

Product Change Notice

Date:	November 30, 2021
Overview:	Part number W2G130-AA31-01 is being discontinued
Reason for Change:	The transistor needed to produce it is being obsoleted
Affected Part No(s):	W2G130-AA31-01
Design Change Detail:	Part number W2G130-AA31-01 is being discontinued as the transistor needed to produce it is being obsoleted. The suggested replacement is our 7212N.
Effective Date:	Orders for the W2G130-AA31-01 can be placed through December 17, 2021 after which it will no longer be available for purchase
Last Time Buy Deadline:	December 17, 2021
Pricing:	Per current price list
ebm-papst employee:	Jeannine Zenobi
Attachments:	Comparison chart and datasheets for part numbers W2G130-AA31-01 and 7212N
Comments:	The suggested replacement is our part number 7212N; please see comparison and attached datasheets for details

Comparison Chart
W2G130-AA31-01 vs 7212N

Part Number		W2G130-AA31-01	7212N
Voltage	DC	12	12
Voltage Range	DC	6-16	6-15
Speed	rpm	2950	3050
Airflow	cfm	200	203
Power	W	16	12
Current Draw	A	1.1	1.0
Temp Range	C	-25-60	-25-72
Size	mm	Ø150x55	Ø150x55
Airflow Direction		V	V
IP Rating		IP20	IP00

Form No: 1274	Quality Record - No	Page 1 of 1
Rev. – Orig, Released 08/28/14	Retention Period – 1 year	Dept. Owner – Sales/Marketing

EC axial compact fan

sickle-shaped blades (S series), with brushless DC motor

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	W2G130-AA31-01	
Motor	M2G055-BD	
Nominal voltage	VDC	12
Nominal voltage range	VDC	6 .. 16
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	2950
Power consumption	W	16
Current draw	A	1.1
Max. back pressure	Pa	60
Max. back pressure	in. wg	0.24
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

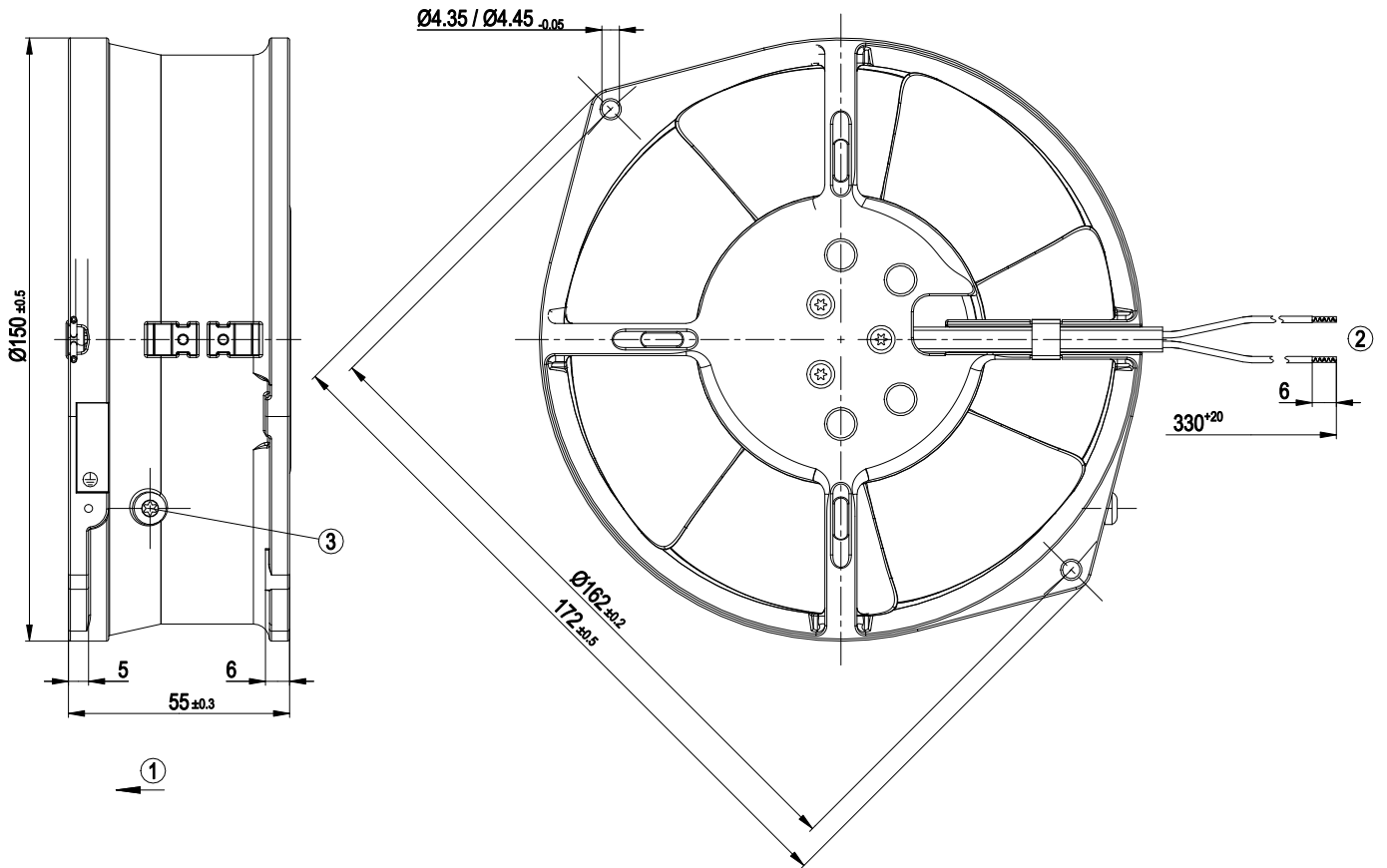
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change



Technical description

Weight	0.9 kg
Size	130 mm
Motor size	55
Rotor surface	Painted black
Blade material	Sheet steel, painted black
Fan housing material	Die-cast aluminum, painted black
Number of blades	7
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
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 mounting	Ball bearing
Technical features	- Tach output - Motor current limitation
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1
Approval	UL 507; EAC

Product drawing

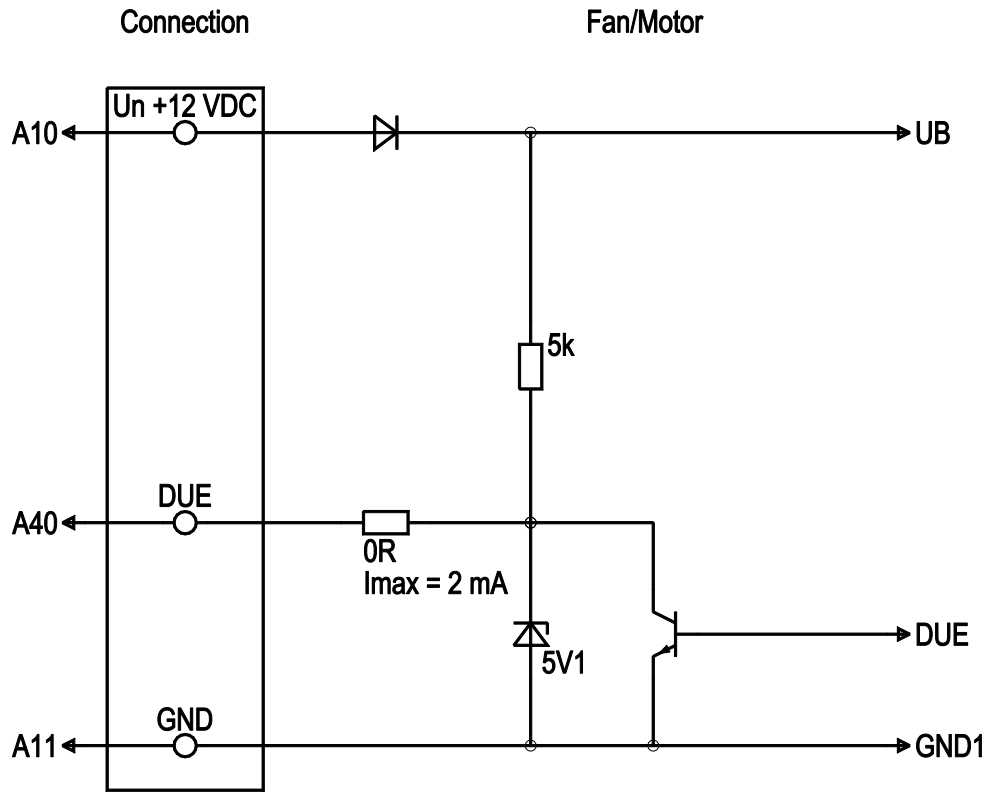


1	Airflow direction "V"
2	Cable PVC AWG20, 2x crimped splices
3	M4 screw for fastening ground connector

EC axial compact fan

sickle-shaped blades (S series), with brushless DC motor

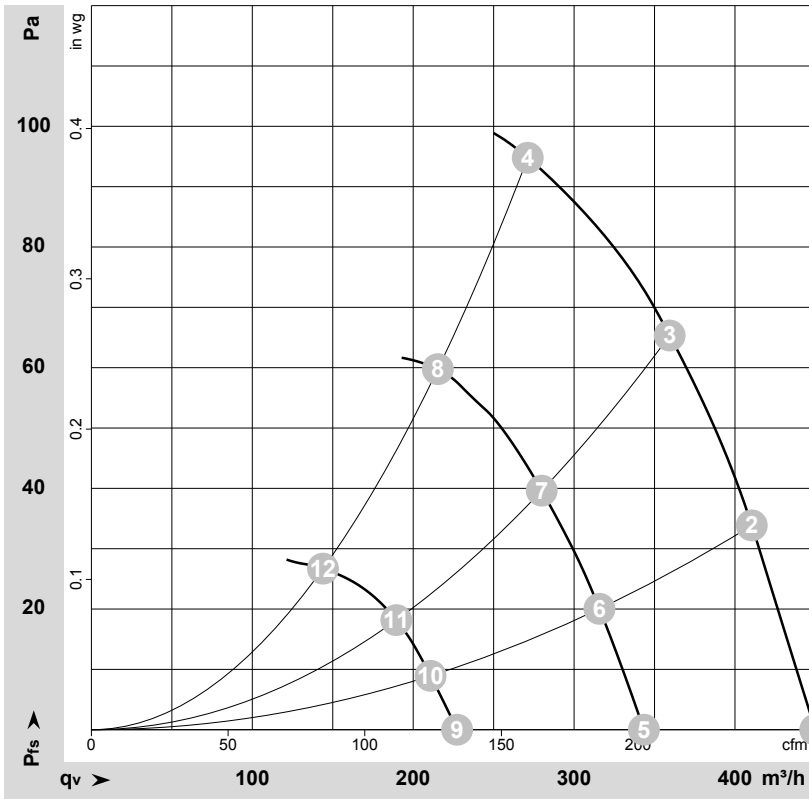
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	A10	UN +12 VDC	red	Power supply 12 VDC, maximum ripple 3.5%
2	A40	DUE	white	Tach output, 2 pulses per revolution, Isink max = 2 mA, Isource = 2 mA
3	A11	GND	blue	Reference ground



Curves: Air performance



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

Measurement: LU-24332-1
 Measurement: LU-24331-1
 Measurement: LU-24333-1

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	16	3850	27	1.70	450	0	265	0.00
2	16	3785	29	1.78	410	34	240	0.14
3	16	3700	30	1.85	360	65	210	0.26
4	16	3670	30	1.90	270	95	160	0.38
5	12	2950	16	1.10	345	0	200	0.00
6	12	2925	16	1.20	315	20	185	0.08
7	12	2895	16	1.23	280	40	165	0.16
8	12	2865	16	1.26	215	60	125	0.24
9	8	1990	5.0	0.65	225	0	135	0.00
10	8	1970	5.0	0.65	210	9	125	0.04
11	8	1945	5.0	0.67	190	18	110	0.07
12	8	1935	6.0	0.72	145	27	85	0.11

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



Product Data Sheet

9295414400
VWS0144XULCS
7212 N

ebmpapst

The engineer's choice



7212 N

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1 General

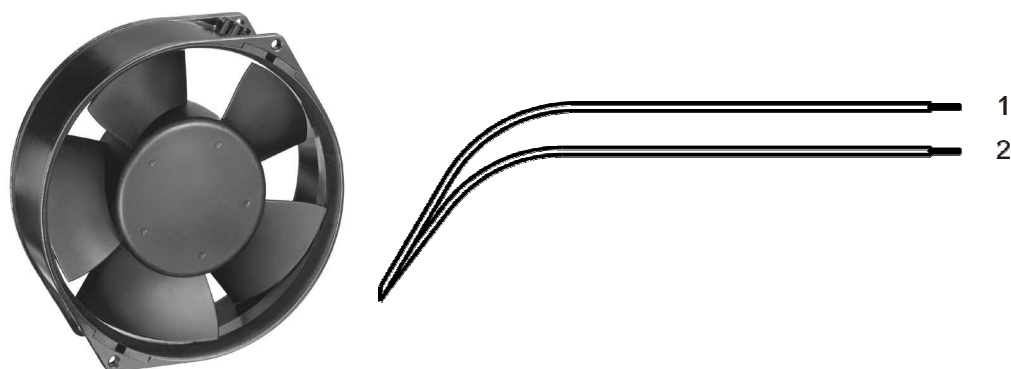
Fan type	Fan	
Rotating direction looking at rotor	Counterclockwise	
Airflow direction	Air outlet over struts	
Bearing system	Ball bearing	
Mounting position - shaft	Any	

2 Mechanics**2.1 General**

Depth	55,0 mm	
Diameter	150,0 mm	
Mass	0,725 kg	
Housing material	Metal	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges	Wire outlet corner: 560 Ncm Remaining corners: 560 Ncm	
Screw size	ISO 4762 - M4 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Wires	
Lead wire length	L = 365 mm	
Tolerance	+ - 10,0 mm	
Tube length	S = 10,0 mm	
Tolerance	+ - 5,0 mm	



Wire	Color	Operation	Wire size	Insulation diameter
1	red	+ UB	AWG 22	1,7 mm
2	black	- GND	AWG 22	1,7 mm

3 Operating Data

3.1 Electrical Operating Data

Measurement conditions: Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C; Motor axis horizontal; warm-up time before measuring 5 minutes (unless otherwise specified). In the intake and outlet area should not be any solid obstruction within 0,5 m.

$\Delta p = 0$: corresp. to free air flow (see chapter aerodynamics)
I: corresp. to arithm. mean current value

Note:

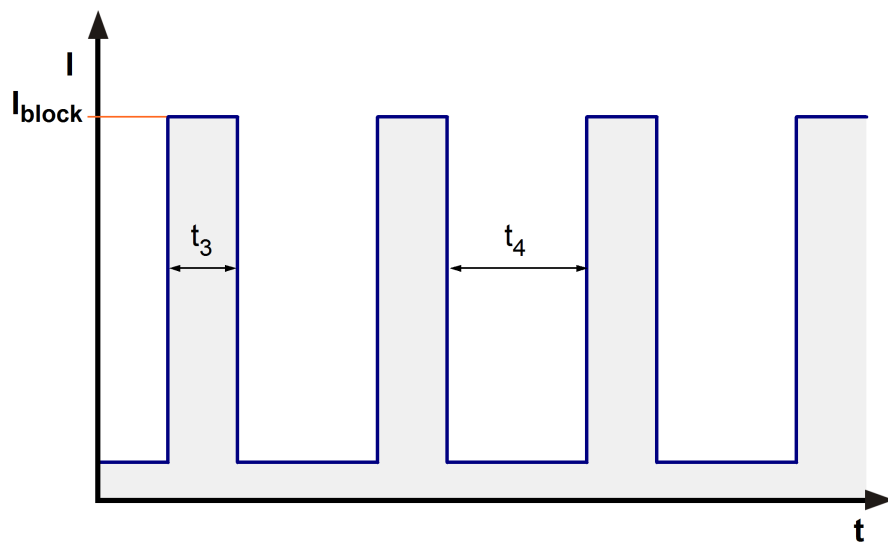
No inrush current at U_{nom} means:

The internal electrolytic capacitor 270uF/35V has no resistor or inrush current limitation, essentially the power supply and the type and length of the connecting cable is limiting the Inrush current.

Features	Condition	Symbol	Values		
Voltage range		U	6,0 V		15,0 V
Nominal voltage		U_N		12,0 V	
Power consumption	$\Delta p = 0$	P	2,7 W	12 W	21,0 W
Tolerance	0010		+/- 17,5 %	+/- 15,0 %	+/- 15,0 %
Current consumption	$\Delta p = 0$	I	450 mA	1.000 mA	1.400 mA
Tolerance	0010		+/- 17,5 %	+/- 15,0 %	+/- 15,0 %
Speed	$\Delta p = 0$	n	1.550 1/min	3.050 1/min	3.700 1/min
Tolerance	0010		+/- 12,5 %	+/- 10,0 %	+/- 10,0 %
Starting current consumption				3.500 mA	

3.2 Electrical Features

Electronic function	None	
Reversed polarity protection	Rectifying diode	
Max. residual current at U_N	$I_F \leq 10 \text{ mA}$	
Locked rotor protection	Auto restart	
Locked rotor current at U_N	I_{block} approx. 3.500 mA	
Clock signal at locked rotor	t_3 / t_4 typical: 1,4 s / 5,3 s	



Internal Fuse:

Littlefuse NANO2(R) FUSE; Very fast acting 451 Series; 4 A (Art.-Nr.: 451004.MLR)

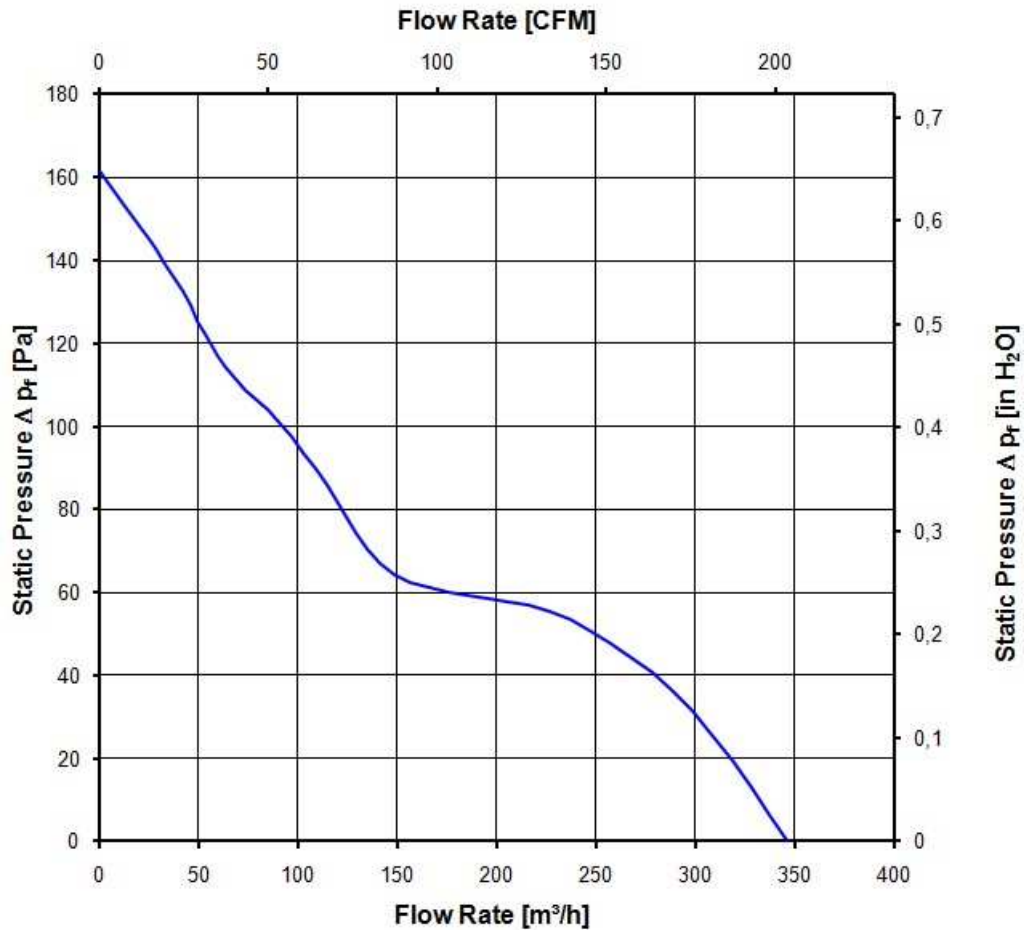
3.3 Aerodynamics

Measurement conditions: Measured with a double chamber intake rig acc. to DIN EN ISO 5801.
Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C;
In the intake and outlet area should not be any solid obstruction within 0,5 m. Motor shaft horizontal.
The information is only valid under the specified test conditions and may be changed by the installation conditions. If there are deviations from the standard test conditions, the characteristic values must be checked under the installed conditions.

a.) Operation condition:

3.200 1/min at free air flow

Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$)	345,0 m ³ /h	
Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$)	160 Pa	



3.4 Sound Data

Measurement conditions: Sound pressure level: 1 meter distance between microphone and the air intake.
Sound power level: Acc. to DIN 45635 part 38 (ISO 10302)
Measured in a semianchoic chamber with a background noise level of $L_p(A) < 5 \text{ dB(A)}$
For further measurement conditions see chapter aerodynamics.

a.) Operation condition:

3.200 1/min at free air flow

Optimal operating point	220,0 m ³ /h @ 50 Pa	
Sound power level at the optimal operating point	6,2 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	53,0 dB(A)	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-25 °C	
Max. permitted ambient temperature TU max.	72 °C	
Min. permitted storage temperature TL min.	-40 °C	
Max. permitted storage temperature TL max.	80 °C	

4.2 Climatic Requirements

Humidity requirements	humid heat, constant; according to DIN EN 60068-2-78, 14 days	
Water exposure	None	
Dust requirements	None	
Salt fog requirements	None	

Permitted application area:

The product is intended for use in sheltered rooms with controlled temperature and controlled humidity. Directly exposure to water must be avoided.

Pollution degree 1 (according DIN EN 60664-1)

There is either no pollution or it occurs only dry, non-conductive pollution. The pollution has no negative impact.

Please require severity levels and specification parameters from the responsible development departments.

5 Safety

5.1 Electrical Safety

Dielectric strength DIN EN 60950 (VDE 0805) and DIN EN 60335 (VDE 0700) A.) Type test Measuring conditions: After 48h of storage at 95% R.H. and 25°C. No arcing or breakdown is allowed! All connections together to ground.	500 VAC / 1 Min.	
B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground.	850 VDC / 1 Sec.	
Isolation resistance Measuring conditions: After 48h of storage at 95% R.H. and 25°C measured with U=500 VDC for 1 min.	RI > 10 MOhm	
Clearance / creepage distance	1,0 mm / 1,2 mm	
Protection class	III	

5.2 Approval Tests

CE	EC Declaration of Conformity	Yes
EAC	Eurasian Conformity	Yes
UL	Underwriters Laboratories	Yes / UL audited by CSA according to UL507, Electric Fans
VDE	Association for Electrical, Electronic and Information Technologies	Yes / Approval acc. to EN 60950 (VDE 0805) - Information technology equipment
CSA	Canadian Standards Association	Yes / C22.2 No. 113 Fans and Ventilators
CCC	China Compulsory Certification	Not applicable

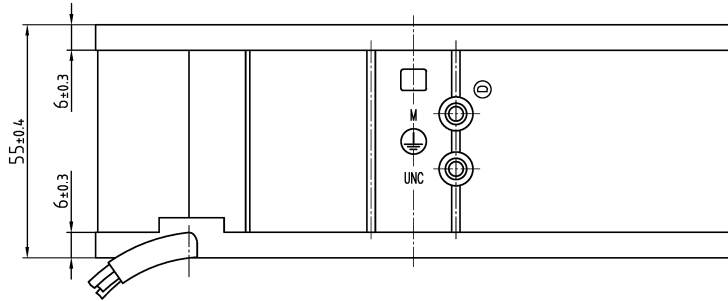
6 Reliability

6.1 General

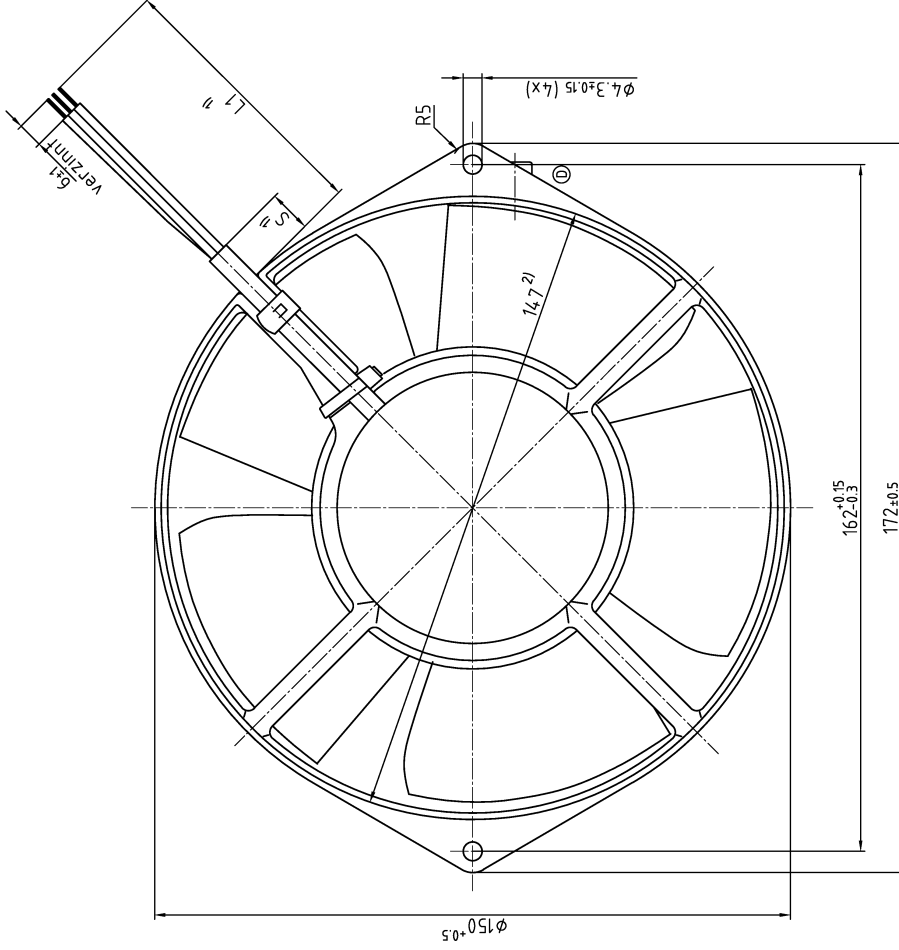
Life expectancy L10 at TU = 40 °C	80.000 h	
Life expectancy L10 at TU max.	37.500 h	
Life expectancy L10 acc. to IPC 9591 at TU = 40 °C	135.000 h	

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Schutzmerk nach DIN ISO 1676 beachten!
Refer to protection notice DIN ISO 1676!



Blasrichtung /
blowing direction



SP-Stand/Date	Art.-Nr./Code-No.	Art.-Nr./System-Nr./Name/Date	Werkstoff/Material	Volumen/Volum (mm ³) Gewicht/Mass (g)
		ebmpapst CAD-Entwurf CAD-Entwurf		
Toleranz/Tolerances		Beach./ Drawn/ Checked	Artikel/Title	
Allgemeintoleranzen/Gen. tolerances		Freig./ Released	Zug-/Nr./Drawing-No.	Ers./Zugl./Replaces
		ebmpapst ebmpapst St. Georgen GmbH & Co. KG		Form/Size
		Diam./Type of Element		Material
		Teilname/Part/Part		Material
				Material

1) = Anzahl und Länge der Litzen sowie Länge des Schlauches s. Produkt Spezifikation Bl.3 /
length and number of wires and length of tube see product specification page 3

2) = Maße für Montagewand / dimensions for mounting wall