

CWTI

New Generation
Traction Inverters
S160 / S420 / D420



Curtiss-Wright making the difference in commercial vehicle electrification

The CWTI family of traction inverters offers the best overall performance of any comparable IGBT inverter on the market.

Performance. Reliability. Flexibility.

The CWTI family of Traction Inverters offer the best overall performance of any comparable IGBT inverter on the market. Suitable for all hybrid and fully electric applications.



PARTNERSHIP
SOLUTIONS



ADAPTIVE
CONTROL



HIGH
EFFICIENCY



FAULT
PROTECTION



CUSTOMIZABLE
INTERFACE



ROBUST
QUALITY

Combining the strength and stability of Curtiss-Wright with the innovation capabilities of our experienced development team the latest generation of traction inverters bring real improvements to the efficiency of the electric power drive system.

Designed for heavy duty use the CWTI's are built using the highest grade materials making them extremely rugged and robust. Inside they are equally as strong, packed full of innovative technology and our unique, proprietary Adaptive Control Software.

Each unit enables unparalleled real-time control and management of the whole power system, meaning you get the absolute best performance matched to the current operating conditions.

- **Real-time on-die sensing** - fastest short circuit, overcurrent and thermal protection in the commercial vehicle market.
- **Robust design** - built using all vehicle grade components: AEC Q-100, 101 and 200.
- **Fast customer specific integration** - choose off-the-shelf or customized User Interface Board.
- **Designed for ISO 26262** - includes safe torque-off methodologies.
- **IGBT System integration** - technology that delivers performance comparable to SiC based inverters.
- **Overall flexibility** - improves customer time-to-market and minimizes NRE costs.

Real and measurable improvement

Efficiency

Up to **3%**
improvement
to drive system
(motor and Inverter)¹

Range

Up to **14%**
increase in
range from
same charge²

Power

Up to **38%**
improvement
on peak torque
and power¹

¹ Figures based on adaptive control on and adaptive control off.

² Data against leading competitors in tests.

Adaptive Control and High Efficiency



As a technological innovation that separates our offering from other inverters in the marketplace, our proprietary CW adaptive motor control software continuously monitors and adjusts to optimize motor performance by executing real-time “adaptive motor tuning” to compensate for changing system conditions.

Our software test results show power and torque increases up to 38% over conventional motor control methods. CW's motor control software provides our customers with maximum motor performance, thereby optimizing the size and cost of the electric motor and the overall system.

The motor efficiency gains through the software correlate directly to improved vehicle performance and a more efficient system.

This proven technology yields many system-level options and benefits when enabled:

- **Automatically adjusts during changes in motor and system conditions.**
- **Reduces the need for additional tuning and field support.**
- **Allows for smaller motor options, lighter weight, and lower cost.**
- **Minimizes battery consumption, that will increase miles per charge, longer battery life, lower operating cost.**
- **Extending the battery life also means less recycling and end-of-life costs.**

Additional Performance Features



INTEGRATION
FEATURES



MOTOR
AGNOSTIC



MOTOR TUNING
CALIBRATION



CWTI SERVICE
TOOL



REAL-TIME
DEBUGGING



DIAGNOSTIC &
PROTECTION



FLIGHT
RECORDER



BUILT-IN
EMI FILTERS

Why choose Curtiss-Wright?

Our expert engineers have over 20 years experience within the power electronic industry, collaborating with our customers to bring technological innovation to the vehicle electrification market.

This latest generation of traction inverters combines all of our experience with the best technology available today to provide our customers with a unmatched working solution straight out of the box.

A photograph of a yellow excavator on a construction site, with a city skyline visible in the background under a sunset sky.

**Experience
+ Expertise
+ Collaboration
= innovation**

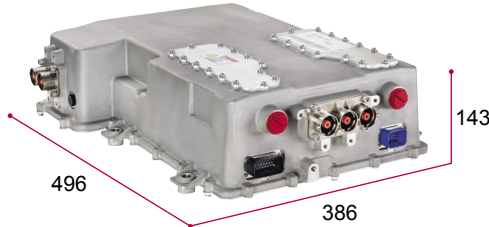
The CWTI range at a glance

CWTI-S160



100-425VDC
160kWpk / 94kWc at 376VDC
360w x 325d x 150h (mm)
Weight - 12 Kg

CWTI-S420



100-800VDC
420kWpk / 260kWc at 700VDC
386w x 496d x 143h (mm)
Weight - 18 Kg

CWTI-D420 (DUAL)



100-800VDC
420kWpk / 260kWc at 700VDC
476w x 496d x 143h (mm)
Weight - 24 Kg

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**CURTISS -
WRIGHT**

Industrial Division

Making the difference

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