SHEGBS-048-180-01

EC fan tray



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Nominal data

Type	SHEGBS-048-180-01

Nominal voltage	[VDC]	48
Nominal voltage range	[VDC]	36 .. 57
Frequency	[Hz]	-
Type of data definition		rfa
Speed	[min^{-1}]	4600
Power input	[W]	100
Current draw	[A]	2.30
Max. back pressure	[Pa]	380
Min. ambient temperature	[°C]	- 25
Max. ambient temperature	[°C]	+60

ml = max. load · me = max. efficiency · rfa = running at free air · cs = customer specs · cu = customer unit
Subject to alterations

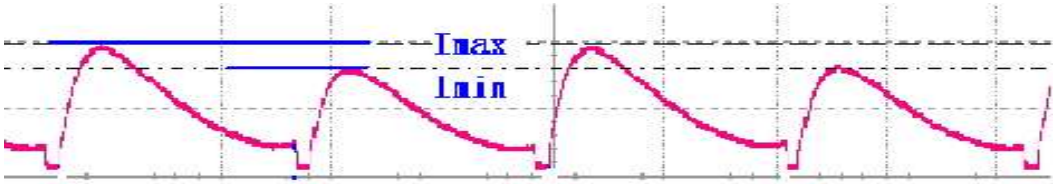
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Technical features

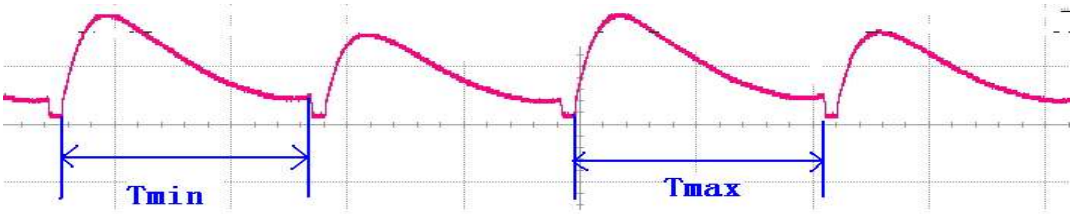
Size	220*236*100mm
Operation mode	Continuous operation (S1)
Direction of rotation	Counter-clockwise, seen on rotor
Mounting position	Any
EMC interference emission	Acc. to EN 55022 (Class B)
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
Humidity class	F0
Direction of air flow	"V"
Insulation class	"B"
Cable exit	Plug connector
Condensate discharge holes	None
Bearing motor	Ball bearing
Mass	2.4 kg
Material of impeller	Plastic PA66, fibreglass-reinforced
Material of wall ring	Die-cast aluminium, coated in black
Motor protection	Reverse polarity and locked-rotor protection
Product conforming to standard	EN 60950-1
Surface of rotor	Galvanised
Number of blades	5
Type of protection	IP 20
Technical features	- Control input 0-10 VDC / PWM - Tach output - Motor current limit - Soft start
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Approval	CCC; CSA C22.2 Nr.113; UL 507
Fuse	Rated current 5A
Start voltage	36V
Max running current	2.61A
Locked rotor current	1.4A
Noise	69dBA
permissible ambient humidity	5%-95%
L10 at 40 °C	60000h
Protection for loced rotor	OK
Protection for over current	OK
Automatic restart interval	7sec
Protection for start	15 sec
Leakage current	900 VDC 1sec <2mA
Protection for positive and negative polarity connection	OK
rotor weight	731g

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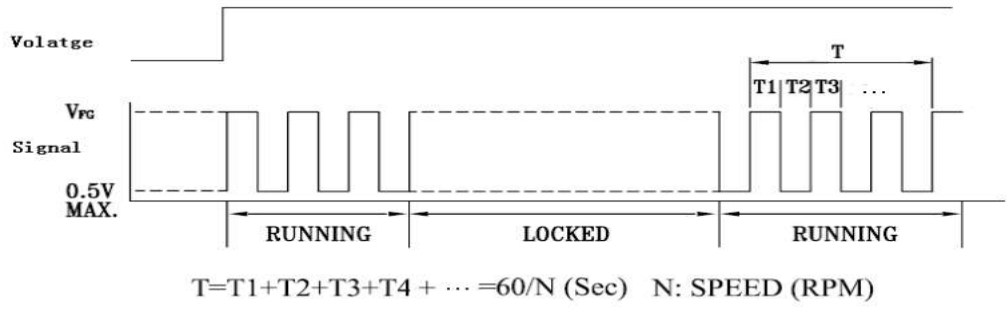
Waveform



Imin/Imax	>70%



Tmin/Tmax	>90%

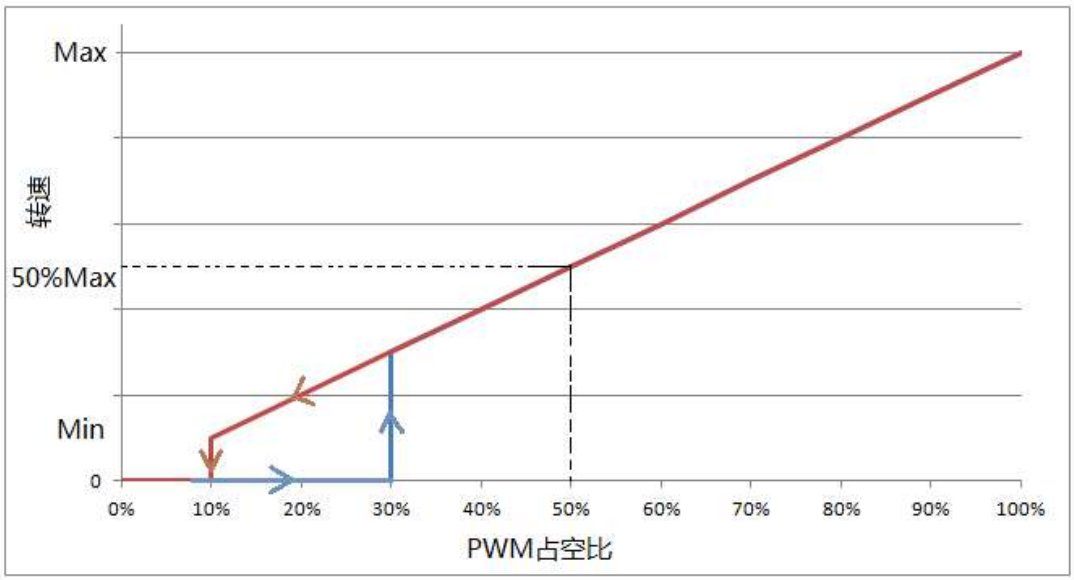


T=T1+T2+T3+T4 + ⋯ =60/N (Sec) N: SPEED (RPM)

Feedback	speed monitoring output 3 pulses per rotation

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PWM & Speed

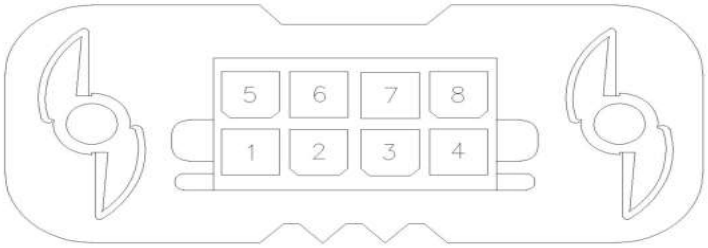


Max speed	4600 rpm
PWM of start point	30%

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Plug definition



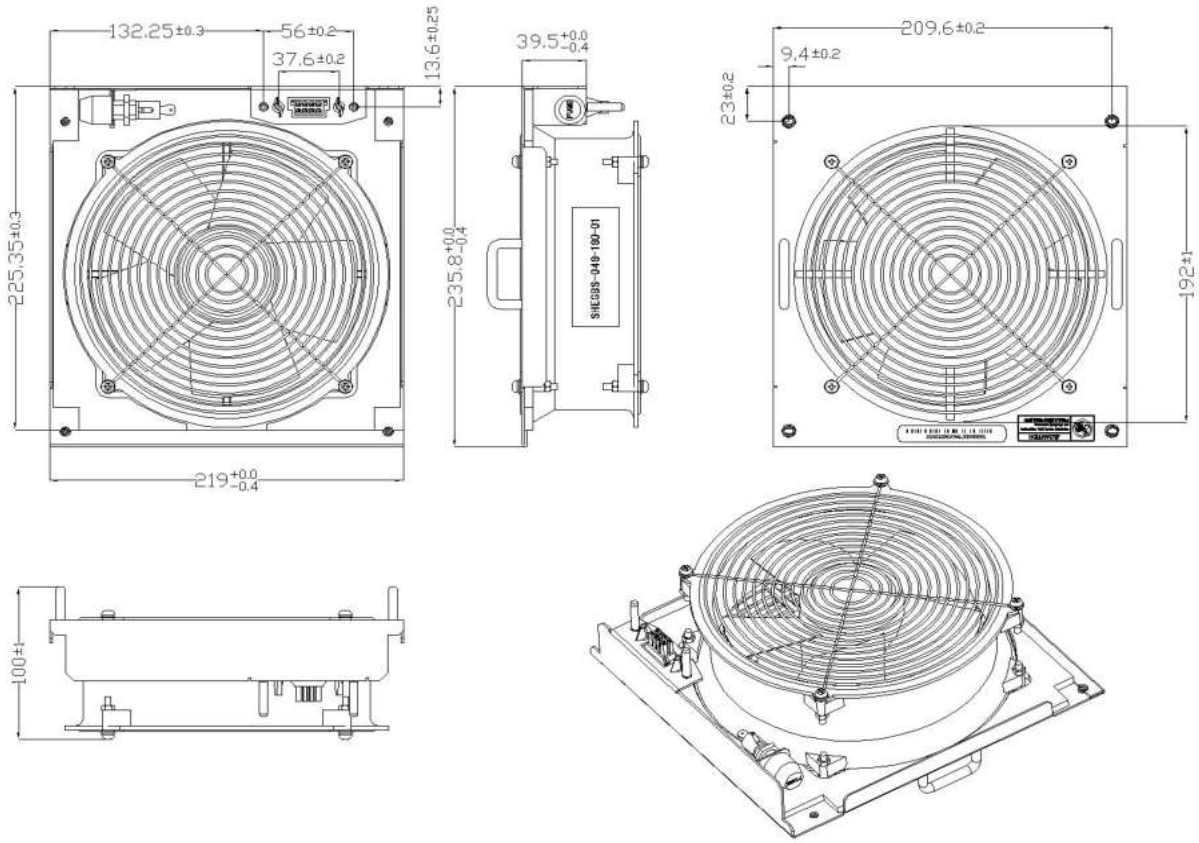
Distance between pins	4.2mm
Molex NO.	15-06-0080

NO.	2	6	3	7
Definition	positive	control input	tach output	negative
Color	red	yellow	white	blue

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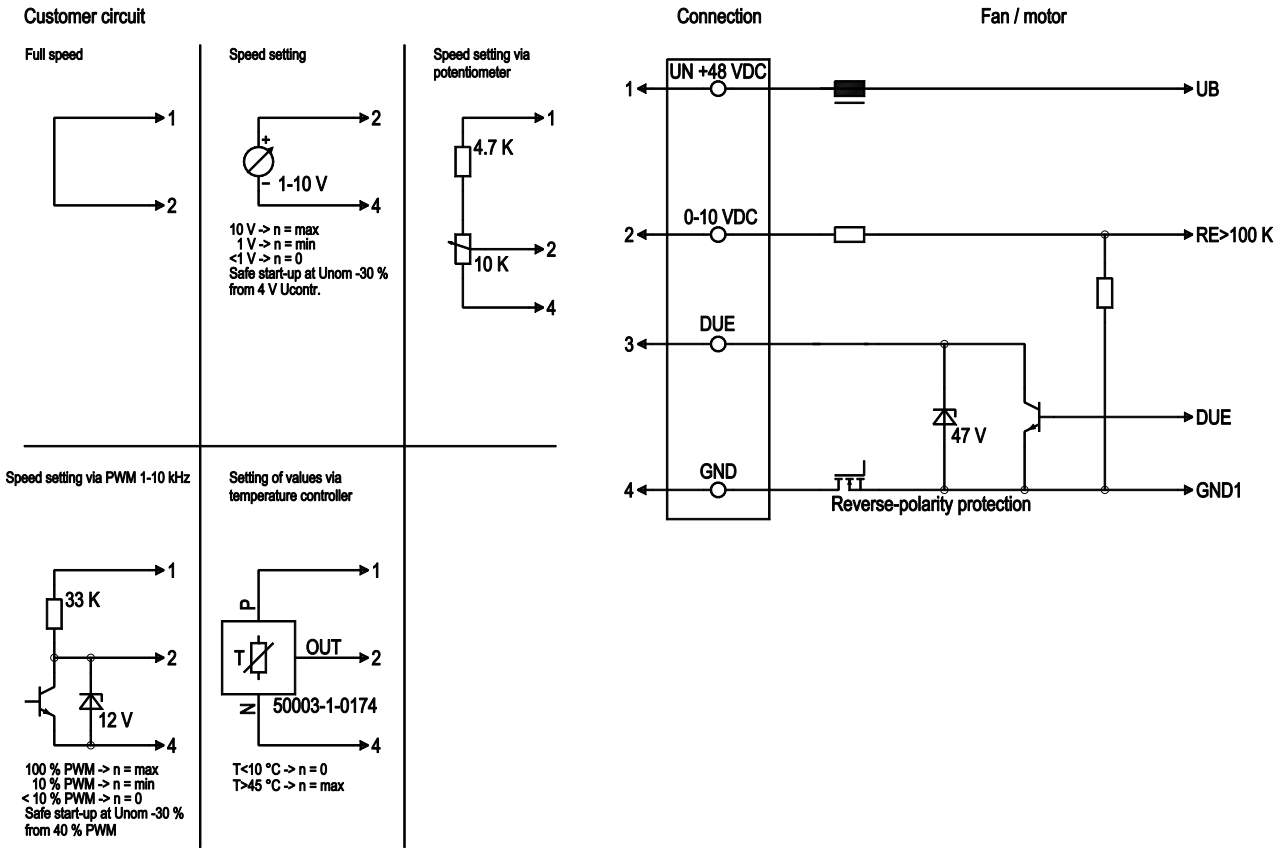
Product drawing



1	Connecting cable AWG 20, 4x brass lead tips crimped

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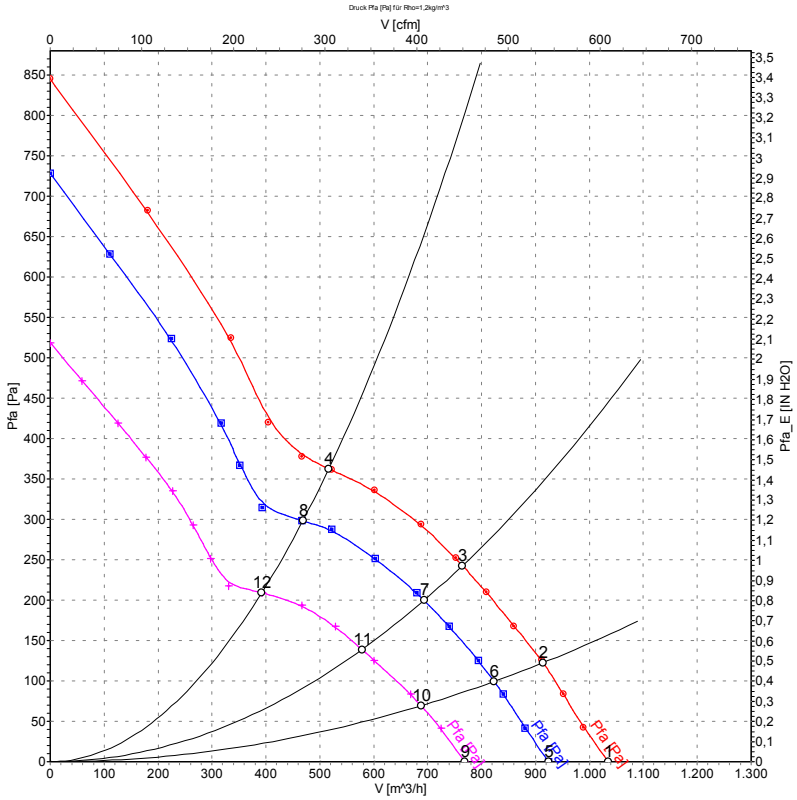
Connection screen



Line	No.	Signal	Colour	Function / assignment
1	1	Un +48 VDC	red	Power supply 48 VDC, residual ripple 3.5 %
1	2	0-10 VDC/PWM	yellow	Control input Re > 100 K
1	3	DUE	white	Speed monitoring output, 3 pulses per rotation, Isink max = 10 mA
1	4	GND	blue	Reference mass

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Charts: Air flow



Measured values

	U	n	P_1	I	$\dot{V}$	p_{fa}
	[V]	[min^{-1}]	[W]	[A]	[m^3/h]	[Pa]
1	57	5170	134	2.65	1035	0
2	57	4990	141	2.82	915	124
3	57	4815	146	2.95	765	243
4	57	4910	144	2.88	515	363
5	48	4600	100	2.30	925	0
6	48	4510	106	2.46	825	100
7	48	4380	112	2.61	695	200
8	48	4475	109	2.55	470	300
9	36	3900	60	1.89	770	0
10	36	3790	64	1.99	690	70
11	36	3690	67	2.10	580	139
12	36	3750	65	2.04	390	210

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