CURTIS

System Controller

Model 1351

Model 1351

Powerful System Controller for a Wide Application Range

The Curtis Model 1351System Controller provides 26 multi-function I/O for application in stand-alone or CAN connected systems. With ample user code space and the newly enhanced real-time VCL 2.0 programming language, OEMs can use the Model 1351 to develop a wide range of vehicle and system control applications as the master or a slave in a multi-module installation. The 1351 System Controller was designed for a wide variety of applications, such as material handling vehicle masters, base controllers for aerial trucks, operator interface in man-up platforms, land based installation controllers replacing PLCs, ICE and Hybrid system controllers, hydraulic manifold control and many others.

FEATURES

Highly Flexible I/O

I/O pins are multifunctional and easily configured to match your application:

► Ten high-frequency PWM driver outputs rated at 3A each.

► Two Half-Bridge driver outputs rated at 3A each.

► Closed loop current, constant voltage, or direct PWM control on each driver.

► Programmable ramping and dither for accurate hydraulic valve control.

► Three On/Off outputs rated at 3A each.

► High current M5 threaded busbar connections for B+ and B–supply.

► Fourteen switch inputs provide cleaning current for improved mechanical switch reliability and life.

► Inputs have selectable pull-up and/or pull-down resistors to provide active high or low selection.

► Eleven high-resolution analog inputs and one 0–10V analog output.

► Dynamically tested potentiometer input for enhanced safety checking.

► Four analog inputs provide a source current for RTD and other resistive sensor devices.

► Two encoder interfaces for quadrature or Sine/Cosine position sensors.

► Two high-speed inputs provide pulse count, pulse width and frequency measurements.

► Three-Axis Accelerometer for orientation, movement and impact detection.

► +5V and +12V external supplies to power sensors and user controls.

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Customize to Your Application with VCL 2.0

The Curtis Vehicle Control Language (VCL) is an easy to program "C-like" language providing all the power and flexibility to control any application. VCL programs run protected and securely; monitored for proper operation to protect the system from erratic behaviors.

VCL 2.0 offers even more power than ever before:

► Over 256K of code space available for custom programs.

► 10X speed increase over previous system controllers.

► Real-time Task Queues.

► Modular user defined functions and procedures.

► Simplified setup of CANopen communications.

► Advanced math and trigonometric functions.

► New driver modes with built-in ramping and control features.

Speed, Safety and Simplicity

► Dual 32-bit microprocessors provide powerful performance and safety. The microprocessors cross check each-other continuously for proper operation to ensure reliable control of your application.

► Can perform user developed Safety Functions to EN13849 Category 2 PL=d and limited Category 3 functions using the I/O redundancy and built-in SRDO functions.

► Application development and debug has been greatly eased by the Curtis Software Suite (CSS).

► CSS provides a full Integrated Development Environment (IDE) for VCL programming, parameter setting and system level debugging.

► Field technicians can use the hand-held 1313HHP CANbus based tool for field software updates, debug and parameter adjustment.

Comprehensive CANbus control

► With two Independent CAN ports, Model 1351 offers a wide range of connectivity options.

► Each port can run different rates and protocols, with full CANopen and/or J1939 compatibility.

► The Model 1351 is ideally suited for hybrid vehicles or to bridge CANopen ports at different bit rates.

MODEL CHART

	1351-5001	1351-7001
Voltage	12-48V	36-96V
CAN ports	2	
Analog Inputs	11	
Dynamic Pot Input	1	
RTD Inputs	4	
Switch Inputs	14	
High Speed Inputs	2	
Encoder Inputs	2	
PWM Outputs	10	
Digital Outputs	3	
Half Bridge Outputs	2	
Safety Output	1	
Analog output	1	
External Supply	2	

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SPECIFICATIONS

	1351-5001	1351-7001
Nominal Input Voltage	12V-48V	36V-96V
Minimum Operating Voltage (after startup)	6V	15V
Maximum Operating Voltage	60V	120V
Electrical Isolation to Heatsink	500Vac	1200Vac
Storage Ambient Temperature	−40° C to 85° C	
Operating Ambient Temperature	−40° C to 50° C	
Package Environmental Rating	IP65 as per IEC60529	
Weight	0.60 Kg	
Dimensions WxLxH	160 mm x 125 mm x 38.5 mm	
EMC	Designed to the requirements of EN 12895:2015	
Safety	Designed to the requirements of EN ISO 13849-1:2008	
UL	UL recognized component per UL583	

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38.5

6.5

160.0

146.0

4X Ø 7.0

STATUS LED

CURTIS System Controller
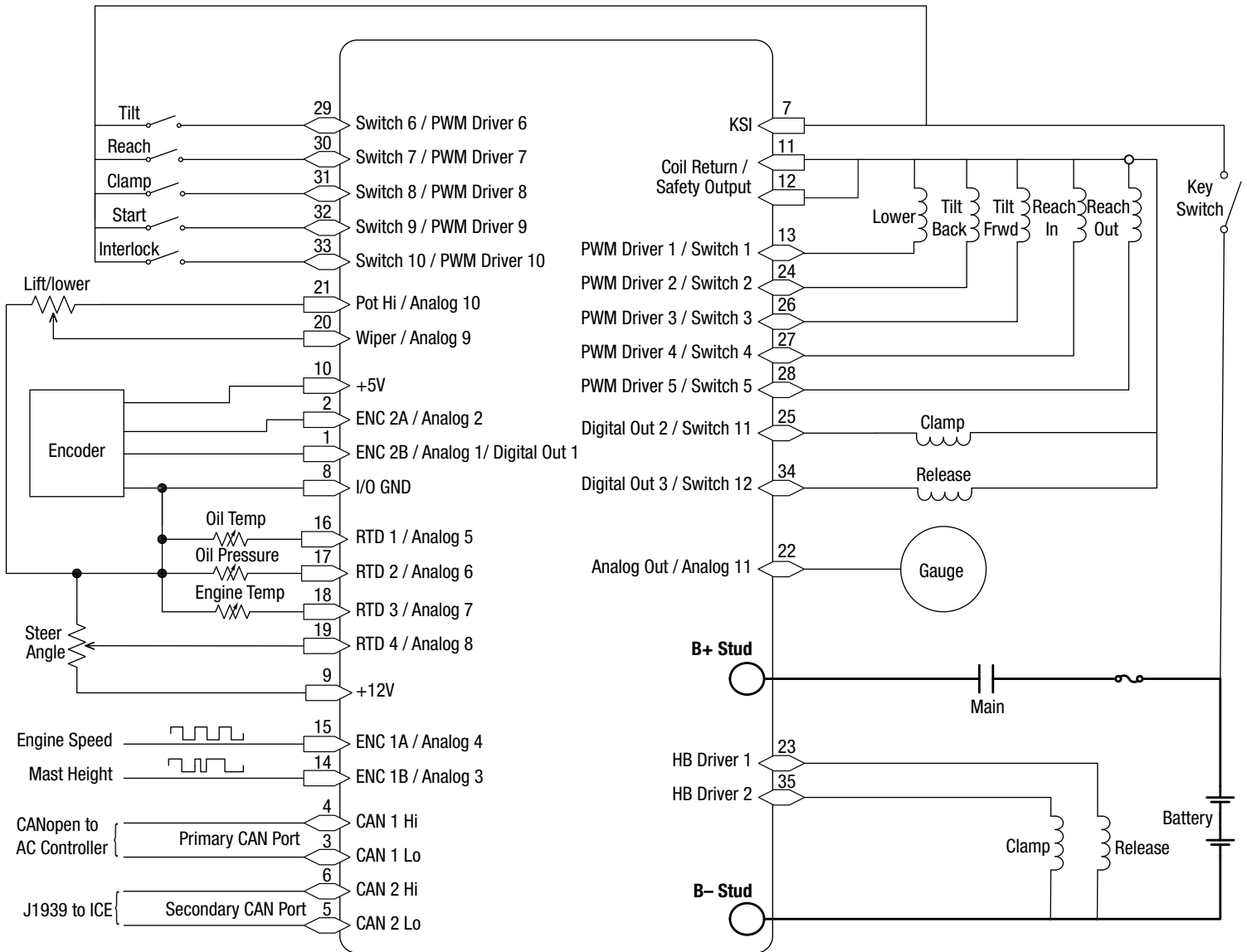
125.0

111.0

B+

B−

2X M5X0.8 ⧆10 MIN.

Model 1351
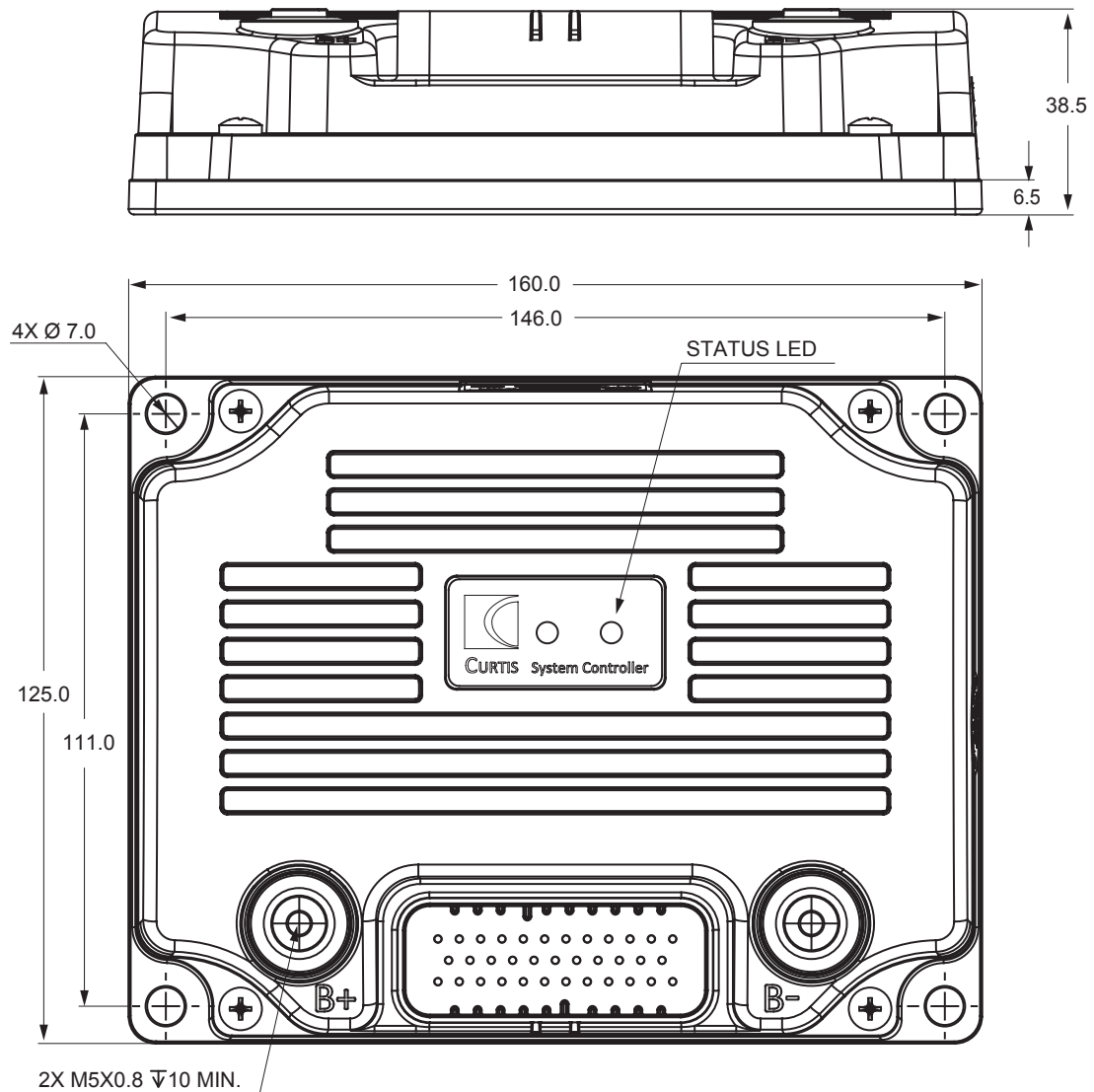
TYPICAL WIRING

One of many possible configurations for the application of the I/O is shown. Please refer to the User's Manual or contact your sales representative for more information on the flexibility of the 1351 wiring.

WARRANTY   Two year limited warranty from time of delivery.

The Curtis Difference
You feel it when you drive it