

TM4[®] BCI20

Bi-directional Charger Inverter

Features

- 2 operating modes: charging mode and inverter mode
- Up to 18 kW power using SAE J1772 standard
- 1-phase or 3-phase* AC input (120/208/240 VAC)
- >92% efficiency
- 2 independent 9kVA three phase outputs

Benefits

- Compact and lightweight
- 2 high-side + 1 low-side drive general purpose outputs
- 2 x CAN 2.0b ports up to 1 Mbps (J1939 control/diagnostic)
- IP67 rating for harsh environments



Ideal for a Variety of Electric & Hybrid Vehicles.

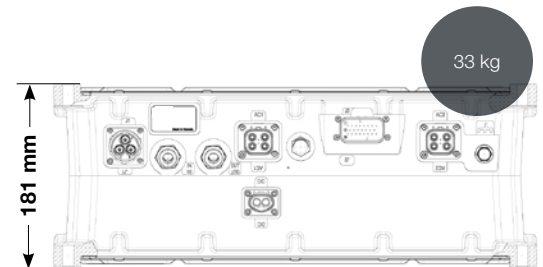
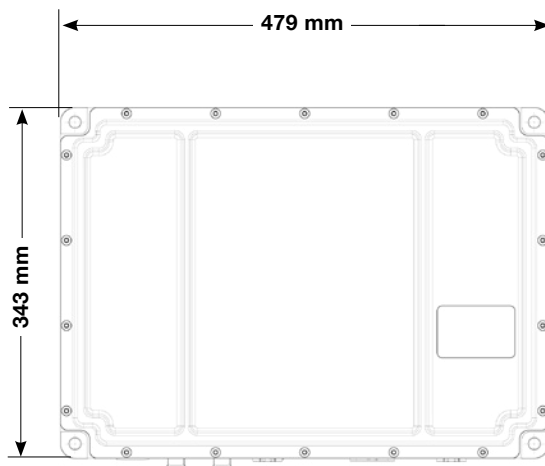


TM4[®] BCI20 Bi-directional Charger Inverter

The TM4 BCI20 is an innovative bi-directional charger inverter that functions as battery charger and inverter for use in a variety of electric and hybrid vehicle applications. It is designed to use the full current range from the AC mains as defined in SAE J1772 for a maximum charge power of 18kW on 240 V_{AC}. When the vehicle is in use, the charger becomes an autonomous inverter that can provide two independent three phase outputs to power various auxiliary loads.

CHARGER MODE	450 VDC	800 VDC*
Charging control modes	Power DC Voltage DC Current AC Current	
AC input		
Operational voltage range	96-264 V _{AC}	
Max current	80 A _{RMS}	
Efficiency	>92%	
Power Factor	>98%	
DC output		
Output power	15 kW @ 208 V _{AC} 18 kW @ 240 V _{AC}	
Operational voltage range	200-450 V _{DC}	400-850 V _{DC}
Protection	Over & Undervoltage shutdown Overcurrent protection Thermal derating	

INVERTER MODE	450 VDC	800 VDC*
Output control mode	V/f	
AC output		
Line-line voltage (3 phases)	10 to 240 V _{RMS}	
Number of outputs	2 (independent)	
Power	9 kVA per output	
Frequency	1 to 500 Hz	
Maximum current	27 A _{RMS}	
Efficiency	>90%	
DC input		
Operational voltage range	200-450 V _{DC}	400-850 V _{DC}
Protection	Over & Undervoltage shutdown Overcurrent protection Thermal derating	



STANDARDS	
Standards	FCC part 15, CISPR25, ISO11452-4, ISO7637-2/-3, ISO16750-2, IEC 61000-6-1, ISO 10605, IEC 61851-21, IEC61851-1, SAE 61851-1
EVSE compatibility	SAE J1772
Insulation	AC to chassis: 1500 V _{AC} DC to chassis: 2600 V _{AC} AC to DC: 1900 V _{AC} (MV) or 2600 V _{AC} (HV)

*Preliminary - Available 2020

ENVIRONMENTAL & COOLING FEATURES	
Coolant temperature Ambient temperature Storage temperature	-40°C to 85°C
Cooling system	40% water / 60% glycol
Ingress protection	IP67
Shock & vibration standards	GMW3172

Specifications are subject to change

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Application Policy

Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from TM4; contact your representative for application approval. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.

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