

EtherCAT Terminals for mains monitoring, process control and power monitoring

Highly scalable: EtherCAT I/O product range for energy management has been expanded

Energy management in machine operation and in the energy industries creates a wide range of demands, starting with basic monitoring of the supply network and process control to high-end power monitoring. In response to these demands, Beckhoff has added four new EtherCAT I/O terminals to the existing product range, making an even broader range of EtherCAT Terminals available, which is exceptionally scalable in terms of price and performance.



Together with the proven EL37x3 power monitoring oversampling terminals and the associated TwinCAT Power Monitoring software library, the new EtherCAT Terminals for energy management provide a comprehensive product portfolio that can be optimally adapted to the varied tasks found in a wide range of applications.

Two of the new EtherCAT Terminals are ideally suited for power measurement in process control applications:

- As the new standard power measurement terminal, the EL3443 3-phase EtherCAT Terminal is universally suitable for all process and machine control tasks. Compared to the previous model, it offers numerous new functions such as mains monitoring functionality, precise determination of zero voltage crossing and harmonics analysis. In addition, it is also suitable for DC systems.
- The EL3453 3-phase EtherCAT Terminal for measuring voltages up to 690 V AC focuses on more demanding process control tasks. For this purpose, the terminal updates its process values with every half-wave, which corresponds to an interval of 10 ms at 50 Hz. Four electrically isolated current measuring channels with freely adjustable measurement ranges for 100 mA, 1 A or 5 A, with a surge current capability of 60 A are available.

Two further EtherCAT Terminal innovations have been designed for energy management in monitoring and maintenance applications:

- As an economy version, the new EL3423 3-phase power measurement terminal is intended for cost-sensitive energy management solutions, especially in IoT applications. The parameters that can be measured are energy, power and a mains quality factor. These are recorded with an update interval that is adjustable from 10 s to 1 h. As a special feature, the measured parameters are available as average, minimum and maximum values.
- The EL3483 3-phase mains monitoring terminal for voltage, frequency and phase enables optimum monitoring of the power supply to a machine, which is particularly advantageous for systems that are sensitive to voltage variations. The functions include threshold value monitoring of the internal measured values, and setting of warning and error bits in the process image. Single-phase operation as a voltage, frequency and phase monitor is also possible.

Further information:

www.beckhoff.com/el34x3

With the optimally scalable EtherCAT Terminals for energy management, a wide range of tasks can be solved in the areas of power monitoring and process control as well as mains monitoring and maintenance.



Dr. Fabian Assion presenting the comprehensive product range for energy management purposes at Hannover Messe 2018.