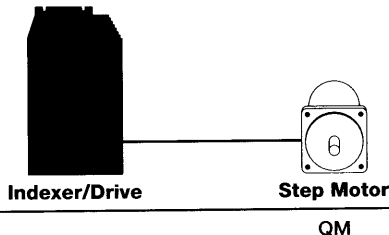


A Full Spectrum of Products

The following OEM products are available to complement your need for an indexer/drive.



For complete specifications by return fax, please call us at this number and request Document 1321.

OEM650X

Fully Integrated Indexer and Microstepping Drive for Low-Inductance, High-Current Motors

Features

Performance

All of the high performance found in the OEM650 plus:

- Designed for use with a low inductance (<10 mH)
- Provides 0.8 Amps to 7.5 Amps
- Single 24-75 VDC power supply input
- Compatible with a variety of motors
- Built-in stand-alone indexer

I/O

- Standard RS-232C serial communications interface
- Incremental encoder support for position tracking, stall detection and position maintenance
- Three sequence select inputs for program initiation by an external device
- CW, CCW and Home inputs

Language

- Simple Compumotor X Language
- Optional 2K bytes of battery-backed RAM to store up to 7 command sequences (-M2 option)
- Address selectable for daisy chaining up to 8 units

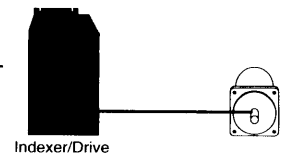
Protection Circuit

- Short circuit protected—phase-to-phase, and phase-to-ground
- Power dump circuitry to protect drive from regeneration caused by large inertial loads
- Self-test feature to verify proper system operation
- Overtemperature circuitry protects the drive from thermal damage
- Certified as U.L. recognized component

Physical

- Status/fault LED indicators to confirm proper operation
- Application-specific integrated circuit (ASIC) and surface mount technology minimize product footprint, overall package size, and increase product reliability
- Removable snap-on molded cover for convenient configuration and protection against contaminants
- Optically isolated fault output for imbedded applications
- Heat plate design allows thermal dissipation through the mounting surface
- Simplified, two-screw mounting
- Right-angle screw terminal allows side-to-side mounting, or Eurorack compatibility
- Overall dimensions 5.0 x 3.6 x 1.6 in. (127 x 91 x 41 mm)
- Also available with a removable 10 pin motor/power connector (-RC option)

OEM650X Specifications



Parameter	Value
Power Input	
DC	24–75 VDC @ 2A rms (motor dependent)
Performance	
Accuracy	±5 arc min (0.0833°) typical. Unloaded-bidirectional with Compumotor supplied motors. Other motors may exhibit different absolute accuracy. ±1 arc min (0.0167°) Loaded-in addition to unloaded accuracy, per each frictional load equal to 1% rated torque.
Repeatability	±5 arc sec (0.0014°) typical. Unloaded-one revolution returning to start point from same direction.
Hysteresis	Less than 2 arc min (0.0334°) unloaded-bidirectional.
Resolution	16 selectable choices: 200, 400, 1000, 2000, 5000, 10000, 12800, 18000, 20000, 21600, 25000, 25400, 25600, 36000, 50000, 50800
Waveform	Selectable. Allows waveform shaping for optimum smoothness or relative accuracy. Pure sine; -4%, -6%, -8%, -10% 3rd harmonic.
RS-232C Interface	
Connection	3-wire implementation (Tx, Rx, Gnd)
Parameters	9,600 baud rate, 8 data bits, 1 stop bit, no parity
Configurations	Up to 8 OEM350X/OEM650X units can be controlled from a single host RS-232C port in a daisy chain configuration
Inputs	
Sequence Select Inputs	Three inputs to be used to select and run motion programs and for interactive machine control; TTL-compatible**
Trigger Inputs	Three trigger inputs internally pulled up to 5V; sinking current is 1.2 mA, TTL-compatible**
Limits and Home	Logic High = 2.0–5.0V Logic Low = 0–0.8V
Encoder	
A, B and Z Channel	Single-ended, active high; Logic Low = 0–0.8V; Logic High = 2.0–5.0V (4.5 mA sink)
Max Frequency	160 kHz (pre-quadrature)
Min Pulse Width (Z)	500 nsecs
Outputs	
2 Programmable Outputs	Logic High = minimum of 4.26 V (source -24 mA) Logic Low = maximum of 0.44 V (sinks to 24 mA)
Fault Output	Conducting = drive fault; non conducting = normal operation
Amplifier	
Type	20 kHz fixed frequency, variable duty cycle pulse width modulated (PWM) Current controlled, bipolar chopper
Number of Phases	2
Output Current	0.8–7.5 amps current per phase peak (selectable)
Drive Supply Voltage	24–75 VDC (dependent on external power supply)
Standby Current Reduction	25%, 50% or 75% of selected motor current
Nominal Chopping Frequency	20 kHz
Max Stepping Rate	2 MHz max pulse rate; 50 rps max speed
Protective Circuits*	
Short Circuit	Phase-to-phase, phase-to-ground
Brownout	If DC supply drops below 24 VDC
Overtemperature	If internal air temperature exceeds 158°F (70°C)
Environmental	
Operating Drive	32° F to 122°F (0°C to 50°C) Max allowable ambient temperature is 122°F (50°C). Fan cooling may be required if airflow restricted
Storage Humidity	-40°F to 185°F (-40°C to 85°C) 0 to 95% Non-condensing
Physical	
Drive Dimensions	5.0 x 3.6 x 1.6 in (127 x 91 x 41 mm)
Weight	0.84 lb (0.32 kg)
Motor	
Type	Two-phase hybrid permanent magnet, 1.8°
Number of Leads	4, 6 or 8
Minimum Inductance	0.5 mH (40 mH max)

* Drive shuts down in conditions listed. Power must be cycled to resume operations.

** TTL-compatible voltage levels: Low ≤ 0.4V; High ≥ 2.4V