# Sensor signal /2

– Speed-proportional rectangular pulse for external speed monitoring of fan motor
– 2 pulses per revolution
– Open-Collector signal output
– Extremely wide operating voltage range (5 ... 60 V)
– Easy adaptation to user interface
– Connection via separate lead
– The sensor signal also serves as a major comparison variable for setting and maintaining the desired speed for interactive or controlled cooling with one or several interconnected fans.
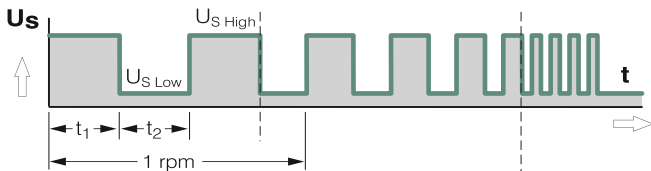
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Electrical connection

red — $+U_B$
blue (black) — 0V Ground
white (yellow) — $+U_{BS}$
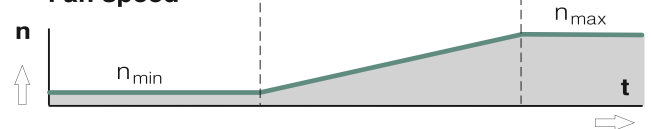U_S
$\leftarrow I_{sink}$
$I_{source} \rightarrow$
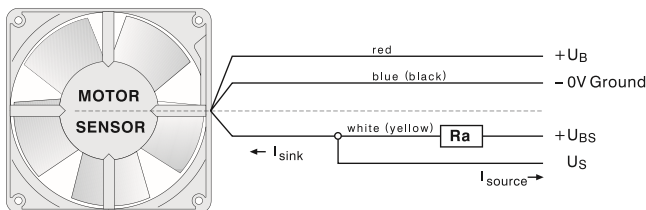
$$R_a = \frac{U_{BS} - U_{SLOW}}{I_{SINK}}$$

All voltages measured to ground.
External load resistance Ra from US to UBS required.

Signal output voltage

U_S
$U_{S\,High}$
$U_{S\,Low}$
t_1 t_2
1 rpm
t

Fan speed

n
n_{max}
n_{min}
t

Signal symmetry $[t_1, t_2]$ = 0.8 … 1.2
Signal frequency $[F]$ = 2 x n/60 Hz

Attention:
With these fan options, deviations in regard to temperature range, voltage range and power consumption are possible compared with standard fan data.

Signal data	Sensor signal $U_{S\,Low}$	Condition: I_{sink}	Sensor signal $U_{S\,High}$	Condition: I_{source}	Sensor operating voltage U_{BS}	Perm. sink current $I_{sink\,max.}$
Type	V DC	mA	V DC	mA	V DC	mA
255 N/2	≤ 0.4	≤ 2	30	0	≤ 30	2
255 H/2	≤ 0.4	≤ 2	30	0	≤ 30	2
252 N/2	≤ 0.4	≤ 2	30	0	≤ 30	2
405 F/2	≤ 0.4	1	30	0	≤ 30	≤ 2
405 F/2 H	≤ 0.4	1	30	0	≤ 30	≤ 2
412 F/2 H	≤ 0.4	1	30	0	≤ 30	≤ 2
414 F/2	≤ 0.4	1	30	0	≤ 30	≤ 2
405 /2	≤ 0.4	1	30	0	≤ 30	≤ 2
412 /2	≤ 0.4	1	30	0	≤ 30	≤ 2
414 /2	≤ 0.4	1	30	0	≤ 30	≤ 2
414 /2 H	≤ 0.4	1	30	0	≤ 30	≤ 2
412 J/2 H	≤ 0.4	1	30	0	≤ 30	≤ 4
412 J/2 HH	≤ 0.4	1	30	0	≤ 30	≤ 4
414 J/2 H	≤ 0.4	2	30	0	≤ 30	≤ 4
414 J/2 HH	≤ 0.4	2	30	0	≤ 30	≤ 4
512 F/2	≤ 0.4	1	30	0	≤ 30	≤ 2
514 F/2	≤ 0.4	1	30	0	≤ 30	≤ 2
612 F/2	≤ 0.4	1	30	0	≤ 30	≤ 2
612 F/2 H	≤ 0.4	1	30	0	≤ 30	≤ 2
614 F/2	≤ 0.4	1	30	0	≤ 30	≤ 2
612 N/2 H	≤ 0.4	1	30	0	≤ 30	≤ 2
612 N/2 NHH-120	≤ 0.4	1	30	0	≤ 30	≤ 2
612 N/2 N	≤ 0.4	1	30	0	≤ 30	≤ 2
614 N/2 H	≤ 0.4	1	30	0	≤ 30	≤ 2
614 N/2 HH-121	≤ 0.4	1	30	0	≤ 30	≤ 2
614 N/2 M	≤ 0.4	2	28	0	≤ 30	≤ 4
712 F/2 L	≤ 0.4	1	30	0	≤ 30	≤ 2
712 F/2 M	≤ 0.4	1	30	0	≤ 30	≤ 2
8412 N/2 GL	≤ 0.4	2	28	0	≤ 28	≤ 4
8412 N/2 GM	≤ 0.4	2	28	0	≤ 28	≤ 4
8412 N/2 G	≤ 0.4	2	28	0	≤ 28	≤ 4
8414 N/2 GL	≤ 0.4	2	28	0	≤ 28	≤ 4
8414 N/2 GM	≤ 0.4	2	28	0	≤ 28	≤ 4
8414 N/2 G	≤ 0.4	2	28	0	≤ 28	≤ 4
8414 N/2	≤ 0.4	2	28	0	≤ 28	≤ 4
8412 N/2	≤ 0.4	2	28	0	≤ 28	≤ 4
8412 N/2 H	≤ 0.4	2	28	0	≤ 28	≤ 4
8414 N/2 H	≤ 0.4	2	28	0	≤ 28	≤ 4
8312 /2 HL	≤ 0.4	2	30	0	≤ 30	≤ 4
8314 /2	≤ 0.4	2	30	0	≤ 30	≤ 4
8314 /2 H	≤ 0.4	2	30	0	≤ 30	≤ 4