



## 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.

## Features (1939 version)

- 12V or 24V nominal voltage range
- 20A (sourcing) continuous output current
- PWM range of 5Hz to 5000Hz
- 0.1% duty cycle increments
- IP67 rated
- -40°C to 105°C operating temp range
- Reverse battery protection
- Short circuit / Overload Protection
- Voltage transient protection
- Auto baud rate detection 125Kbps - 1Mbps
- LED output polarity status
- Poka Yoke mounting

## Specifications

### Electrical Parameters

Parameter	Min	Typ.	Max	Unit	Notes
Functional Battery Voltage	8	12/24	32	VDC	
Reverse Battery Voltage	-	-	-32	VDC	No Time Limit, ISO16750-2, Section 4.7.2.3
Current Consumption	8.5	-	16.5	mA	14VDC, 250K Baud
Continuous Current	0	-	25	ADC	Max continuous steady state current before fault
Inrush Current	20	35	100	ADC	Max inrush current before a fault. Set in 9.4.1
Input Low	-0.7	-	1.2	VDC	
Input High	3.5	-	+Battery	VDC	
Input Low Current	-	6.5	-	mA	Pulled high internal (5VDC) through 470ohm resistor
Input High Current	-	0	-	mA	Pulled high internal (5VDC) through 470ohm resistor
Electrostatic Discharge (ESD)	-15	-	+15	KV	All Pins, SAE J1113-13, Section 5, test sequence 1-5
Jump Start	-	-	48	VDC	ISO16750-2 Section 4.3.1.2, 60 Min
Over voltage Shutdown	33	35	37	VDC	Causes a fault - See 9.3.4
Under voltage Shutdown	6	7	8	VDC	Causes a fault - See 9.3.4
Short Circuit I/O to Power/Ground	0	-	32	VDC	ISO16750-2, Section 4.10

### Connectors / J1 DT04 equivalent

Pin	Function	Description
1	Ground	Module Ground
2	VOUT2	Output 2 (-)
3	VIN	Module Power
4	VOUT1	Output 1 (+)

### Connectors / J2 DTP04 equivalent

Pin	Function	Description
1	N/A	N/A
2	N/A	N/A
3	CAN H	CAN High
4	CAN L	CAN Low
5	CAN ID 2	CAN Node Address Input 2 (Active Low)
6	CAN ID 1	CAN Node Address Input 1 (Active Low)

Parameter	Test
Preconditioning Temp Cycle	SAE J1466 Sec 4.1.3 8 Hr Cycle
Compliance	RoHS /REACH/Conflict Free
Thermal Cyclic Aging & Humidity	SAE J1455 Sec 4.1.3. 4a
Thermal Shock	ISO16750-4 Sec 5.3.2
Ingress Protection	IEC 60519, IP67
Random Vibration	5-2000Hz, 8.17 Grms
Drop Test	IEC 60068 2-31 Sec 5.1, 5.2

### Product Dimensions

