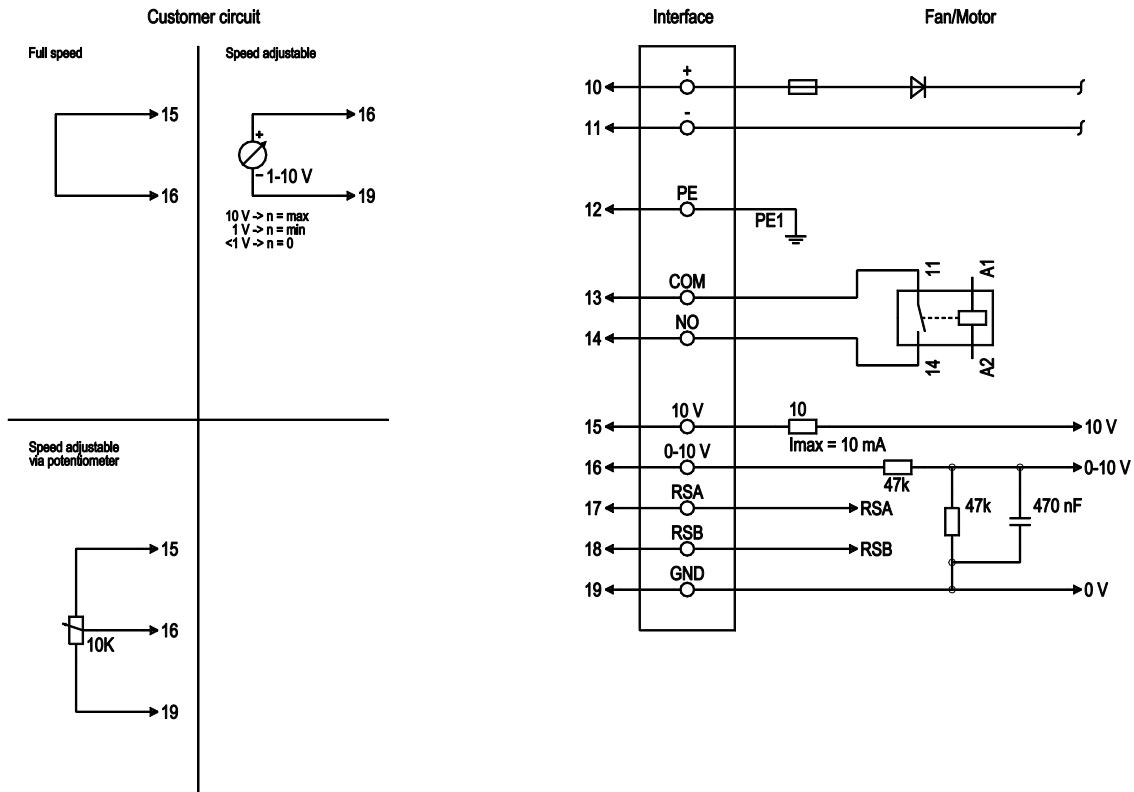
1	Cable, halogen-free, railway application EN 45545, 4x 1.0 mm ² Connector housing Harting 19 20 003 1440, 4-pole pin insert Harting 09 20 003 2611
1.1	0-10 V
1.2	RSB
1.3	GND
1.4	RSA
2	Cable, halogen-free, railway application EN 45545, 5G 1.0 mm ² Connector housing Harting 19 20 003 1440, 5-pole pin insert Harting 09 20 004 2611
2.1	NC
2.2	COM
2.3	+
2.4	-
2.5	PE



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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
10	+		brown	Power supply, see nameplate for voltage range
11	-		black	Power supply, see nameplate for voltage range
12	PE		green/yellow	Protective earth
13	COM		gray	Status relay, floating status contact, common connection, contact rating 250 VAC/30 VDC max. 2 A (AC1), min. 1 mA/5 VDC, reinforced insulation on control interface side, basic insulation on supply side in accordance with EN 50124-1
14	NO		purple	Status relay, floating status contact, normally open contact, contact rating 250 VAC/30 VDC max. 2 A (AC1), min. 1 mA/5 VDC, reinforced insulation on control interface side, basic insulation on supply side in accordance with EN 50124-1
15	+10 V		-	not brought out via wire
16	0-10 V		yellow	Analog input (set value) SELV, 0-10 V, $R_i = 100\text{ k}\Omega$, adjustable curve
17	RSA		white	RS-485 interface for MODBUS, RSA; SELV, bus termination resistor provided by customer
18	RSB		orange	RS-485 interface for MODBUS, RSB; SELV, bus termination resistor provided by customer
19	GND		blue	Reference ground for control interface, SELV

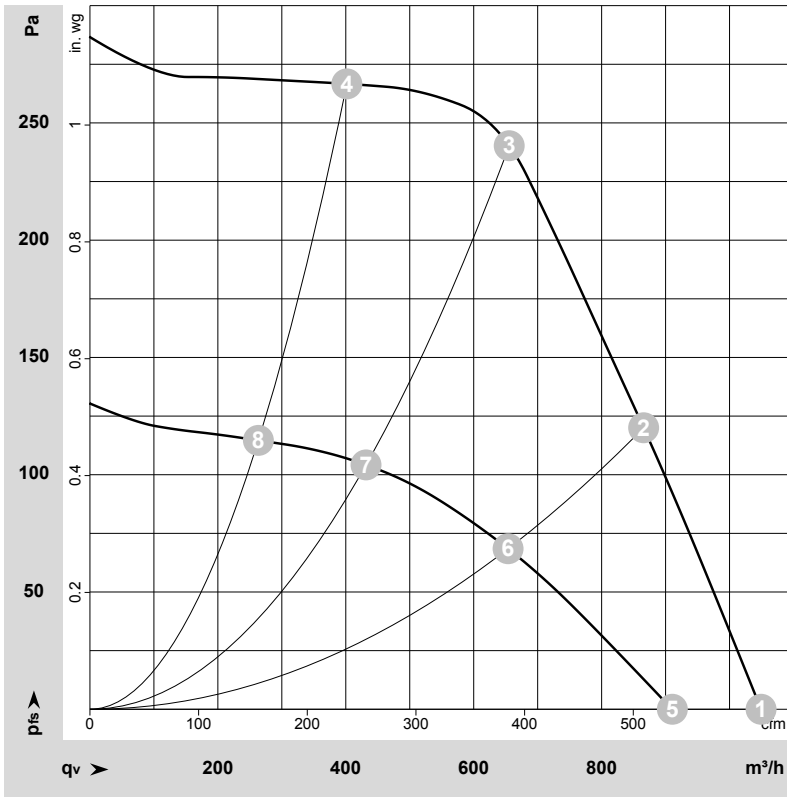


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Curves: Air performance



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-222497-1
Measurement: LU-222500-1

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 _e	I	LpA _{in}	LwA _{in}	q _v	p _{fs}	q _v	p _{fs}
	V	min ⁻¹	W	A	dB(A)	dB(A)	m ³ /h	Pa	cfm	in. wg
1	110-138	1350	120	1.10*	58	69	1050	0	615	0.00
2	110-138	1670	120	1.10*	55	67	865	120	510	0.48
3	110-138	2040	120	1.10*	56	67	655	240	385	0.96
4	110-138	2100	85	0.80*	57	68	400	265	235	1.06
5	56	1155	72	1.28			910	0	535	0.00
6	56	1270	52	0.92			655	69	385	0.28
7	56	1350	37	0.66			430	104	255	0.42
8	56	1395	28	0.50			265	115	155	0.46

U = Voltage · n = Speed (rpm) · P_e = Power consumption · I = Current draw · * = Current measured at nominal voltage · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_v = Air flow · p_{fs} = Pressure increase

