

# VIA Smart Industry – Energy Management Solutions



With the growing complexity of today's power grid, the need to monitor, control, and optimize energy generation, distribution, and consumption has never been greater. This is not only a particularly important requirement for solar, wind, and other renewable energy installations that are mainly operated across multiple remote locations and require automated control and management systems for monitoring the status of the equipment and ensuring optimum performance according to the prevailing weather conditions. It is also critical for ensuring efficient energy usage in manufacturing, commercial, and residential facilities.

With our years of experience in designing ruggedized, ultra-compact, power-efficient solutions for the most demanding computing environments, VIA offers a customizable portfolio of application-ready Energy Management Solutions ideally suited for optimizing complex power generation, transmission, and consumption processes and systems.

# Core Applications

With their ultra-reliable operation, low power consumption, and multiple customization options, VIA Energy Management Solutions have already been installed in wind farms and solar farms in some of the remotest regions of the world as well as in manufacturing, commercial, and residential complexes. They provide a comprehensive range of customizable systems for creating the backbone of your smart energy management ecosystem. Core applications include the following :



## Data Collection :

Rich I/O connectivity options for controlling and collecting mission critical data from a wide range of devices and sensors.



## Monitoring and Control :

Redundant networking options to ensure 24/7 remote monitoring and control of even the most remote installations.



## Data Analysis :

Real-time data processing and analysis to safeguard against power generation system crashes, ensure optimum performance, and generate system reports.

# VIA Systems

Combining ultra-reliable operation and low power consumption with advanced functionality and performance, VIA Systems have been deployed in facilities around the world for a wide range of smart energy management applications. They include a variety of robust system platforms with a wealth of customization options.

## VIA AMOS-3005

This high-performance fanless ruggedized system is ideal for data-intensive energy harvesting and power management monitoring and control scenarios.



- 1.2 GHz VIA Eden® X4 processor with VIA PadLock® Security Engine
- Wide input voltage range supporting 9V~36V DC-in
- Wide operating temperature range from -40°C up to 60°C
- Dual Gigabit Ethernet, optional Wi-Fi and 3G/4G modules
- Rich I/O feature set including lockable USB, COM and GPIO

## VIA AMOS-820

This rugged ultra-compact fanless system provides a proven low-power solution for energy harvesting and power management monitoring and control applications.



- 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC
- Power over Ethernet (PoE) option
- Wide operating temperature range from -20°C up to 65°C
- Legacy I/O support including dual CAN bus, dual COM, and GPIO
- Linux and Android BSPs, including VIA Smart ETK

## VIA ARTiGO A600

This sleek fanless system is an affordable and flexible system platform for facility and equipment energy management data collection and visualization applications.



- High performance 800MHz VIA Cortex-A9 SoC
- Rich I/O connectivity including COM, Digital I/O, and USB 2.0 ports
- Dual Ethernet ports and optional high-speed wireless networking modules
- Four 3-pole Phoenix RS-485 ports with full 3.75KV isolation
- Customized Linux BSP services

# — Rapid Customization —

VIA Energy Management Solutions are designed using a modular approach that makes rapid hardware and software customization a snap. Key customization options include :



## Peripheral integration :

With a wide selection of RS-232, RS-485, USB, GPIO, CAN bus, and DIO ports, VIA Energy Management Solutions provide flexible connectivity to a broad array of legacy and state-of-the-art equipment and systems. Gigabit Ethernet, Wi-Fi, and 4G networking options ensure high-speed network connections for mission-critical applications such as remote monitoring and control.



## Operational environment optimization :

With their ruggedized form factors, low power consumption, and wide operating temperature ranges, VIA Energy Management Solutions can be optimized to operate in even the most demanding environments. Potential customizations include the integration of a heating module in the VIA AMOS-3005 for extreme low temperatures.



## Software customization :

With a wealth of Android, Linux and Windows software development expertise and easy-to-use BSPs and SDKs, including the VIA Smart ETK, we provide a comprehensive range of software customization services for optimizing the compatibility, performance, I/O connectivity, and peripheral integration of VIA Energy Management Solutions across multiple platforms.

# — Superior Reliability and Longevity —

VIA Energy Management Solutions are built to the highest standards of quality and undergo stringent testing in order to ensure optimum reliability in even the toughest environments. To meet the life-cycle needs of our customers, we offer longevity support for up to seven years on selected models.



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