The full ETEL solution allows machine builders to simplify mechanical integration in their machine thanks to a very consistent design and a modular architecture that is easy to wire and mount. Customers can focus on their core competence and technology while ETEL takes care of their motion systems development.

ETEL’s range of motion controllers (ULTIMET) and position controllers (ACCURET) allows machine builders to drive any available servo motors on the market (brushless, DC motors, steppers) with the highest performance regulation in a minimal footprint.

Its decentralized architecture ensures the same level of performance and speed regardless of the number of axes driven in the machine. Distributed architecture also makes cabling easier to manage and to maintain in the field. The software environment simplifies embedded programming, machine commissioning and maintenance.

ETEL motion control solutions are specifically designed for high-end equipment thanks to:

- A high frequency state-space regulator for high control bandwidth;
- An embedded programming and advanced control features at firmware level;
- A high speed communication through ETEL real-time bus (TRANSNET);
- A nanosecond level synchronization of axes for demanding multi-axis applications;
- A compact form factor and simple cabling for an easy machine building;
- Powerful and user-friendly software tools for setup, monitoring, simulation and automated testing.

For more information, refer to our Motion Control catalog and leaflets.

ETEL has always focused on developing advanced control features to make its position controllers unique in the market. From the first prototype commissioning to the serial production of machines, ETEL advanced features provide a simple access to major time savings, throughout enhancement and increased precision.

ETEL advanced features start to bring advantages at a very early stage of a machine design. For instance, Identification Tools, are available to allow a one-click evaluation of machine mechanical design, identify resonances and adapt controller settings. While commissioning the machine, other tools like Friction Compensation and Stage Protection can be used to cancel out repeatable errors and to secure system behavior in case of unexpected events.

In addition, the core of ETEL unique features is designed to bring higher throughput together with the most stringent position accuracy levels. Trajectory Filters have the ability to adapt trajectory shapes to minimize settling times. In combination with Dual Encoder Feedback capabilities and/or Gantry Control functions, outstanding performance can be reached with minimal tuning effort.

ETEL develops functions that are continuously setting the next milestones in motion control. In fact, with the Fast Trigger feature, ACCURET controllers can react to a real position crossing event in 1D or 2D within a few nanoseconds. This opens new possibilities at the machine control level.

Last but not least, ETEL Force Control algorithm is the flagship of advanced software features. With zero stop time and millinewton accuracy levels, accurate placement with force control can be performed at the highest ever throughput and with a precision never achieved till now.

ETEL MOTION CONTROL

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Innovative Motion Control

MODULAR 300
MODULAR 400
VHP 48
MODULAR 48
MODULAR 400
VHP 100

The ETTEL Device Interface (EDII) is a library which enables the communication between the ETTEL’s motion control system and the customer’s application. The Interpolated Motion Planning (IMP) is a trajectory optimization library for optimisation of complex trajectories which require geometry fitting, automatic transition and trigger placement. Using JMP can lead to unprecedented increased throughput without compromise on accuracy.

The ETTEL Motion controller is the master on the TRANSNET communication bus and can manage up to 63 axes. This motion controller is available in two formats:

- **ULTIMET**: Motion controller is suitable for processes requiring more computation power, data processing, interfacing and free real-time operating system. This standalone box controller is fitted directly mounted inside an ACCURET position controller and suitable for stand-alone machines, in which the need for time deterministic data transfer between motion system and machine PC is lower.
- **ULTIMET LIGHT**: Offers different ways to up to 2 embedded programs per axis, so machine builders can manage any process specific tasks at the controller level. The ULTIMET LIGHT is available in three versions: PCI and PCI Express version integrated into a PC for high speed applications requiring real-time deterministic communication. And the TCP/IP version integrated into a PC for high speed applications requiring real-time deterministic communication. And the TCP/IP version integrated into a PC for high speed applications requiring real-time deterministic communication.

**Highlights**
- Modular mounting concept and compact solution
- An optional board can be embedded
- Easy power and cabling
- 3D mapping available as standard
- Control the most demanding axes in terms of speed accuracy
- Achieve extremely high resolution position feedback in combination with high speed motion

**Advanced features**
- Fast triggers (1D and 2D)
- Force control
- Identification tools
- Gantry control
- Stage protection
- Cogging and friction compensation
- Dual encoder feedback
- RTV (Real Time Values)
- Trajectory filters

**Custom application software.**

**USB connector**

**Dual encoder feedback**

**Stage protection**

**Gantry control**

**Identification tools**

**Force control**

**Fast triggers (1D and 2D)**

**Dual encoder feedback**

**RTV (Real Time Values)**

**Trajectory filters**

**High Speed Encoder Interface (HSEI)**

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**ACURET Modular**

**Highlights**
- Modular mounting concept and compact solution
- An optional board can be embedded
- Easy power and cabling
- 3D mapping available as standard
- Control the most demanding axes in terms of speed accuracy
- Achieve extremely high resolution position feedback in combination with high speed motion

**Advanced features**
- Fast triggers (1D and 2D)
- Force control
- Identification tools
- Gantry control
- Stage protection
- Cogging and friction compensation
- Dual encoder feedback
- RTV (Real Time Values)
- Trajectory filters
- Built-in analog Input/Output
- High Speed Encoder Interface (HSEI)