300W BLDC driver

BLDC driver

Features

- Fanless design, cooling by free air convection
- With simple speed control

Applications

- Intelligent Fan
- Water Pump

Description

BLDC series is a miniature variable frequency drive adopting vector control. Lined up with the capacity 300W, BLDC converts the single phase 90~264VAC voltage to the 3 phase voltage. With the fanless design, the noise when BLDC is working is lowered down whereas the life span is expanded since the articles are effectively prevented from entering the body unit. BLDC has a relatively small dimension and light weight, readily to be utilized for the applications requiring simple and compact variable frequency drive.

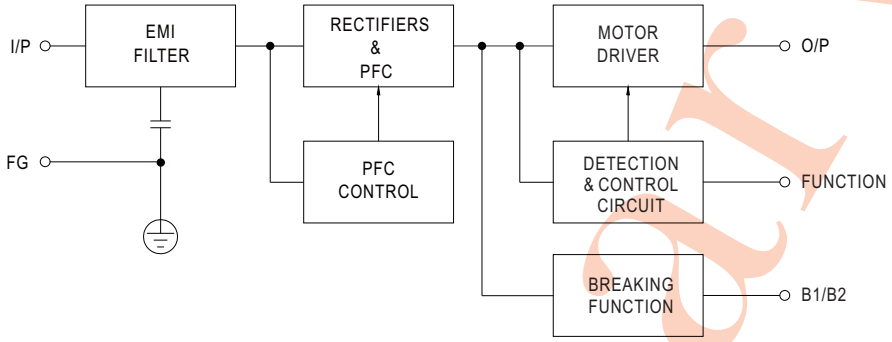
BLDC driver

SPECIFICATION

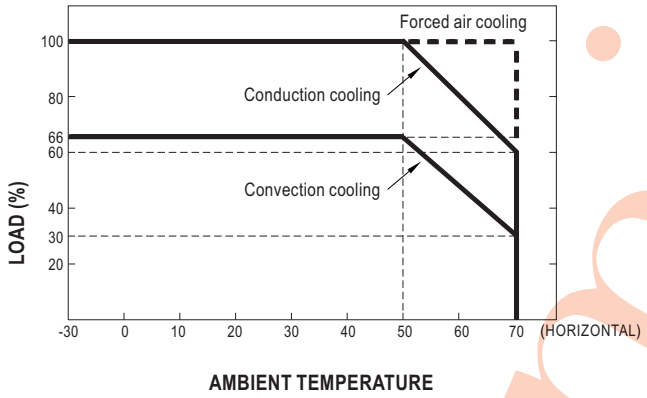
MODEL		BLDC
OUTPUT	DRIVE OUTPUT CAPACITY (W)	300W
	RATED OUTPUT CURRENT (A)	1.2A
	RATED OUTPUT VOLTAGE (VAC)	3ϕ 200~240VAC
	MAX. OUTPUT CURRENT	2.4A / 5 sec.
	MAX. SPEED (Note 2)	12000RPM
INPUT	RATED INPUT AC VOLTAGE	90 ~ 264VAC
	INPUT FREQUENCY RANGE (Hz)	47 ~ 63Hz
	RATED INPUT CURRENT	3A / 115VAC 1.6A / 230VAC
	INRUSH CURRENT (Typ.)	COLD START 50A/230VAC
PROTECTION	OVERLOAD	> Rated output current, 5 seconds
		Protection type : Shut down o/p voltage, re-power on to recover
	SHORT CIRCUIT	Protection type : Shut down o/p voltage, re-power on to recover
	OVER VOLTAGE	410~420V
		Protection type : Shut down o/p voltage, re-power on to recover
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down
FUNCTION	REMOTE ON-OFF CONTROL	By electrical signal or dry contact Power ON: short Power OFF: open
	OUTPUT FREQUENCY TRIM	Adjustment of output frequency is possible between 0.4~9.6V external control signal
	ACCELERATION & DECELORATION TIME ADJ. RANGE (Note 3)	0.5~20s
	PROTECTION WARNING	Red light
ENVIRONMENT	COOLING SYSTEM	Air convection
	WORKING TEMP.	-30 ~ +70℃ (Refer to "Dreating Curve")
	WORKING HUMIDITY	20 ~ 90% RH non-condensing
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes
SAFETY & EMC	SAFETY STANDARDS	Design refer to UL62368-1
	EMC EMISSION	Compliance to EN61800-3
	EMC IMMUNITY	Compliance to EN61800-3
OTHERS	MTBF	257K hrs min. MIL-HDBK-217F (25℃)
	DIMENSION	194*55*26mm (L*W*H)
	PACKING	0.47Kg
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. The actual maximum speed depends on the number of pole pairs of the matched motor. 12000rpm for 2 poles motor. 3. Programable by software. ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx	

■ Block Diagram

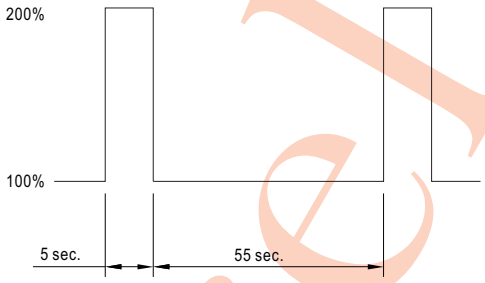
fosc : 130KHz



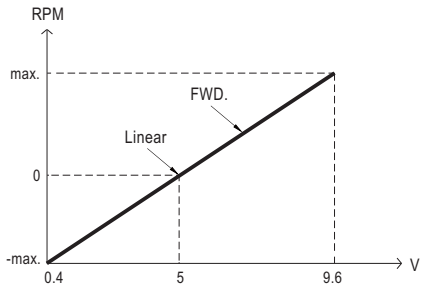
■ Derating Curve



■ Peak Load

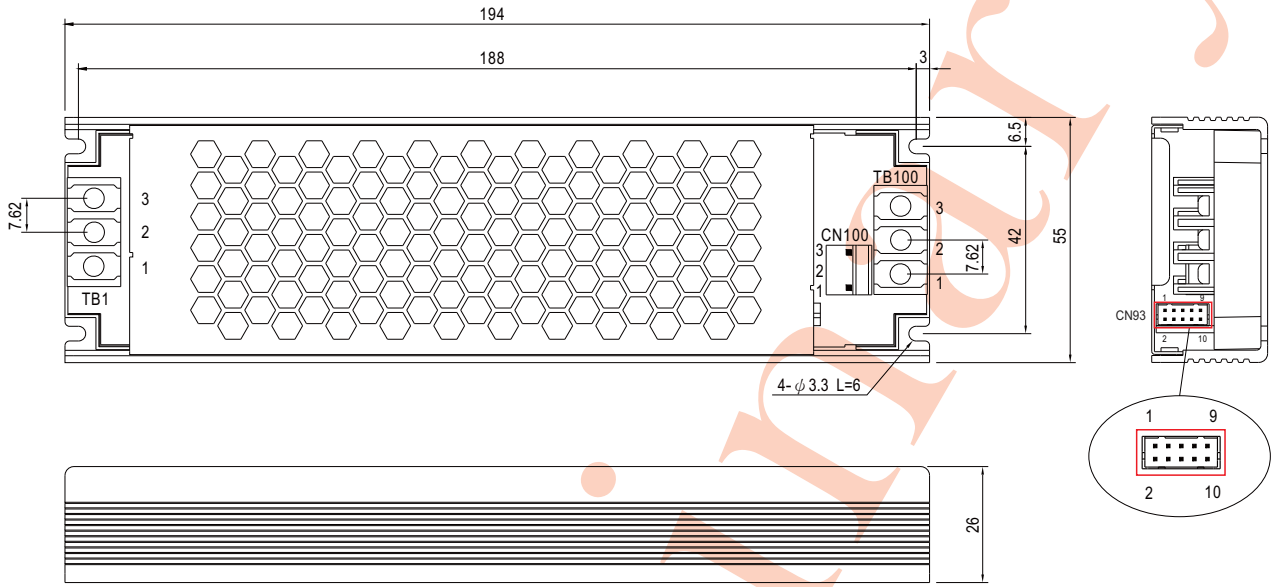


■ Speed



■ Mechanical Specification

Case No.249C Unit:mm



AC Input Terminal Pin NO. Assignment (TB1)

Pin No.	Assignment
1	AC/L
2	AC/N
3	⏚

Output Terminal Pin NO. Assignment (TB100)

Pin No.	Assignment
1	U
2	V
3	W

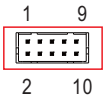
Control Pin NO. Assignment (CN93) : HRS DF11-10DP-2DS or equivalent

Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	+5V	6	SPEED	HRS DF11-10DS or equivalent	HRS DF11-**SC or equivalent
2	HALL1	7	RUN/STOP		
3	HALL3	8	NC		
4	HALL2	9	TXD		
5	GND	10	RXD		

Output Connector (CN100) : Molex 5273-03 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	B2	Molex 5195 or equivalent	Molex 5194 or equivalent
2	NC		
3	B1		

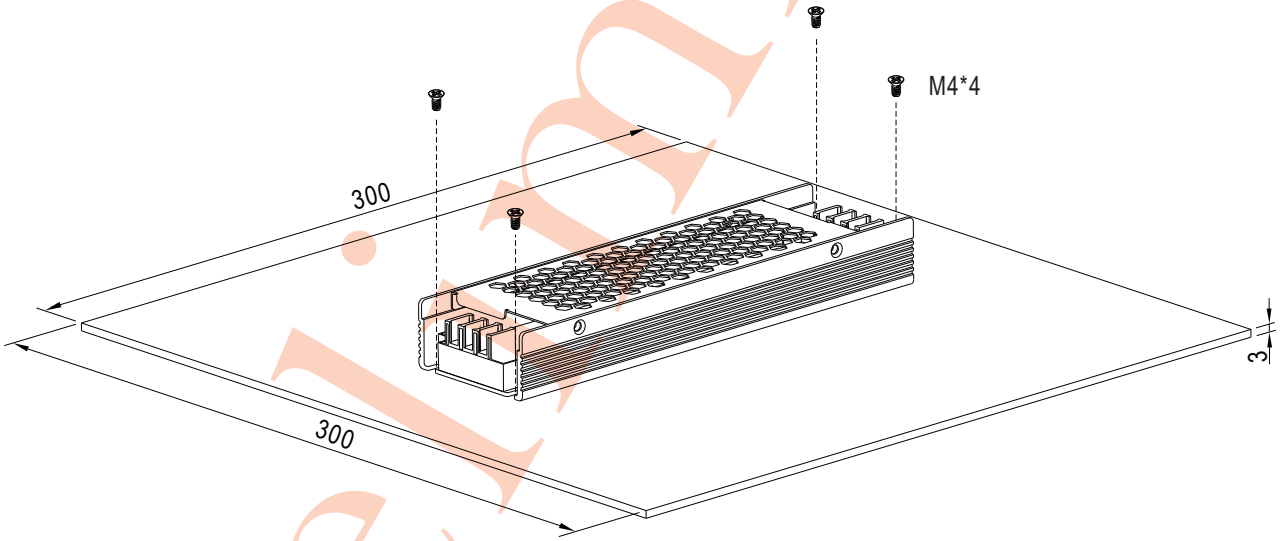
※Control Pin No. Assignment(CN93)



Pin No.	Function	Description
1	+5V	+5V voltage output. The max load current is 0.2A.
2	HALL1	Digital hall input 1.
3	HALL3	Digital hall input 3.
4	HALL2	Digital hall input 2.
5	GND	Hall sensors, SPEED, RUN/STOP, GND.
6	SPEED	Analog speed reference input, 5~9.6V FWD, 0.4~5V REV.
7	RUN/STOP	Turn the output on/off by connected with +5V. High(+5V): RUN ; Low(Open): STOP.
8	NC	None.
9	TXD	TX data signal of RS-232.
10	RXD	RX data signal of RS-232.

Operate with additional aluminum plate

In order to meet the"Derating Curve"and the "Static Characteristics" ,BLDC series must be installed onto an aluminum plate(or the cabinet of the same size) on the bottom.The size of the suggested aluminum plate is shown as below. And for optimizing thermal performance, the aluminum plate must have an even and smooth surface (or coated with thermal grease), and BLDC series must be firmly mounted at the center of the aluminum plate.



■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html