

ADVANCED MICROPROCESSOR BASED PERMANENT MAGNET MOTOR SPEED CONTROLLERS

MODEL 1218



DESCRIPTION

This high performance motor speed controller features four quadrant, full bridge power output stages to provide solid state motor reversing and full braking power.

WARRANTY

One year from date of delivery.

CURTIS

Application

Curtis PMC model 1218 is an advanced microprocessor based motor speed controller designed for permanent magnet motors, such as those used by mobility aids, scrubbers, personnel carriers, etc. 1218 offers smooth, silent, cost-effective control of motor speed and torque.

Features

- Full bridge power MOSFET design provides infinitely variable forward, reverse, drive and brake control; silent high frequency and high efficiency operation.
- Fully compliant with all applicable international standards and TÜV requirements.
- Complete diagnostics available through the PowerOn LED.
- Available for wig-wag (center off) and single ended (speed pot and direction switch) throttles for both standard full stroke and restricted range 5k Ω potentiometers.
- MultiMode™ input selects between two different operating modes. MultiMode™ allows changes in speed, accel, decel, current limit, and motor compensation. This allows optimization of vehicle characteristics in each mode, for example indoor/outdoor.
- Speed limit input provides additional variable speed limiting, in both mode ranges, with an external pot.
- Linear acceleration and deceleration with softened response for smooth operation.
- Current limited in both driving and regenerative braking.
- Load compensation stabilizes speed on ramps and over obstacles. Compensates for battery voltage, voltage drops, and motor resistance.
- High pedal disable (HPD) function monitors status of the throttle during turn on and prevents operation until the throttle has been returned to neutral.

Features continued

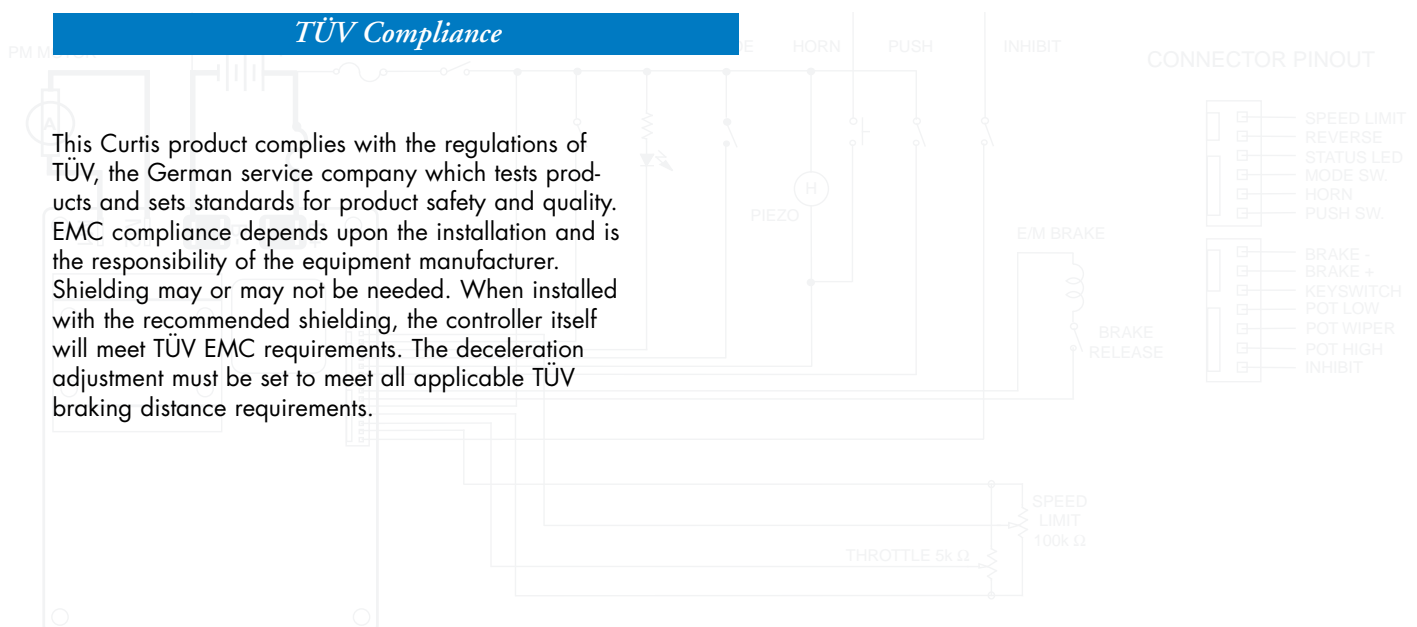
- Power off decel provides a controlled deceleration if the key switch is turned off while driving.
- Comprehensive fault detect monitors main contactor, output stage, throttle demand vs. output, etc.
- Throttle fault circuitry shuts off controller if throttle signal goes out of range for any reason.
- Missing brake detector forces neutral in the event of an open brake circuit.
- Anti rollback/roll forward circuitry sets brake delay according to speed and direction for improved braking response and minimized rollback on hills, etc.
- Current limited brake driver protects the controller from shorts in the brake or its wiring. Output may also be configured for side broom or brush contactor drive, hour meter, BDI enable, etc.
- Brake PWM allows the brake driver to be programmed to a reduced holding voltage.
- Reverse output drives a piezo beeper (customer supplied) in reverse.
- “Push Too Fast” feature allows motor to coast with controller off and brake released. Pushing too fast automatically and safely shorts the motor to limit maximum coasting speed.
- Push input electrically releases brake for key-on pushing (requires that the vehicle be stopped first).
- Inhibit input disables the controller and puts the vehicle in a safe state during charging, etc.
- Power saver deactivates the main relay after 25 seconds.
- Under voltage cutback function protects against low battery voltage.
- Reverse polarity protected (battery input).
- Compatible with 1208 wiring.

Specifications

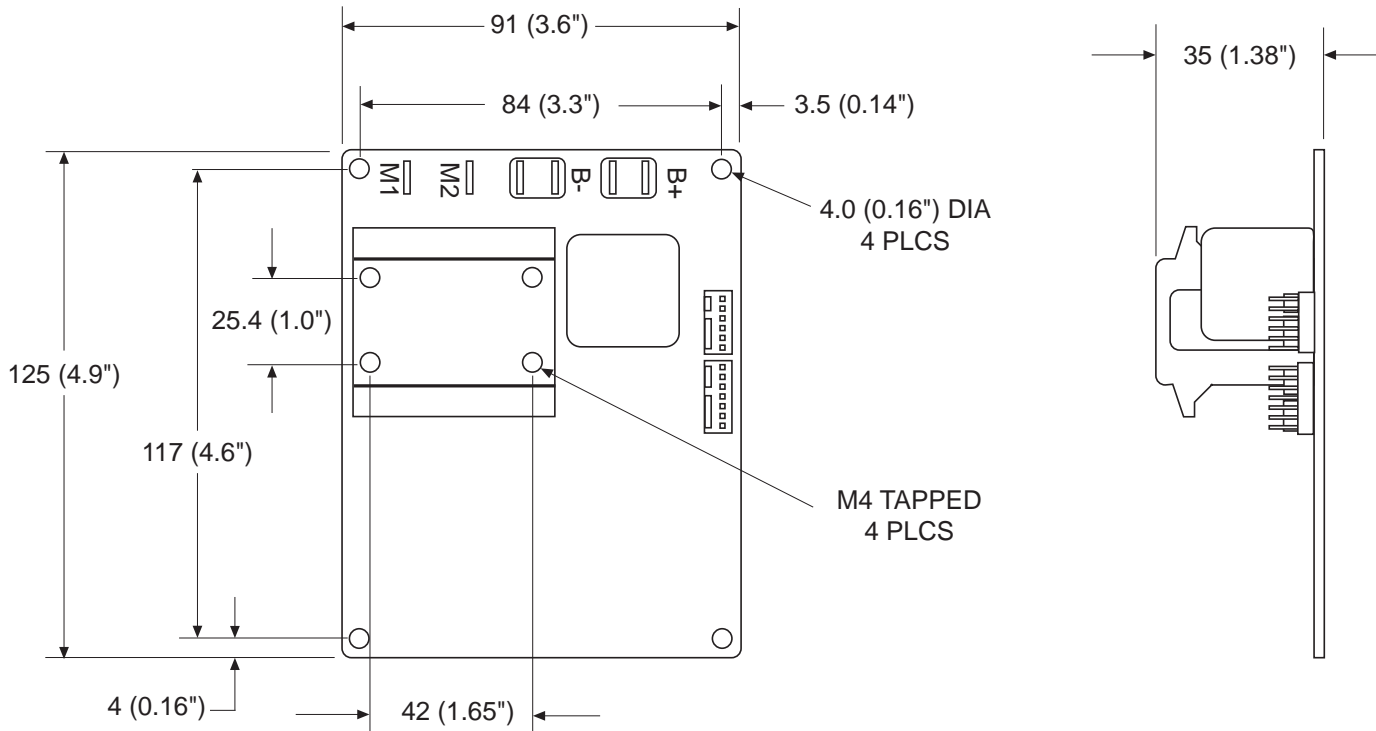
CURTIS PMC MODELS	NOMINAL BATTERY VOLTAGE (volts)	CURRENT LIMIT (amps)	1 MIN RATING (amps)	1 HOUR RATING (amps)	TYP. VOLTAGE DROP @ 20A (volts)	UNDERVOLTAGE CUTBACK (volts)	OVERVOLTAGE LIMIT (volts)
1218-11XX	24	60	60	40	0.45	16	36
1218-21XX	36	45	45	30	0.45	21	48

TÜV Compliance

This Curtis product complies with the regulations of TÜV, the German service company which tests products and sets standards for product safety and quality. EMC compliance depends upon the installation and is the responsibility of the equipment manufacturer. Shielding may or may not be needed. When installed with the recommended shielding, the controller itself will meet TÜV EMC requirements. The deceleration adjustment must be set to meet all applicable TÜV braking distance requirements.



Dimensions: mm (inches)



The controller can be mounted by the top of the heat sink or by the four mounting holes on the circuit board.

Typical Wiring Diagram

