INFICON

Maxtek MDC-260

Thin Film Deposition Controller

EASY TO USE CONTROLLER OFFERS EXCEPTIONAL VALUE

The Maxtek MDC-260 is a low-cost, compact and easy to use controller with enough capability to handle all but the most complex applications. The MDC-260 provides two sensor inputs, two source outputs, eight fully programmable I/O's and includes many features such as, automatic crystal switching, pocket position control, rate establish and multiple rate ramps to name a few.

The MDC-260 is available in either a 3.5" high desktop case, a half rack case or a full rack case. Despite its compact size, the MDC-260 provides a large and easy to read color LCD display for programming and run-time status. The run screens include four real-time graphs, two status screens and the main run screen with oversized fonts for clear and easy viewing from a distance.

The MDC-260 has high measurement resolution combined with PID tuning and fast update rate for precise rate control down to 0.1 Ang/sec. The MDC-260 is also designed to work with the VPLO-6 Vacuum Phase Lock Oscillator, which provides longer crystal life, improved rate stability and a true indication of crystal health.

Programming the MDC-260 is easy with an intuitive menu structure, a built in material library and the alphanumeric keypad. In a few short steps, the MDC-260 automatically creates the required control inputs and outputs for multi-pocket sources, source shutters and single, dual and multi-crystal sensor heads. Plain English condition statements help you program user-defined inputs, outputs and actions instead of confusing numeric codes and ladder logic. You can even name your inputs, outputs, processes and materials to make them more recognizable. The MDC-260 is also compatible with our DCM-250 data logging software to make programming, operation and data archiving even easier.

FEATURES AT A GLANCE

- Automatic crystal switching, time/power, or abort upon crystal failure.
- Compact 3-1/2" high desktop, half rack or full rack case
- Resume process from abort
- Real time graphing of rate, rate deviation, thickness and power
- Eight fully programmable I/O with selectable input type
- Supports VPLO-6
- Optional DCM-250 Data Logging Software
- USB 2.0 communication
- Audible attention, warning and alarm signals

SPECIFICATIONS

MEASUREMENT

Frequency Resolution	0.03 Hz @ 6.0 MHz
Mass Resolution	0.375 ng/cm^2, (0.014 Å Al)
Thickness Accuracy	0.5% +1 count
Measurement Update Rate	Dynamically adjusted, 0.5 to 10Hz
Display Update Rate	10Hz
Sensor Crystal Frequency	2.5,3,5,6,9, 10 MHz

DISPLAY

Thickness Display	Autoranging: -999 to 999.9 kÅ
Rate Display	Autoranging: -99 to 999 Å/sec
Power Display	00.0 to 99.9%
Time Display	0:00:00 to 9:59:59 (H:MM:SS)
Crystal Health	00 to 99%
Layer Number	001 to 250
Graphics Display	240 x 64 color LCD with CCFL backlighting

COMMUNICATION

USB 2.0 Full Speed.

PROGRAMMING

All programming and system configuration is done through the LCD display and the front panel keypads. Programming is divided into three sections: Process, Material and System. Password protection is available at the Edit, View and Run levels. Defaults to no protection.

PROCESS PROGRAMMING

The MDC-260 can store up to 10 user defined processes. A process is a sequential list of defined layers. A layer is defined by two parameters, its material and its thickness. The MDC-260 can store up to 250 defined layers.

PROCESS PARAMETERS

Process Name	12 character string
Edit Password	4 character string
View/Run Password	4 character string
Layer #1 to 250	Material name, thickness

MATERIAL PARAMETERS

The MDC-260 can store up to 8 user-defined materials. The MDC-260 also has a built in library of popular deposited materials.

SENSOR SETUP

Each sensor can be configured to control a single, dual or multiple crystal (up to 16 crystals) head.

INPUTS & OUTPUTS

Sensor Inputs	2 Standard female BNC
Source Outputs	2 Fully Isolated, 2.5, 5 or 10 volts DC @ 20 mÅ, 0.02% resolution
Inputs	8 fully programmable, and selectable type–Passive or Active–via DIP switches. Passive inputs are ground true, 4.7 kohm pull up to 5 volts DC Active inputs are 10-130 VAC @ 50 to 60 Hz or 10-130 VDC
Relay Outputs	8 fully programmable, SPST relay 120 VA, 2A max
Abort Relay Output	SPST relay, 120 VA, 2A max
Communication RS-232	Rear Panel, 9 pin AT, full duplex Front Panel, RJII-6POS jack, full duplex
Manual power Control	Increase, Decrease, Abort

INPUT SETUP

Each Individual input can be setup to initiate a specific action, under specific conditions, for a specific input state. Inputs associated with pocket or crystal position feedback are predefined.

OUTPUT SETUP

Each individual output can be setup to respond to a specific set of conditions. Outputs associated with pocket rotation or changing crystals are predefined.

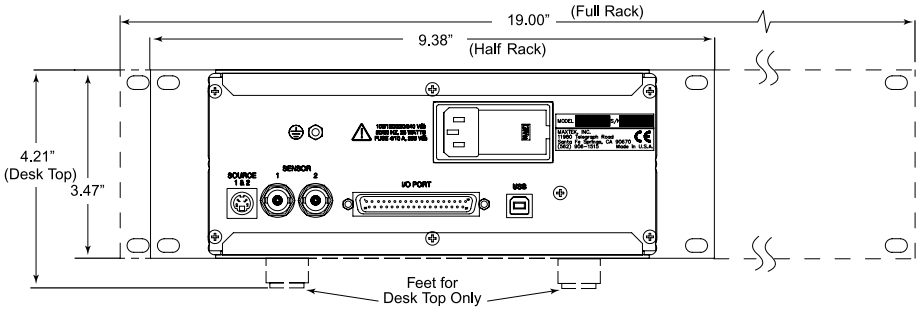
POWER REQUIREMENTS

100, 120, 220, 240 VAC

50/60 Hz, 15 watts

PHYSICAL

Sensor Inputs	Rear panel. (2) Standard female BNC
Source Outputs	Rear panel. 4 Pin mini DIN Connector
Discrete I/O	Rear panel. 37 Pin DSUB Connector
USB Communication	Rear panel or Front panel, 4 Pin type B jack
Manual Power Control	Front panel, RJ11-4 Pin jack
AC power entry	Rear panel, accepts IEC power line connector
Size	
Desktop case	4.21”H x 8.4”W x 9.7”D
Full Rack Mount	3.47”H x 19”W x 9.7”D
Half Rack Mount	3.47”H x 9.38”W x 9.7”D
Shipping Weight	Desktop - 5 lbs., Rack Mount - 9 lbs.



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Due to our continuing program of product improvements, specifications are subject to change without notice.