

Maxtek MPI-16

Pocket Indexer



VERSATILE, RELIABLE CONTROL OF MULTI-POCKET E-BEAM SOURCES

The MPI-16 Pocket Indexer is the most flexible, powerful and intuitive pocket indexer available. The MPI-16 allows for automatic and manual control of a wide assortment of multi-pocket e-beam sources.

The MPI-16 utilizes a stepper motor for long-term reliability. Optical position tracking provides superior accuracy. The motor and control electronics are all packaged in a compact case. The MPI-16 includes a mounting bracket that attaches to a standard 1-inch diameter rotary feedthrough for easy installation.

The MPI-16 can be set for 4, 5, 6, 8, 10, 12 or 16 pockets, as well as circular (continuous trough) pockets. The MPI-16 can manage up to two banana pockets per crucible of any length. UHV (Ultra-High Vacuum) guns are also supported. The MPI-16 can be set for either clockwise, counter clockwise, fast, UHV or remote direction control. The MPI-16 has eight speed settings ranging from 0.125 to 16 RPMs. Most notably, all of these configurations are easily selected with simple switches. There are no gears to change or software upgrades required.

Automatic control is easily achieved by connecting the MPI-16 to a deposition controller or PLC. Manual control is made simple with a 1/4 rack remote panel with an auto/manual switch, pocket position control and speed control. The MPI-16 includes a Disable Input to disable rotation and an Interlock Relay Output to turn off the e-beam during rotation for added safety.

FEATURES AT A GLANCE

- Supports 4, 5, 6, 8, 10, 12 & 16 pocket crucibles
- Supports banana and full trough crucibles
- Variable speed selection
- Multiple rotation modes
- Safety interlock relay output
- Compact and easy to install
- Reliable and accurate optical encoder
- 1/4 rack remote panel

SPECIFICATIONS

INDEXER

INDEXING

Number of Positions Supported	Circular, 4, 5, 6, 8, 10, 12, 16
"Banana" Pocket Supported	Up to 2
Rotation Modes	Fast, UHV, CW, CCW, Remote
Motor Resolution	0.9°
Position Accuracy and Repeatability	0.1° at output shaft

SPEED AT OUTPUT SHAFT

Pocket Search Speed	16 rpm
Circular, Banana Sweep Speed	16, 8, 4, 2, 1, 1/2, 1/4, 1/8 rpm

TORQUE AT OUTPUT SHAFT

Standard Version	187 in-oz.
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PHYSICAL

Dimensions [w] x [h] x [d] (Including Shaft Length, Protruded Switches and Connectors)	4.00" x 5.29" x 4.19" (10.2 cm x 13.44 cm x 10.64 cm)
Weight	4.2 lbs. (1.9 kg)
Power Supply	48 VDC, 1.1 A, desktop type
Input Power Requirements	100-250 VAC, 1.5 A at 47-63 Hz.
Mounting Bracket (included)	Mount to a 1" rotary motion feedthrough, accommodate base plate thickness of 1/2" to 1-1/8"
Output Shaft Size Standard Version	1/4" diameter

INPUTS/OUTPUTS INTERFACE

Inputs	Ground true 4.7 kohms pulled up to 5 VDC internally
Input Functions	Pocket selection: 4-bit BCD Speed selection: 3-bit BCD Rotation direction: CW, CCW, Reset
Outputs	Optically isolated transistors Ground true 4.7 kohms pulled up to 5 VDC resistors internally, 50 mA max.
Output Functions	Position: 4-bit BCD in pocket position pocket fault

TEMPERATURE PROTECTION

Auto Shut-Off Temperature	100 ± 1°C (212 ± 1.8°F)
Resume From Shut-Off	85 ± 6°C (185 ± 10.8°F)

SAFETY INTERLOCKS

Relay Output, SPST	120 VA, 2A max.
Disable	Ground true 4.7 kohms pulled up to 5 VDC internally

REMOTE CONTROL PANEL

CONTROLS

Auto-Manual Toggle Switch	Selecting the operating mode
Pocket Select Rotary Switch	Selecting the desired pocket position (manual mode)
Speed Select Rotary Switch	Selecting the desired sweep for "Banana" pocket (manual mode)
Abort/Reset Button	Use to stop the indexer operation or to reset the indexer

DISPLAYS

16 Green LEDs	Indicating current pocket position
Red Fault LED	Indicating a fault
Green In Position LED	Indicating a selected position is reached

PHYSICAL

Dimensions [w] x [h] x [d] (Including Protruded Switches and Connectors)	4.72" x 3.47" x 2.00" (11.99 cm x 8.81 cm x 5.08 cm) (Mounts in a 3.5" quarter panel)
Weight	5.7 oz. (161 g.)

ORDERING INFORMATION

Model #	Part #	Description
MPI-16	614200	Pocket Indexer & Remote Control Panel, Supports 4, 5, 6, 8, 10, 12 & 16 pocket sources. Supports partial and full trough pocket sources with variable speeds. Interlock input and output for safety.
MPI-16	614210	Pocket Indexer Without Remote Control Panel
MPI-16	614207	Pocket Remote Control Panel Only
CABLE ASSEMBLY	614208	Cable Assembly (For MDC-360C and 361C Controllers) Allows Direct Connection from the Remote Control Panel to the MDC passive I/O for automatic control

