EC centrifugal fan

forward-curved, dual-intake

with housing (flange), for rail applications

Nominal data

Type	**D3G146-AH71-25**
Motor	**M3G074-CF**

Nominal voltage	VDC	110
Frequency	Hz	DC
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1700
Power consumption	W	165
Current draw	A	1.5
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

Weight	4.6 kg
Size	146 mm
Motor size	74
Rotor surface	Painted black
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Motor suspension	Motor vibration-damped on both sides
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
Insulation class	"B"
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	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Run monitoring - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for electronics/motor - Reverse polarity protection
EMC regulations	According to EN 50121-3-2
Electrical hookup	Plug
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE
Approval	EAC
Comment	A prerequisite for operation is a Class 1 vehicle electrical system architecture according to EN 50533; if supply potential (e.g. 230 VAC) is passed through the alarm relay, the SELV signal wires lose their property of reinforced insulation and 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.

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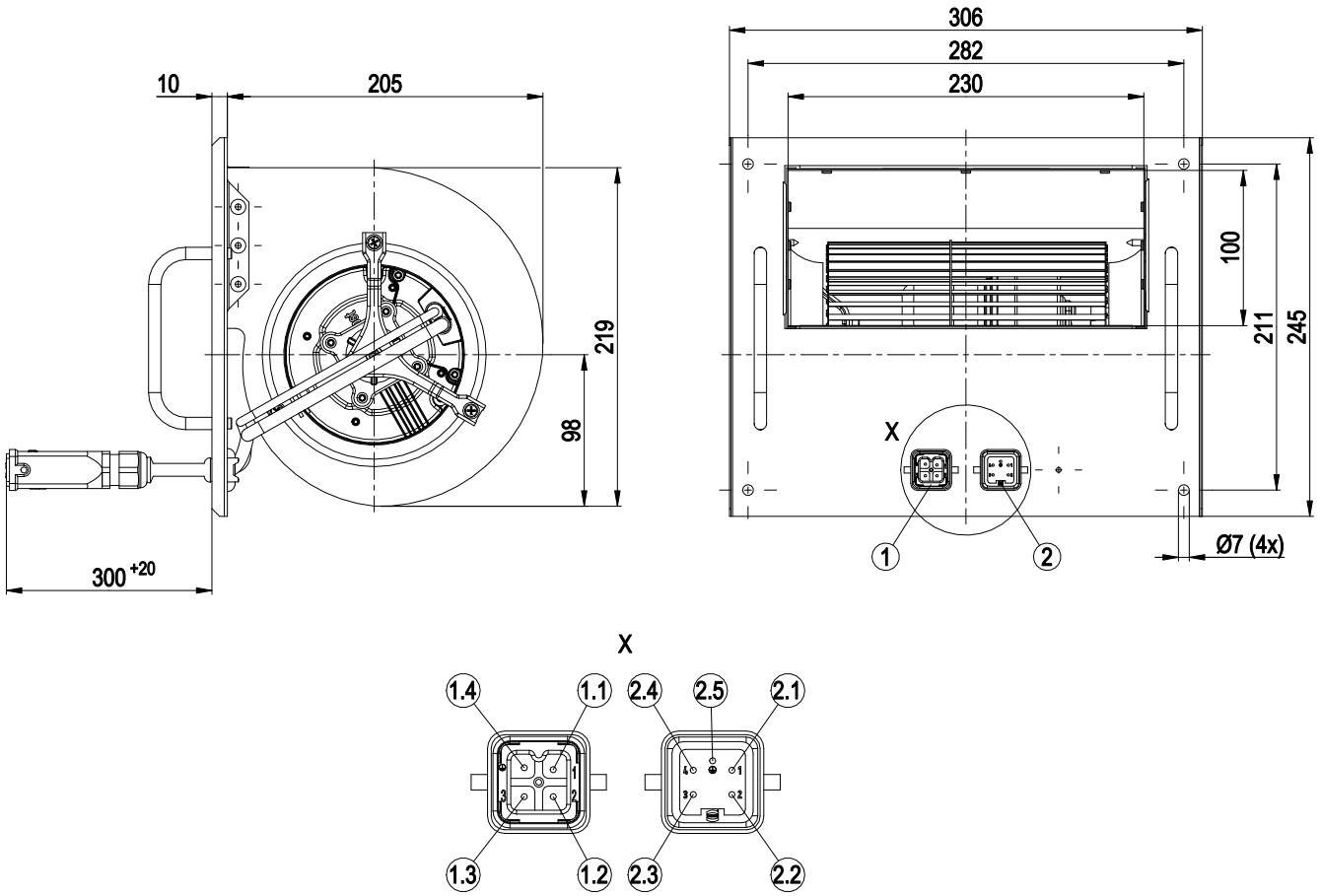
Product drawing



1	Cable, halogen-free, railway application EN 45545, 3x 0.33 mm²
	Connector housing Harting 19 20 003 1440, 4-pole connector 09 20 003 2611
1.1	0-10 V PWM (yellow)
1.2	10 VDC (red)
1.3	GND (blue)
1.4	Not used / no function
2	Cable, halogen-free, railway application EN 45545, 5G 1.0 mm²
	Connector housing Harting 19 20 003 1440, 5-pole connector 09 20 004 2611
2.1	NC (white 2)
2.2	COM (white 1)
2.3	+ (red)
2.4	- (blue)
2.5	PE (green/yellow)

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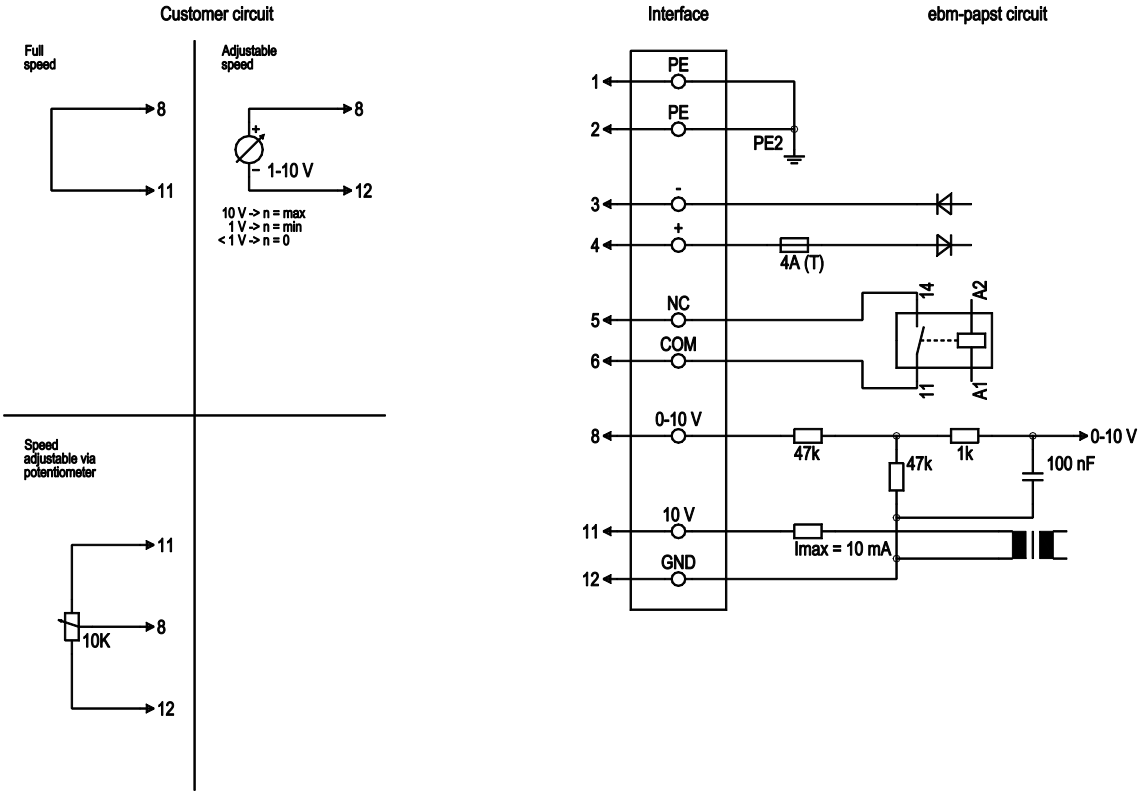
Connection diagram



No.	Conn.	Designation	Function/assignment
1	1, 2	PE	Protective earth
1	3	-	Power supply, GND (110 VDC)
1	4	+	Power supply, 110 VDC
1	5	NC	Floating status contact (0.3 A - 110 VDC, 1 A - 60 VDC, 3 A - 30 VDC), closed at n >= 100 rpm, break for failure
1	6	COM	Floating status contact, closed at n >= 100 rpm, break for failure
2	8	0-10 V	Control input, set value 0-10 VDC, impedance 100 kΩ; SELV
2	11	10 VDC	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer); SELV
2	12	GND	Reference ground for control interface, SELV

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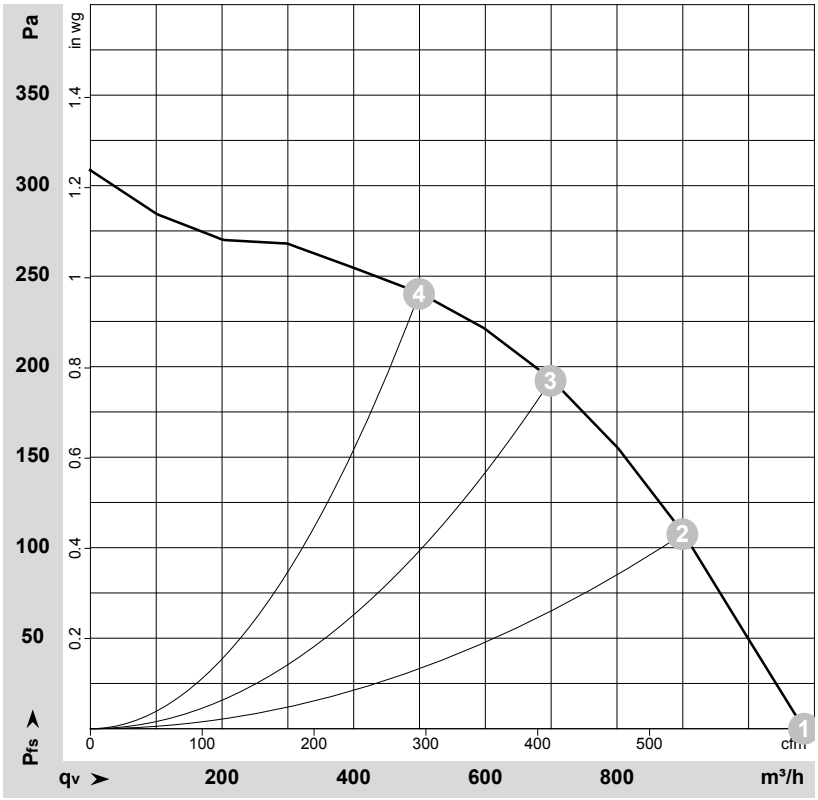
Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-183189-1

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	1700	165	1.50	1080	0	635	0.00
2	110	1815	143	1.30	900	109	530	0.44
3	110	1950	117	1.06	700	193	410	0.77
4	110	2070	93	0.84	500	241	295	0.97

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