



Smaller Yet More Powerful, GE's MV7-Series Drive with UWave Technology Brings More Energy-Efficient Performance

- *Based on GE's Proven MV7 Technology, the New MV7-Series UWave Drive has Smaller Filter, Leading to up to 40 Percent Footprint Reduction*
- *Thanks to Its High Harmonic Performance, the Drive Provides High Power Quality, Ensuring Smooth Grid Integration and Enabling a More Resilient Power Network*

PARIS—June 30, 2016—It has been said that energy efficiency is the invisible fuel to “keep the world turned on.” Demonstrating a commitment to helping customers extract, generate, convert or transport energy more efficiently, GE's Power Conversion business (NYSE: GE) is proud to unveil its new powerful MV7-Series, ultimate waveform, multilevel, high-power drive, the MV7-Series Drive with UWave technology.

Proven technology

The water-cooled UWave drive is based on GE's Power Conversion business' proven MV7 technology, which has an impressive 10-gigawatt installed base worldwide. A total of 1,600 units installed around the world have been operating in fields for more than 10 million hours. Therefore, customers from industries with the highest reliability and safety standards can be assured of its reliability and safety.

Move to 5-level topology

GE adopted the same MV7 technology and used the same components, but arranged them in a different way, shifting from 3 level to 5 level.

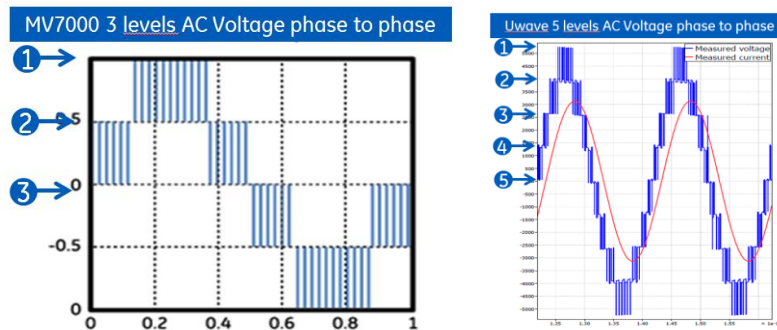
“And it is this 5-level topology that makes all the difference,” said Vincent Schellings, product line leader, power electronics, GE's Power Conversion business.

The increased number of levels means increased voltage and power output. As an extension of the existing MV7 drive platform, the new UWave drive can operate at up to 13.8 kilovolts with a power capacity of up to 40 megawatts in a single thread, thus an ideal choice for high-power and high-voltage applications across different industries, including oil and gas, marine, renewables and power generation.

Cleaner power, smaller filter

The MV7 UWave drive produces cleaner power with fewer harmonics. When feeding into motors, it reduces motor stress and can help increase its life expectancy. Higher power quality also results in cleaner electrical signals making the drive more compatible with the grid, which allows smoother grid integration and a more resilient grid network.

"If you look at the diagram, you can see the electricity, produced from the drive and feeding into the motor, has a smoothed voltage waveform. That is where the name—Ultimate Waveform—comes from," said Schellings.



"Another key fact is that the drive can meet grid harmonic standards with much smaller filters," added Schellings.

The smaller filter means a smaller footprint for the entire system, which can help bring significant benefits across industries.

"A reduced footprint can in turn reduce construction costs and release space for critical operations—more room for an engine or an extra cabinet onboard a vessel, for example," said Schellings. "Higher power output and yet a smaller footprint makes the MV7 UWave drive more efficient."

When it comes to offshore operations, this latest drive technology has allowed the removal of the transformer for voltage up to 13.8 kilovolts. This transformer-less design thus can reduce the footprint by up to 40 percent.

In terms of renewables, based on a customer study in the wind industry, the footprint of the system (drive and filter combined) can achieve up to 40 percent reduction compared to a 3-level drive.

High reliability

High reliability is paramount across industries as energy extraction and new infrastructures are moving towards offshore or remote areas, which are harder to access. Maintenance in those areas is sometimes costly and can take a long time. High availability and reliability of the equipment helps to ensure uninterrupted operation. Particularly in the renewables sector, it can mean higher returns for investors and lower energy costs for consumers.

Reliability is also reinforced by capacitors installed in the drive. An advanced mechanism adopted inside the drive enables immediate isolation of a failed capacitor. Unaffected by this single failure, the rest of the capacitors allow the drive to operate without interruption.

"Think about it, these capacitors are highly resilient in a way—they can continue to work even if one of them is down," said Schellings.

Smart standardization, versatile applications

The MV7 UWave drive uses standardized component during manufacturing, enabling shorter delivery time and better service. Standardized modules, however, do not limit the drive's versatile application. It is designed to drive induction, synchronous or high-speed motors (up to 300 Hertz) for high-voltage and high-power applications. Several configurations of the MV7 series are available—diode front-end (DFE), active front-end (AFE), N+1 redundancy, transformer-less—to adapt different customer and project needs. It also allows easier integration to the fixed frequency system to become variable speed—a key factor to enable energy efficiency.

“This is an exciting time, everything is moving at an unprecedented speed. Innovation needs to go to the market fast, products need to be delivered fast, and investment must create returns fast,” said Schellings. “The MV7 UWave drive is our answer to this mega trend.”

About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry. www.ge.com

About GE Energy Connections

GE Energy Connections designs and deploys industry-leading technologies that turn the world on. We transport, convert, automate and optimize energy to ensure we provide safe, efficient and reliable electrical power. Uniting all the resources and scale of the world's first digital industrial company, we connect brilliant machines, grids, and systems to power utility, oil & gas, marine, mining and renewables customers, that keep our world running. www.GEEnergyConnections.com

About GE's Power Conversion Business

GE Energy Connections provides customers with electrical solutions that enable local utilities and energy-intensive industries to more efficiently manage electricity from the point of generation to consumption. GE's Power Conversion business, a business unit of GE Energy Connections, applies the science and systems of power conversion to help drive the electrification of the world's energy infrastructure by designing and delivering advanced motor, drive and control technologies that evolve today's industrial processes for a cleaner, more productive future. Serving specialized sectors such as energy, marine, oil and gas, renewables and industry, through customized solutions and advanced technologies, GE Power Conversion partners with customers to maximize efficiency. To learn more, please visit: www.gepowerconversion.com.

Follow GE's Power Conversion business on [Twitter](#) and on [LinkedIn](#).

###

For further information, please contact:

Paul Floren
GE Power Conversion, Global Communication Leader
+33 1 53 59 28 44
paul.floren@ge.com

Wenlin Jin
GE Power Conversion, External Affairs
+33 1 53 59 28 45
wenlin.jin@ge.com