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OPTIMIZED WAREHOUSE LOGISTICS

PSI Technics: Your Reliable Factory Automation Partner
Installation – Optimization – Modernization – Retrofitting

We provide you with
the safest, most efficient
and optimized solutions
for your business.



Picture on Front Page: Hong Kong Air Cargo Terminals Ltd. (Hactl), Box Storage System (BSS)



OPTIMIZED WAREHOUSE LOGISTICS

Identifying Optimization Potential, Analyzing and Eliminating Motion-Related Weak Spots

In logistics, industrial machines are critical for the production throughput of goods and merchandise. Over time, installations and machines become prone to failures.

At PSI Technics, we ensure the time- and energy-optimized operation of your stacker crane or bridge crane installation. You benefit from custom consultation, planning, implementation and support – for increased throughput and energy management.

Optimization – Modernization – Retrofitting

We assist you in optimizing crane installations– from analyzing the current condition to modernization and maintenance.

Analysis

In a first step, PSI Technics analyzes the baseline performance of your machines to determine the potential for optimization and reducing energy consumption. PSI Technics' FLP6000MA Motion Analyzing Software provides a comprehensive analysis of the system performance and identifies issues that can impact performance.

Latent weak spots can lead to significant problems, such as:

- >> Crane mast oscillations
- >> Throughput fluctuations
- >> Inaccurate measurements

Crane

Motor Drive

Hardware

Stacker Crane

Sensors

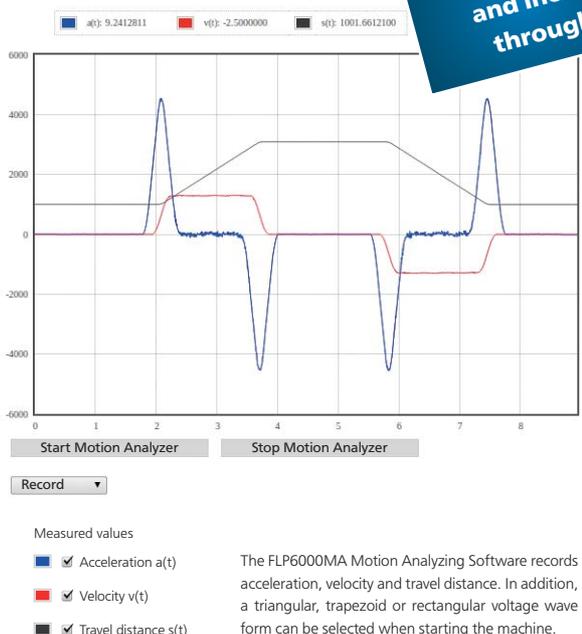
Frequency Converter

Performance Analysis

PSI Technics uses the unique FLP6000MA Software to analyze the acceleration, the velocity and the travel distance of your material handling installation to illustrate the optimization potential in your facilities. The resultant histogram graphs the operating profile of the whole machine and shows how often each value is sampled during long-term motion analysis.

PSI Technics then delivers a comprehensive report that details suggestions for replacing weak system components, considerations for changing machine parameters for improved operation and throughput, and an energy consumption analysis that identifies any opportunities to reduce energy usage and cost within the application.

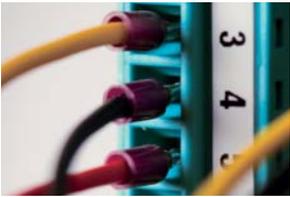
YOUR ADVANTAGE:
Reduced costs
and increased
throughput





OPTIMIZED WAREHOUSE LOGISTICS

Quality Solutions from PSI Technics – From Concept to Commissioning and Beyond



Installation and Commissioning

When it comes to the modernization of existing facilities, PSI Technics places particular emphasis on minimizing downtime. After an initial site audit, modernization and commissioning can be done typically in as little as a few hours (for example during production-free periods).



Education and Training

When the modernization is complete, we train staff in maintenance and troubleshooting, to ensure they are well equipped to respond quickly and resolve any issues.



Service and Maintenance

For multiple system applications, harsher environments or when customers choose to turn over support and maintenance to PSI Technics, we can offer custom-tailored on-site services to ensure long term high availability, regardless of the make or model of your installation.



Advanced Planning

PSI Technics' use of sophisticated virtual models helps detect potential weaknesses that can affect future performance. Using virtual modeling, PSI Technics offers you a "glimpse into the future" of your installation. This service enables you to predict and avoid costly downtimes for new and existing installations, in addition to cutting costs in the long run.

For **existing applications**, PSI Technics creates computer models to pinpoint stress and strain, weak spots and potential changes for improvement.



For **new applications**, PSI Technics simulates the expected system behavior and performance prior to the actual installation to predict and analytically detect potential interferences. This approach allows you to identify needed improvements early in the planning stage when comparing designs of different providers.



OPTIMIZED WAREHOUSE LOGISTICS

Meeting Highest Quality Standards Worldwide – Renowned International Companies Rely on Solutions from PSI Technics



SKF Logistics Services, Belgium:

Modernization of Stacker Cranes in a High-Bay Warehouse

The Challenge:

Modernizing existing positioning systems in an automated high-bay storage warehouse in Tongeren, Belgium, retaining the existing PLC as well as existing drives. Optimizing the positioning profile of the existing stacker cranes that handle varying loads of up to 1,000 kg.

The Solution:

Installation of the innovative ARATEC® Positioning Solution System using the existing PLC, the communication protocols and the existing drives. Time-optimized travel profiles eliminate creeping speed and enable oscillation-free positioning. Now, only 7 positioning system units are needed for the 14 stacker crane axes instead of the previously installed 14.



Hanson Pipe & Precast, USA:

Bridge Crane Modernization

The Challenge:

Modernizing three positioning system units, including skew control, used on a bridge crane. A key challenge was ensuring an oscillation-free acceleration, deceleration and positioning with millimeter accuracy that was required due to the significantly varying loads of the cast concrete pipes.

The Solution:

Modernizing the existing system with the ARATEC® Positioning Solution System, including FLP6000ASC Advanced Skew Control that provides single-axis control for the trolley traversing machinery. Due to the high environmental temperatures of more than 140°F (+60°C), Hanson Pipe & Precast decided to add PSI Technics' TPCC® Thermo Protection Cooling Case to protect their SICK optical distance meters from the production plant's environmental conditions.



Hong Kong Air Cargo Terminals Ltd. (Hactl), Hong Kong:

Modernization of Stacker Cranes and an Elevating Transfer Vehicle

The Challenge:

Modernizing the stacker cranes in the customer's Box Storage System (BSS) and the automated positioning of an Elevating Transfer Vehicle (ETV). The new positioning solution had to be both extremely reliable and easy to integrate. The customer's requirements were proven track-record with similar retrofitting projects and a system that could be integrated into the existing hardware with minimum downtime.

The Solution:

Retrofitting all stacker cranes with the ARATEC® Positioning Solution System, including the control technology and the distance meters, while retaining the PLC, communication protocols and motor drives.

The following are but a few of the many world-class customers who are successfully reaping the benefits of PSI Technics' advanced solutions:

AK Steel, Groz-Beckert, Herlitz, Hydro Alluminio, Mercedes Benz Factory Düsseldorf, Pfeleiderer, Robert Bosch, Salzgitter Stahlhandel, Shanghai General Motors, Stollwerck, Travis Air Force Base, Volkswagen

PSI Technics GmbH

support@psi-technics.com
www.psi-technics.com/E

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