

SCM 020 – Quantum PLC 2-Axis Stepper Control Module

The SCM 020 is a two-axis stepper motor control module manufactured by Integrated Industrial Technologies for the Modicon Quantum Series Programmable Controller. The SCM 020 controls two axes of stepper motors either independently or together providing point-to-point or coordinated motion profiles.

Features & Benefits:

- Produces step and direction outputs to control two full-step or micro-stepping amplifiers (in user units).
- The SCM 020 controls amplifiers with a resolution from 200 to 51,200 steps per revolution.
- Allows the Quantum PLC to move two independent stepper axes (in user units) directly from PLC code.
- No high-level languages are needed to perform complex move profiles.
- Absolute and index type moves are controlled from PLC logic.
- Sixteen positions for each axis can be stored in the module.
- User's can command that the stepper motor move to a stored position by turning on its associated bit in a PLC register
- Includes clockwise, counterclockwise, machine fault, and home limit inputs for each axis.
- Axis enable, direction, and step (pulse) outputs are provided for an I²T or user supplied stepper amplifier
- Windows Setup program allows user's to quickly setup the SCM 020. User's can exercise the stepper and mechanical system with the Setup Software, without having to write any PLC code



- A loadable Function Block (FN43) allows the user to implement Homing, Point-to-Point Move Profiles, or Sixteen Point Move Profiles without having to write logic to perform motion.
- Optional encoder inputs for each axis can be provided for position verification of the stepper motor

Integrated Industrial Technologies also provides a range of micro-stepping amplifiers and motors ranging in size from 225 oz-in of torque to 1284 oz-in of torque. Amplifier power supplies, cables, encoders, and other accessories may also be supplied.

Module Applications:

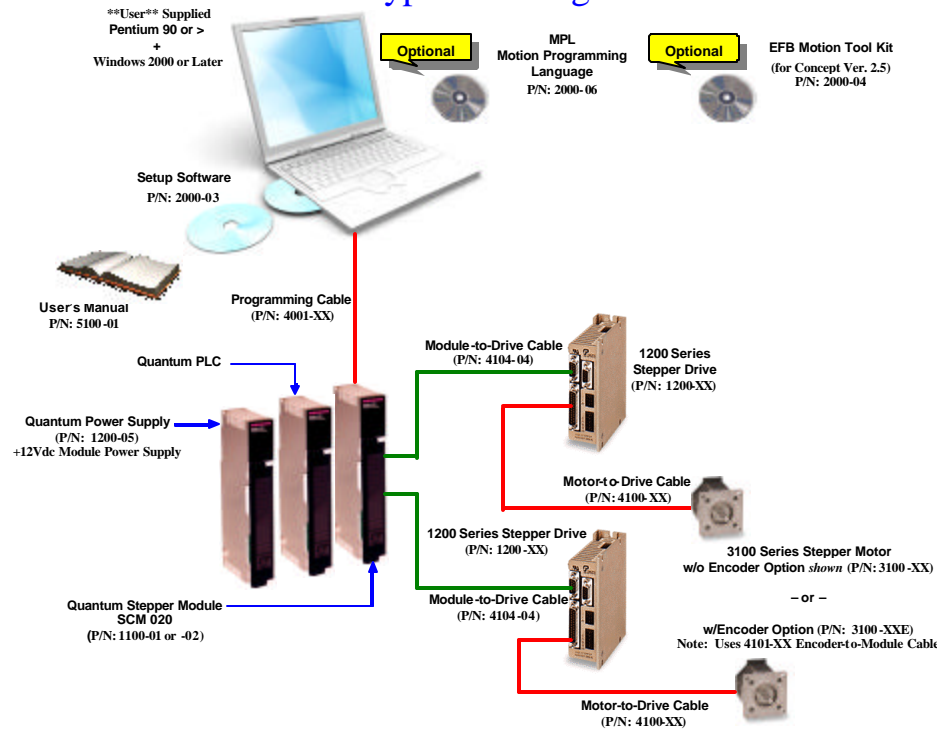
- Point-to-Point Discrete Part Equipment
- Grinding & Tool Feed Applications
- Positioning Equipment
- Feed-to-Length Equipment
- X-Y Contouring
- Conveyors

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Specifications:

- 2 Axes per Module
- Moves executed from PLC
- 16 Positions, Speeds, Accels and Decels stored on Module
- Windows Setup Software for easy axis configuration
- PLC Loadable provided for easy PLC programming
- Trapezoidal or Blended Move Profiles
- Adjustable Accel and Decel Rates
- Resolutions up to 51,200 Steps/Rev
- Absolute Position up to 32,767,000 User Counts
- Position/Speed (User Units)
- Optional Encoder Position Verification
- Stepper Motors/Drives: 225-1284 oz-in
- Optional Power Supplies and Cables

Typical Configuration:



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. 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 drive, which requires no software configuration.

Windows Setup Software: