MV7-Series
Ultimate Waveform Multi-level
High Power Drive
Minimal footprint with high power quality, delivering greater operational efficiency.

With ever increasing challenges in the energy landscape, and with decreasing operational margins, we understand that efficiency, safety and reliability are more vital than ever for your business operations.

We are driving the evolution of high performance electric power systems with greater affordability, reliability and efficiency to help face the pressing challenges of today and the future challenges of tomorrow.

Continuous drive evolution

Introducing the next evolution in MV7-Series with ultimate waveform multi-level high power drive technology. Our range of electrical drives can substantially improve the quality and efficiency of your process or production. Ensuring increased power output through a ‘clean’ energy supply and high power quality grid performance. Enhanced control performances and advanced power conversion architecture can be combined to achieve higher power quality and efficiency than used in the past.

Benefits

- High power Voltage Source Inverter (VSI) for single thread up to 60 MW / 13.8 kV
- Using proven MV7 technology and building on MV7 experience with more than 13 Gigawatt / 1600+ units installed over 10 million hours of operation
- Up to 25% footprint reduction allowing valuable space savings
- High reliability with up to 30% less part counts
- Improved power quality for extended motor and power cable life
- Increased efficiency by reducing current harmonic content in the motor and reducing the need for input or output filters with up to 30% reduction of losses
- Reduced maintenance with front access and modular building blocks

Advanced technology

GE’s latest multi-level technology added to the proven MV7000 medium-voltage drive range, which has more than 1600 units installed worldwide delivering more than 10 million hours of operation combined, eliminates requirements for bulky filters, ultimately reducing the size of the drive.

This proven technology delivers efficient and flexible control of electric power to a wide range of driven equipment in a smaller, more economical footprint.
Low part count for high reliability
The Variable Frequency Drive (VFD) is a core component in an electrical driven train. GE’s latest multi-level technology uses a single thread to achieve 9-level voltage up to 40 MW, dramatically reducing the scope of required associated equipment.

• Minimize footprint & weight: single thread offering up to 40 MW whilst other solutions require two threads in parallel
• Increased Efficiency: reducing current harmonic content in the motor with lower harmonic losses
• Increase Availability: lower maintenance requirements

MV7 Multi-level Voltage Source Inverter (VSI)

High performance
The MV7 is part of GE’s medium voltage drive family which offers a wide power range at various voltages to cover a variety of applications. MV7 drives can feed both induction and synchronous machines with high performance vector control across all speed ranges. MV7 multi-level technology provides ultimate waveform output to the load machine and connection to the grid supply.

Features
• High-performing solution with variable-speed drive technology
• Improved network stability and grid integration with low harmonic content
• Reduced torque ripple at shaft level and no torsional vibration through system integration
• High power density based on water-cooled technology and high-capacity press-pack IGBTs
• Very low audible noise during operation thanks to PWM strategies
• Patented technology of series connected IGBT’s to allow high voltage

Range

<table>
<thead>
<tr>
<th>Voltage</th>
<th>3.3 – 13.8kV</th>
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<tbody>
<tr>
<td>Frequency</td>
<td>Up to 300 Hz</td>
</tr>
<tr>
<td>Power</td>
<td>6 – 100 MW</td>
</tr>
<tr>
<td>Motors</td>
<td>Induction</td>
</tr>
<tr>
<td></td>
<td>Synchronous</td>
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<td></td>
<td>High-speed</td>
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</tbody>
</table>

Key Options
• AFE Configuration
• N+1 Redundancy
• Transformer-less

Transformer-less solution for offshore operations

Conventional VSD DFE 24p Solution
AFE Transformer-less Solution

Saving space with transformer-less design
This latest development in variable frequency drive technology allows the removal of the transformer for voltage up to 13.8kV. This has added benefits for offshore operations by minimizing footprint requirements and allowing easier maintenance. It also enables better power output by ensuring a ‘clean’ energy supply and high power quality grid performance.

• Reduce size & weight: minimizing the associated capex expenditure for platform installation, Up to 40% footprint reduction allowing valuable space savings
• Increase uptime... availability up to 99.9% with offshore solution based on proven technology. Removal of the transformer allows significant reduction in meantime to repair.
Services from GE – a focus on availability.

We understand the vital importance of process availability – and our focus on service keeps us actively engaged, both when things are going right, and when they are going wrong.

World-class global customer service and support

Our strategic distribution centers and authorized distributors carry an extensive inventory of GE’s drives, allowing us to quickly fulfill your genuine replacement part needs, no matter where you are located. With a comprehensive global network of service engineers and technicians, GE is well positioned to provide the knowledge, experience and skills for your full range of industrial service requirements. From system design to maintenance and outage support, we have the resources and capabilities to help advance your equipment’s performance and reliability.

- Single point of contact
- Reduced call-out rates
- 24/7 availability
- Rapid mobilization of engineers
- Routine maintenance visits
- Training
- System health checks
- Spares management
- Obsolescence management

GE also provides managed system upgrade paths for our legacy systems and has significant experience in replacing systems from other manufacturers with low disruption to the existing infrastructure.

Remote diagnostics and support

Visor Connect, GE’s remote diagnostic and support system, is based on highly secure satellite communications links. It enables our experts, regardless of their geographical location, to look over the shoulder of your onsite equipment operator or technician and advise and assist you on fault finding and resolution.
To find out more about GE's ultimate waveform multi-level high power drive and integrated electric solutions contact:

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