Product Data Sheet | 4184 NXHH



The engineer's choice

ebmpapst

4184 NXHH

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6.1 General 10

1 General

Fan type	Fan	
Rotational direction looking at rotor	clockwise	
Airflow direction	Air intake over struts	
Bearing system	Ball bearing	
Mounting position	any	

2 Mechanics

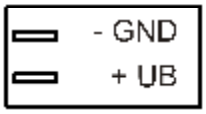
2.1 General

Width	119,0 mm	
Height	119,0 mm	
Depth	38,0 mm	
Weight	0,380 kg	
Housing material	Metal	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges Screw size	wire outlet corner: 170 Ncm remaining corners: 300 Ncm ISO 4762 - M3 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Plug	
Length of lead wire Tolerance		
Wire gauge (AWG)		
Insulation diameter		
Contact	see drawing	




- GND
+ UB

3 Operating Data

3.1 Operating Data - Electrical Interface - Input

Control input	None

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.

Δp = 0: corresp. to free air flow (see section 3.5)
I: corresp. to arithm. mean current value

Features	Condition	Symbol	Values		
Voltage range	Δp = 0	U	12,0 V		25,0 V
Nominal voltage	Δp = 0	U_N		24,0 V	
Power consumption Tolerance	Δp = 0 0001	P	2,9 W +- 17,5 %	13,6 W +- 12,5 %	14,8 W +- 15,0 %
Current consumption Tolerance	Δp = 0 0001	I	240 mA +- 17,5 %	570 mA +- 12,5 %	590 mA +- 15,0 %
Speed Tolerance	Δp = 0 0001	n	2.800 1/min +- 12,5 %	4.900 1/min +- 7,5 %	5.100 1/min +- 10,0 %
Starting current consumption				2.870 mA	

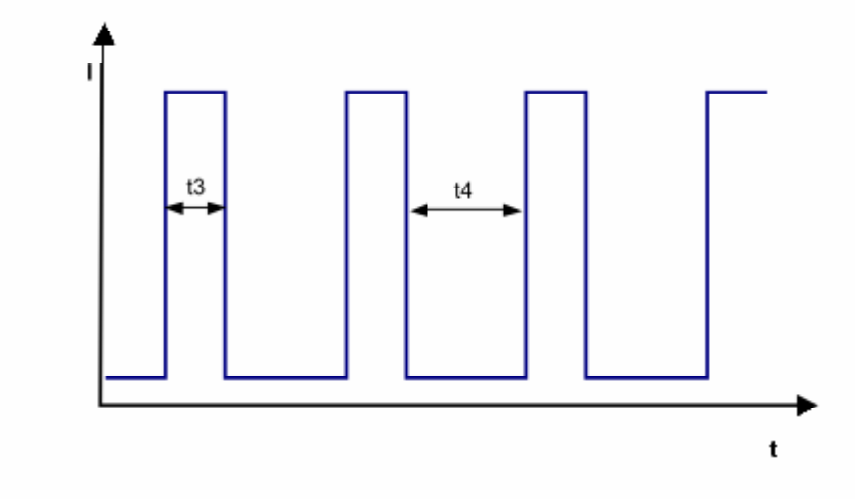
3.3 Operating Data - Electrical Interface -Output

Tacho type	None

Alarm type	None

3.4 Electrical Features

Electronic function	None	
Reversed polarity protection Max. residual current at Un	Rectifying diode IF <= 20 uA	
Locked rotor protection	Auto restart	
Locked rotor current at Un	approx. 2.870 mA	
Clock signal t3/t4 at locked rotor	Typical: 0,3 s / 1,6 s	


I
t3
t4
t

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:

4.900 1/min at free air flow

Max. free-air flow (Δp = 0 / $\dot{V}$ = max.)	260,0 m3/h	
Max. static pressure (Δp = max. / $\dot{V}$ =0)	210 Pa	

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 Lp(A) < 5 dB(A) For further measurement conditions see section 3.5

a.) Operation condition:

4.900 1/min at free air flow

Optimal operating point	160,0 m3/h @ 100 Pa	
Sound power level at the optimal operating point	6,7 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	60,0 dB(A)	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-30 °C	
Max. permitted ambient temperature TU max.	55 °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	
Radiation exposure	None	
Dust requirements	None	
Salt fog requirements	None	
Harmful gas requirements	None	

*) Permittet 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. 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.	
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

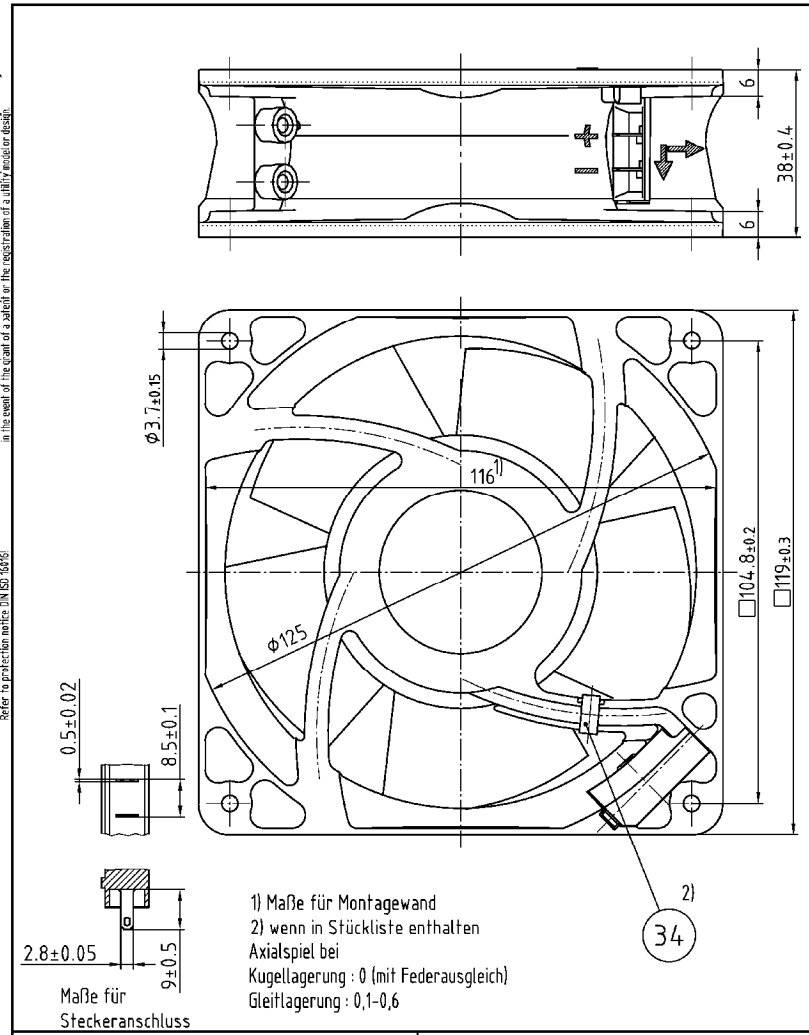
CE	Yes
UL	Yes / UL507, Electric Fans
VDE	Yes / Approval acc. to EN 60950 (VDE 0805) - Information technology equipment
CSA	Yes / C22.2 No. 113 Fans and Ventilators
CCC	No

The approval tests are observed to:
U approval max.:25,0 V @ TU approval max.: 55,0 °C

6 Reliability

6.1 General

Life expectancy L10 at TU = 40 °C	70.000 h	
Life expectancy L10 at TU max.	52.500 h	



1) Maße für Montagewand
2) wenn in Stückliste enthalten
Axialspiel bei
Kugellagerung : 0 (mit Federausgleich)
Gleitlagerung : 0,1-0,6

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