

# AC INDUCTION MOTOR CONTROLLERS

MODEL 1236/1238

# CURTIS



## Application

The Curtis Model 1236 and 1238 Motor Speed Controllers are designed for use in all ranges of electric vehicles including material handling, industrial, golf and light-on-road.

## Features

### State-of-the-art Design

- Advanced Indirect Field Orientation motor control algorithms.
- Voltage-Space-Vector pulse width modulation for efficient use of battery voltage, low motor harmonics, low torque ripple, and minimized switching losses.
- Extremely wide torque/speed range including full regeneration capability and zero speed.
- Internal BSOC, hour meter and maintenance timers.
- High frequency silent operation from 0-400Hz.
- 24V-80V battery systems, 350-800Arms 2 minute current rating.
- CAN Bus communications for integration into distributed control systems
- Extensive array of I/O included as standard

### Highly Flexible and Programmable

- FLASH downloadable main operating code for simple and secure field upgrade.
- VCL (Vehicle Control Language) allows OEM developed software to run on-board and utilize the I/O and the motor control routines.
- Built-in BDI, hour meter, PID, throttle, CAN and other powerful software modules can be custom configured through VCL.
- Several generic application specific VCL programs are available for immediate use or for use as a starting point for customization.

## DESCRIPTION

*Advanced motor drive software provides extremely smooth control over full speed and torque ranges in all modes including full regenerative braking, zero speed, and torque control.*

## WARRANTY

Two Year Limited Warranty  
(see terms of sale for specifics)

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## Features...continued

### Robust Safety Features

- Meets or exceeds EEC fault detection requirements. Software and hardware circuitry detects faults in the throttle and power section that could cause unsafe operation.
- Motor and controller thermal protection, cutback, warning and automatic shutdown.
- Designed to meet Global emissions and immunity requirements.
- Rugged sealed housing and connectors designed to meet IP65 environmental protection.

### Meets US and International Regulations:

- The Curtis Model 1236 and 1238 AC Motor Speed Controllers are designed to meet:
  - EN 50081-2:1994 IEC 529
  - EN 61000-6-2:1995 IP65 Rated
  - EN 1175
  - UL Recognized Component Status UL 583

### Model Chart

| Model     | Battery Voltage<br>V | Current Rating Arms<br>(2 min) |
|-----------|----------------------|--------------------------------|
| 1236-44XX | 24-36                | 400                            |
| 1236-45XX | 24-36                | 500                            |
| 1238-46XX | 24-36                | 600                            |
| 1238-48XX | 24-36                | 800                            |
| 1236-53XX | 36-48                | 350                            |
| 1238-54XX | 36-48                | 450                            |
| 1238-56XX | 36-48                | 650                            |
| 1236-63XX | 48-80                | 300                            |
| 1238-65XX | 48-80                | 550                            |

### System Accessories



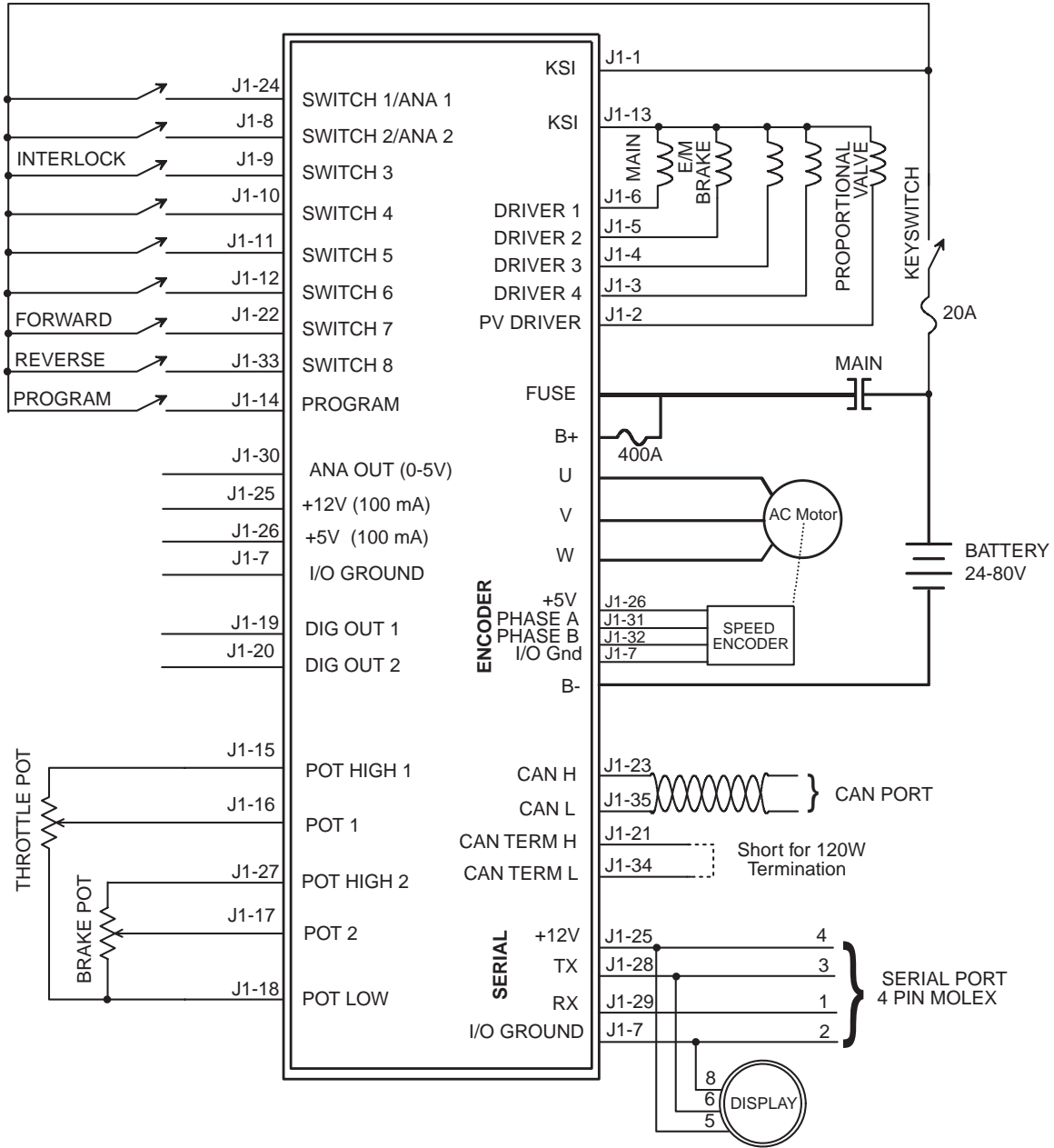
The Curtis Model 840 LCD Multifunction display contains 8 large, easy to read characters to provide display of battery discharge (BDI), hour meter and error messages. Built-in backlight is also available.



The CAN compatible Curtis Model 1311 Handheld Programmer is ideal for setting parameters and performing diagnostic functions.

*Contact Curtis to obtain the VCL Vehicle Control Language compiler and development tools.*

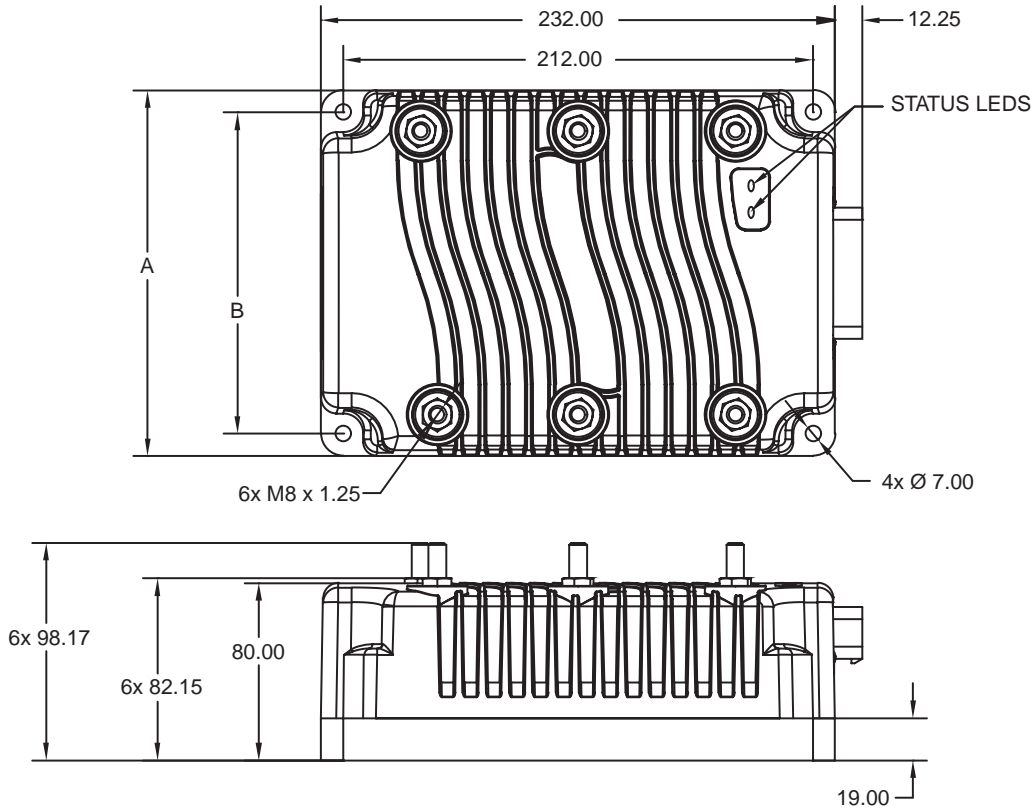
# Typical Wiring



## Dimensions - mm

| Model     | A     | B     |
|-----------|-------|-------|
| 1236-XXXX | 165mm | 145mm |
| 1238-XXXX | 275mm | 255mm |

All other dimensions shown in the drawing are identical for both the 1236 and the 1238 models.



## Connector Wiring

