J1939 H-Bridge Module

PN: 99-0611

Description

Trombetta offers a family of modules designed for harsh duty with an integrated automotive connector interface that delivers superior ingress protection while meeting the functional demands of the mobile equipment market. The J1939 H-bridge module is a circuit for reversing DC loads in electric equipment like DC cylinders or linear actuators. The simplest form of DC motor is a two-wire configuration, which is the most cost-effective type for OEMs. An H-bridge circuit provides motor control in the form of a simple circuit with four switches, either transistors or metal-oxide-semiconductor field-effect transistors (MOSFETs). The switches in the H-bridge are arranged strategically to control the current flow direction through the load.

Features (J1939 version)

- 12V or 24V nominal voltage range
- 25A continuous/ 19A PWM output current
- PWM range of 5Hz to 5000Hz
- 0.1% duty cycle resolution
- IP67 rated
- -40°C to 105°C operating temp range
- 4 possible J1939 Node addresses
- Reverse battery protection
- Short circuit / Overload Protection
- Voltage transient protection
- Auto baud rate detection 125Kbps -1Mbps
- Indicator LEDs for easy troubleshooting
- Poka Yoke mounting
- Advanced diagnosis via CAN

Specifications

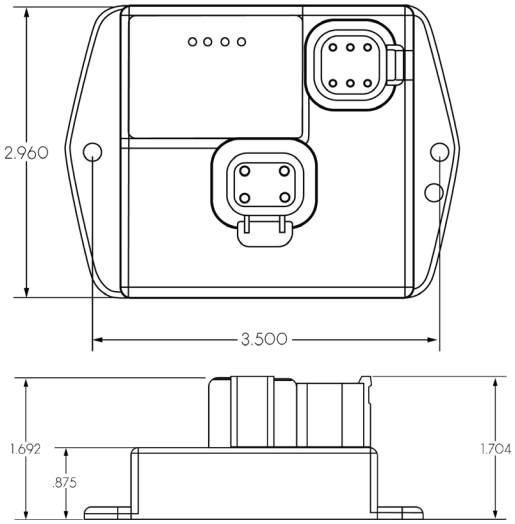
Electrical Parameters

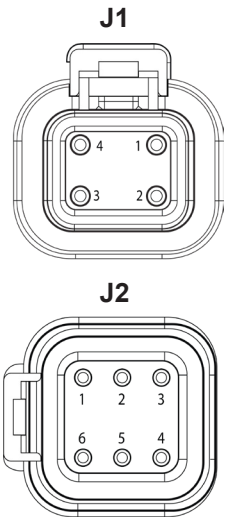
Parameter	Min	Typ.	Max	Units	Notes
Functional Supply Voltage	8	-	32	VDC	12V or 24V systems
Short-Circuit Protection	161	173	185	ADC	
Supply Current	8.5	-	16.5	mA	14VDC, 250K Baud, Stopped/Off mode
Over Current Protection Level 1	1	-	25	ADC	Configurable via CAN
Over Current Protection Level 2	5	-	125	ADC	Configurable via CAN
Over voltage Shutdown	-	-	35	VDC	Configurable via CAN
Under voltage Shutdown	6.5	-	-	VDC	Configurable via CAN
CAN Communications					
Baud Rate	-	125K 250K 500K 1000K	-	Baud	
Node Address	0x70	-	0x73		

Test Parameters

Parameter	Notes
Preconditioning Temp Cycle	SAE J1455 Sec 4.1.3 8 Hr Cycle
Compliance	RoHS /REACH/Conflict Free
Thermal Cyclic Aging And Humidity	SAE J1455 Sec 4.2.3. 4a, 8 hour
Thermal Shock	ISO16750-4 Sec 5.3.2
Ingress Protection	IEC 60519, IP67
Random Vibration	5-2000Hz, 8.17 Grms
Recommended Mounting Screw	Typ. #8-32

Product Dimensions





Connector / J1 DTP04-4P equivalent

Pin	Function	Description
1	Ground	Supply (-)
2	OUT2	Output 2 (-)
3	POWER	Supply (+)
4	OUT1	Output 1 (+)

Connector / J2 DT04-6P equivalent

Pin	Function	Description
1	N/A	Reserved (N/C)
2	N/A	Reserved (N/C)
3	CAN H	CAN High
4	CAN L	CAN Low
5	NA2	J1939 Node Address Input 2
6	NA1	J1939 Node Address Input 1

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