

Moniz James P  
 Form 3  
 February 25, 2009

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL

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**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
 Section 17(a) of the Public Utility Holding Company Act of 1935 or Section  
 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

|   |         |                                      |  |  |
|---|---------|--------------------------------------|--|--|
| 1. Name and Address of Reporting Person *         |         | 2. Date of Event Requiring Statement | 3. Issuer Name <b>and</b> Ticker or Trading Symbol                         |  |
| Â Moniz James P                                   |         | (Month/Day/Year)                     | NANOMETRICS INC [NANO]   |  |
| (Last)  | (First) | (Middle)                             | 02/18/2009   |  |
| C/O NANOMETRICS INCORPORATED,Â 1550 BUCKEYE DRIVE |         |                                      | 4. Relationship of Reporting Person(s) to Issuer                           | 5. If Amendment, Date Original Filed(Month/Day/Year)                   |
| (Street)  |         |                                      | (Check all applicable)   |  |
| MILPITAS,Â CAÂ 95035                              |         |                                      | <input type="checkbox"/> Director <input type="checkbox"/> 10% Owner       | 6. Individual or Joint/Group Filing(Check Applicable Line)             |
| (City)  | (State) | (Zip)                                | <input checked="" type="checkbox"/> Officer <input type="checkbox"/> Other | <input checked="" type="checkbox"/> Form filed by One Reporting Person |
|   |         |                                      | Chief Financial Officer  | <input type="checkbox"/> Form filed by More than One Reporting Person  |

**Table I - Non-Derivative Securities Beneficially Owned**

| 1. Title of Security (Instr. 4)       | 2. Amount of Securities Beneficially Owned (Instr. 4) | 3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 4. Nature of Indirect Beneficial Ownership (Instr. 5) |
|---------------------------------------|---|--|---|
| No securities are beneficially owned. | 0   | D  | Â   |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

SEC 1473 (7-02)

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**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

| 1. Title of Derivative Security (Instr. 4) | 2. Date Exercisable and Expiration Date (Month/Day/Year) | 3. Title and Amount of Securities Underlying Derivative Security (Instr. 4) | 4. Conversion or Exercise Price of Derivative | 5. Ownership Form of Derivative Security: | 6. Nature of Indirect Beneficial Ownership (Instr. 5) |
|--|--|---|---|---|---|
|--|--|---|---|---|---|

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| Date Exercisable | Expiration Date | Title | Amount or Number of Shares | Security | Direct (D) or Indirect (I) (Instr. 5) |
|------------------|-----------------|-------|----------------------------|----------|---------------------------------------|
|------------------|-----------------|-------|----------------------------|----------|---------------------------------------|

## Reporting Owners

| Reporting Owner Name / Address  | Relationships |           |                           |       |
|---|---------------|-----------|---------------------------|-------|
|   | Director      | 10% Owner | Officer                   | Other |
| Moniz James P<br>C/O NANOMETRICS INCORPORATED<br>1550 BUCKEYE DRIVE<br>MILPITAS, CA 95035 | Â             | Â         | Â Chief Financial Officer | Â     |

## Signatures

/s/ James P.  
Moniz

02/24/2008

\*\*Signature of Reporting Person

Date

## Explanation of Responses:

\* If the form is filed by more than one reporting person, *see* Instruction 5(b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *See* Instruction 6 for procedure.

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