

PR142018

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EtherCAT I/O system, Measurement technology

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***EtherCAT measurement modules extended by  
ELM314x 1 ksps economy line***

**System-integrated and inexpensive  
precision measurement technology for  
highly efficient machines and test  
benches**

The new ELM314x economy line of the EtherCAT measurement modules supplements the established ELM3x0x line with a lower cost 1 ksps class. This simplifies the use of the system-integrated precision measurement technology, which taps significant optimisation and efficiency potentials both in production machines and in inline test benches.

The new ELM314x measurement modules are available in 2, 4, 6 and 8-channel versions. High-precision measurements with an accuracy of 100 ppm are possible – and in a wide temperature range from 10 to 40 °C at that. Each channel of the measurement modules can be set to current or voltage measurements with a sampling rate of up to 1 ksps per channel. Analog signals in the ranges from  $\pm 1.25$  to  $\pm 10$  V, 0 to 10 V,  $\pm 20$  mA or 0/4 to 20 mA can be processed.

The economy line offers considerably reduced channel costs, but provides the same wide range of functions as the ELM3x0x line. These include freely adjustable two-stage filters, oversampling, distributed clocks, true RMS and scaler functions. The extensive diagnostic features for unattended, long-term use familiar from the ELM3x0x line are also implemented.

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## **Wide range of applications for 1 ksps measurements**

Sampling at 1 ksps per channel is suitable for a wide range of applications. In particular, the processes of moving machine components or final inspection in inline test benches can be optimally mapped with the economy line in order to reliably control the processes. Typical examples include part geometry measurement on the fly, as well as fast, but highly precise weighing procedures, e.g. in bottling plants. In general, the ELM314x EtherCAT measurement modules are ideal for recording data from 10 V/20 mA sensors and for feeding real-time information directly back into the process. The speed, reliability and accuracy of production and test processes can be increased significantly with these insights. Efficient data logging for subsequent process analysis and optimisation is also just as easy. If increased requirements necessitate higher sampling rates, the ELM3x0x measurement modules with up to 50 ksps can be used instead. These are suitable, for example, for vibration measurement on fast-running machines in order to implement active vibration compensation or predictive maintenance.

➔ [www.beckhoff.com/elm314x](http://www.beckhoff.com/elm314x)

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## Press picture:



## Picture caption:

The inexpensive ELM314x economy line of measurement modules with 1 kSps expands the possible range of high-end measurement applications.

## Text and picture:

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