



# INDUSTRIAL POSITIONING SYSTEMS

## ARATEC® vs. Conventional Positioning Systems (e.g. PLC's)

### Conventional Positioning Systems / PLC

- >> Slower cycle times
- >> Static parameters, experimental determination of positioning parameters
- >> Expensive software licenses required
- >> Expensive hardware components
- >> Complex cabling



### PSI Technics' ARATEC® Positioning Solution System

- >> Faster computation cycles
- >> Flexible, dynamic parameters; dynamic controllers
- >> Web-based software interface eliminates additional costs and simplifies troubleshooting/support
- >> Powerful, reliable and standardized hardware
- >> Faster commissioning, easy to use

**Direct Comparison  
ARATEC® vs.  
Conventional Systems**

#### CONCLUSION

- >> Cutting-edge technology
- >> Experienced technical staff
- >> Reduces operating costs, while maintaining a consistent throughput. Increases performance by up to 15%
- >> Optimization of industrial facilities through reduced energy consumption
- >> Reduced wear and tear
- >> Time-optimized positioning with millimeter accuracy
- >> Faster commissioning
- >> Easy to use, intuitive system
- >> Enhanced safety features
- >> Reliability > 99.9%  
> 300,000 movements p. a.
- >> Fully compatible with Trimble, Geotronics and Spectra Precision ICS5000/TCS4000 and ASC units for easy retrofitting of existing installations

#### ARATEC® Advantages

- >> Positioning with millimeter accuracy
- >> Commands can be executed in 1ms intervals
- >> Automatic control loop configuration
- >> Fully automatic, ideal machine modeling
- >> Automatically identifies optimum control and positioning parameters for load, machine and motor drive
- >> Self-learning characterization software recognizes control parameters and determines ideal travel profiles
- >> No creeping speeds on linear ramps – irrespective of load, speed and acceleration
- >> No unnecessary filters or dampening parameters required for controller stabilization
- >> Prevents failure and interferences during normal operation (e.g., beam breaks, oscillation, motor drive failures, and material wear)
- >> Controls and diagnoses measurement fluctuations
- >> Diagnostic logs can be created for periods of several weeks
- >> Industry-standard hardware components
- >> Powerful IPC (Industrial PC) Controller



# INDUSTRIAL POSITIONING SYSTEMS

## ARATEC® vs. Conventional Positioning Systems (e.g. PLC's)

### Enhanced Safety Features

- >> Beam break analysis and compensation
- >> Sensors are checked for reliability and operation
- >> Detection of motor drive failures
- >> Server monitoring ("heartbeat")
- >> Self-monitoring software
- >> Compensates for temporary signal loss from absolute encoders

### Easy to Use

- >> User-friendly (no programming skills or control engineering expertise required)
- >> Modular design enables fast and easy service and replacement of spare parts
- >> No separate setup software required (software access via web-based interface)
- >> Self-learning characterization software determines ideal travel profiles and recognizes control parameters for faster commissioning
- >> Complete technical documentation, including connection diagrams and installation instructions

### S.M.A.R.T Technology (**Smart Motion And Reliable Technology**)

- >> Time-optimized linear travel profile reduces wear and tear
- >> Reliability > 99.9% > 300,000 movements p. a.
- >> Reduced energy consumption due to oscillation-compensation or oscillation-free positioning, respectively
- >> Powerful, advanced and robust positioning algorithm
- >> No additional software costs due to web-based software interface
- >> Affordable hardware
- >> Enhances performance by up to 15% compared to conventional systems (e.g., PLC's)

### Fast and Easy Retrofitting

- >> Easy retrofitting of existing Trimble, Geotronics and Spectra Precision ICS5000, TCS4000 and ASC units
- >> All required interfaces included (communications, I/O, analog output)
  - >> Identical communication and commands (no PLC code changes required)
  - >> Identical analog output (no need to change motor drive parameters)
  - >> Identical I/O signals (brake, safety, forward/reverse contacts)

### Optional Add-Ons

- >> Remote access
- >> FLP6000AOC Advanced Oscillation Control system to decrease mast oscillations of stacker cranes
- >> FLP6000ASC Advanced Skew Control Software
- >> Tandem Operation of cranes or trolleys
- >> FLP6000MA Motion Analyzing Software for process optimization
- >> FLP6000EOS Energy Optimizing Software for time-optimized positioning enables energy savings of up to 15% – *without the need for changes to the motor drive or PLC*

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