



7214 N

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responsible for electronical design:
WOSCHNY, DIRK, 560

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Special features according to QMH 2-5.4.7 and company standard 1-23.00 have the following definitions:

"A" : Product features or process parameters which influence the safety of a product or the compliance of legal requirements. (Must not necessary verified and documented 100%. Standards and legal requirements must be considered.)

"FK" : Product features or process parameters which influence the fit and function of a product or which have to be controlled or documented for some other reasons (e.g. Customer requirements).

1 General

Fan type	Fan	
Rotational direction looking at rotor	counterclockwise	FK
Airflow direction	Air outlet over struts	FK
Bearing system	Ball bearing	
Lubrication	see sectional drawing of the bearing	
Mounting position	any	
Tolerance		
Balancing grade	6,3	FK
Impeller weight	278,0 g	

2 Mechanics

2.1 General

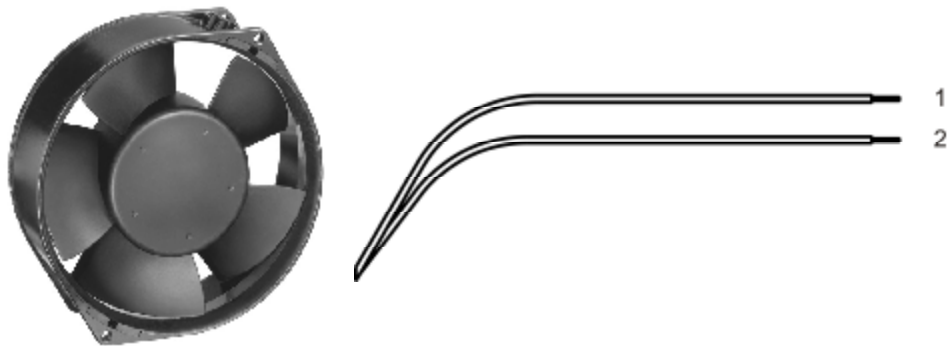
Width	0,0 mm	
Height	0,0 mm	
Depth	55,0 mm	
Diameter	150,0 mm	
Weight	0,725 kg	
Housing material	Metal	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges	wire outlet corner: 560 Ncm remaining corners: 560 Ncm	
Screw size	ISO 4762 - M4 degreased, without an additional brace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

2.2 Motor

Type of motor	Electronically commutated external rotor	
Diameter of the motor	54,0 mm	
Height of the motor	14,0 mm	
Number of phases	1	
Number of windings	1	
Operating mode	Continuous duty	
Insulation material class	E	

2.3 Connections

Electrical connection	Wires	
Length of lead wire	365 mm	
Tolerance	+ - 10,0 mm	
Length of tube	10,0 mm	
Tolerance	+ - 5,0 mm	
Wire gauge (AWG)	22	
Insulation diameter	1,70 mm	
Plug	see drawing	
Contact	see drawing	



	Colour	Operation
Wire 1	red	+ UB
Wire 2	black	- GND

3 Operating Data

3.1 Operating Data - Electrical Interface - Input

Control input	None
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3.2 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 section 3.5)

I: corresp. to arithm. mean current value

Features	Condition	Symbol	Values		
Voltage range	$\Delta p = 0$	U	12,0 V		30,0 V
Nominal voltage	$\Delta p = 0$	U_N		24,0 V	
Power consumption	$\Delta p = 0$	P	2,6 W	12,0 W	20,0 W
Tolerance	0001		+/- 20,0 %	+/- 20,0 %	+/- 20,0 %
Current consumption	$\Delta p = 0$	I	220 mA	500 mA*)	665 mA
Tolerance	0001		+/- 20,0 %	+/- 20,0 %	+/- 20,0 %
Speed	$\Delta p = 0$	n	1.500 1/min	3.050 1/min*)	3.700 1/min
Tolerance	0001		+/- 12,5 %	+/- 7,5 %	+/- 10,0 %
Starting current consumption				2.300 mA	
Typical current curve (A = least and B = largest current curve in a revolution) A and B = neighboring current curves MPE 891001				1,0 <= A B <= 1,3	

Note:

No inrush current at U_{nom} means:

The internal electrolytic capacitor 120uF/50V 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.

*) Attention: Marked values are "FK" features

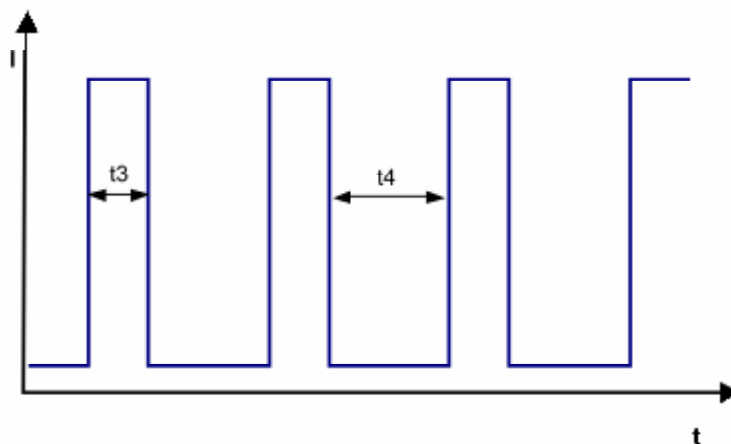
3.3 Operating Data - Electrical Interface -Output

Tacho type	None
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Alarm type	None
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3.4 Electrical Features

Electronic function	None	
Reversed polarity protection	Rectifying diode	A
Max. residual current at U_n	$I_F < 10 \text{ mA}$	
Locked rotor protection	Auto restart	A
Locked rotor current at U_n	approx. 2.100 mA	
Clock signal t_3/t_4 at locked rotor	Typical: 1,4 s / 5,3 s	



3.5 Aerodynamic

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.

a.) Operation condition:

3.050 1/min at free air flow

Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$)	345,0 m ³ /h	FK
Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$)	140 Pa	FK

3.6 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 section 3.5

a.) Operation condition:

3.050 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*)

*) 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.

4.3 Mechanical requirements

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

4.4 EMC

not specified

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. B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground.	500 VAC / 1 Min. 500 VAC / 1 Sec.	A
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	
Air and leakage distances	1,0 mm / 1,2 mm	
Protection class	III	

5.2 Approval Tests

CE	Yes
UL	Yes / UL audited by CSA according to UL507, Electric Fans
VDE	Yes / Approval acc. to EN 60950 (VDE 0805) - Information technology equipment - Part 1 Safety - Connection to a SELV circuit.
CSA	Yes / C22.2 No. 113-M1984 Fans and Ventilators
CCC	No

The approval tests are observed to:

Maximal permitted operating voltage (see section 3.1) and max. permitted ambient temperature TU max.

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 Delta (40 °C)	157.500 h	

6.2 Additional Data

not specified