New medium voltage inverter meets the challenges of today with the technology of tomorrow

Nuremberg, Germany, SPS IPC Drives, 24.-26.11.2015

Mitsubishi Electric are launching a range of innovative medium voltage inverter drives at SPS IPC Drives 2015 (Nuremberg 24-26 November 2015), which are designed for both the current and future energy needs of industry. The drives are compact and modular, allowing for flexible installation in confined areas and deliver industry-leading energy efficiency with advanced IGBTs (Insulated-Gate Bipolar transistors). With regenerative braking available as standard, they offer high levels of customer value in many applications.

Faced with the challenges of ensuring long-term reliability while improving energy efficiency, medium voltage inverters have previously been fixed with a rigid cabinet layout. The flexible construction of the MVe2 now offers simple solutions for customer applications, ensuring high levels of energy efficiency in operation, and also being easy to install, commission and maintain. In particular, the 10/11kV drives have a direct 10/11kV motor feed, immediately removing the need for the transformer found in competitor products. They are a common development by Toshiba and Mitsubishi Electric Corporation (TMEIC), based on decades of experience in the production of medium voltage inverters.
The MVe2 has a very small footprint, probably the smallest on the market for its class. This is very significant because suitable installation space is often very limited in the industries where the range is to be deployed. Aware of this, the design team applied some original thought processes and developed a separately locatable front end transformer section. This uses just a few cables to connect the inverter, enabling it to be positioned in a more convenient location.

The designers also ensured that, unlike many other medium voltage inverters, the MVe2 has a lower head room requirement, allowing it to fit comfortably into a standard shipping container. This ensures safe and economical transportation to site, compared to taller inverters that must be individually sealed against the weather for transportation with special arrangements being made by the freight company to allow for the extra height during the journey.

The modular concept of the MVe2’s design is carried through to the inverter stages, generating the further benefit that it can be specified for use with motors of different voltages, allowing them to be connected to the same MV system, even when the voltages do not match – without the requirement for an additional external transformer installation.

Long-life, maintenance-free film capacitors (rather than conventional electrolyte capacitors) are used for the intermediate circuit and the ventilation fan has also been designed for extended operation. This means that servicing is reduced to once around every seven years, rather than the more customary three years. Further enhancing the energy efficiency, regenerative braking comes as standard, whilst the sensorless vector control feature gives fast response, stable operation and capabilities for rapid acceleration and deceleration.
These medium voltage inverters perfectly complete the current range of modern inverters offered by Mitsubishi Electric. Finally, customers are benefitting from the possibility of sourcing a complete range of inverters, from low to high end, from one supplier. The range extends from 3.3 kV–200 kVA to 11 kV – 5000 kVA and includes many innovations developed to meet real-world needs and advance the state of the art of medium voltage inverters.

You can see examples of these solutions and talk to Mitsubishi Electric experts at SPS IPC DRIVES, (Nuremberg, Germany 24.-26.11.2015, Hall 7 – Stand 391).

Note:
1 See how Mitsubishi Electric is able to respond to today’s automation demands:
   eu3a.mitsubishielectric.com/fa/en/solutions
Image captions:

**Picture 1:** The new MVe2 medium voltage inverter drive has a very small footprint, probably the smallest on the market for its class, its lower head room height allows it to fit comfortably into a standard shipping container.
[Source: Mitsubishi Electric Europe B.V.]

**Picture 2:** The new MVe2V medium voltage inverter drives are compact and modular, allowing for flexible installation in confined areas and delivering industry leading energy efficiency with minimal internal electrical losses from advanced IGBTs (Insulated-Gate Bipolar transistor) and regenerative braking available as standard.
[Source: Mitsubishi Electric Europe B.V.]

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**Note to Editor:** if you would like the text in another language please contact Philip Howe at DMA Europa – philip@dmaeuropa.com.
About Mitsubishi Electric

With over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, as well as in products for the energy sector, water and waste water, transportation and building equipment.

With around 129,000 employees the company recorded consolidated group sales of 36,0 billion US Dollar* in the fiscal year ended March 31, 2015. Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Mitsubishi Electric Europe B.V., Factory Automation European Business Group (FA-EBG) has its European headquarters in Ratingen near Dusseldorf, Germany. It is a part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of FA-EBG is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.

*Exchange rate 120 Yen = 1 US Dollar, Stand 31.3.2015 (Source: Tokyo Foreign Exchange Market)

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