

IFC 022 – Quantum PLC Feedback & Control Module

The IFC 022 is a 2-axis servo motion control module manufactured by Integrated Industrial Technologies for the (Square D) Schneider Electric Quantum series programmable controller. The IFC 022 can read the position and speed of two resolvers and/or encoders (user units) directly into processor registers. It also controls the position of any type of servo, flux vector or DC motor directly from PLC ladder logic.

Features & Benefits:

- Eight software programmable limits (per axis) for use in the PLC code to trigger logic for **packaging machinery, conveyor control**, etc...
- **Two analog outputs** can control a Servo, DC Motor, or Flux Vector
- Store up to 16 Positions, Speeds, Accels and Decels in the module. The PLC can execute any of these moves individually or in sequence to perform blended moves for positioning a motor.
- A digital input on each axis permits high-speed position capture for **registration applications**
- Stored profile can be **superimposed** on top of a velocity or index move. Users can delay the profile with a user-defined distance.
- Advanced motion capabilities include **electronic gearing, CAM tables** and **registration** without intervention from the PLC (Q2-00 Release)
- Feedback device (resolver, encoder or analog input) can **control tension in a WEB system** by using on-board PID to **control the speed of a take-up or let-off motor**. The PID trims the line speed of the motor based on the feedback's position.
- Adjust the **range of the analog output** to represent $\pm 10\text{Vdc}$, $\pm 5\text{Vdc}$, $0-10\text{Vdc}$, or $0-5\text{Vdc}$ while maintaining full 12-bit resolution
- Use an **Absolute Resolver** for applications that cannot be homed on power-up



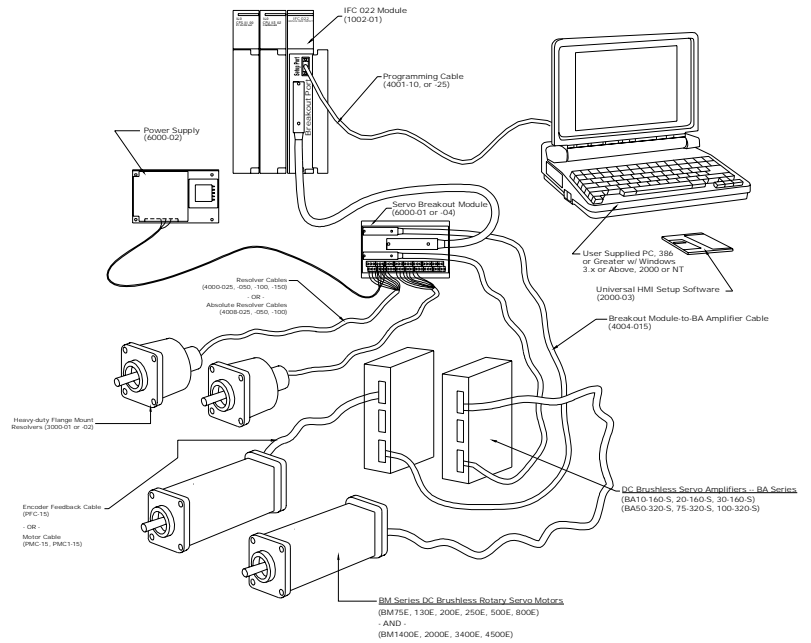
- **HMI - Windows Setup Software** allows the user to set user units, position tables, testing and diagnostics
- Custom **Loadable Function Block** allows for easy setup and execution of module functions directly from the PLC logic.

Applications:

- Monitor Position and Speed of Machinery
- Control Position of Servo, Flux Vector, DC Motors and Drives
- Electronic Gearing
- Coordinated Contour Moves
- X-Y Tables
- Point-to-Point Gantry Cranes
- Pick-and-Place Conveyor Control
- Feed-to-Length Equipment
- Registration in Packaging and Labeling Machinery
- Part Orientation
- Loaders

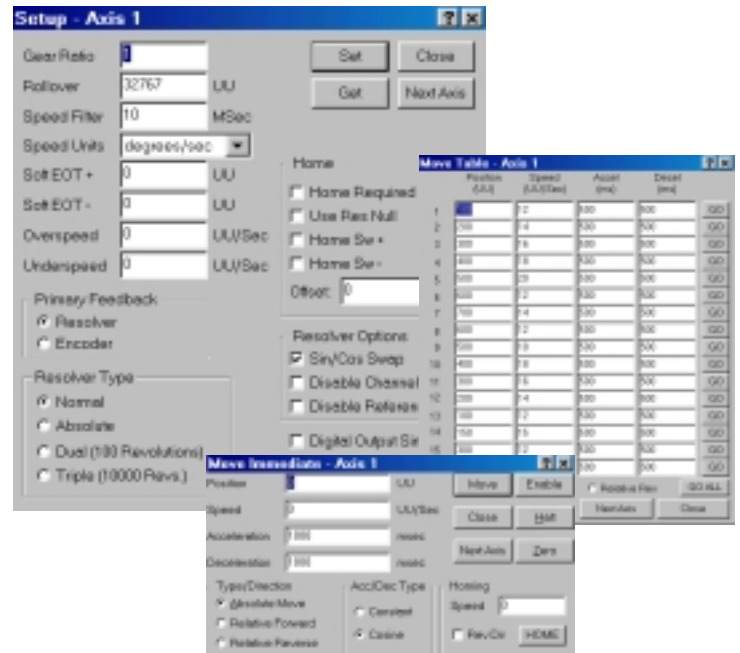
IFC 022 Quantum Servo Intelligent Feedback & Control Module Specifications

- 2 Channels of 12-bit Resolver and Encoder Inputs per Module
- 2 Channels of 16-bit Analog Inputs
- 4 Channels of 16-bit Analog Outputs
- 8 Digital Inputs, 4 per Axis – CW, CCW, Home, Fault
- Resolver/Encoder Position (User Units)
- Resolver/Encoder Speed (RPMs)
- 2 Amplifier Enable Outputs, 1 per Axis
- Status and Error Code Register for each Channel
- Module Position and Speed updated every 500 uSec providing new data every PLC scan
- Windows Setup Software for Easy Configuration
- Automatic Resolver Reference voltage gain allows use of most resolvers
- Onboard LED Status and Error Display
- Convenient Breakout Module and Cable for Ease of Wiring
- All field wiring isolated from Module CPU and Backplane
- ±12Vdc Power Supply for Isolation (required).



Typical Configuration – Part Numbers:

1002-01	IFC 022 Quantum Resolver/Encoder Input & Control Module
3000-01	Flange Mount Heavy-Duty Resolver (90 deg Connector)
3000-02	Flange Mount Heavy-Duty Resolver (Straight Connector)
3000-07	Flange Mount Heavy-Duty Encoder – 1024 Counts (90 deg Connector)
3000-08	Flange Mount Heavy-Duty Encoder – 1024 Counts (Straight Connector)
3000-06	Resolver Flange Mount MS Mating Connector (use w/ 3000-01 / -02 only)
4000-025	Resolver Cable – 25 ft.
4000-050	Resolver Cable – 50 ft.
4000-100	Resolver Cable – 100 ft.
4000-150	Resolver Cable – 150 ft.
4006-025	Encoder Cable – 25 ft. (use w/ 3000-07 / -08)
4006-050	Encoder Cable – 50 ft. (use w/ 3000-07 / -08)
4006-100	Encoder Cable – 100 ft. (use w/ 3000-07 / -08)
4004-015	Servo Breakout Module-to-BA Drive Cable – 15 ft.
2000-03	HMI - Module Setup Software
4001-10	Modbus Programming Cable – 10 ft.
4001-25	Modbus Programming Cable – 25 ft.
5000-03	IFC 022 User's Guide
4003-03	Module-to-Breakout Cable (Std. w/ 1002-01 / -02)
6000-04	Servo Breakout Module (Std. w/ 1002-01 / -02)
6000-02	Power Supply, ±12Vdc @ 1.7 Amps
6000-05	Encoder Power Supply



IFC 022 Setup Software

NOTE: See Servo Motor & Amplifier Brochure for Amp & Motor Part Numbers