



Selection of new EtherCAT plug-in modules in the EJ series

Continuously expanded portfolio supports even greater application diversity

Beckhoff offers an extremely wide I/O spectrum for the traditional field level in the form of EtherCAT Terminals and Box modules. The company's many years of experience and proven technologies are also reflected in the form factor of the EtherCAT plug-in modules for circuit board mounting. Continuous expansion of the EJ range is demonstrated by four of the latest innovations for 2022.

The EJ6070 license key module can be used to manage TwinCAT 3.1 license files.

The new EJ6070 EtherCAT plug-in module represents a hardware license key within the modular EtherCAT I/O system. It can be used to manage TwinCAT licenses with the license information being transferred via EtherCAT. To this end, the license key module is equipped with 1 Mbyte of local data memory for saving TwinCAT 3.1 license files. In terms of function and memory, the EJ6070 corresponds to the C9900-L100 license key USB stick. The connection technology of the module, which measures just 12 x 66 x 55 mm, is a 2 x 20-pin socket connector.

The EJ6080 EtherCAT memory module uses 128 kbyte of non-volatile memory (NOVRAM) and can be used to store and read out parameters and recipes. Part of the memory – a maximum of 1280 bytes – can also be used for cyclic storage of machine data, such as operating hour counters or production figures. For acyclic access, the 128 kbytes are available for use in objects with a maximum size of 8,190 bytes depending on the variable structure. The 1-channel communication interface can be used in modular machine concepts with central control for storing machine-specific parameter data, to name just one of its applications. The size and connection technology correspond to the EJ6070 EtherCAT plug-in module.

The EJ7334-0008 EtherCAT plug-in module enables direct operation of four DC motors and is galvanically isolated from the E-bus. This was achieved while still offering the extremely compact housing dimensions of 12 x 66 x 55 mm. The speed is specified by a 16-bit value from the automation device, and the output stage is overload-proof. If rotation reversal is not required, up to eight motors can be operated unidirectionally on the EJ7334-0008 motor module. The maximum total current is 8 A (up to 3 A per channel with operating temperatures ranging from 0 to +40 °C) or 6 A (up to 3 A per channel with operating temperatures ranging from 0 to +45 °C).

Another innovation in the field of compact drive technology for the EJ series is the EJ7411 BLDC motor module. It offers high control performance in a very compact design for the medium power range of BLDC motors. Available module inputs include 2 x end positions, 1 x encoder, and 3 x Hall sensors, while outputs include 1 x BLDC motor, 1 x motor brake, 1 x sensor power supply as well as 1 x encoder power supply. The fast control technology and support for connection of an incremental encoder make it possible to achieve both very high speed profiles and dynamic positioning tasks. Numerous monitoring functions, such as overvoltage and undervoltage, overcurrent, module temperature and motor load (via calculation of an I²T model), result in maximum operational reliability. Further features of the 24 mm wide EtherCAT plug-in module include 4.5 A output current (I_{rms}) and support of the distributed clocks functionality.

These module innovations represent four examples of the continuous expansion of the EJ portfolio. Project inquiries are also currently being investigated to include new signal forms in the areas of LED control, power measurement and EtherCAT bridge data exchange. As a result, the portfolio will continue to be supplemented by additional technology areas going forward.

More information:

www.beckhoff.com/ej6070

www.beckhoff.com/ej6080

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