6248 N/19TDI-264 DC Axial Fan

DC-Fan with temperature-dependent speed control
The DC drive employs an electronically commutated 3-phase external rotor motor with high efficiency.
A highly integrated, specially programmed micro controller implements motor commutation and speed control of the fan.
All functions are completely integrated into the hub.



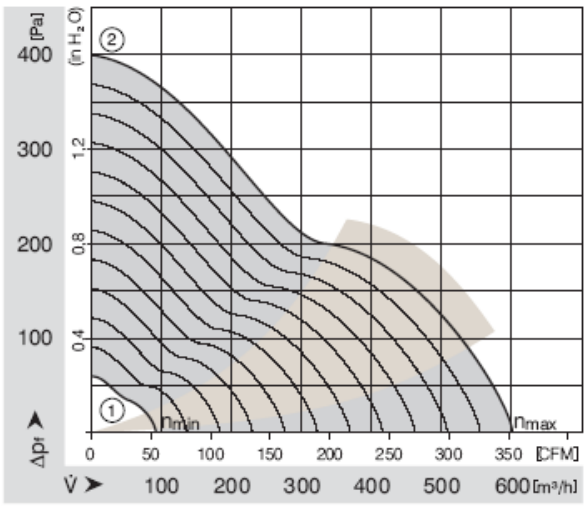
Features

- Wide voltage range of 36 to 60 V DC.
- Very low speed-fluctuations in the entire voltage range.
- Temperature dependent speed control via NTC-sensor positioned in the airflow.
- When temperature sensor is disconnected/interrupted, the fan runs at max. speed available at operating conditions.
- The fan is protected against reversed polarity.
- Electronic motor current limiting during start-up or locking. Continuous locking protection.
- Electrical connection via 3 lead wires AWG 22, 770 mm long +/- 10 mm
Red = +48 VDC
Blue= GND
White= Alarm

General Data

Nominal voltage	V DC	48
Voltage range	V DC	36-60
Nominal speed (full speed > 50°C)	min^{-1}	5100
Max. flow rate	m^3/h	600
Max. flow rate	CFM	353,10
Noise free air	dB(A)	65
Current consumption	mA	1000
Power consumption	W	48
Perm.ambient temperature	°C	-20 ... +60
Service life (40 °C)	h	70.000
Fan housing / impeller		Aluminum alloy / PA6.6
Bearing system		Ball bearings
Mass	Kg	0,780

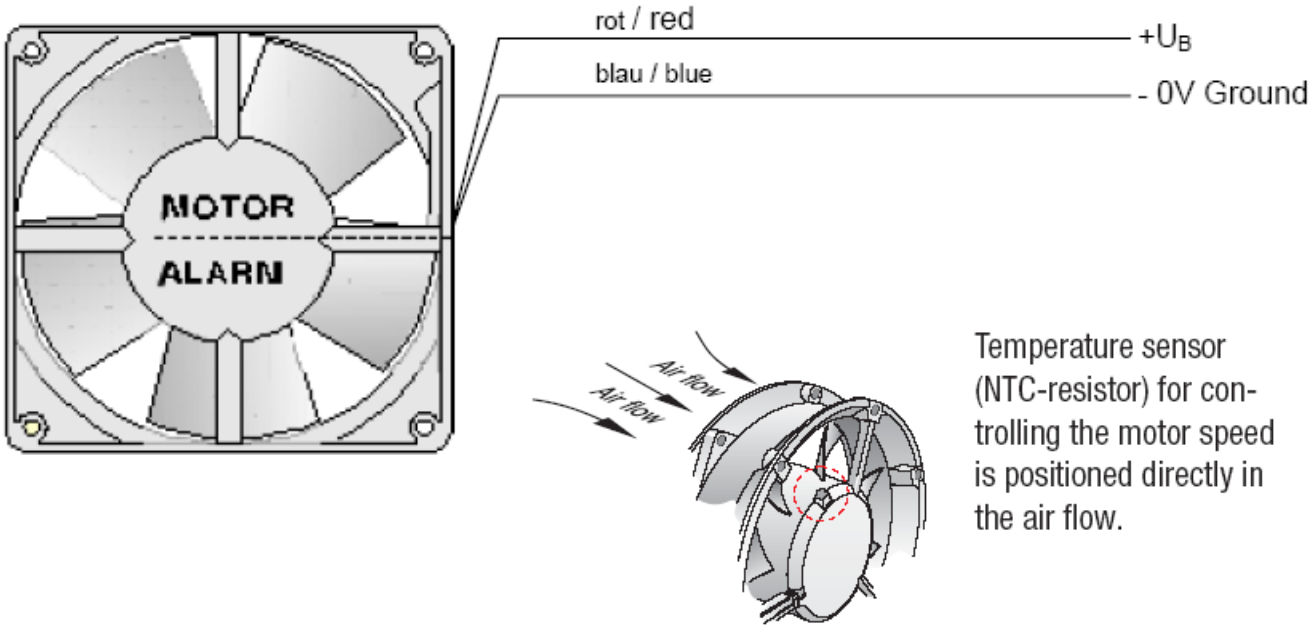
All data are average figures at nominal voltage — Subject to technical change.



For dimensions and electrical connection, see separate drawing:

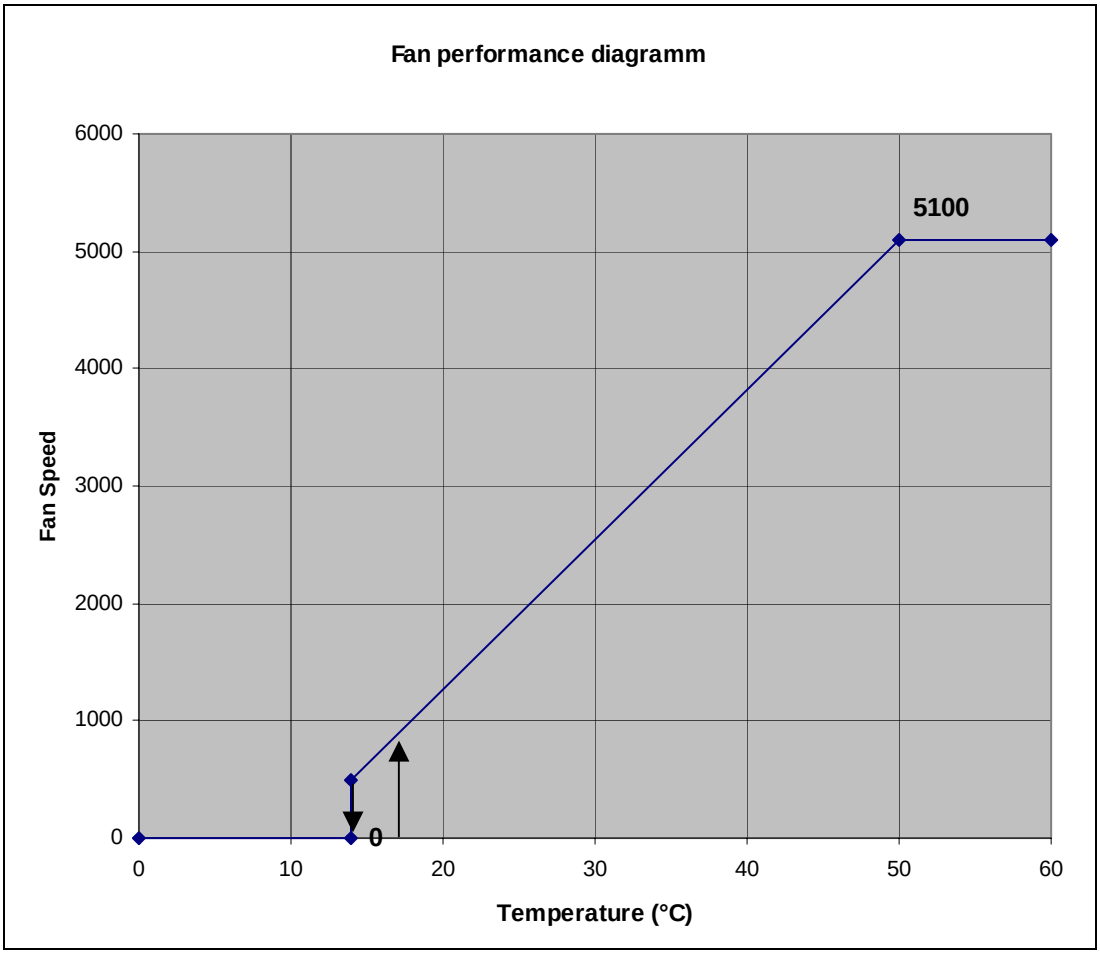
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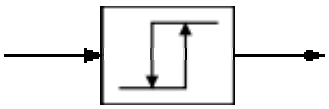
Connection:



Temperature sensor (NTC-resistor) for controlling the motor speed is positioned directly in the air flow.

Temperature vs. Speed curve

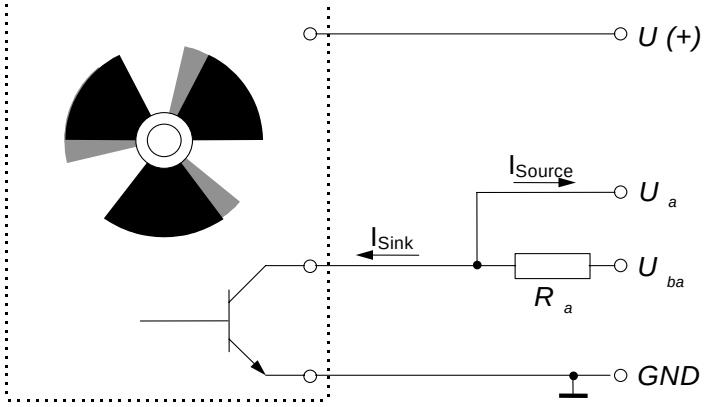




- On rising temperature >17°C, the fan runs with above character
- On digressing temperature, the fan stops running at 14°C -> (n=0 rpm)
- This condition stays until 17 °C are achieved, -> fan starts at n= 800 rpm

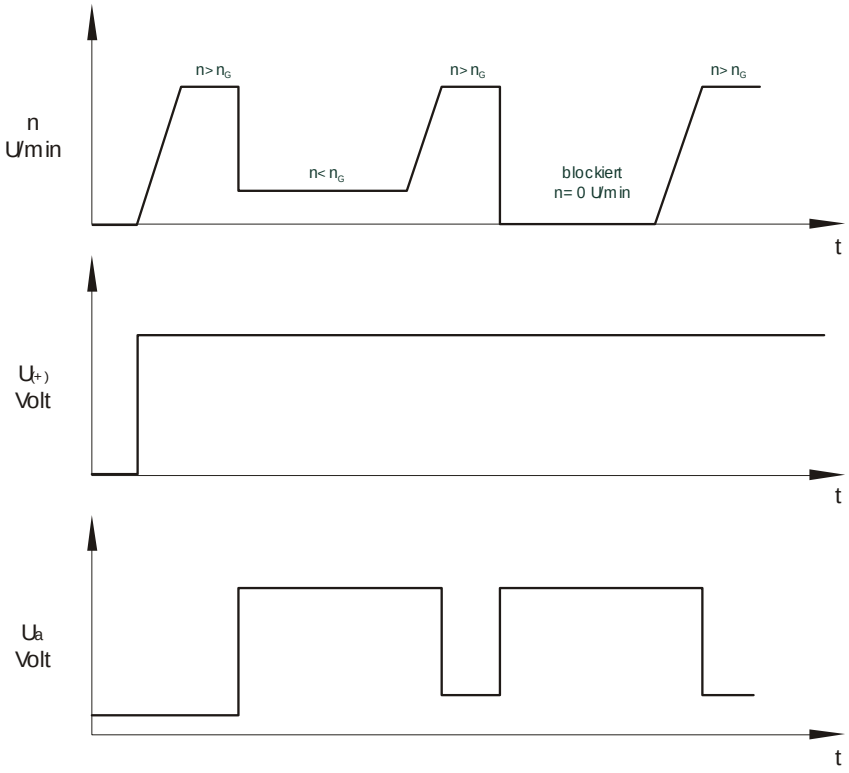
Fan speed [rpm]	Temperature [°C]
0	0
500	14
800	17
5100	50

Alarm Signal Output:



U (+) = Supply Voltage (+)
U_a = Alarm Signal
U_{ba} = Alarm Supply Voltage
GND = Ground (-)
Ra = External Pull up-Resistor

$$R_a = \frac{U_{ba} - U_{aL}}{I_{sink}}$$



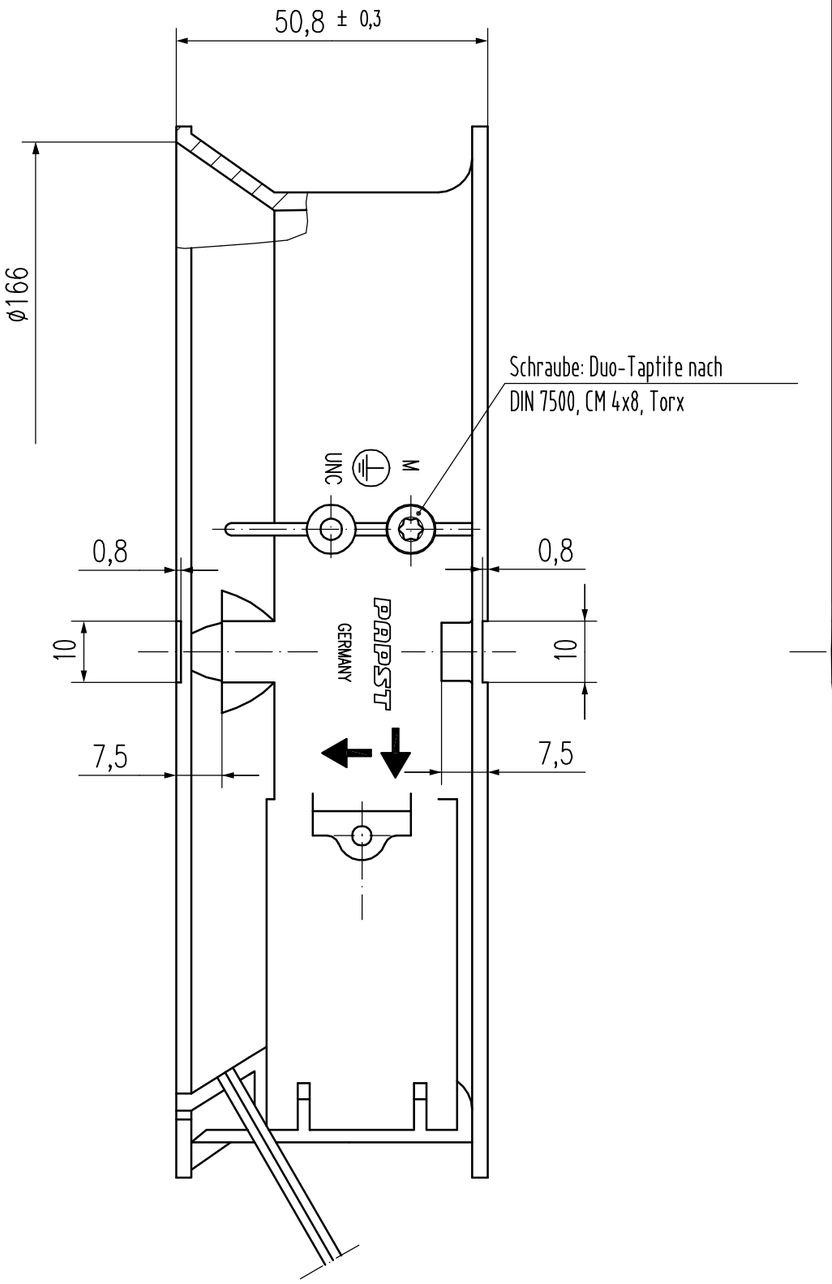
Technical Data

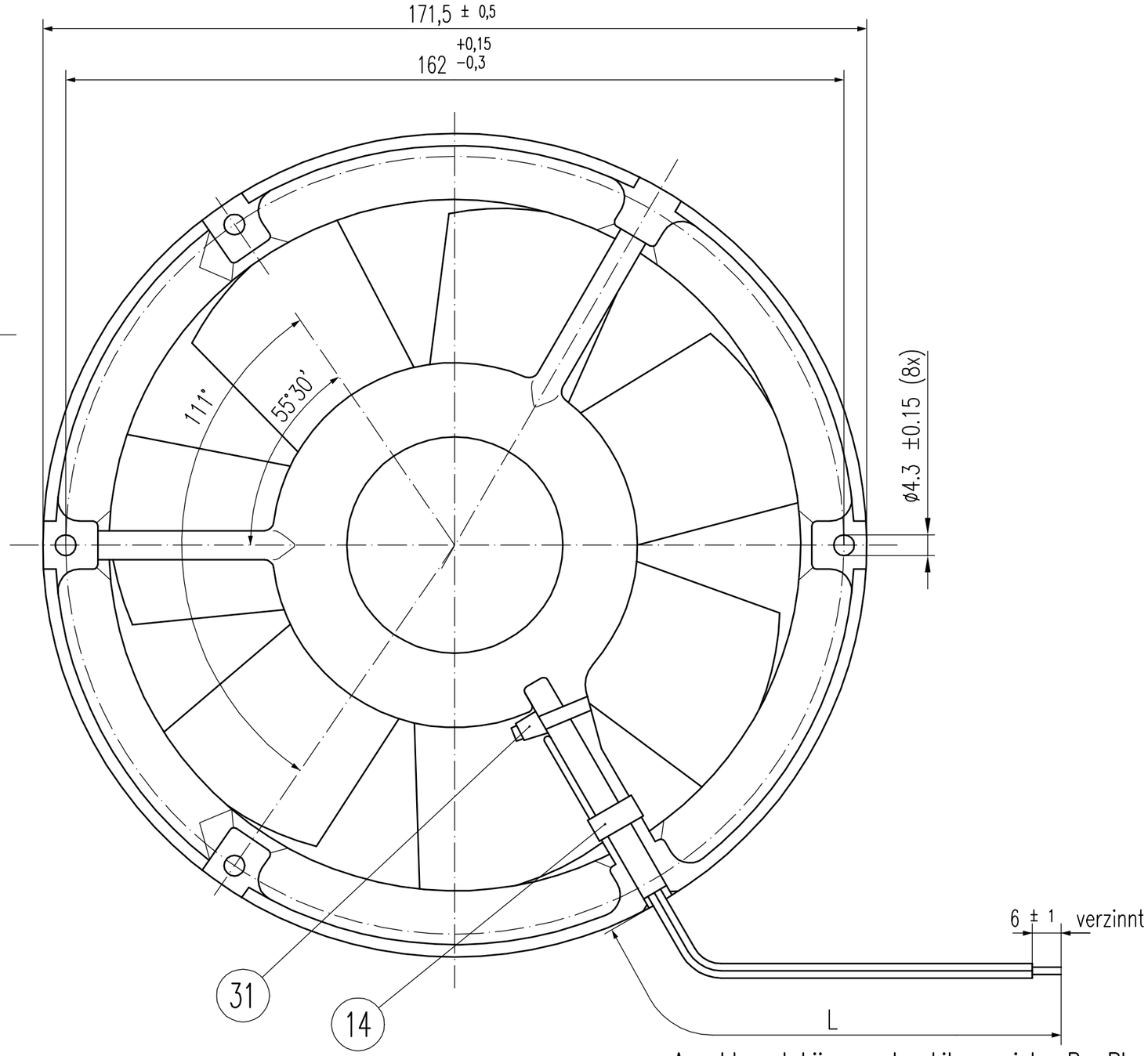
Designation	Test condition	Symbol	Value
Operating voltage range		U_{BA}	4…..60 VDC
Max. sink current		I_{sink} max	20 mA
Output voltage “Low” $n<n_G$	I_{sink} = 2 mA	U_a L	≤ 0,4 V
Output voltage “High” $n>n_G$	$I_{SOURCE=}$0mA	U_a H	4….60 VDC
Alarm delay time - After switching on fan supply voltage		t_2	12 - 14 s
- during operation		$t_{2.1}$	6-8 s
- locked motor		$t_{2.2}$	< 1s
Alarm redemption time		t_5	2-3s
Signal rise and fall time U_a		t_r, t_f	min. 0,5V/µs (Stand TTL)
Alarm trip speed		n_G	75% of actual nominal speed according to speed vs. temperature curve

t_r → Low-High t_f → High-Low Alarm Signal suppressed at start-up

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Schutzvermerk nach DIN 34 beachten





Anzahl und Längen der Litzen siehe Bv–Bl. 1

Axialspiel mit Feder spielfrei verspannt.

082
210
232
235
240
516

Allgemeintoleranzen
DIN ISO 2768 - mK

					Datum	Name
				Erstellt	19.01.98	Kieninger
				Geprüft	19.01.98	Koletzki M.
a	Ergänzung	15.01.99	Kirchner J.			
Index	And.-Nr.	Datum	Geändert von			

Zur Verwendung im Verteiler freigegeben
von Koletzki M. am 21.01.99

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Germany

Artikel: Axiallüfter
Maßstab: 1:1
Zchg.-Nr.: 929 5414 213
Blatt 2
Ers.f.Zchg.:
U \929\5414\ 213-2.DWG

Vertraulich / Confidential Information 22.08.2008