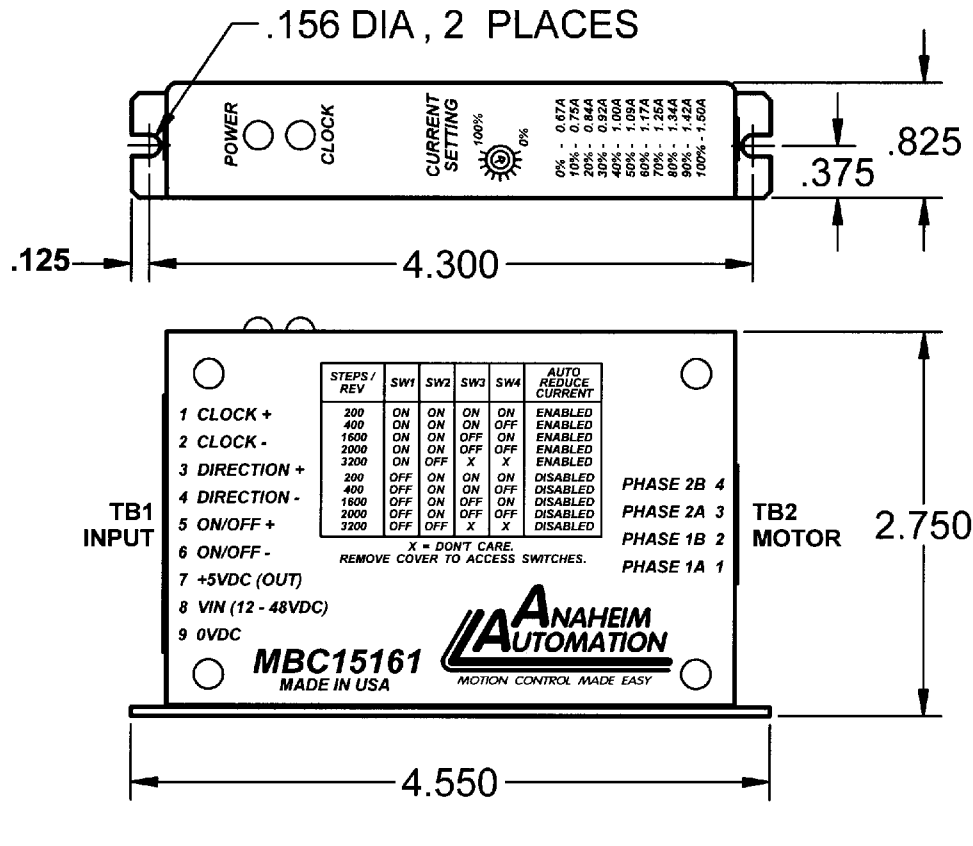


MBC15161 MICROSTEP DRIVER

- 1.5 AMPS/PHASE PEAK OUTPUT CURRENT
- MICROSTEPPING DRIVE OPERATION
- 1,2 ,8,10 AND 16 STEP SELECTABLE OPERATIONS
- OPTO ISOLATED INPUTS
- INTERNAL THERMAL SHUTDOWN
- MOTOR ON/OFF INPUT
- CURRENT REDUCTION
- SHORT CIRCUIT PROTECTION
- DIMENSIONS: 4.55"L x 2.75"H x 0.825"W

Description

The MBC15161 Microstep Driver is a low cost compact driver, capable of running four, six and eight lead motors. The driver has an output current capability from 0.67 Amps Minimum to 1.5 Amps Maximum (Peak Rating). The MBC15161 driver will operate from 12VDC Minimum to 48VDC Maximum. The MBC15161 microstep division range is from 200 steps per revolution to 3200 steps per revolution. The driver has built-in Short Circuit Protection and features to indicate power on (Green LED) and Clocks being received (Yellow LED).



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CONNECTOR TB1 (INPUT)

Pin	Name / Description	Function
1	Step Clock Input Anode (+): A positive going edge on this isolated input advances the motor one increment. The size of the increment is dependent on the Microstep Select Inputs of Switch 1.	This CLOCK input is the sourcing stepping clock for the driver. When the clock input transitions from high to low, the motor takes one step. Refer to hook up drawing.
2	Step Clock Input Cathode (-):	This CLOCK input is the sinking stepping clock for the driver. When the clock input transitions from high to low, the motor takes one step. Refer to hook up drawing.
3	Direction Anode (+): This isolated input is used to change the direction of the motor. Physical direction also depends on the connection of the motor windings.	This DIRECTION input is the sourcing input which controls the direction of the motor. If the DIRECTION input is high the motor will step in the clockwise(CW) direction. The directions are defined looking into the shaft of the motor. Note that the order of connection of the motor leads to the driver outputs affects the direction in which the motor turns. Refer to hook up drawing.
4	Direction Cathode (-):	This DIRECTION input is the sinking input which controls the direction of the motor. If the DIRECTION input is high the motor will step in the counterclockwise(CCW) direction. The directions are defined looking into the shaft of the motor. Note that the order of connection of the motor leads to the driver outputs affects the direction in which the motor turns. Refer to hook up drawing.
5	ON/OFF Anode (+): This isolated input is used to enable/disable the output section of the driver. When HIGH (open) the outputs are enabled. However, this input does not inhibit the step clock.	This ON/OFF input is the sourcing input which controls the power to the motor. If the ON/OFF input is high, the motor will step with the clock and will have holding current at standstill. If the ON/OFF input is low the motor will be turned off with no holding current and clock signals will be ignored. When the ON/OFF input becomes high again, the motor will hold at the step it was in when the ON/OFF input went low. Refer to hook up drawing.
6	ON/OFF Cathode (-)	This ON/OFF input is the sinking input which controls the power to the motor. If the ON/OFF input is high, the motor will step with the clock and will have holding current at standstill. If the ON/OFF input is low the motor will be turned off with no holding current and clock signals will be ignored. When the ON/OFF input becomes high again, the motor will hold at the step it was in when the ON/OFF input went low. Refer to hook up drawing.
7	+5 VDC: This non-isolated output can be used to supply current to the isolated inputs. Note: by doing this isolation will be disabled.	The 5VOUT pin provides a regulated 5VDC output from the driver. The +5VDC output supply is dependent on the input DC Supply Voltage (200mA @ 48VDC, 450mA @ 24VDC and 1000mA @ 12VDC).
8	+VIN	Input power supply requirement is 12VDC minimum to 48VDC maximum.
9	0 VDC	This pin is the return/ reference point for +VIN and +5VOUT.

CONNECTOR TB2 (OUTPUT)

PIN	NAME	DESCRIPTION
1	Phase1A	Motor Phase1
2	Phase1B	Motor Phase3
3	Phase2A	Motor Phase2
4	Phase2B	Motor Phase4

CURRENT SETTINGS

POTENTIOMETER	AMPS
0%	0.67
10%	0.75
20%	0.84
30%	0.92
40%	1.00
50%	1.09
60%	1.17
70%	1.25
80%	1.34
90%	1.42
100%	1.50

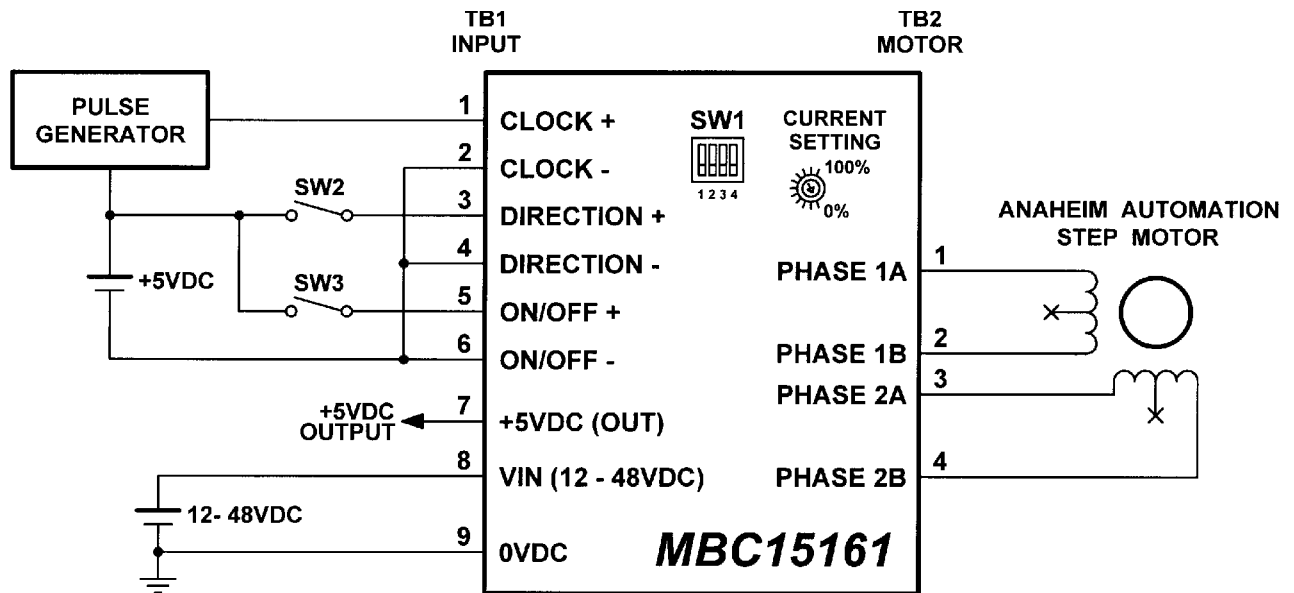
MICROSTEP MODES (SW SETTINGS)

MICROSTEP MODES	DIP SW1	DIP SW2	DIP SW3	DIP SW4	Auto Reduce Current
Full Step	ON	ON	ON	ON	ENABLED
Half Step	ON	ON	ON	OFF	ENABLED
Eighth Step	ON	ON	OFF	ON	ENABLED
Tenth Step	ON	ON	OFF	OFF	ENABLED
Sixteenth	ON	OFF	X	X	ENABLED
Full Step	OFF	ON	ON	ON	DISABLED
Half Step	OFF	ON	ON	OFF	DISABLED
Eighth Step	OFF	ON	OFF	ON	DISABLED
Tenth Step	OFF	ON	OFF	OFF	DISABLED
Sixteenth Step	OFF	OFF	X	X	DISABLED

SPECIFICATIONS

Inputs (All)	Opto-isolated, minimum sourcing of 5 mA per input (5VDC Minimum to 12VDC maximum) applied to Opto Supply input.
Continuous Output Current	670mA minimum to 1500mA maximum (peak rating). If Reduce Current is Enabled the drive will automatically reduce motor current to 50% of setting after the last step pulse is received (20 msec delay).
Supply Voltage	12 - 48VDC (Up to 1.75 Amps of the power supply)
Clock Frequency	0 - 100kHz; Minimum pulse width required is 3 microseconds.
Chopping Frequency	22kHz
+5V DC	The +5VDC output supply is dependent on the input DC Supply Voltage (200mA @ 48VDC, 450mA @ 24VDC and 1000mA @ 12VDC).
Operating Temperature	0 - 70° C over the operating voltage and current range. It is recommended that the driver be mounted to a aluminum heat sink or other heat conducting surface.

TYPICAL HOOKUP DRAWING FOR SOURCING INPUTS



TYPICAL HOOKUP DRAWING FOR SINKING INPUTS

