6248 N/17TDA-286

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Nocita, Elvis, 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 Tolerance	any	
Balancing grade	6,3	**FK**
Impeller weight	285,0 g	

2 Mechanics

2.1 General

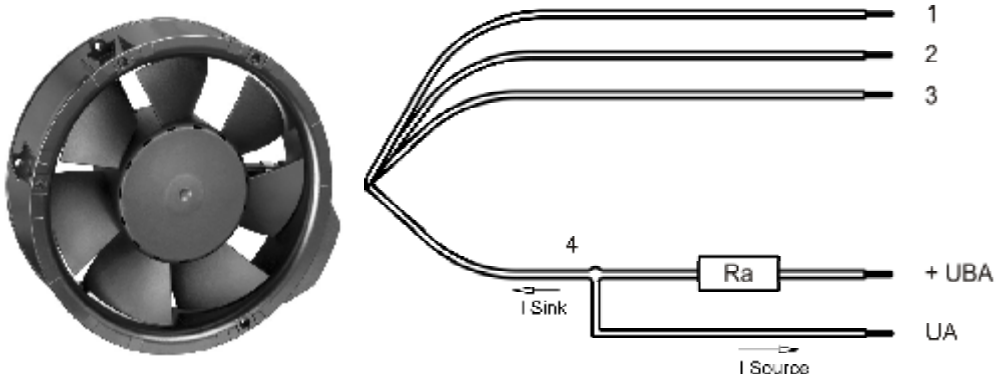
Width	0,0 mm	
Height	0,0 mm	
Depth	51,0 mm	
Diameter	172,0 mm	
Weight	0,780 kg	
Housing material	Metal	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges Screw size	wire outlet corner: 600 Ncm remaining corners: 600 Ncm ISO 4762 - M4 degreased, without an additional brace 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	3	
Number of windings		
Operating mode	Continuous duty	
Insulation material class	E	

2.3 Connections

Electrical connection	Wires	
Length of lead wire Tolerance	365 mm +- 10,0 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	blue	- GND
Wire 3	violet	CONTR
Wire 4	white	Alarm

The auxilliaries shown on the schematic diagram (which are required for the intended use) are not part of our delivery.

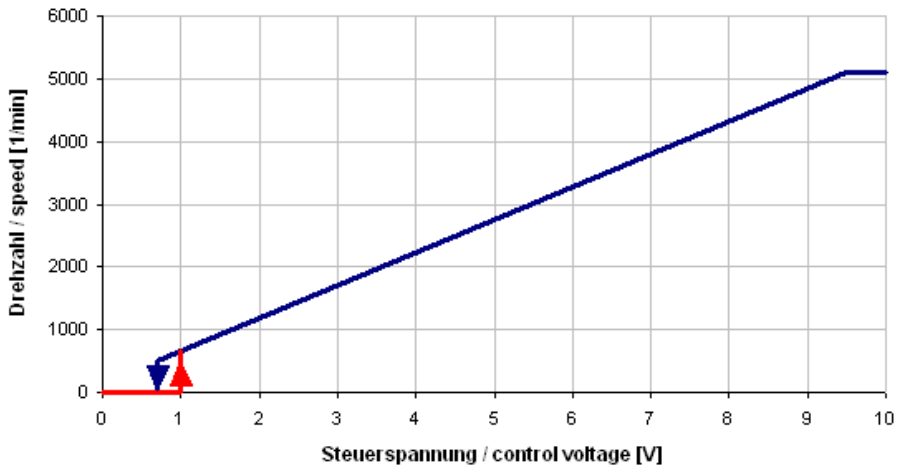
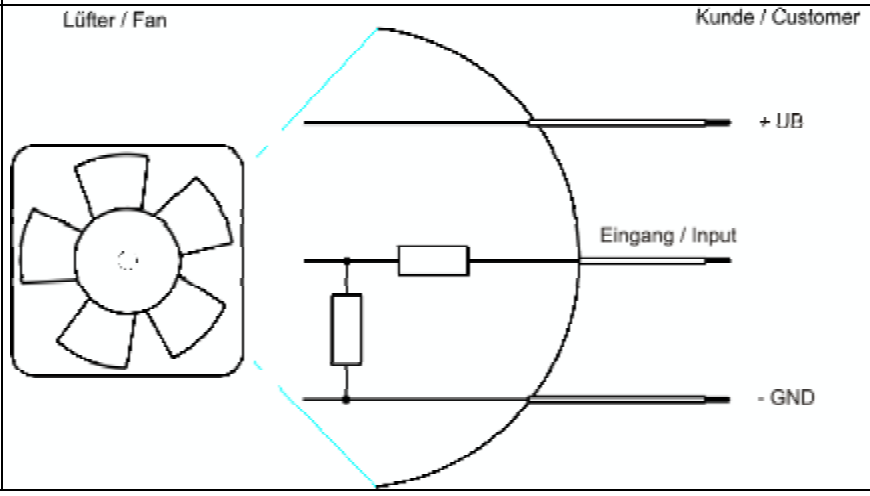
3 Operating Data

3.1 Operating Data - Electrical Interface - Input

Control input	Analog

Features

Inpute voltage range		0,0 V - 10,0 V

Characteristics	
Schematics	

Speed control:
By control voltage U Contr.: 0... 10 V

The illustrated input voltage divider consists of two 10 kOhm resistors.

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

Name	Condition		
U Contr. 0001	U Contr.: 10,0 V		

Features	Condition	Symbol	Values		
Voltage range	Δp = 0	U	36,0 V		60,0 V
Nominal voltage	Δp = 0	U_N		48,0 V	
Power consumption Tolerance	Δp = 0 U Contr. 0001	P	49,0 W +- 10,0 %	50,0 W +- 10,0 %	50,0 W +- 10,0 %
Current consumption Tolerance	Δp = 0 U Contr. 0001	I	1.350 mA +- 10,0 %	1.100 mA*) +- 10,0 %	840 mA +- 10,0 %
Speed Tolerance	Δp = 0 U Contr. 0001	n	5.100 1/min +- 7,5 %	5.100 1/min*) +- 7,5 %	5.100 1/min +- 7,5 %

Inrush current limiter
This fan is equipped with an inrush current limiter to reduce the charging current of the internal capacitor. By this circuit the fan adept a start-up delay of 5,0 s after connecting the supply voltage. Only a short peak current can be measured at the inrush by charging the small internal filter capacitors with approximately 200 nF.

In the fan is an additionally under- and overvoltage control build-in. This switches the power stage and the fan off.
At U <= 29,0 V and / or U >= 74,0 V is n= 0 1/min

Tests only operate at U = 29,0 V.

Name	Condition		
U Contr. 0002	U Contr.: 1,5 V		

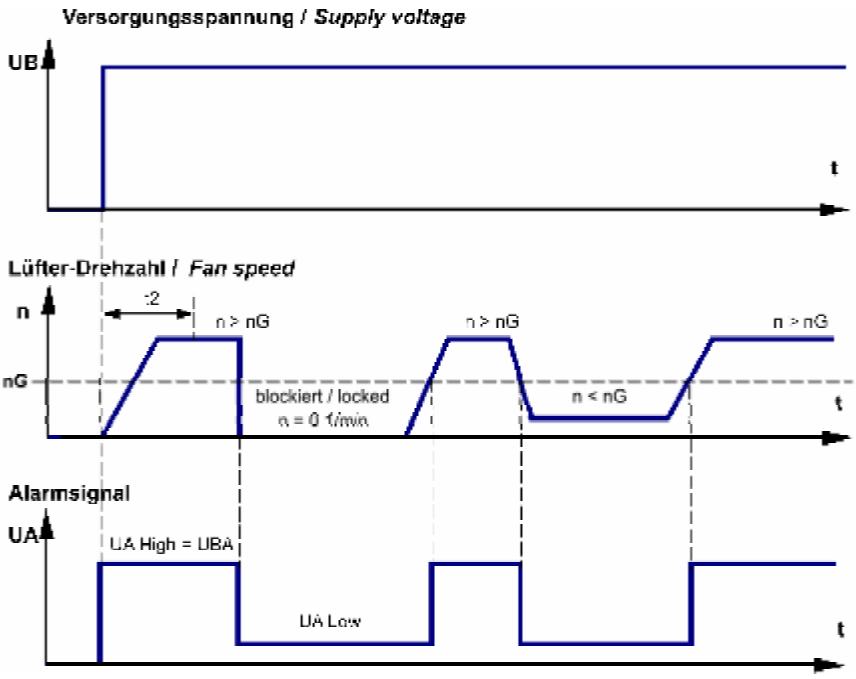
Features	Condition	Symbol	Values		
Voltage range	Δp = 0	U	36,0 V		60,0 V
Nominal voltage	Δp = 0	U_N		48,0 V	
Power consumption Tolerance	Δp = 0 U Contr. 0002	P	1,3 W +- 15,0 %	1,5 W +- 15,0 %	1,8 W +- 15,0 %
Current consumption Tolerance	Δp = 0 U Contr. 0002	I	40 mA +- 15,0 %	33 mA*) +- 15,0 %	30 mA +- 15,0 %
Speed Tolerance	Δp = 0 U Contr. 0002	n	950 1/min +- 10,0 %	950 1/min*) +- 10,0 %	950 1/min +- 10,0 %

*) Attention: Marked values are "FK" features

3.3 Operating Data - Electrical Interface -Output

Tacho type	None

Alarm type	/17 (high = ok, Open collector)



$$Ra = \frac{UBA - UA\,Low}{I\,Sink}$$

Features	Note	Values
Alarm operating voltage (UBA)		Min.: 4,0 V Max.: 40,0 V
Alarm signal Low *)	I sink: 2 mA	<= 0,4 V
Alarm signal High *)	I source: 0 mA	40,0 V
Maximum sink current		<= 20 mA
External resistor	External resistor Ra from UBA to UA required. All voltage measured to GND.	
Alarm start-up delay time (t2) Tolerance		<= 14,0 s +- 1,0 s
Alarm delay time (t5) Tolerance		<= 8,0 s +- 1,0 s
Alarm delay time (t6)		<= 1,0 s

Tolerance		+- 1,0 s
Alarm at sense failure	No	
Alarm latch	No	
Alarm isolated from motor	No	

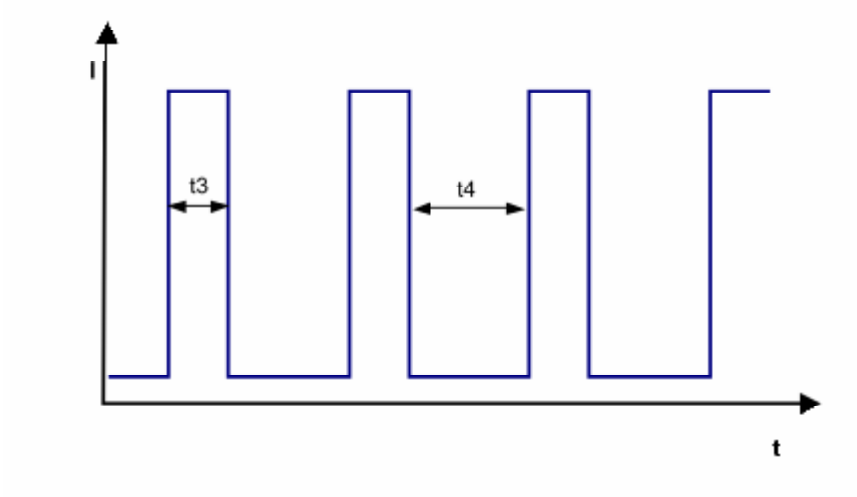
Alarm trip speed: 75 % Unenn from speed control

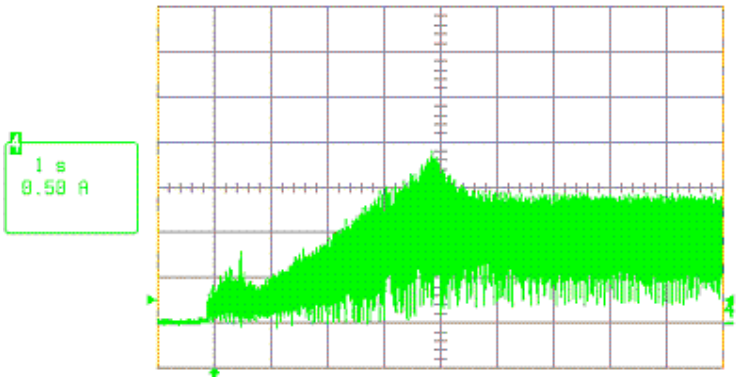
t5 = set delay
t6 = reset/delete alarm delay

*) Attention: Marked values are "FK" features

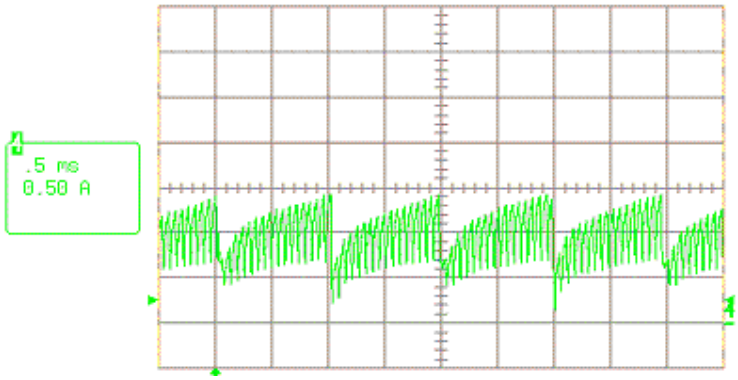
3.4 Electrical Features

Electronic function	Speed-Controlled	
Reversed polarity protection Max. residual current at Un	Rectifying diode IF <= 20 mA	**A**
Locked rotor protection	Auto restart	**A**
Locked rotor current at Un		
Clock signal t3/t4 at locked rotor	Typical: 2,3 s / 5,0 s	

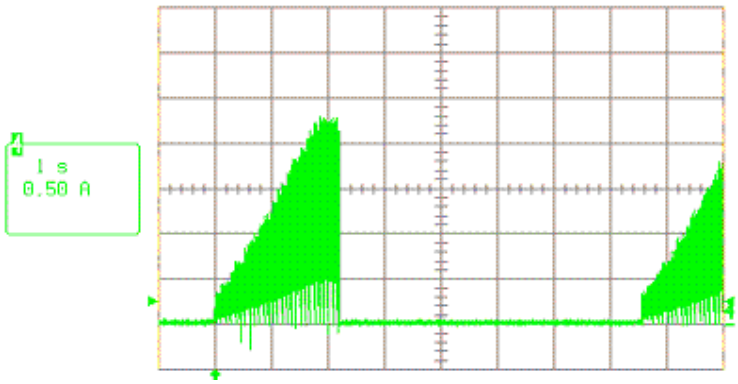




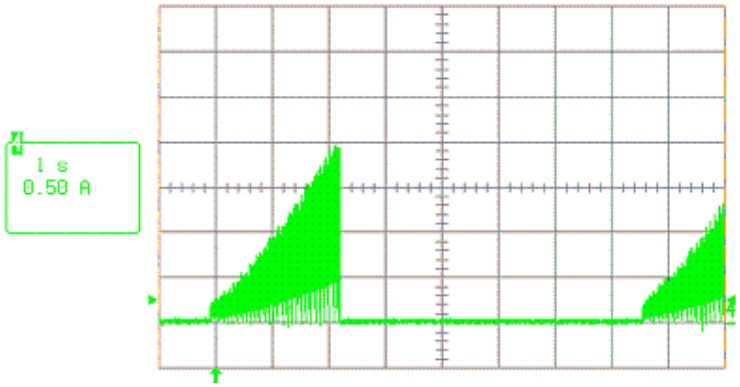
Start-up current at 48,0 V



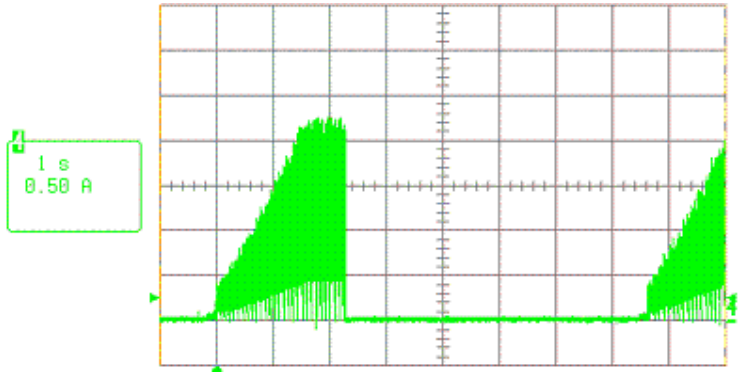
Running current at 48,0 V



Locked rotor current at 48,0 V



Locked rotor current at 36,0 V



Locked rotor current at 60,0 V

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:

5.100 1/min at free air flow	U Contr. 10,0 V		

Max. free-air flow (Δp = 0 / $\dot{V}$ = max.)	600,0 m3/h	**FK**
Max. static pressure (Δp = max. / $\dot{V}$ =0)	350 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:

5.100 1/min at free air flow	U Contr. 10,0 V		

Optimal operating point	420,0 m3/h @ 167 Pa	

Sound power level at the optimal operating point	7,4 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	64,0 dB(A)	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-20 °C	
Max. permitted ambient temperature TU max.	60 °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.

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 / 1,5 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	Yes / GB 12350-2000 Safety Requirements for small Power Motors

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	70.000 h	
Life expectancy L10 at TU max.	45.000 h	
Life expectancy L10 Delta (40 °C)	110.000 h	

6.2 Additional Data

not specified

7. Änderungen

Vorgänger: 929 5414 284
-286 ist die Kostenreduzierte Version mit der LP 6027 603 xxx.
560 Nocita