4218/17DV-508 DC Axial Fan



Axial fan with high air flow and minimum noise level. The DC drive employs an electronically commutated external rotor motor with high efficiency. Drive electronics is completely integrated into the fan hub. The air flow and noise level can be controlled by varying the supply voltage range.

Features

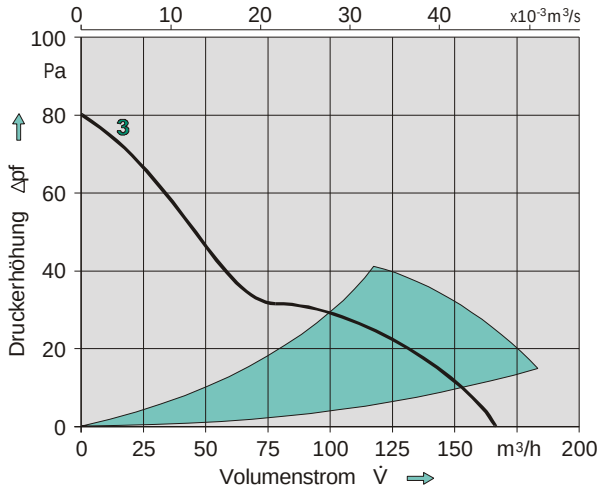
- Alarm output circuit.
- Electronical protection against locked rotor. Protected against overloading by PTC-resistor.
- Electronical protection against reverse polarity.
- Extremely low EMI.

Patents granted or applied for.

General Data

Nominal voltage	V DC		48
Voltage range	V DC		38 ... 75
Sensor temperature	°C	+45	+66
Nominal speed	min^{-1}	2000	3050
Max. flow rate	m^3/h	124,5	165
Max. flow rate	CFM	73,3	97,1
Noise free air	dB(A)		45
Noise at optimum operating range	bels		5,6
Current consumption	mA	40	80
Power consumption	W	1,9	3,9
Permanent ambient temperatur at max. voltage	°C		-20 ... +66
Service life at 66 °C	h		35.000
Service life at 40 °C	h		62.500
Fan housing / impeller			PBTB / PA6.6
Bearing system			Ball bearings
Mass	kg		0,290

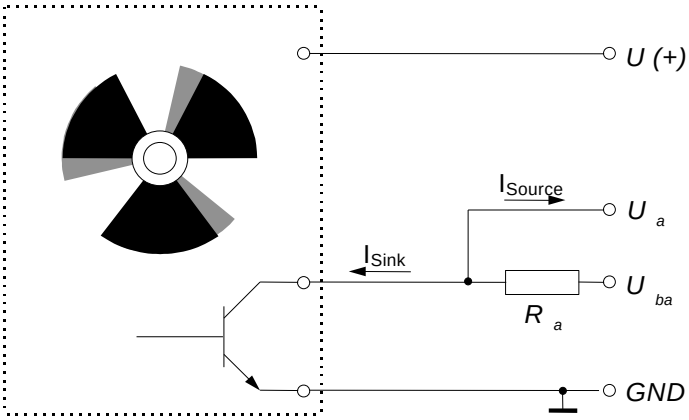
Alle Daten sind Mittelwerte bei Nennspannung. Technische Änderungen vorbehalten.



For electrical connection and dimensions please see separate drawing # 9294310508.

Electrical Connection

Operating voltage U(+) according to admissible voltage range.
Alarm supply voltage Uba ≤ 75V.
All voltages related to Ground.
External pull-up resistor (Ra) needed.



U (+) = Versorgungsspannung (+)
U_a = Alarmsignal
U_{ba} = Alarmversorgungsspannung
GND = Bezugspotential (-)
Ra = Extern vorzusehender Pull up-Widerstand

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

Alarm Circuit

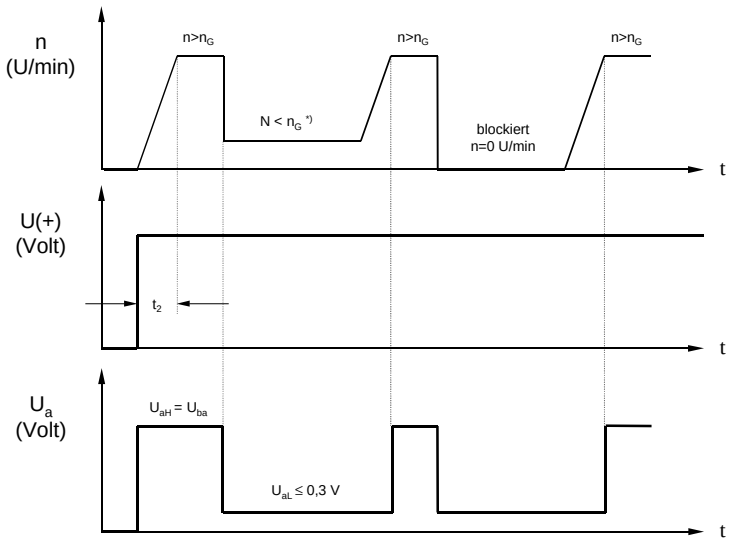
This fan is equipped with an integrated alarm circuit producing a continuous output signal Ua for monitoring fan speed. At proper operation in the nominal voltage range the alarm output is a „high“ level.
When speed decreases below limit speed nG = 1500rpm, e.g. by high friction torques, locked rotor condition, or low operating voltage, a „low“ level output will occur.
When speed recovers, the alarm signal goes back to „high“, i.e. alarm is non-latched.

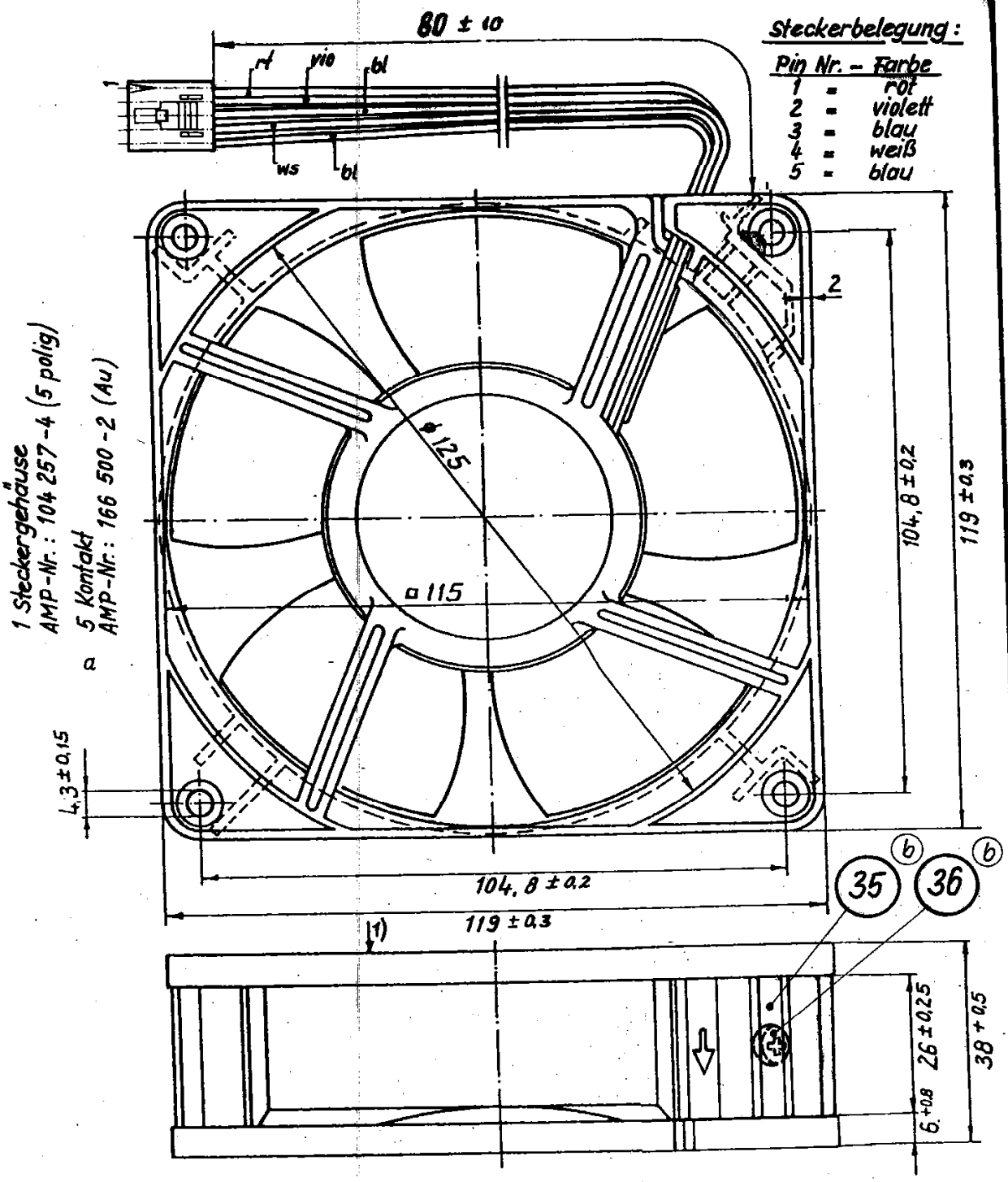
Technical Data

Designation	Test condition	Symbol	Value
Max. alarm supply voltage		U_{ba} max	75 V DC
Max. sink current		I_{sink} max	20 mA
Output voltage Alarm signal „Low“ $n<n_G$	I_{sink} = 20 mA	U_a L	≤ 0,3 V
Output voltage Alarm signal „High“ $n>n_G$		U_a H	U_{ba}
Leakage current $n>n_G$	U_a = 75 V	I_{sink}	max. 15µA
Alarm delay time	at start-up only	t_2	≤ 15 s
Signal rise and fall time U_a		t_r, t_f	min. 0,5V/µs (Stand TTL)
Alarm trip speed		n_G	1500 U/min

t_r → Low-High-Flanke t_f → High-Low-Flanke Alarmsignal-Unterdrückung im Anlauf

Alarm Signal Diagram





1) Rotorüberstand bis max. 0,4mm zulässig

Axialspiel: mit Feder abgeglichen

082
210
232
240
235
216

Aus-gabe	Änderung	Tag	Name
b	98 010	12.01.98	mi.
a	97 610	14.10.97	mi.

15.01.98

Freimaßtoleranzen

gilt für: 9294310508 | 4218/17 DV-508

	Tag	Name
97		
Bearb.	12.09.	mi.
Gepr.	16.9.	Koletzki
Norm.		

PAPST
PAPST-MOTOREN
GmbH & Co KG
St. Georgen / Schwarzwald

Axiallüfter

929 4310 508 Bl. 2

Ers. für Zchng.:

Maßstab 1:1

Auftr.-Nr.

Für diese Zeichnung gelten die Bestimmungen über den Schutz für Urheberrecht