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Higher efficiency and lower costs with Mitsubishi Electric automation solutions

ENERGY EFFICIENCY BECOMES INDISPENSABLE FOR COMPETITION IN MANUFACTURING INDUSTRY

Energy is a critical resource for all industries since it is quite significant among total production costs. Global energy resources diminish gradually in parallel with the rising energy requirement of the industry which leads to an increase in costs. Industrial enterprises are required to decrease their energy consumption levels in addition to continuing manufacturing operations consistently without any interruption so as to adapt to competition. Hence, Mitsubishi Electric, a recognized solution partner for energy-efficient enterprises in terms of factory automation, offers special solutions to develop energy saving methods, increase efficiency and reduce production costs with a view to reinforcing the competitive power of enterprises.

It becomes increasingly more important to use the existing resources in the world in the most effective and efficient manner. It is particularly essential to reduce energy consumption of industrial enterprises without disruption production capacity and standards. Mitsubishi Electric, a global giant in electrics, electronics and automation, provides high added value to Turkish industry with its energy saving and eco-friendly factory automation products.

Mitsubishi Electric Turkey President Masahiro Fujisawa expressed that global manufacturers prefer Mitsubishi Electric for high-tech automation equipment for over 75 years and said: “e-F@ctory, the digital factory platform developed by Mitsubishi Electric in response to Industry 4.0, concentrates on manufacturing technologies and energy management tools as the two main components in industry. High technology, user-friendly and long-lasting automation solutions create significant energy saving for

enterprises leading to reduction in costs. Therefore, we are an ideal solution partner for the automation systems of energy efficient and eco-friendly enterprises.”

Proper and easy analysis with “Energy Control Pack”

Underlining the fact that there must be complete transparency throughout the enterprise to optimize energy usage, Masahiro Fujisawa provided information about energy management: “Mitsubishi Electric offers the opportunity to conduct a proper and easy analysis process with “Energy Control Pack” which collects live data from all points of energy consumption at enterprises. “Energy Control Pack” is based on a series of proven modules which can be selected, configured and scaled to suit any given application, new or existing. It bundles together hardware, software and documentation for out-of-the-box energy management.

“Energy Control Pack”, consisting of Mitsubishi Electric standard products which can be mixed, is fully field-tested. In this system, installation and commissioning can be achieved on a right first time basis. At initial start-up, it is likely to be 80 % optimized for the host application. This can easily be enhanced to a 100 % perfect fit during the straightforward commissioning process. “Energy Control Pack” is optimized for easy integration into new or existing applications and will support it throughout the operating life of the plant.”

Comprehensive solutions from simple to complex...

Mitsubishi Electric offers a wide product range for solutions from simple to complex needs, from pure metering and measuring of energy data up to complex reporting of the received data. All with the goal to facilitate the energy management of applications or even complex production lines in order to save energy and thus costs.

High performance measurement with local and industrial connection

High performance measurement unit ME96NSR, distinguished with integrated monitor for local and industrial connection, measures all the essential values of the low and medium voltage power distribution systems. By optional plug-in modules, remote I/O's and open network communication can be added. The remote I/O can be used for monitoring the MCCB or ACB status or for energy counters. It provides full integration in a CC-Link or Modbus network and allows for PLC-controlled energy reduction and optimization.

Simple and powerful measurement of various energy data

The power measurement modules QE81WH4W (with one channel) and QE83WH4W (with three channels) measure various energy data in a simple and powerful manner. The modules detect the voltage with four-wire connection (L1,L2,L3,N) and current consumption of loads with three-phase input in addition to calculating the power of the absorbed and emitted energy. This provides not only specific measure to conserve energy but also optimizes the production processes, preventive maintenance (e.g. at increased power consumption) and active state control of loads (e.g. by monitoring the current consumption of loads).

Easy-to-use and adopt of external devices

Mitsubishi Electric offers a wide range of PLC's from compact up to modular controllers that allow users to mix and select the best combination of CPU's, communication devices, special control modules and discrete I/O. Specially designed function blocks for easy energy management can be used with all controller types (compact FX series, compact modular L series as well as the modular Q series).

Clear overview and control

Mitsubishi Electric provides a broad spectrum of operating and visualisation systems, ranging from simple text-based HMI panels to full-featured industrial PCs. The GOT series is the ultimate in control unit quality and performance. The impressive array of functions and simple touchscreen operation give users everything they want and need for the control of their energy management systems.

User-friendly configuration and control of 3-phase AC drives

Mitsubishi Electric inverters are real energy savers achieving maximum drive capacity utilization with minimum power consumption. Flux optimisation ensures that the connected motor only gets exactly the amount of magnetic flux required for optimum efficiency. This is particularly important at low speeds as motors are normally using a voltage/frequency control system. Cutting energy consumption and protecting the environment are now key issues in mechanical and plant engineering. The FR-A741's regenerative braking system makes it much more efficient than conventional drive systems, giving it the potential for significant energy savings.

Data connection from shop floor to top floor

Eliminating all middleware and gateway PCs, the MES module provides a simple solution for controller-level direct database access, easing integration effort, reducing overhead costs and eliminating points of potential failure. The QJ71MES96 can pass energy relevant data to a number of databases including Microsoft SQL, Access and Oracle.

Elegant data connection with MES Interface

Based on Mitsubishi Electric's C Controller, the MES Interface IT module provides the vital link between the shop floor controllers such as the iQ Platform, and the enterprise IT systems, such as SAP. The connection is direct, with no intermediate PC hardware introducing maintenance or security issues. Using the MES Interface IT you can manage your energy information in a number of databases including Microsoft SQL, MySQL, Oracle, DB2, and Sybase.

Clear overview about the machines via dashboard

Mitsubishi Adroit Process Suite (MAPS) is a life-cycle software tool that offers value along the entire value chain. It addresses the shortcomings of most PLC SCADA integration tools in that it offers value to the engineering and integration phases. It also extends the integrity of the "as delivered" solution and offers customers the ability to handle the normal extensions and maintenance of any automation solution.

With MAPS, reports covering areas such as I/O schedules, PLC and SCADA tag configuration can be automatically generated. This automatic report generation ensures that the project on handover also reflects the "as built" up-to-date electrical and instrumentation drawings that are aligned to the SCADA tags and PLC I/O. The reports are database driven, so even through on-going maintenance the reports will always reflect the current status of the electrical and instrumentation configuration.

About Mitsubishi Electric Corporation

With over 90 years of experience in providing reliable, high-quality products, 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, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes,

Mitsubishi Electric endeavours to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,394.3 billion yen (US\$ 38.8 billion) in the fiscal year ended March 31, 2016. For more information visit: www.MitsubishiElectric.com*

** At an exchange rate of 113 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2016.*

About Mitsubishi Electric Turkey Operations

Mitsubishi Electric concentrates on sales and after-sales services for HVAC systems, factory automation systems, CNC-Mechatronics systems and advanced robot technologies in Turkey. In addition, the company provides support for satellite, elevator, visual data systems, power sources and transportation-based infrastructure projects. Mitsubishi Electric, the acknowledged manufacturer of Turksat 4A and 4B satellites contributing to communication and broadcasting infrastructure of Turkey and neighbouring countries, is also recognized for the automation technology used for Marmaray project. Having incorporated a company for development and manufacturing of room air-conditioners in Turkey in April 2016, Mitsubishi Electric intends to start manufacturing operations in Manisa plant by January 2018. For more information visit: www.mitsubishielectric.com.tr

About Mitsubishi Electric Turkey Factory Automation Systems

Mitsubishi Electric Turkey Factory Automation Systems division provides added value to leading industrial corporations in Turkey in a range of fields including automotive, foodstuff, packaging, metal and PVC processing machinery in terms of fast integration, efficiency, flexibility and productivity. It has adapted to "Industry 4.0", the new industrial phase, with its digital factory platform known as e-F@ctory.