

## TECHNICAL DATASHEET

### MakoECU Mk1

P/N: makoecu-001



#### Features

- 4 analog inputs (0-5v, 12bit)
- 6 proportional current outputs (1.2A)
  - 2x half-bridge
  - 4x full-bridge
- 1 CAN 2.0b bus
- Operates at nominal 12/24 VDC
- Input surge, transient, reverse polarity protected
- 35-pin Ampseal connector
- Designed for EMC compliance
- IP67 rated enclosure

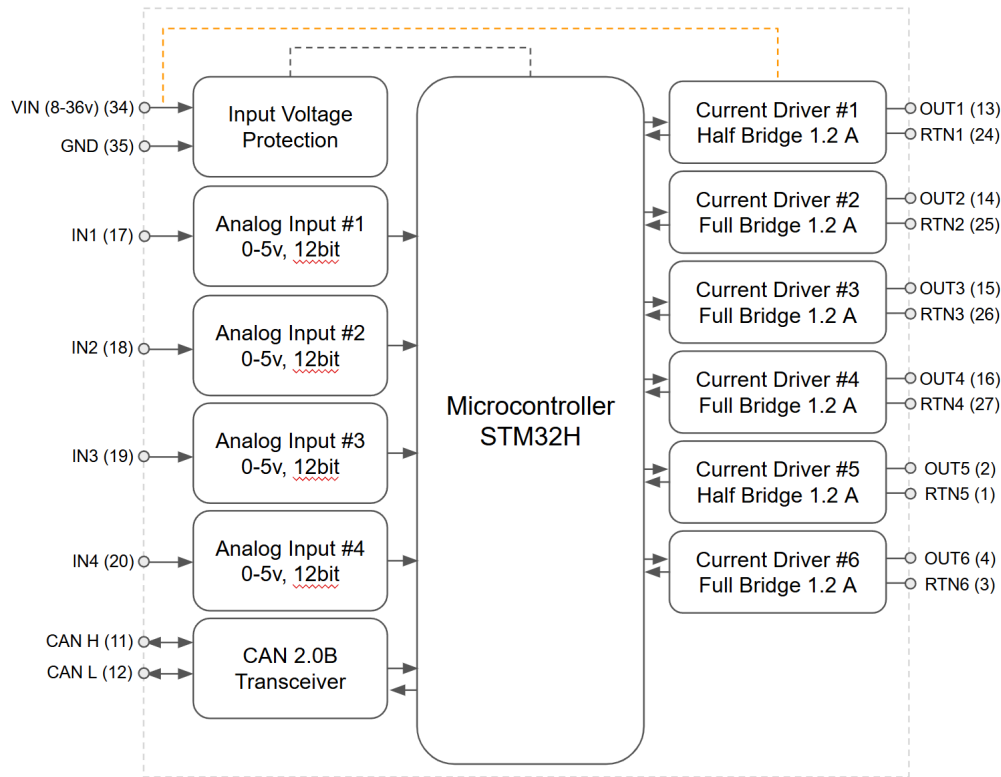
#### Applications

- Mako Hydraulics system controller
- Valve driver module
- Generic CAN based IO module

#### Description

The MakoECU is a CAN based IO module intended to be used with the Mako Hydraulics development system. It features four 0-5v analog inputs, six 1.2A proportional current drivers, and 1 CAN 2.0B bus. The MakoECU comes loaded with software capable of controlling Mako Hydraulics supported control circuits and can also be configured to be a generic input/output module.

Block Diagram



Technical Specifications

Specifications are representative and subject to change. Actual performance will vary based on application and operating conditions. Users are responsible for determining if the product is suitable for the application.

Power Supply

Power Supply	12/24 VDC nominal (8 to 36 VDC power supply range)
Quiescent Current	100 mA @ 24VDC
Power Supply Protection	Surge, transient, and reverse polarity protection

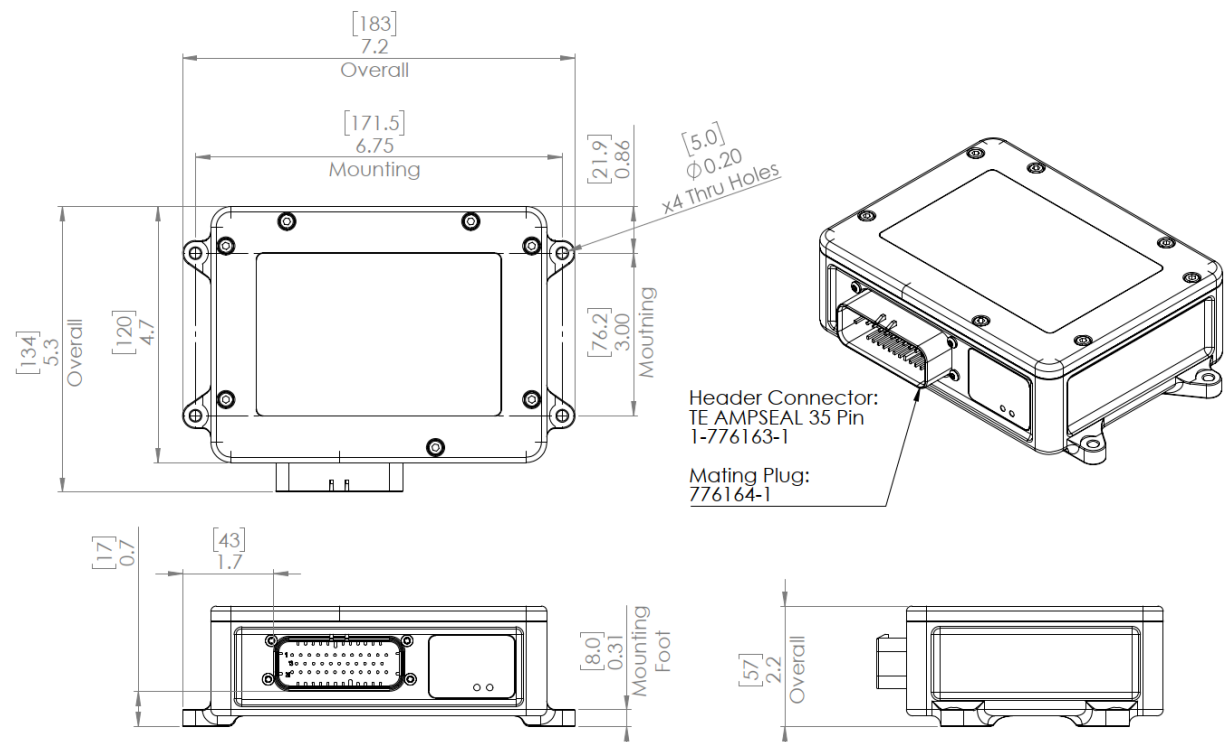
Input

All Analog Inputs (4x)	0-5v, 12-bit analog to digital
Sensor Power Supply	5v regulated, 3,000mA total draw

Outputs

Coil Driver Outputs (6x)	1.2A proportional current control 2x Half-Bridge 4x Full-Bridge
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Dimensional Drawing:



General Specifications

Microcontroller	STM32H Family
Communication	1 CAN 2.0B Baud-rates: 250k, 500k, 1M bits per second dbc file based messages
Control Software	Mako Hydraulics software is provided  Custom application support available
Diagnostics	Diagnostics for inputs and outputs provided via CAN message
Operating Temperature	-40C to 85C (-40F to 185F) (provisional claim)
Weight	0.49 kg (1.08 lbs)
Protection	IP67
Enclosure	Plastic with aluminum heat sink, stainless steel hardware Overall Dimensions: 183 x 134 x 57mm (7.2 x 5.3 x 2.2in) Refer to the dimensional drawing for more detail
Enclosure Mounting	QTY 4x 5.0mm (0.20in) thru holes, For mounting detail refer to the dimensional drawing

Electrical Connections

Mating Connector	TE AMPSEAL 35 Pin Part # 776164-1 Recommended crimp sockets: 770520-3
CAN Network Termination	Comes standard with no termination Internal termination resistor available upon request

Connector Pin Assignments

