

## VCU1200 Embedded Control Module



### Description

The VCU1200 is a fully programmable, ruggedized embedded control module intended for use in a variety of system and vehicle control applications. User applications are given full access to system resources and peripherals with an easy-to-use hardware abstraction written in C++.

A number of input and output stages provide the discrete interface with the larger system. Two CAN 2.0B ports are fully configurable to allow for communication with other devices. Each port includes a software selectable termination resistor for maximum system flexibility.

User applications are programmed onto the device using the CAN1 or CAN2 interface and the VCU1200 bootloader, which can be accessed via the Staff Systems Bootloader Utility.

### Features

- 60 Pin Ruggedized Embedded Control Module
- Fully Programmable with User Application Code
- 32-bit ARM M4F Microprocessor
  - Up to 80 MHz Clock
  - Hardware Floating Point Unit
  - 256 kB of Flash
  - 32 kB of RAM
- 12 Digital Inputs
- 6 Analog Inputs (12-bit resolution)
  - 4 5V Full Scale Range
  - 2 30V Full Scale Range
- 5 Thermistor Inputs
- 14 Low Side Relay Driver Outputs
- 8 High Side Driver Outputs
- 2 CAN 2.0B Communication Interfaces
- Off-Processor Real Time Clock with Power Backup
- 2 MB of Additional Off-Processor Flash
- Internal MicroSD Card Option
- PWM Generation Capability
- Quadrature Encoder Input Capability
- Internally Generated 5V Power Outputs for External Sensors and Devices
- Suitable for 12V or 24V Nominal Systems  
ESD and Voltage Rail Surge Protection
- IP67 Rated Enclosure

### Applications

- Electric and Hybrid-Electric Vehicles
- Industrial Automation
- Robotics
- Electric Aviation

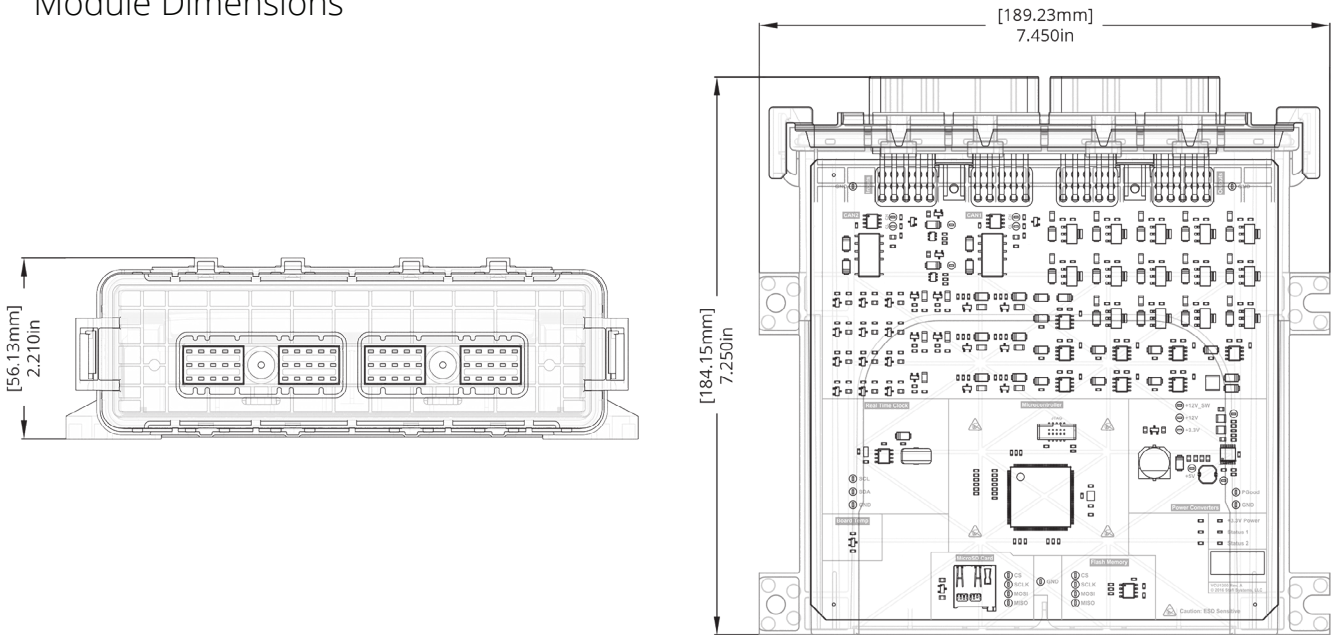
*Please contact us for questions or requests for additional information regarding the VCU1200:*

Staff Systems Technical Sales: [sales@stafsystems.com](mailto:sales@stafsystems.com) | +1 (415) 228-3183

VCU1200 Brochure - Revision A3

## VCU1200 Embedded Control Module

### Module Dimensions



### Pin Diagram

Connectivity to the external system is provided by two 30 Pin Cinch 1.5mm SHS headers, which are uniquely keyed to prevent incorrect harness connections. All inputs are allocated to one connector and outputs are allocated on the other.

#### Signal Description

5V1 – 5V2	5V Analog Sensor Power
AGND	Analog Ground for 5V Sensors
AIN1 – AIN4	Analog Input (5V Scale)
AIN5 – AIN6	Analog Input (30V Scale)
TIN1 – TIN5	Thermistor Input
DIN1 – DIN12	Digital Input
RLY1 – RLY14	Low Side Relay Driver
HS1 – HS8	High Side Driver
CANxH, CANxL	CAN Interface Pins
PWR	Continuous System Power
SWPWR	Switched System Power
GND	System Ground

#### Input Connector

(Mates with Cinch 581-01-30-029)

A1	B1	C1	D1	E1	F1	G1	H1	J1	K1
5V1	5V2	AIN3	AIN6	TIN3	DIN1	DIN4	DIN7	DIN10	CAN2H
A2	B2	C2	D2	E2	F2	G2	H2	J2	K2
AIN1	AIN2	AIN4	TIN1	TIN4	DIN2	DIN5	DIN8	DIN11	CAN2L
A3	B3	C3	D3	E3	F3	G3	H3	J3	K3
AGND	AGND	AIN5	TIN2	TIN5	DIN3	DIN6	DIN9	DIN12	GND

#### Output Connector

(Mates with Cinch 581-01-30-028)

L1	M1	N1	P1	R1	S1	T1	W1	X1	Y1
PWR	RLY1	RLY4	RLY7	RLY10	RLY13	SWPWR	HS3	HS6	CAN1H
L2	M2	N2	P2	R2	S2	T2	W2	X2	Y2
GND	RLY2	RLY5	RLY8	RLY11	RLY14	HS1	HS4	HS7	CAN1L
L3	M3	N3	P3	R3	S3	T3	W3	X3	Y3
GND	RLY3	RLY6	RLY9	RLY12	GND	HS2	HS5	HS8	GND

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