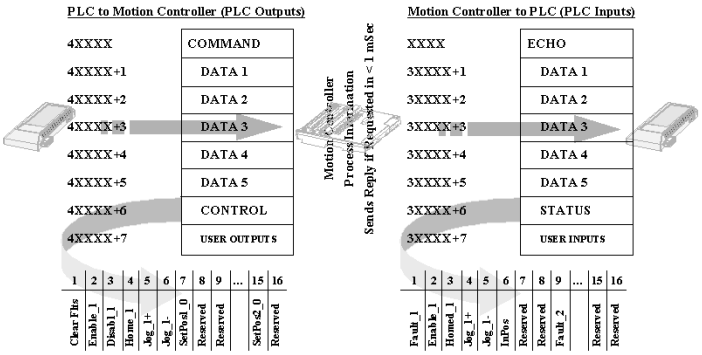
Integrated Industrial Technologies, Inc.
Innovative Ideas in Motion

Momentum

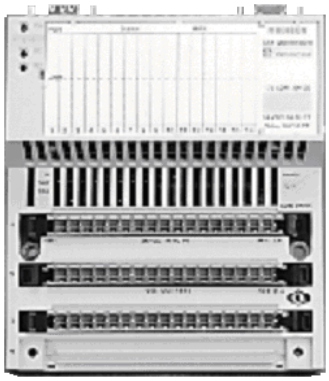
Momentum I/O Base Servo Control Module – IFC 220E

The IFC 220E is a cost-effective, easy-to-use, two-channel intelligent feedback and control module that controls the position and speed of two servos, flux vector, variable frequency, or DC drives and motors. With a rich instruction set, this full-featured motion controller, when coupled with any Schneider PLC top hat, provides a cost-effective, truly-distributed automation system. The CPU I/O bus can tie multiple units together resulting in coordination of many distributed axis. With the full-line of Schneider communication top hats, you can seamlessly integrate this motion controller into any automation system. Using Transparent Factory components, access to the motion control information over the web is possible. Requiring a PLC or communication top hat to function in an application, the IFC 220E Momentum I/O Base communicates to the top hat using eight bi-directional I/O mapped registers (shown below).



Features & Benefits:

- Two differential encoder ***input channels***
- Two ±10V torque or velocity ***output commands*** to motor amplifiers
- ***Predefined inputs*** include CW, CCW, Home and Drive Fault
- ***Predefined outputs*** include Drive Enable
- Five onboard ***User Definable Inputs/Outputs*** controlled by PLC logic
- Point-to-point or coordinated ***moves*** with linear or s-curve acceleration



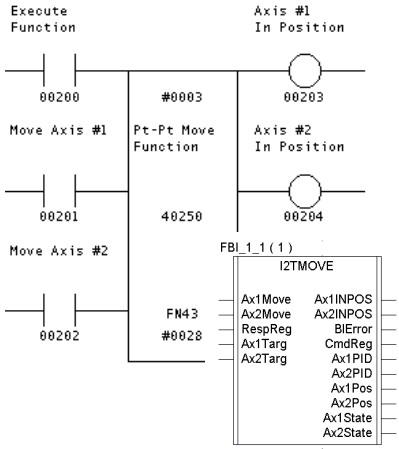
- Onboard ***Sixteen-point move table*** with configurable positions, speeds, accel/decel parameters. Execute moves individually or blend groups using linear or s-curve accels/decels. Modify points on-the-fly from the PLC excluding the point being executed.
- ***Registration function*** with phase advance and retard
- Electronic ***gearing*** for process synchronization
- Two 500-point ***CAM tables*** for complex contouring with linear or cubic-spline point interpolation. Load CAM table points on-the-fly with the exception of the point being executed
- ***Profiling*** from a Virtual Axis (Enhanced Firmware Option)
- ***Linear and Circular Interpolation*** (Enhanced Firmware Option)
- ***Multi-Mode function blocks*** allow the user to execute motion from Modsoft, ProWorx Plus, ProWorx NxT, and the 984LL editor of Concept
- ***Concept*** EFB Motion ***Tool Kit*** (optional) for Concept Version 2.2 SR2
- ***Windows Setup Software*** for Windows 95, 98, NT and 2000 for simplified module configuration, motion profile definition, system testing/monitoring. Complete with *Graphical Tool Package* for Axis Tuning and Motion Profile Development (Q2-01).

Module Applications:

- ***Servo Controller*** - Position Control of Servo, Flux Vector or DC Motors and Drives
- ***Intelligent Feedback Device*** - Monitoring of Position, Speed and Feedback Status
- ***Programmable Limit Switch*** - Setting Outputs based on Speed or Position (functions as a PLS)

IFC 220E – Momentum I/O Base Servo Control Module

Function Blocks (FN43):

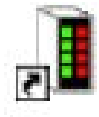


Using the FN43, PLC users can execute motion from ladder logic or from the IEC programming environment of Concept. Programmers can select one of multiple modes, which define function block operation. The FN43 coordinates the transfer of low-level commands to the module in the appropriate sequence to execute the desired movements, activate/deactivate the onboard functions, and change function parameters.

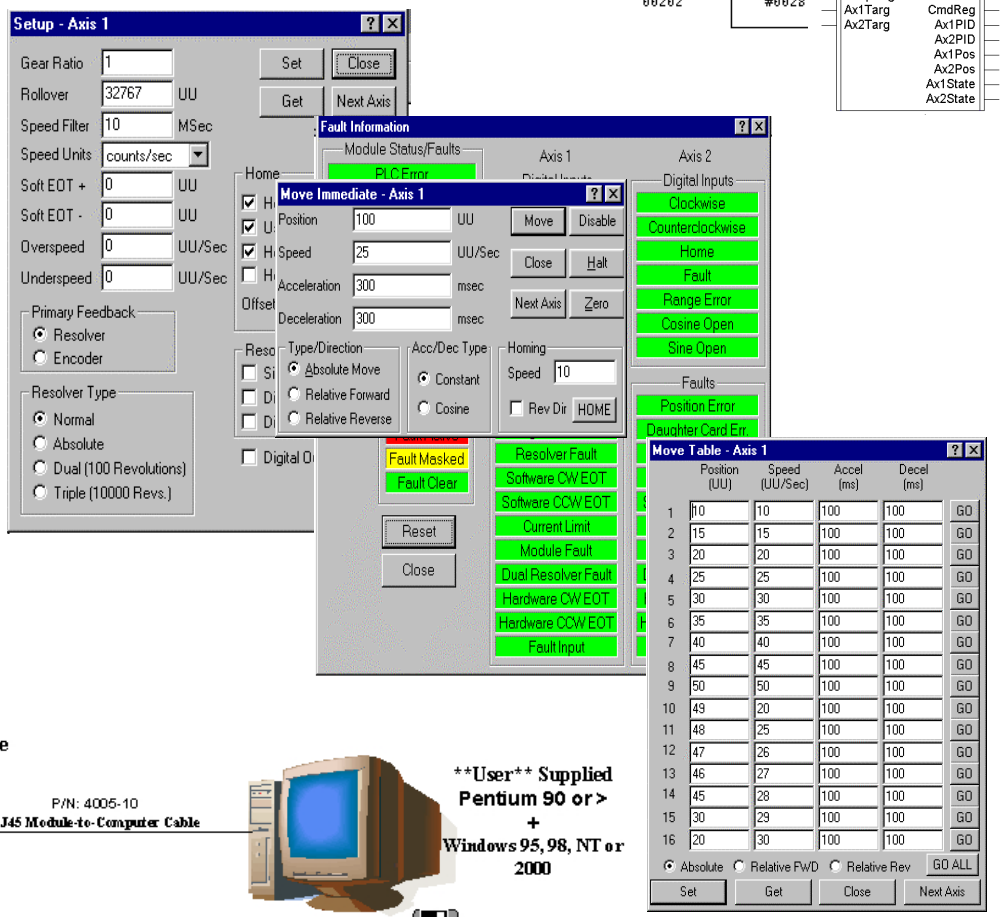
Mode 6 copies the entire memory configuration from the IFC 220E module and stores it in a predefined group of PLC holding registers. With this function block mode, I²T can provide the PLC customer with a virtually maintenance-free motion system when using the I²T BA Series analog amplifier, which requires no software configuration.

Mode 8 allows PLC users to write any low-level command to the module. Low-level commands exist for configuring or executing every feature available on the IFC 220E module.

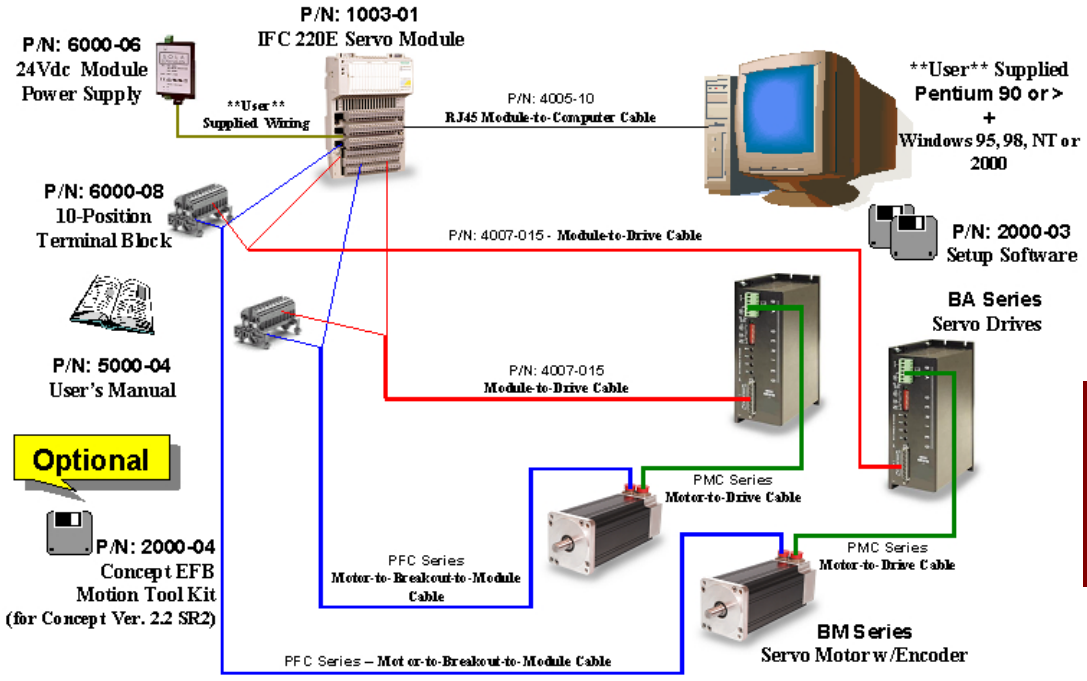
Windows Setup Software:



I²T HMI



Typical Configuration:



Options:

3000 Series Heavy-duty Encoders w/25, 50, or 100 ft. interface cables.

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