D3G146-AI50-01

EC centrifugal fan

forward-curved, dual-intake

with housing (flange)

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**D3G146-AI50-01**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1800
Power consumption	W	165
Current draw	A	1.2
Min. ambient temperature	°C	-25
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	41.4	32.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		52.8	44
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	605
09 Pressure increase p_{fs}	Pa	351
10 Speed (rpm) n	min^{-1}	2440
11 Specific ratio*		1.00

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-73884

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Technical description

Weight	3.1 kg
Fan size	146 mm
Rotor surface	Unpainted
Impeller material	Sheet steel, galvanized
Housing material	PP plastic
Motor suspension	Motor vibration-damped on both sides
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
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	- Control input 0-10 VDC / PWM - Output 10 VDC, max. 1.1 mA - Tach output - Soft start - Motor current limitation
EMC immunity to interference	According to EN 61000-6-2
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	With 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	UL 2111; CSA C22.2 No. 77

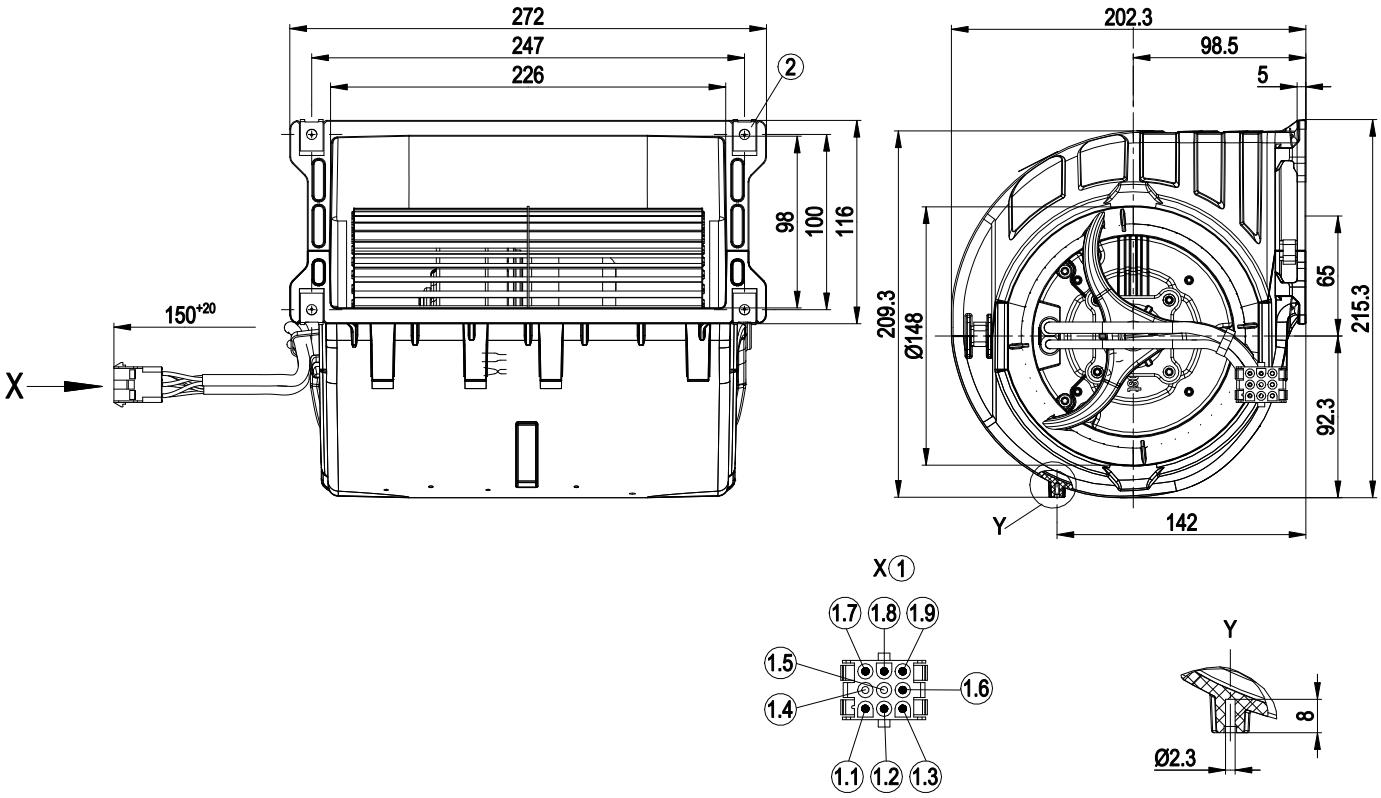
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Product drawing



1	Coded plug system: 9-pole connector housing tyco 927231-5, 7x plug pin tyco 926886-1, mating connector not included in scope of delivery.
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)
2	4x sheet metal nut for thread EN ISO 1478-ST 4.8 (min. screw length 14.5 mm plus material thickness of attachment)

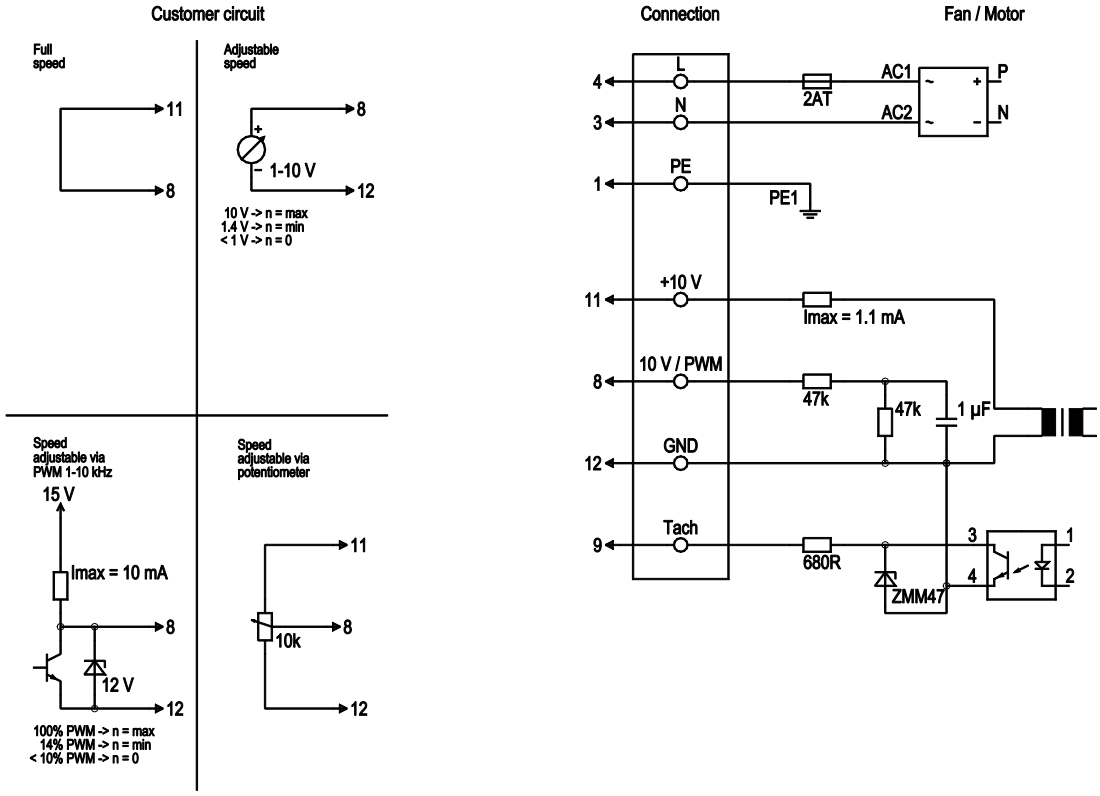
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see nameplate 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

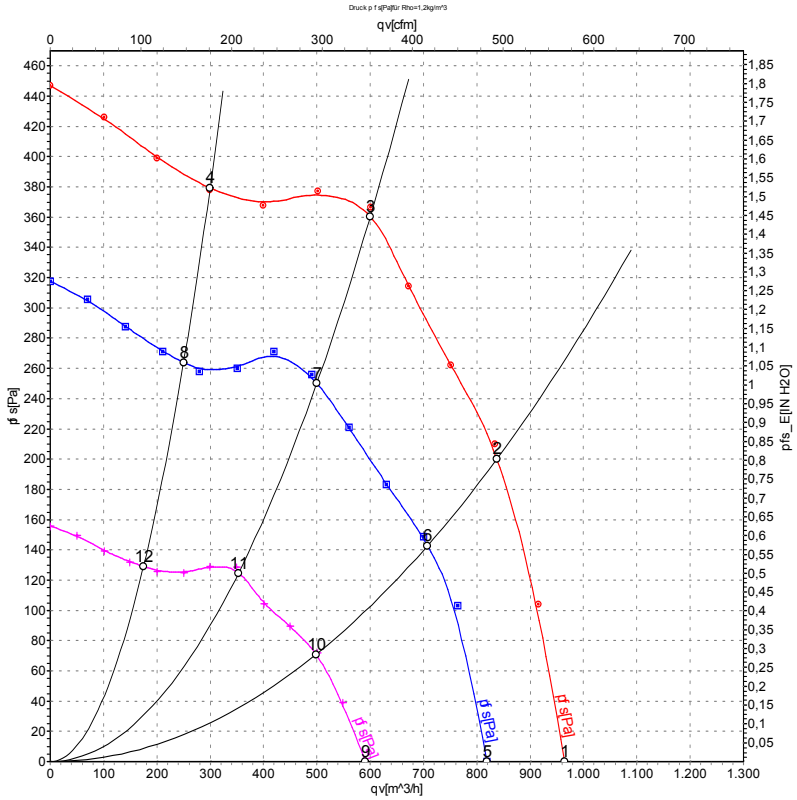
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Curves: Air performance 50 Hz



Measurement: LU-73884-1
Measurement: LU-71535-1
Measurement: LU-71536-1

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	f	n	P_{ed}	I	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	230	50	1800	165	1.20	965	0	570	0.00
2	230	50	2050	163	1.20	840	200	495	0.80
3	230	50	2440	162	1.20	600	360	355	1.45
4	230	50	2560	123	0.96	300	380	175	1.53
5	230	50	1530	107	0.78	820	0	480	0.00
6	230	50	1735	106	0.79	705	144	415	0.58
7	230	50	2060	104	0.79	500	251	295	1.01
8	230	50	2155	79	0.61	250	264	145	1.06
9	230	50	1095	45	0.35	590	0	350	0.00
10	230	50	1260	44	0.35	500	72	295	0.29
11	230	50	1475	45	0.35	355	127	210	0.51
12	230	50	1520	35	0.28	175	129	105	0.52

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

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