TM4™ HVI300 Series

High-Voltage Inverters

The next generation of Dana TM4™ high-voltage inverters designed to improve efficiency and power density.

Features and Benefits

- Best-in-class efficiency and power density
- Inverter architecture compliant with the latest functional safety and cybersecurity standards
- Innovative power module options for extended life under heavy-duty commercial vehicle duty cycles
- Advanced motor control algorithm for optimal power module usage and efficiency
- Inverter design suitable for battery voltages up to 900V
- EMC architecture ensuring compliance with global automotive standards
- DC link capacitor and busbar cooling designed for high continuous current
- Rugged HV connectors allowing multiple cable cross-section options from 50 to 150mm^2
- Modular architecture allowing for multiple peak current outputs in the same package

Multiple Packaging Options

Ideal for Light Vehicles, Commercial Vehicles, and Off-Highway Applications

TM4™ HVI300 Series

The new TM4 HVI300 inverter series is designed for electric and hybrid vehicle applications. Delivering some of the highest peak and continuous current ratings, these inverters are compatible with TM4 MOTIVE™ and TM4 SUMO™ motors, as well as third-party motors.

Hardware Features

- Uses a microcontroller from the Aurix TC3xx family
- Designed for a safety rating up to ASIL D
- SiC and Si models available
- Design able to accommodate power semiconductor from different suppliers
- New and improved EMC compliant with the latest standards
- Best-in-class power density up to 120kW/L
- 3-phase or dual 3-phase high-voltage inverter
- Multiple packaging options: stand-alone and integrated
- Rugged connector options qualified for automotive applications
- Ingress protection: IP67 / IP6K9K

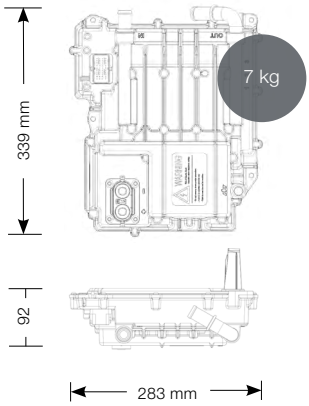
Software Features

- ASPICE compliant processes, methods, and toolchain ensuring the highest output quality
- Functional Safety & Cybersecurity
  - ISO 26262 compliance
  - ISO/SAE 21434 & UNECE WP.29
- Reusable controls: Application controls which are platform agnostic
- Torque, speed, voltage control, and gearshift mode options
- Derating and protection alarms for temperature, voltage, current and speed
- Flexible SW implementation, including AUTOSAR SW option
- CAN FD communication protocol (J1939, UDS, CCP)
- Blackbox data: Root-cause in-fields failures using data stored in the unit

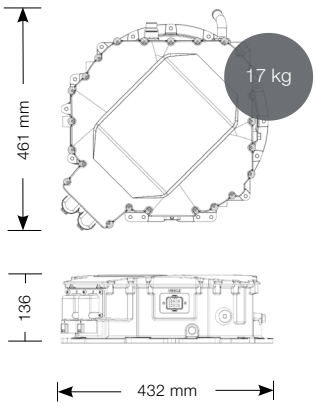
Inverter	Number of Phases	Technology	Peak Current	Cont. Current	Max. Performance Voltage	Operating Temperature
HVI310-720-S3	Single 3-phase	Si	720 Arms	325 Arms	450 Vdc	-40°C to 85°C
HVI350-750-S3	Single 3-phase	SiC	750 Arms	450 Arms	850 Vdc	-40°C to 85°C
HVI350-860-S3	Single 3-phase	SiC	860 Arms	450 Arms	850 Vdc	-40°C to 85°C
HVI350-1720-D3	Dual 3-phase	SiC	1720 Arms	500* Arms	900 Vdc	-40°C to 85°C

Specifications are subject to change
Under conditions: 45°C, 10 or 12 LPM
* Under conditions: 65°C, 10 LPM

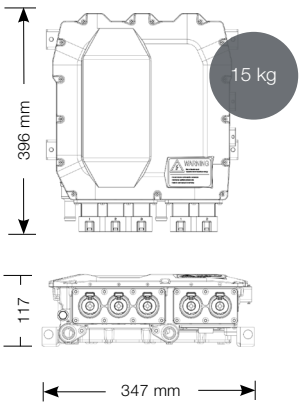
HVI310-720-S3-SI



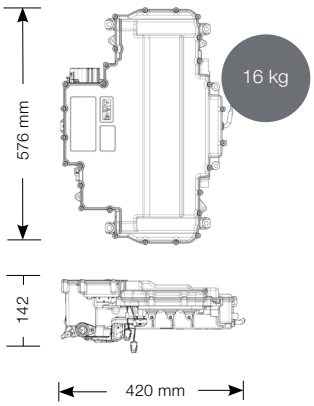
HVI350-750-S3-SI



HVI350-750-S3-SA / HVI350-860-S3-SA



HVI350-1720-D3-SI



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