SUPPLEMENT TO THE MDC-360C MANUAL

MDC-361C

Film Deposition Controller

IPN 624811 Rev. C

INFICON

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MDC–361C
Film Deposition Controller

IPN 628411 Rev. C

INFICON Instruments for Intelligent Control®

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General Safety Warning

WARNING

All standard safety procedures associated with the safe handling of electrical equipment must be observed. Always disconnect power when working inside the controller. Only properly trained personnel should attempt to service the instrument.

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DECLARATION OF CONFORMITY

This is to certify that this equipment, designed and manufactured by:

INFICON Inc.
Two Technology Place
East Syracuse, NY 13057
USA

meets the essential safety requirements of the European Union and is placed on the market accordingly. It has been constructed in accordance with good engineering practice in safety matters in force in the Community and does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was made.

Equipment Description:	MDC-361C Thin Film Deposition Controllers (Black Box), including the SO-100 Oscillator Package.
Applicable Directives:	73/23/EEC as amended by 93/68/EEC (LVD) 89/336/EEC as amended by 93/68/EEC (EMC) 2002/95/EC (RoHS)
Applicable Standards:	EN 61010-1:2001 (Safety) EN 61326-1:1997/A1:1998/A2:2001, Class A: Emissions per Table 3 Immunity per Table A.1 Due to the classification of this product it is currently exempt from the RoHS directive.
CE Implementation Date:	November 1, 2007
Authorized Representative:	Duane H. Wright Quality Assurance Manager, ISS INFICON Inc.

ANY QUESTIONS RELATIVE TO THIS DECLARATION OR TO THE SAFETY OF INFICON'S PRODUCTS SHOULD BE DIRECTED, IN WRITING, TO THE QUALITY ASSURANCE DEPARTMENT AT THE ABOVE ADDRESS.

10/01/07

Warranty

INFICON warrants the product to be free of functional defects in material and workmanship and that it will perform in accordance with its published specification for a period of (twenty-four) 24 months.

The foregoing warranty is subject to the condition that the product be properly operated in accordance with instructions provided by INFICON or has not been subjected to improper installation or abuse, misuse, negligence, accident, corrosion, or damage during shipment.

Purchaser's sole and exclusive remedy under the above warranty is limited to, at INFICON's option, repair or replacement of defective equipment or return to purchaser of the original purchase price. Transportation charges must be prepaid and upon examination by INFICON the equipment must be found not to comply with the above warranty. In the event that INFICON elects to refund the purchase price, the equipment shall be the property of INFICON.

This warranty is in lieu of all other warranties, expressed or implied and constitutes fulfillment of all of INFICON's liabilities to the purchaser. INFICON does not warrant that the product can be used for any particular purpose other than that covered by the applicable specifications. INFICON assumes no liability in any event, for consequential damages, for anticipated or lost profits, incidental damage of loss of time or other losses incurred by the purchaser or third party in connection with products covered by this warranty or otherwise.

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1. INTRODUCTION

This supplement is to be used with the MDC-360C Manual. Its intention is to point out the differences between the MDC-360C and the MDC-361C. Information supplied herein is either a replacement or addition to the MDC-360C Manual.

The MDC-361C Deposition Controller was designed for users who want to interface to the controller solely through a computer. The MDC-361C is a black box version of the MDC-360C Controller, meaning an MDC-360C with all of the front panel displays and keys removed. The users can either create their own computer software for a custom interface or purchase INFICON's DCM-250 computer software to provide complete computer control of the deposition process.

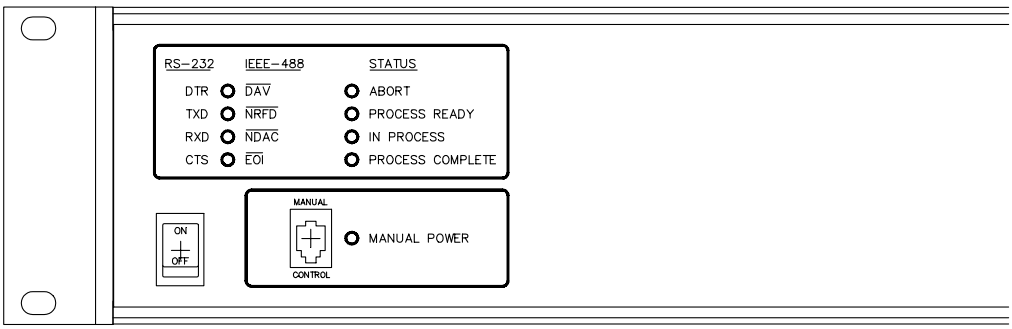
The key point to emphasize here is, since the MDC-361C is a black box, there is no user interface on the front panel. All functions are provided through the computer interface.

2. COMPUTER INTERFACES

The MDC-361C is equipped standard with an RS-232 serial interface through a 9-pin D-Sub located on the rear panel. Optionally, RS-485 and IEEE-488 interfaces are available. Refer to **Section 10** of the MDC-360C Manual for details on communication protocol of these interfaces.

3. DISPLAY DESCRIPTION

Minimal indicators are provided on the MDC-361C front panel. There are four LED's displaying the data exchange status between the MDC-361C and the computer. Also, there are four indicators displaying the MDC-361C's status. The front panel indicators are described below.



3.1 RS-232/RS-485 INDICATORS

RTS (Request to Send)

Indicates the host is permitting the MDC-361C to transmit data.

TxD (Transmit Data)

Indicates data being transmitted from the MDC-361C to the host. This LED will briefly flash each time the 361C sends data to the host.

RxD (Receive Data)

Indicates the MDC-361C is receiving data from the host. This LED will briefly flash each time the 361C receives data from the host.

CTS (Clear to Send)

Indicates the MDC-361C is ready to receive data. This LED should always be on unless the host is sending data too fast.

3.2 IEEE-488 INDICATORS

DAV (Data valid)

Indicates that the data on the bus is valid.

NRFD (Not ready for data)

Indicates that the 361C is not ready to receive data. This LED should always be on unless the host is sending data too fast.

NDAC (Not data accepted)

Indicates that the data was not accepted.

EOI (End or identify)

Indicates the end of a multi-byte data transfer.

3.3 STATUS INDICATORS

Abort – Indicates that the controller is in the abort mode. In this mode, all source powers are set to zero and discrete outputs are disable. To exit the abort mode a Reset command has to be sent to the controller.

Process Ready – Indicates that the controller has been reset from an abort condition and is in the Ready State. The controller is awaiting a Start command to run a process.

In Process – Indicates that the controller is running a process. The controller will remain In Process until the process has either been aborted and reset or completed.

Process Complete – Indicates that the selected process has run to completion. The controller will remain in this mode until it receives a reset command.

3.4 MANUAL CONTROL

In addition to the indicators, a 4 position RJ-11 connector is provided for connection to the Remote Power Handset. The Remote Power Handset provides for manual adjustment of the active source power level, a remote abort command and a manual crystal switch command.

To manually adjust the active source power, the 361 must first be put into the Manual Power indicated by the Manual Power LED on the front panel. Note that Manual mode has to be selected through software since there are no keys on the MDC-361C front panel. Depress the “+” button to increase the source control power, depress the “– “ button to decrease the power. Without any of the buttons depressed, the output power is maintained at its last value.

Depress the “ABORT” button to put the controller in the Abort mode. This “ABORT” button is active at all times, regardless which mode the controller is in. Therefore it can be used as a “panic button”.

To manually switch between the primary and backup sensor/crystal settings for the current material, press both the “+” and "-" buttons at the same time while the 361C is not in the Manual Power Mode. If the primary sensor/crystal is in use, the 361C will switch to the backup sensor/crystal. If the backup sensor/crystal is already in use then the 361C will switch to the next crystal for the backup sensor if one is available. If not, the 361C will switch back to the primary sensor/crystal.

4. INITIAL POWER UP INDICATION

Upon power up, all LED’s turn on for a few seconds then turn off. The Abort LED will remain on until a reset command is sent to the MDC-361C. The CTS LED will also remain on indicating the controller is ready to receive data.

5. OPERATION

All operating functions including programming of the MDC-361C is done through one of the available computer interface.

If you purchased a copy of the DCM-250 software, refer to its manual on how to operate the software to control your MDC-361C.

If you decided to write your own software to interface with the MDC-361C, please refer to **Section 10** of the MDC-360C Manual for details on communication protocol. Also refer to the programming and operating sections of the MDC-360C manual to familiarize yourself with the MDC-360/361C's programming and operation before you write your interface software. Keep in mind that your software has to provide a complete user interface for the operators including error messages, warning messages and operator intervention messages such as layer complete and change source pocket requests. For example, the 360/361C can be setup to prompt the operator to change the source pock of a multi-pocket source. So, your software must recognize this request, alert the operator and signal the 361C that it is OK to continue.

6. REFERENCES:

For other topics such as specifications, installation, maintenance, etc. please refer to the MDC-360C Manual.