

TwinCAT MTP: cyber-physical modularization for the process industry

Automatic code generation enables efficient module engineering

The Module Type Package (MTP) is a modern solution for modularizing plants in the process industry. It defines an interface for easily orchestrating and connecting modules to a higher-level control system. With the new TwinCAT MTP, TwinCAT automation software from Beckhoff helps create MTP projects with automatic code generation, paving the way for efficient module development integrated into the TwinCAT Engineering Environment.

The MTP concept is based around intelligent modules with their own control system. It describes an interface between the module controller and the higher-level orchestration. This task can be handled by the so called Process Orchestration Layer (POL) which can be represented by for example a Distributed Control System (DCS). The MTP itself is a module description in the form of an archive file, which is exported from the module engineering and imported into the higher-level control system. It contains all information required for the POL to establish data exchange with the modules via the OPC UA communication standard.

TwinCAT MTP integrates the engineering of MTP-capable modules for processing plants directly into the familiar TwinCAT Engineering Environment. It offers the full range of options from module definition, import/export of an MTP to automatic code generation. This can be customized for specific users via multiple interfaces to enable extensive automated project planning. This new TwinCAT functionality minimizes the required guideline expertise for users so that module developers can focus on the actual control logic.

The MTP concept is integrated into TwinCAT through the TwinCAT MTP Runtime and TwinCAT MTP Engineering products. The TwinCAT Engineering Environment includes a project management in which TwinCAT MTP Engineering is integrated as its own project type. The TwinCAT MTP Runtime consists of an IEC 61131-3 programming library, which is used by the generated code of the TwinCAT MTP Engineering to implement a directive-compliant interface. The function blocks described in this library ensure the representation via the OPC UA interface. As such, TwinCAT OPC UA enables the POL to access data in compliance with the VDI/VDE/NAMUR 2658 guideline definition, sheets 1 to 4.



With the new TwinCAT MTP, automation software from Beckhoff addresses increasing plant modularization in the process industry.

More information:

www.beckhoff.com/twincat-mtp