D3G146-AH50-23

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

D3G146-AH50-23 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**D3G146-AH50-23**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		fa
Speed (rpm)	min^{-1}	1700
Power input	W	165
Current draw	A	1.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	43.4	32.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		54.8	44
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	645
09 Pressure increase p_{fs}	Pa	350
10 Speed (rpm) n	min^{-1}	2400
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-105178

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Technical features

Mass	4.1 kg
Size	146 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Sheet steel, galvanised
Housing material	Sheet steel, galvanised
Motor suspension	Motor mounted anti-vibration on both sides
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
Insulation class	"B"
Humidity (F)/environmental protection class (H)	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Output limit - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected motor
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE
Approval	CSA C22.2 No.77; UL 2111

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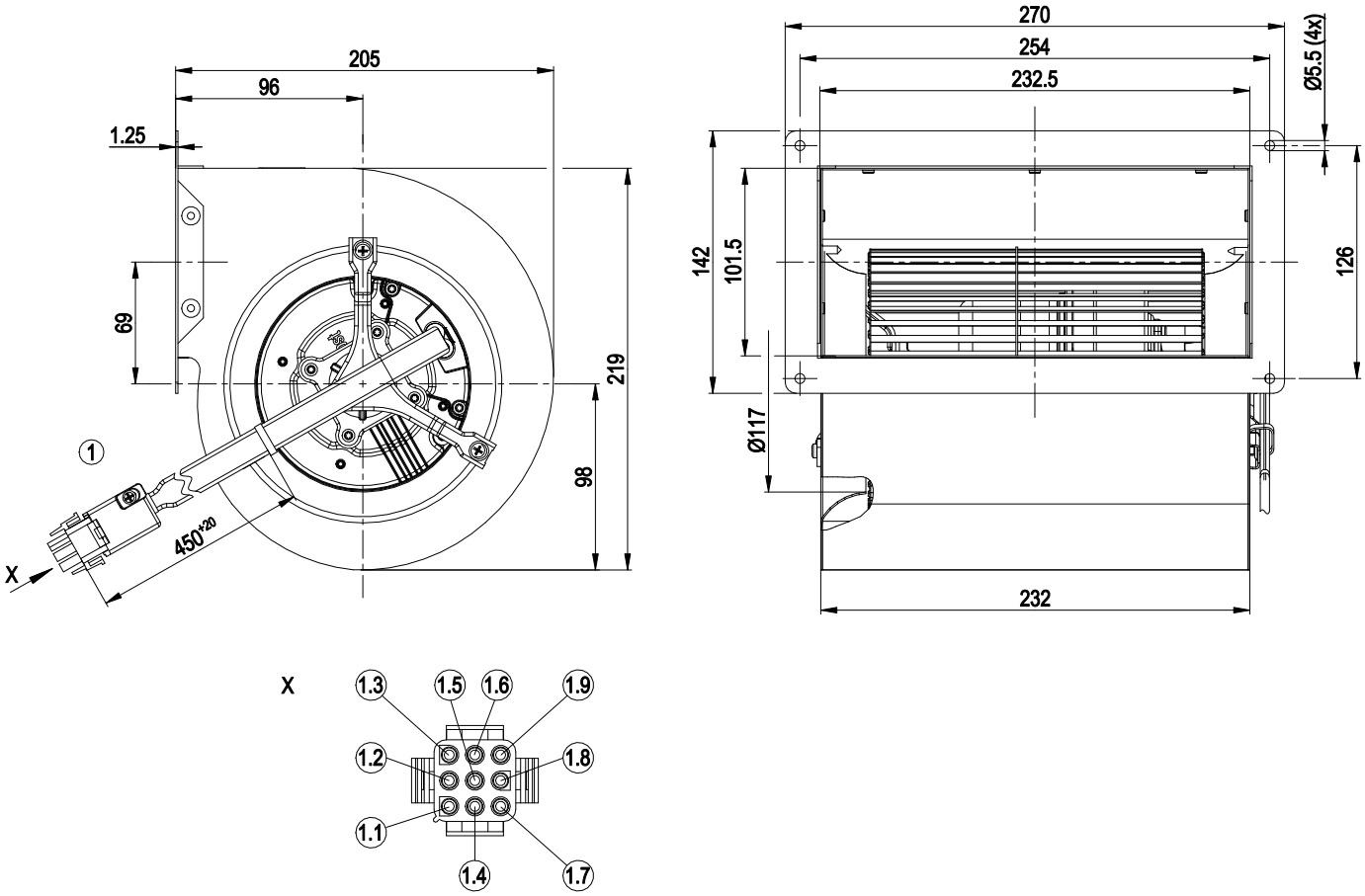
Product drawing



1	Connection line PVC AWG18, connection line PVC AWG22, 9-pole connector housing tyco 1863003-1, 2x strain relief tyco 1-640722-0, 3x plug pin tyco 350218-1, 4x plug pin tyco 926886-1
1.1	GND (blue)
1.2	Tach (white)
1.3	0-10 V PWM (yellow)
1.4	not used
1.5	not used
1.6	+10 V (red)
1.7	L (black)
1.8	N (blue)
1.9	PE (green/yellow)

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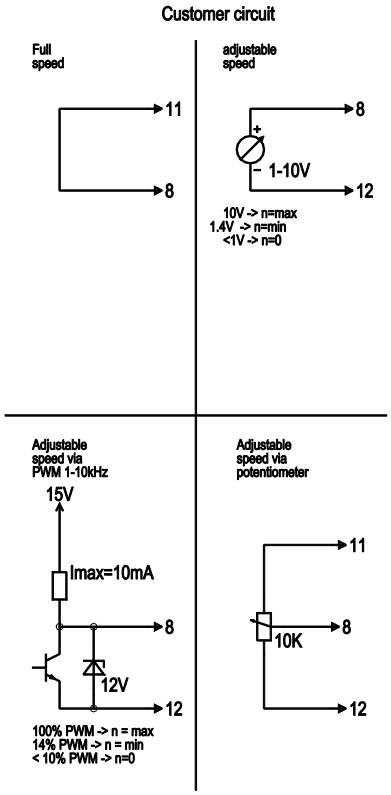
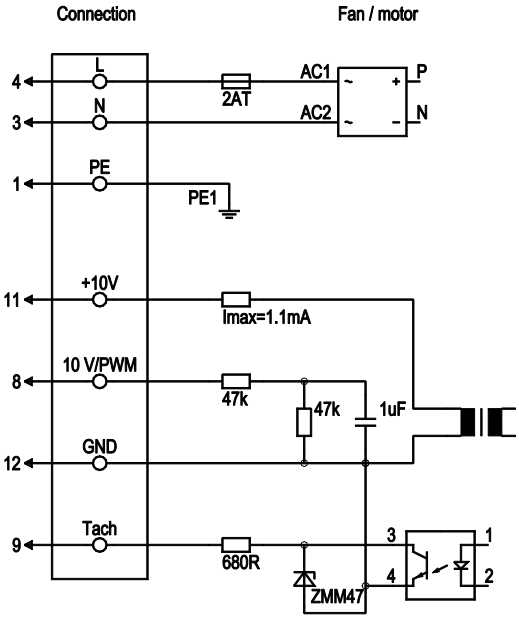
Connection screen





No.	Conn.	Designation	Colour	Function / assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see type plate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated
	11	10V / max 1.1 mA	red	Voltage output 10 V / max. 1.1 mA, electrically isolated
	12	GND	blue	GND - Connection for control interface

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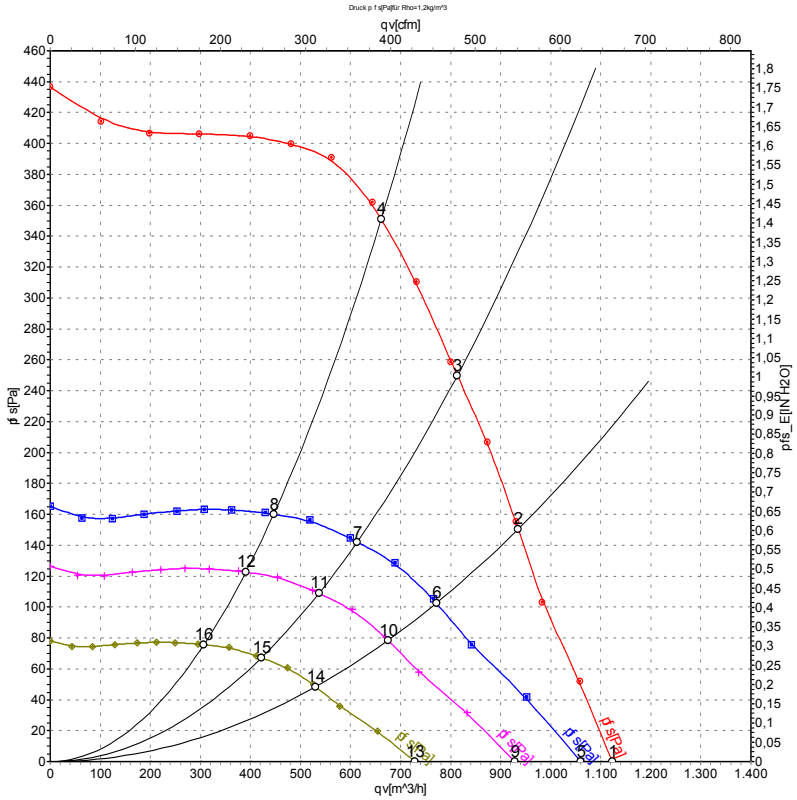
Charts: Air flow 50 Hz



Measurement: LU-105178-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	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	inH2O
1	230	50	1700	165	1.20	1125	0	660	0.00
2	230	50	1935	165	1.20	935	150	550	0.60
3	230	50	2120	165	1.20	815	250	480	1.00
4	230	50	2370	165	1.20	660	350	390	1.41
5	230	50	1600	139	1.00	1060	0	625	0.00
6	230	50	1600	93	0.68	770	103	455	0.41
7	230	50	1600	71	0.53	615	142	360	0.57
8	230	50	1600	51	0.38	445	160	265	0.64
9	230	50	1400	93	0.67	930	0	545	0.00
10	230	50	1400	62	0.45	675	79	395	0.32
11	230	50	1400	48	0.35	535	109	315	0.44
12	230	50	1400	34	0.25	390	123	230	0.49
13	230	50	1100	45	0.33	730	0	430	0.00
14	230	50	1100	30	0.22	530	49	310	0.20
15	230	50	1100	23	0.17	420	67	250	0.27
16	230	50	1100	17	0.12	305	76	180	0.31

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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