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Find the *OMRON / Adept Technology sMI6* at our website: ***Click HERE***

Overview of Adept SmartMotion

Adept SmartMotion is intended to provide complete motion control of user-supplied mechanisms which allows users to retain the flexibility of selecting the drive components that are best suited for their applications. Adept SmartMotion can interface to industry-standard drive components including most servo amplifiers and optical encoders. Motion-related I/O signals can utilize voltage levels chosen by the user.

Adept SmartMotion has also been designed to function as an integral part of Adept's control system. The Adept SmartMotion product consists of a hardware and software package to provide high-performance coordinated motion control for industrial automation devices. Typical hardware components include:

- an Adept SmartController
- one or more sMI6 modules, MP6 panels
- a manual control pendant
- a desktop or laptop PC
- a user-supplied mechanism with servomotors, encoders, and amplifiers.

Additional options such as Adept-supplied robots and vision systems are also available.

Communication between the Adept SmartController and the Adept SmartMotion system components is handled by the SmartServo network, Adept's distributed control network which uses the IEEE 1394 communication protocol. The Adept SmartMotion product also provides completely integrated V+ software to provide the same high-level motion instructions that are used for Adept robots. The sMI6 supports up to six axes of motion control per module.

Features and Capabilities

System Features

- High-performance electronics and advanced control algorithms to ensure optimum motion control
- Digital servo loop eliminates analog adjustments and drift problems
- Capable of controlling multiple mechanisms simultaneously and with full coordination as well as independent axes of motion
- Proven controller platform with available options such as integrated vision guidance and a graphical user interface
- Compatible with all standard Adept options

Hardware Features

- Interfaces directly to industry standard motors, amplifiers, and encoders
- High-speed position latches support high-performance vision guidance and conveyor tracking
- Overtravel inputs provide automatic detection of certain mechanical problems
- Optical isolation provided for encoder interface and dedicated I/O for maximum noise immunity, safety, and flexibility
- Continuous monitoring of encoder signal presence and validity to assist detection of encoder noise or failure

> **NOTE:** For detailed information on the Adept SmartMotion hardware features and installation, refer to the *Adept SmartMotion Installation Guide*.

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Software Features

- High-level motion instructions simplify programming
- Auto-tuning of feedforward servo control gains
- Comprehensive diagnostics and debug tools
- Index pulse checking to help verify encoder integrity
- Complete setup and start-up utilities to tailor the system to your application
- Complex mechanism kinematics solutions available as an option
- Flexible calibration options support a variety of homing methods: index pulse, hard stop, limit switch

Related Topics

Process Overview

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