DV5214 NR-224

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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	Mixed-flow 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 Tolerance	any	
Balancing grade	6,3	FK
Impeller weight	139,0 g	

2 Mechanics

2.1 General

Width	127,0 mm	
Height	127,0 mm	
Depth	38,0 mm	
Diameter	0,0 mm	
Weight	0,415 kg	
Housing material	Mixed	
Impeller material	Plastic	

2.2 Motor

Type of motor	Electronically commutated external rotor	
Diameter of the motor	43,0 mm	
Height of the motor	10,5 mm	
Number of phases	1	
Number of windings	1	
Operating mode	Continuous duty	
Insulation material class	E	

2.3 Connections

Electrical connection	**Wires - Plug**	
Length of lead wire **Tolerance**	**170 mm** **+- 5 mm**	
Length of tube **Tolerance**		
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

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 there may 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	16,0 V		30,0 V
Nominal voltage	Δp = 0	U_N		24,0 V	
Power consumption Tolerance	Δp = 0 0001	P	9,6 W +- 15,0 %	20,4 W +- 10,0 %	21,7 W +- 10,0 %
Current consumption Tolerance	Δp = 0 0001	I	600 mA +- 15,0 %	850 mA*) +- 10,0 %	725 mA +- 10,0 %
Speed Tolerance	Δp = 0 0001	n	3.800 1/min +- 10,0 %	5.000 1/min*) +- 5,0 %	5.000 1/min +- 5,0 %
Starting current consumption				3.300 mA	
Inrush current				50.000 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 <= 1,5	

*) Attention: Marked values are "FK" features

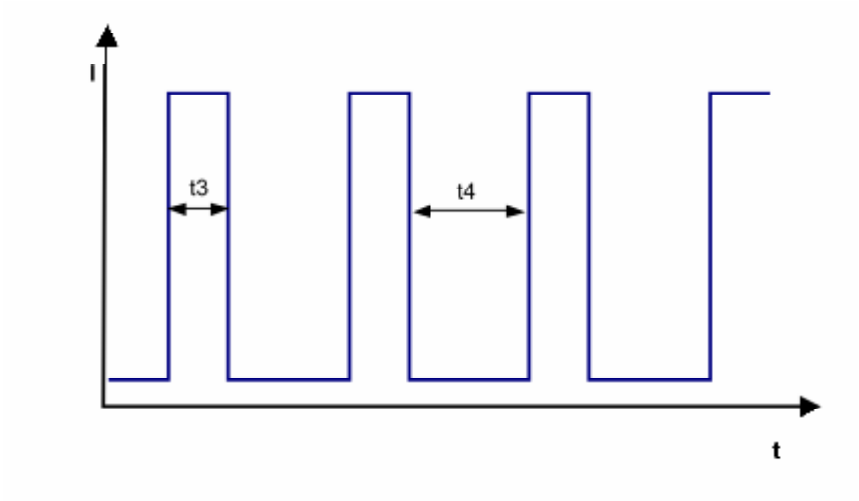
3.3 Operating Data - Electrical Interface -Output

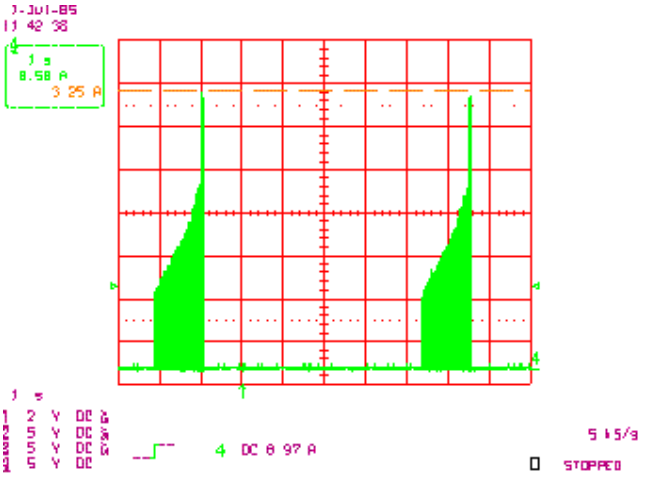
Tacho type	None

Alarm type	**None**

3.4 Electrical Features

Electronic function	**Speed-Controlled**	
Reversed polarity protection **Max. residual current at Un**	**Polarity protected diode** **IF <= 10 mA**	**A**
Locked rotor protection	**Electronically restart**	**A**
Locked rotor current at Un	**approx. 3.300 mA**	
Clock signal t3/t4 at locked rotor	**Typical: 1,0 s / 5,5 s**	





3.5 Aerodynamic

Measurement conditions:	**Measured with a double chamber intake rig acc. to DIN 24163 Part 3. Normal air density = 1,2 kg/m3; Temperature 23°C +/- 3°C; In the intake and outlet area there may not be any solid obstruction within 0,5 m.**

a.) Operation condition:

5.000 1/min at free air flow

Max. free-air flow (Δp = 0 / V̇ = max.)	**270,0 m3/h**	**FK**
Max. static pressure (Δp = max. / V̇ =0)	**245 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 Lp(A) < 5 dB(A) For further measurement conditions see section 3.5**

a.) Operation condition:

5.000 1/min at free air flow

Optimal operating point	**190,0 m3/h @ 96,0 Pa**	
Sound power level at the optimal operating point	**6,4 bel(A)**	
Sound pressure level at free air flow, measured in rubber bands	**56,0 dB(A)**	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	**-20 °C**	
Max. permitted ambient temperature TU max.	**65 °C**	
Min. permitted storage temperature TL min.	**-40 °C**	
Max. permitted storage temperature TL max.	**80 °C**	

4.2 Climatic requirements*)

***) Permittet application area:**
The product is for the use in sheltered rooms with limited controlled temperature. Occasionally condensed water is allowed. Directly exposure to water must be avoid. Saline ambient conditions must be avoid.

4.3 Mechanical requirements

not specified

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**
Insulation 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 - 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:
U approval max.:30,0 V @ TU approval max.: 65,0 °C

6 Reliability

6.1 General

Life expectancy L10 at TU = 20 °C		
Life expectancy L10 at TU = 40 °C	**70.000 h**	
Life expectancy L10 at TU = 60 °C		
Life expectancy L10 at TU max.	**40.000 h**	
Life expectancy L15 at TU = 45 °C		
Life expectancy L10 Delta (40 °C)	**142.500 hrs**	

6.2 Additional Data

not specified

Änderungen:

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560 Lan / 19.05.10

Betriebsdaten nach 10er Protokol vom 28.09.2005 /18.05.2010 angepasst.
9694340091 wurde in diesem Zuge ebenfalls angepasst.

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