

YASKAWA

Optimization in focus

Cost reduction by increasing efficiency



Energy efficient drive solution



SPRiPM – The clever energy saver

Even if the package of SPRiPM motor and a A1000 or V1000 inverter drive requires slightly higher initial investment than a solution with IE2 motor and inverter drive, the SPRiPM drive package pays for itself within a stunningly short space of time in a broad range of applications - very often within less than 2 years. From this point on, the SPRiPM drive package leads to significant cost savings.

The SPRiPM package is a plug-and-play combination of an inverter drive teamed up with a permanent magnet motor that exceeds IE4 efficiency requirements and provides excellent efficiency even in partial load conditions. Thus SPRiPM opens up new potentials for saving energy in pump, fan, or other variable torque applications that still commonly use IE1 and IE2 motors.



Eco friendly



Lower cost & quick payback



Time saving installation



Space saving, up to 50 % smaller

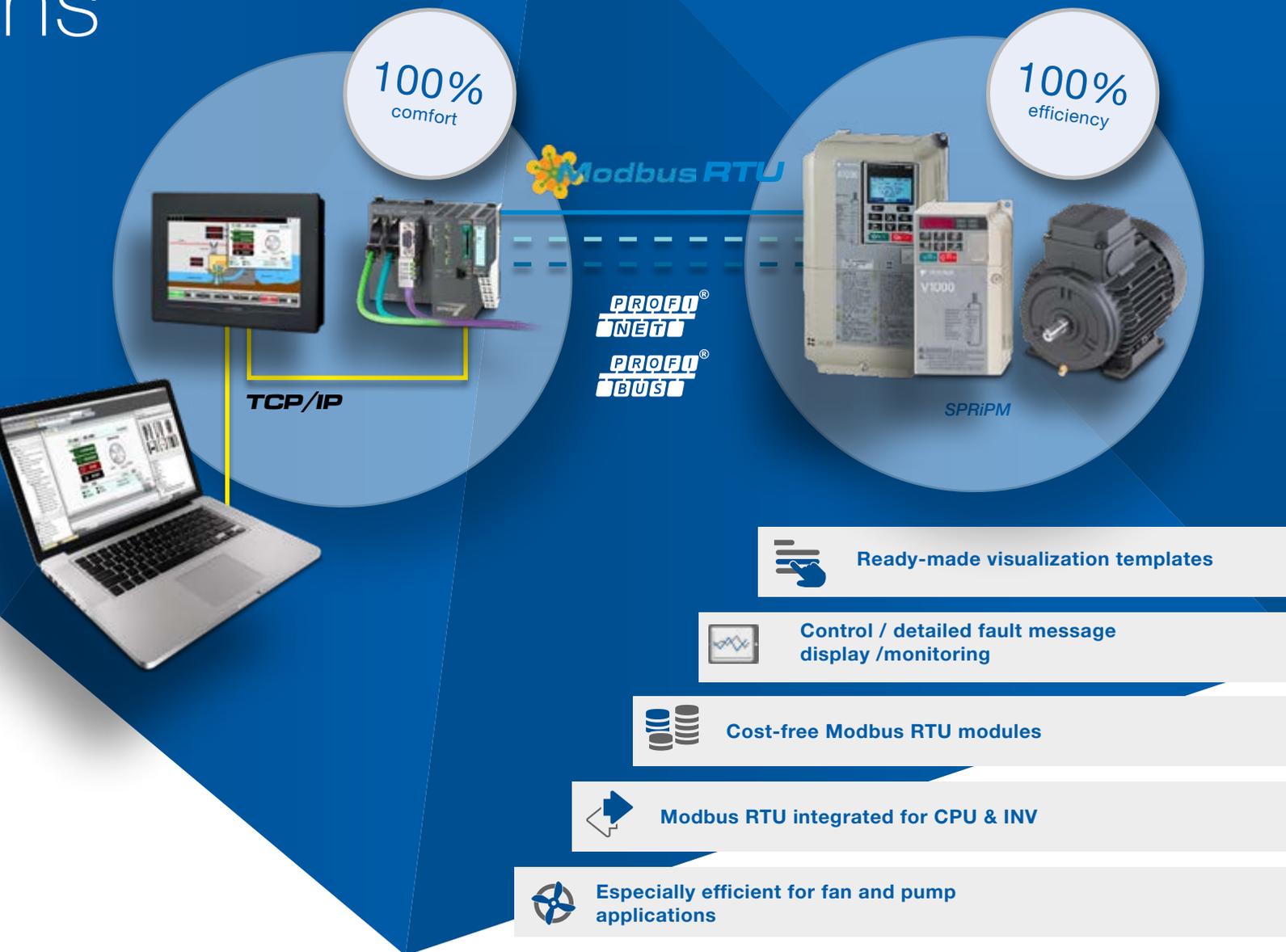


Easy to handle package



Example

Motor power	4.0 kW
Rated speed	3000 rpm
Average load	85 %
Operating hours	6 hours a day, 5 days a week, 45 weeks a year = 3600 h
Energy costs	0.13 €/kWh
Power consumption IE2	14.266 kWh
Power consum. SPRiPM	13.540 kWh



The perfect solution for new plants, upgrades and retrofits

The SPRiPM motor is smaller and lighter than most standard motors. The motor combines high efficiency in a very compact design.

- Easily replace standard motors with the SPRiPM drive package without the need for additional space.
- Improve machine productivity and capability by using more powerful motors.
- Increase energy efficiency by applying the latest drive technology to new and existing applications.

Convenient solution

The SPRiPM package can perfectly supplemented with the SLIO CPUs and the Touch Panels.



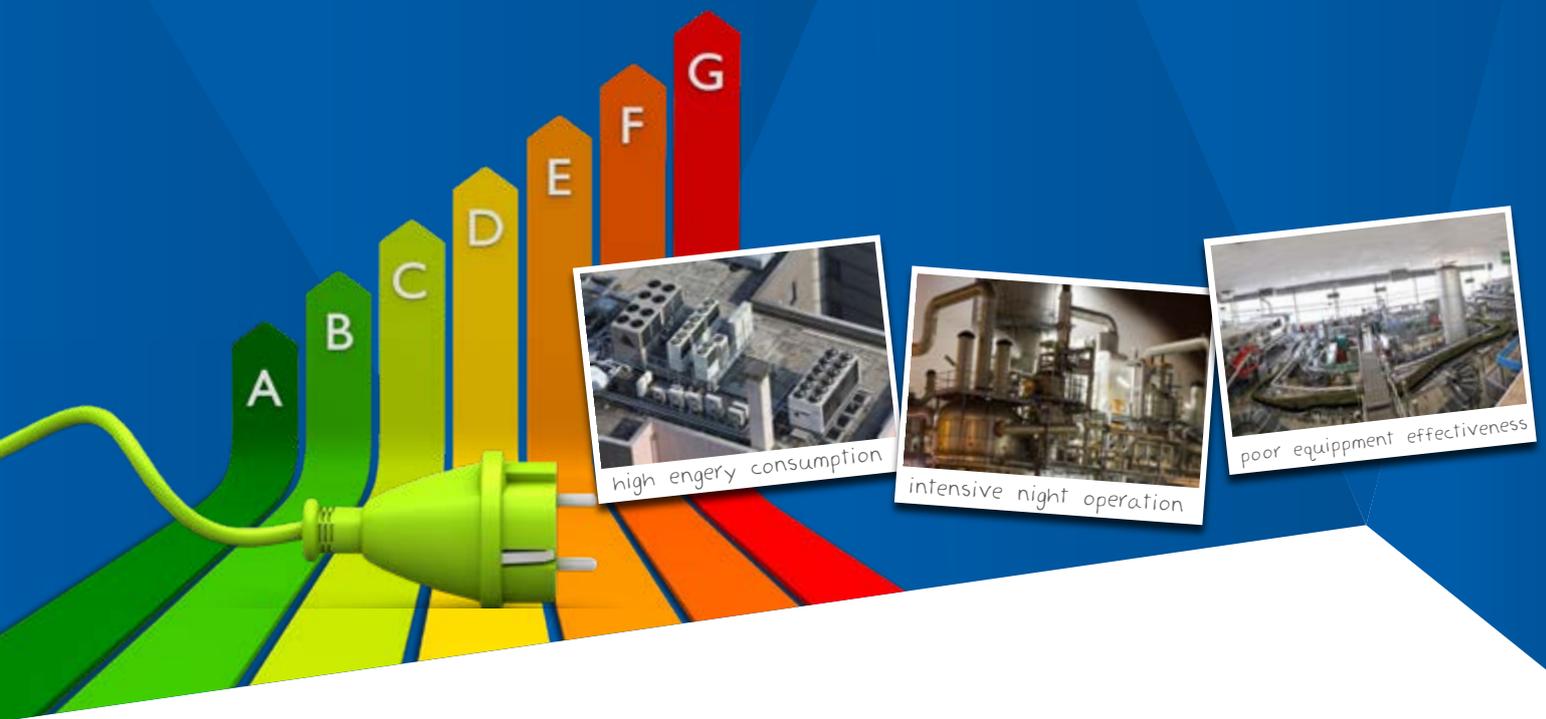
The Touch Panels with the pre-assembled templates for frequency inverter control and detailed fault message saves on a time-consuming programming/parameterization in the visualisation.



The SLIO CPUs including the protocol diversity provide easy communication between the CPU and the frequency inverter with the free integrated Modbus RTU block library. Optional PROFIBUS/PROFINET communication is possible.



Energy Management



From 2013 the implementation of a fully operational energy management system has been a necessary condition for energy and electricity tax reduction according to the apportionment of Renewable Energy Sources Act (EEG). Companies with a total energy consumption of more than 1 GWh per year are already affected by this.

A conscious use of energy is becoming increasingly important, not least for the protection of our environment. Increasing energy costs form a large part of the operating costs and reduce profit. In almost all enterprises however there is massive savings potential in energy usage. But it is also possible to save electricity and energy by organizational measures. One task of **Energy Managements** is to work out savings potential and reduce costs.

Our service

We offer you an complete energy management system solution (EnMS) - including load management if required - with added value of advice, products and solutions as well as the implementation, a single source, which functions in a simple, cost-sensitive and reliable way. This energy management system enables very easy

certification in accordance with DIN EN ISO 50001 and energy audits DIN EN 16247.

The modules of the Energy Management

Energy management (DIN EN ISO 50001)

- Energy management/-evaluation
- Energy monitoring
- Energy measurement



Load management

- Energy controlling
- Energy adaption according to your process
- Intelligent process control
- Conservation of resources

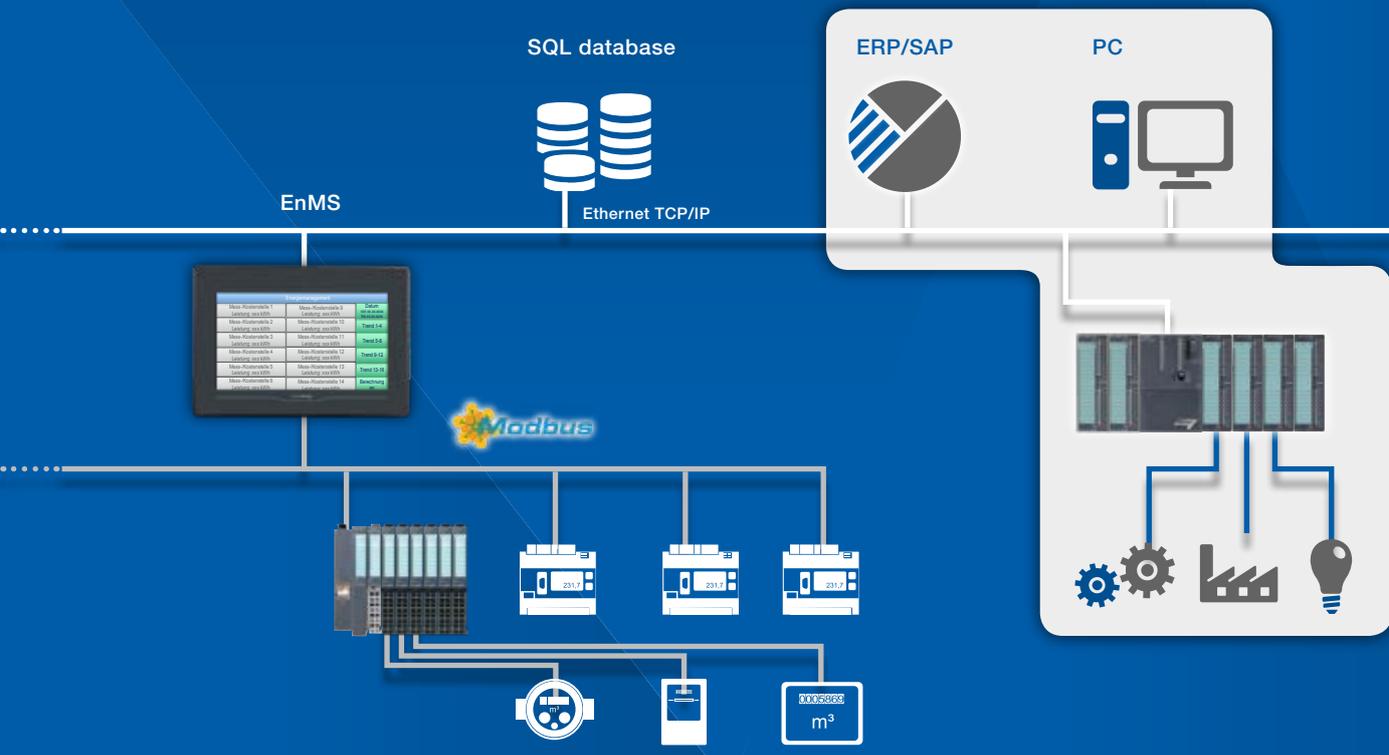


Your benefits

Your energy costs are quickly reduced by transparency. Your processes will be organized and this allows energy efficient work. Efficient, intelligent, tailor-made – that's the way it has to be in today's production.

- Reducing costs
- Avoiding waste
- Increasing energy efficiency
- Optimizing production
- Increasing transparency
- Being economical and sustainable
- Optimizing processes within a closed control circle
- Connecting the machines and plants of your production to your management system





Energy management

Examine your energy efficiency

Energy prices are increasing inexorably, economy therefore pays off more and more. Scientists of the Fraunhofer Institute for System and Innovation Research found out, that most enterprises could reduce their energy costs by at least 10 to 20 %.

Renewable Energy Sources Act (EEG)

The so called eco-tax discount is essential for survival for energy intensive production systems. They had to introduce an energy management system by the end of 2015. Only then could they continue to benefit from this tax reduction. In 2012 this tax reduction was extended by the German Federal Government to 2022. This will cost the state 2.3 billion per year. In return the German economy has to show an annual energy efficiency increase of around 1.3%.

Performance

An energy management system, like all other well-known management systems, consists of a PDCA cycle. After the introduction of an energy management system that was defined according to PLAN and DO, our solution provides continuous data for your CHECK-ACT cycle. See diagram!

Load management

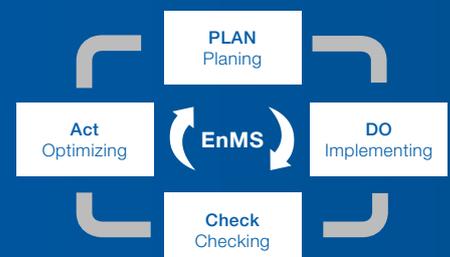
The option of load management allows access into the production processes or the building management when the energy saving targets are exceeded. For this only the activation of the load management option, a STEP7 PLC with an Ethernet interface PG/OP or PROFINET, and a few program steps STEP7 code are necessary.

Our low-cost and high-performance SLIO controllers are excellently suitable. We will gladly provide you with an example. A simple adaption to your individual environment is therefore possible.

Of course, we can also support you with help and advice. Just ask your contact person or our specialists for Energy Management.

How does it work in practice?

In the smallest case scenario this solution looks like this: a control unit for recording, logging and displaying the energy consumption is placed directly on the machine or system. The interfaces for measuring the energy consumption are detected via distributed decentralized I/O modules. Here the existing energy meters and measurement devices continue to be used as much as possible.



All about robots

Hardware Solutions with YASKAWA Robotics – The complete solution



I/O systems

Control and I/O system

Do you need additional I/O signals? Simply expand your robot easily and effectively with SLIO IOs. Possible interfaces are Ethernet/IP, Modbus, EtherCAT or CANopen in addition to PROFINET and PROFIBUS. One could hardly ask for more!

Safety

Modular safety solutions

samos PRO COMPACT, the next generation safety controller is a compact and fast modular safety micro controller for monitoring and controlling applications in the field of machine and system engineering.

Remote maintenance

24/7 support

Remote maintenance solutions are suitable for monitoring and additional optimization of your systems in case of error. A wide range of teleservice modules opens up all possibilities of an easy to setup and reliable system monitoring.

Control

300S+ and SLIO

Control your application with a PLC and connect your robot as a slave via PROFINET using the 300S+ or SLIO CPUs. Example applications are: tending, die-casting, plastic molding, picking, packing, palletizing, testing and sorting.

Networking components

Always online

Especially for the robot industry we also offer Ethernet switches besides numerous PROFIBUS repeaters. This enables, for example, an easy and clear expansion of your PROFINET networks with 5/8 port switches. We will be happy to advise you.

Accessories

The right accessory at hand

The best automation products are useless without suitable accessories. We offer a wide spectrum of the entire control technology, starting from the top selling PROFIBUS plugs through preassembled front connectors right up to different cable variations.

HMI

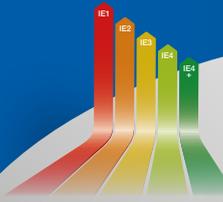
Operating and monitoring at the highest level

HMI's can do a lot more than set up tools, configure projects, or monitor processes. With its numerous interfaces they are ideal for deployment with your YASKAWA robots. You can use your HMI optimally by means of many sample projects. Panel PCs and HMI's can now be connected directly to YASKAWA robots with the YASKAWA Highspeed Ethernet driver for Movicon.

Software Solutions

with YASKAWA Robotics – The complete solution

Energy Management



SPEED7 Studio



MotoLogix

Energy Management

Energy management with robots applications

Meanwhile energy saving affects everyone. By using Energy Management you always know the energy consumption of your application effectively and can save up to 40 % in energy. Our HMIs always keep you up to date, no matter whether local or worldwide.

SPEED7 Studio

Engineering software

You can optimize your robot controller again with SPEED7 Studio. With this, you not only connect our controllers and the Touch Panel, but also integrate your robot controller in a very short time with easy to use hardware configuration and the intuitive user interface.

MotoLogix

Control software for robots

MotoLogix makes it possible to control up to 4 robots from one PLC. It offers the ability to set up flexible and customizable robot systems which integrate perfectly in a PLC and HMI environment. MotoLogix comes with a PLC library of function blocks and visualization templates for your HMI.



VIPA – This is who we are



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