Compact RS232C indexer for single-axis applications

The OEM010 standalone indexer is the ideal low-cost controller for less demanding motion control applications. It offers the same control capabilities as indexer-drives such as the PDX and OEM650X, and is based on Parker's user-friendly X-Code command language. The indexer is programmed via a standard RS232C serial link and includes a non-volatile memory for storing motion sequences. Multiple indexers may be daisy-chained on the same serial port. The OEM010 will accept feedback from an incremental encoder for position verification, and supports motor-drive resolutions up to 102,400 steps/rev.

In addition to motion control, the OEM010 has programmable outputs for initiating additional machine functions. It is ideally suited to applications such as linear positioning, step-and-repeat operations and rotary indexing.

OEM010 features

Performance

- Single axis step/direction controller with encoder feedback
- Compatible with industry standard step/direction input drives such as the PK2, PK3 and OEM230 series
- Pulse output frequency up to 1.5 MHz
- Supports drive resolutions up to 1,024,000 steps/rev

I/O

- Standard RS-232C serial communications interface
- Incremental encoder support for position tracking, stall detection and position maintenance
- 3 trigger inputs and 2 programmable outputs for machine interfacing
- 3 sequence select inputs for program initiation by an external device
- CW, CCW and Home inputs

Language

- Simple, user-friendly X Language
- 2K bytes of battery-backed RAM to store up to 7 command sequences

Interface capability

- Up to 7 sequences can be saved in memory. These sequences can be run automatically on power-up, selected via RS-232C or selected via the BCD sequence select inputs
- Address selectable for daisy chaining up to 8 units via hardware, or up to 256 in software
- RS-232 communication for programming or direct control

Physical

- Only two screws required to mount
- Mounts either for minimum footprint, or for minimum depth
- Snap-on sheet metal cover protects against contaminants
- Standard 25 pin-D connector for single connection wiring
- 2 pin Phoenix connector for 5 VDC power input
- Overall dimensions133 x 78 x 25 mm

Parameter	Value
Power	
DC Input	+5 VDC @ 500 mA max
Performance	
Stepping Accuracy	±0 steps from preset total
Velocity Accuracy	±0.02% of max rate ≥0.01 rev/sec
Velocity Repeatability	±0.02% of max rate
Motor Resolution Options (steps/rev)	Software selectable: 200, 400, 1000, 2000, 5000, 10000, 12800, 18000, 20000, 21600, 25000, 25400, 25600, 36000, 50000, 50800, 278528, 425984, 507904, 614400, 655360, 819200, 1024000
RS232C Interface	
Connection	3-wire implementation (Tx, Rx, Gnd)
Parameters	9600 baud rate, 8 data bits, 1 stop bit, no parity
Configurations	Up to 256 OEM010 indexers 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 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)
Maximum Frequency	160 kHz (pre-quadrature)
Minimum Pulse Width (Z)	500 nsecs
Outputs	
2 Programmable Outputs	Logic High = minimum 4.26V (Source -24 mA) Logic Low = maximum 0.44V (Sinks 24 mA)
Fault Output	Conducting = drive fault. Not conducting = normal operation
Step, Direction, Shutdown	Logic High = minimum 4.26V (Source -24 mA) Logic Low = maximum 0.44V (Sinks 24 mA)
Environmental	
Operating	0°C to 50°C
Storage	-40°C to 85°C
Humidity	0 to 95% noncondensing
Physical	
Dimensions	133 x 78 x 25 mm
Weight	0.38 kg

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