3412N/37GV DC Axial Fan

25mm low profile fan with alarm output. The DC drive employs an electronically commutated external rotor motor with high efficiency. An highly integrated IC implements electronic motor commutation and the control functions of the fan. Drive electronics are completely integrated into the fan hub.

Features

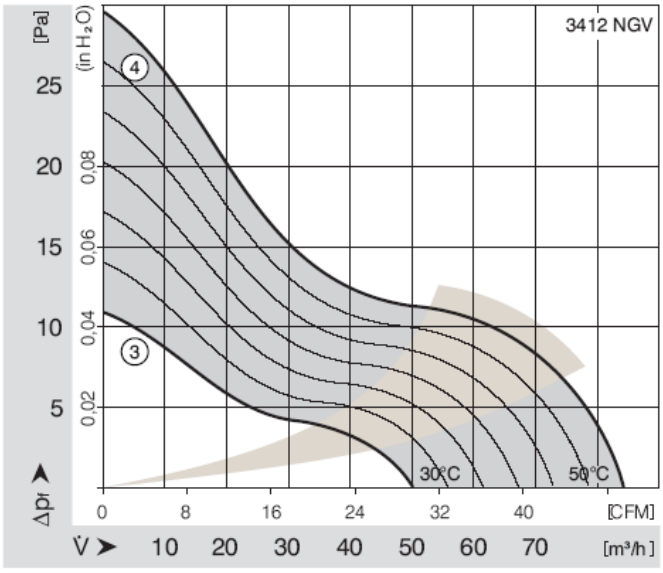
- Electronical protection against reverse polarity, locked rotor, and overloading.
- Air exhaust over struts. Rotational direction CCW looking at rotor.
- Integrated alarm output signal when fan speed decreases alarm trip speed.
- Electrical connection via 4 leads, 310mm, AWG24
- Extremely low EMI.
- Speed control by temperature sensor (temp.1=30°C; temp.2=50°C)

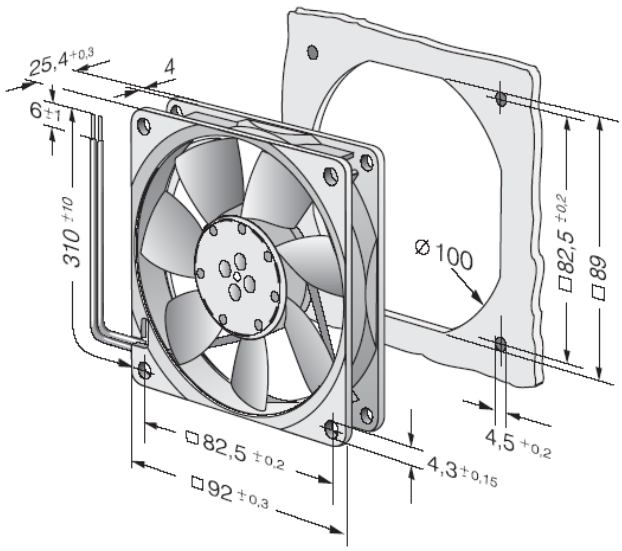
Patents granted or applied for.

General Data

Nominal voltage	V DC		12
Voltage range	V DC		8 12,6
Temperature control	°C	30	50
Nominal speed	min^{-1}	1600	2700
Max. airflow	m^3/h	50	84
Max. airflow	CFM	29,4	49,4
Noise free air	dB(A)	16	32
Current consumption	mA	130	205
Power consumption	W	1,55	2,5
Perm. Ambient temperature at max. voltage	°C		-20 ... +65
Service life (40 °C)	h		70.000
Service life (70°C)	h		40.000
Approvals			UL, CSA, VDE
Fan housing / impeller			PBTP / PA
Bearing system			Sleeve bearings
Mass	g		100

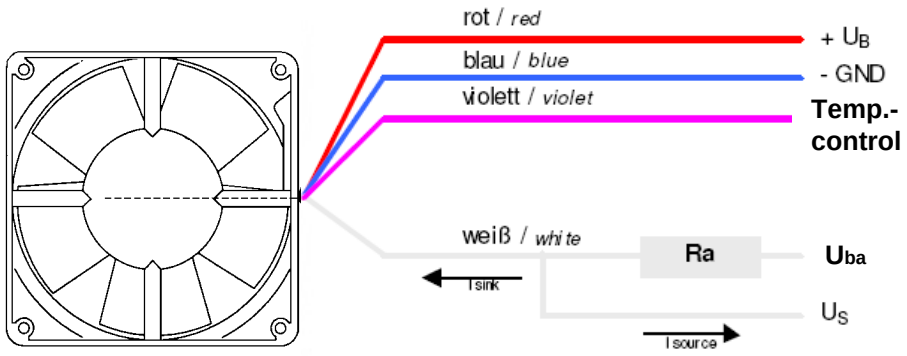
All data are mean values at nominal voltage. Subject to technical change.



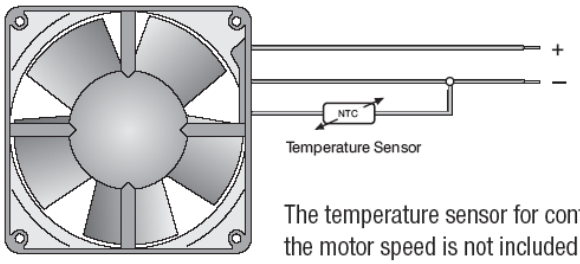


Electrical connection

Operating voltage U(+) according to admissible voltage range. Alarm supply voltage $U_{ba} \leq 30V$.
All voltages related to „Ground“.
(External pull-up resistor (R_a) is needed.



Temperature control



The temperature sensor for controlling the motor speed is not included in delivery.
Temperature sensor LZ 370 see accessories.

Alarm Circuit

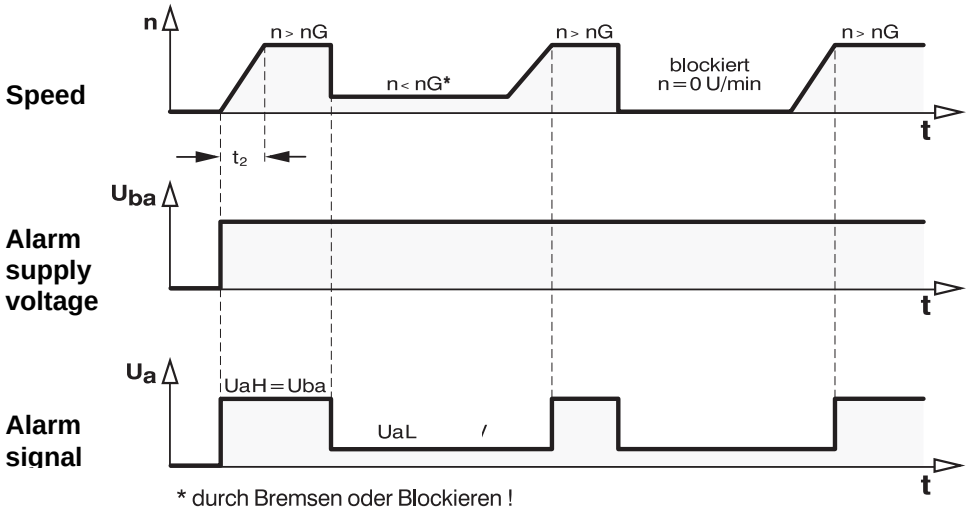
This fan is equipped with an integrated alarm circuit producing a continuous output signal Ua for monitoring fan speed. At proper operation in the nominal voltage range the alarm output is a „high“ level.
When speed decreases below limit speed nG = 0rpm, e.g. by high friction torques, locked rotor condition, 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
Alarm output voltage		U_{ba}	30V DC
Alarm signal level	$n > n_G$ $n < n_G$		„High“ „Low“
$U_{a\ Low}$ $n = n_G$	I_{sink} = 2 mA	U_{aL}	≤ 0,4V DC
$U_{a\ High}$ $n > n_G$		U_{aH}	U_{ba}
Leakage current $n > n_G$	U_{ba} = 30V	I_{sink}	max. 15µA
Max. sink current		I_{sink}	10 mA
Alarm delay time		t_2	none
Signal rise and fall time U_a		t_r, t_f	min. 0,5 V/µs (Stand. TTL)
Alarm trip speed		n_G	0rpm

t_r⇨Low-High-Flanke t_f⇨High-Low-

Alarm Diagram



* durch Bremsen oder Blockieren !