



# Motion Control

ACCURET VHP

**ETEL**

## ACCURET VHP POSITION CONTROLLERS

For the most demanding applications, ETEL developed a unique Very High Performance position controller range called ACCURET VHP. This range of product is equipped with both specific hardware and software that maximizes the performance.

ACCURET VHP position controllers are compatible with all the other ACCURET controllers and can be dedicated to the most demanding axes of a multi-axis motion system. In fact, it is the same decentralized architecture as used in the ACCURET modular. This allows an important part of the machine control software to be located at the axis level. In addition to the benefits of ETEL

controllers such as high computation power, fast and real-time communication bus and state of the art control algorithms, ETEL's VHP range is providing outstanding signal to noise ratio.

ACCURET VHPs are successfully used in areas such as:

- Process control
- Wafer inspection
- Lithography
- Wafer and die level packaging
- Test and control equipment

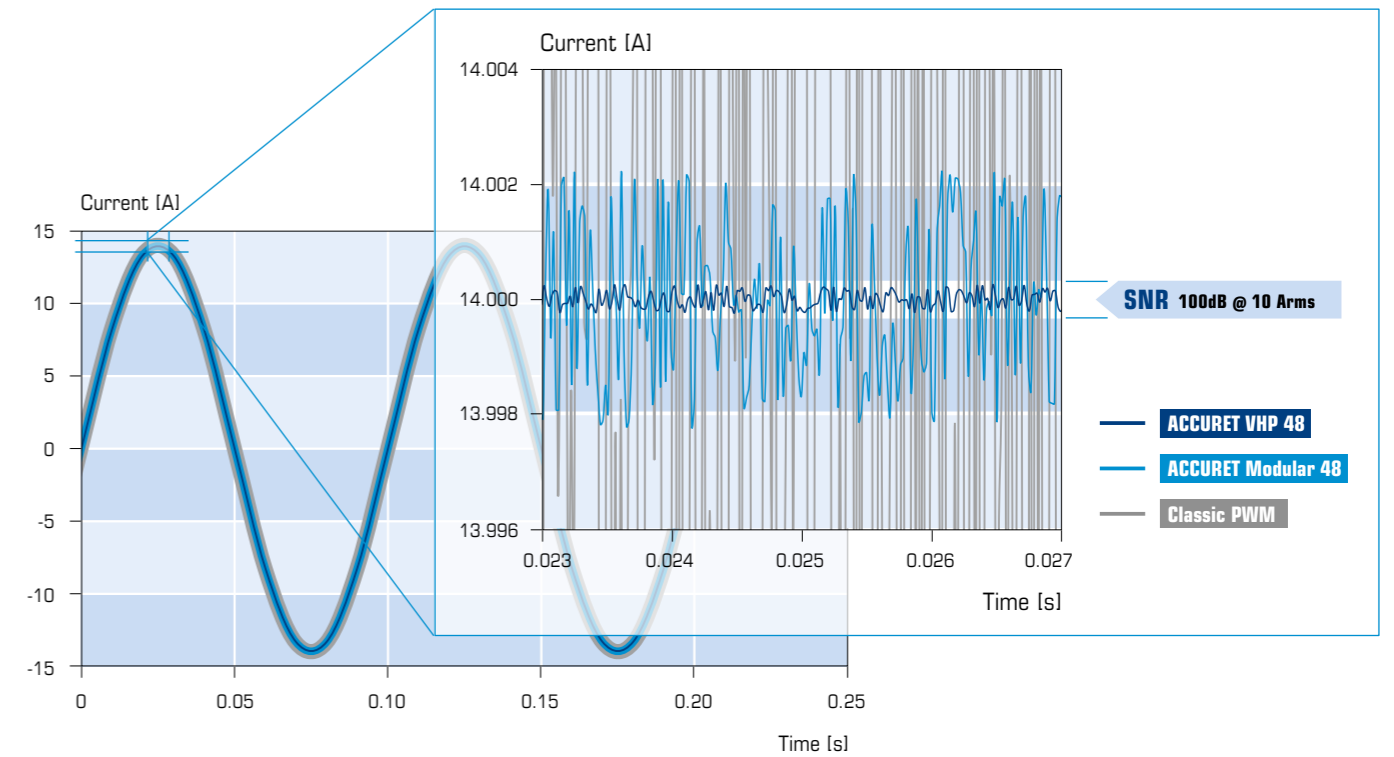
## ADVANCED FEATURES

ETEL has always focused on developing advanced motion control features to make its position controllers unique in the market. In addition to the standard range of products, ETEL offers unique hardware that enables performance otherwise unachievable with conventional technologies.

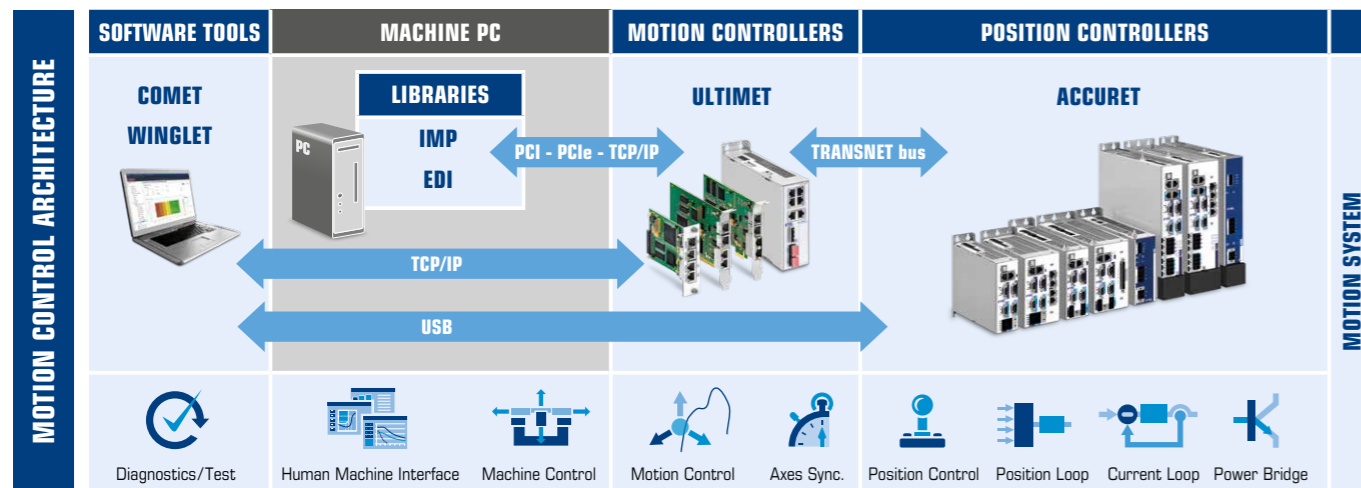
**ACCURET VHP (Very High Performance)** range includes all software features and advanced algorithms of the standard ACCURET range and combines these with a unique hardware design. VHP products are designed specifically to control the most demanding axes in terms of position stability and speed accuracy. To reach **sub-nanometer position stability** and **extremely low tracking errors** during dynamic motions ETEL has designed specific hardware.

ETEL's ACCURET VHP specific power output stage achieves outstanding **signal to noise ratio of 100dB**. This unique signal quality provides superior levels of performance both in position and speed stability. In addition ETEL's expertise delivers high levels of current that would be limited in traditional linear amplifier architectures. The **unique VHP hardware** is the key to combining outstanding positioning performance and high dynamics.

ACCURET VHP also provides advanced control features enabling more options and unique algorithms for complex motion systems. For instance, ACCURET VHP provides **High Speed Encoder Interfaces (HSEI)** to enable extremely high resolution position feedback in combination with high speed motion.



## MOTION CONTROL ARCHITECTURE



POSITION CONTROLLERS	SPECIFICATIONS	ACCURET VHP 48	ACCURET VHP 100
	Number of axes		2
Bus voltage [VDC]		48	100
Current continuous / peak [Arms]		1.5 / 3 5 / 10	7 / 15 10 / 30
Size H x D x W [mm] (no optional board possible)		130 x 180 x 100	130 x 240 x 125
Encoder		Incremental analog (1 Vpp) up to 6 MHz, Absolute EnDat 2.1 and 2.2, TTL	
Structured programming language sequences		2 threads of structured programming language sequences	
Regulator type		Position state regulator with feedforward and advanced second order filters	
Advanced control features		<ul style="list-style-type: none"> <li>• Fast triggers (1D and 2D)</li> <li>• Force control</li> <li>• Identification tools</li> <li>• Gantry control</li> <li>• Stage protection</li> <li>• Cogging and friction compensation</li> </ul>	<ul style="list-style-type: none"> <li>• Dual encoder feedback</li> <li>• RTV (Real Time Values)</li> <li>• Trajectory filters</li> <li>• High Speed Encoder Interface (HSEI)</li> <li>• Built-in 16 bits analog Input/Output</li> </ul>



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