# **MEME** Micro-Measurements



## Transducer-Class® Strain Gages

| GAGE PATTERN | Actual size shown.<br>Enlarged when ne<br>definition |                    | GAGE<br>DESIGNATION | RES.<br>IN | STANDARD<br>CREEP | ENCAPSU-<br>LATION  |
|--------------|--|--------------------|---------------------|------------|-------------------|---------------------|
| DIMENSIONS   |  | inch<br>millimeter | See Note 1          | OHMS       | CODE              | OPTION<br>AVAILABLE |

| M              |                   |     | Miniature high-resistance p | attern.          |                     |                                 |   |    |
|----------------|-------------------|-----|-----------------------------|------------------|---------------------|---------------------------------|---|----|
|                |                   |     |                             |                  |                     |                                 |   |    |
| GAGE<br>LENGTH | OVERALL<br>LENGTH | _   | rid<br>Dth                  | OVERALL<br>WIDTH |                     |                                 |   |    |
| 0.031          | 0.08              | 0.0 | )62                         | 0.062            |                     |                                 |   |    |
| 0.78           | 2.0               | 1.  | 57                          | 1.57             | N2K-XX-S118M-10C/DP | 1000 ± 0.2%                     | М | E2 |
| MATRIX SIZE    | 0.23 L x 0.1      | 6 W | 5.8                         | L x 4.1 W        | TK-XX-S118M-10C/DP  | $1000 \pm 0.2\%$<br>1000 ± 0.2% | M | E2 |

|                |                   |              |     | Miniature high-resistance pa | attern.                                   |                              |        |          |
|----------------|-------------------|--------------|-----|------------------------------|---|------------------------------|--------|----------|
|                |                   |              |     |                              |   |                              |        |          |
| GAGE<br>LENGTH | OVERALL<br>LENGTH | GRII<br>WIDT |     | OVERALL<br>WIDTH             |   |                              |        |          |
| 0.060          | 0.13              | 0.05         | 0   | 0.050                        |   |                              |        |          |
| 1.52           | 3.3               | 1.27         | 7   | 1.27                         | N2K-XX-S065R-10C/DP<br>TK-XX-S065R-10C/DP | 1000 ± 0.15%<br>1000 ± 0.15% | R<br>R | E2<br>E2 |
| MATRIX SIZE    | 0.20 L x 0.1      | 1 W          | 5.0 | L x 2.8 W                    | SK-XX-S065R-10C                           | $1000 \pm 0.3\%$             | R      |          |

|                |                   |               | General-purpose miniature<br>NOTE: Matrix and overall le<br>longer than dimensions sho | ength of J2A and J5                       | 5K patterns wil                     | l be slightly |    |
|----------------|-------------------|---------------|--|---|-------------------------------------|---------------|----|
|                |                   |               |  |   |                                     |               |    |
| GAGE<br>LENGTH | OVERALL<br>LENGTH | GRID<br>WIDTH | OVERALL<br>WIDTH   | N2A-XX-S071P-350                          | 350 ± 0.1%                          | Р             | E2 |
| 0.062          | 0.12              | 0.062         | 0.062  | J2A-XX-S183P-350<br>N2K-XX-S075P-350/DP   | $350 \pm 0.3\%$<br>$350 \pm 0.15\%$ | P<br>P        | E2 |
| 1.57           | 3.1               | 1.57          | 1.57   | TK-XX-S075P-350/DP<br>J5K-XX-S104P-350/DP | $350 \pm 0.15\%$<br>$350 \pm 0.3\%$ | P<br>P        | E2 |
| MATRIX SIZE    | 0.19 L x 0.1      | 2 W 4.8       | L x 3.1 W  | SK-XX-S075P-350                           | $350 \pm 0.3\%$<br>$350 \pm 0.3\%$  | P             |    |

Note 1: Products shown in bold are not RoHS compliant.



### **Linear Patterns - Single Grid**

Micro-Measurements

#### Transducer-Class® Strain Gages

| GAGE PA        | GAGE PATTERN Actual size shown.<br>Enlarged when necessary for<br>definition |                    |                  | GAGE<br>DESIGNATION  | RES.<br>IN   | STANDARD<br>CREEP   | ENCAPSU-<br>LATION                           |
|----------------|--|--------------------|------------------|--|--|---------------------|--|
| DIMENSIONS     |  | inch<br>millimeter | See Note 1       | OHMS   | CODE   | OPTION<br>AVAILABLE |  |
| [              |  |                    |                  |  |  |                     |  |
|                |  |                    |                  | The most popular small gas   | ge pattern.  |                     |  |
|                |  |                    |                  | N2A-XX-S148P-120<br>N2A-XX-S106N-175<br>N2A-XX-T001N-350<br>N2A-XX-T010P-10C<br>J2A-XX-S148P-120<br>J2A-XX-S106N-175<br>J2A-XX-S047K-350 | $\begin{array}{c} 120 \ \pm \ 0.15\% \\ 175 \ \pm \ 0.15\% \\ 350 \ \pm \ 0.15\% \\ 1000 \ \pm \ 0.15\% \\ 1000 \ \pm \ 0.3\% \\ 175 \ \pm \ 0.3\% \\ 350 \ \pm \ 0.3\% \end{array}$ | שעבצש               | E2<br>E22<br>E22<br>E22<br>E22               |
| GAGE<br>LENGTH | OVERALL<br>LENGTH  | GRID<br>WIDTH      | OVERALL<br>WIDTH | J2A-XX-S110K-10C<br>N2K-XX-S123R-175/DP<br>N2K-XX-T009N-350/DP   | 1000 ± 0.3%<br>175 ± 0.15%<br>350 ± 0.15%  | <b>υΣΚΧΩΣΩΖΟΩΟΩ</b> | E2<br>E2                                     |
| 0.060          | 0.15   | 0.100              | 0.100            | N2K-XX-S072R-10C/DP<br>TK-XX-S123R-175/DP<br>TK-XX-T009Q-350/DP  | 1000 ± 0.15%<br>175 ± 0.15%<br>350 ± 0.15%   | R<br>R<br>Q         | E2<br>E2<br>E2<br>E2<br>E2<br>E2<br>E2<br>E2 |
| 1.52           | 3.8  | 2.54               | 2.54             | TK-XX-S072R-10C/DP<br>J5K-XX-S103Q-350/DP<br>SK-XX-S074R-350   | $1000 \pm 0.15\%$<br>350 $\pm 0.3\%$   | Ř Q                 | Ē2   |
| MATRIX SIZE    | 0.22 L x 0.1   | 6 W 5.6            | L x 4.1 W        | SK-XX-S074R-350<br>SK-XX-S072R-10C   | 350 ± 0.3%<br>1000 ± 0.3%  | R                   |  |

|                |                   |      |            |                  | Higher-power-dissipation ve             | ersions of the T001                  | /T009 patterns |          |
|----------------|-------------------|------|------------|------------------|---|--------------------------------------|----------------|----------|
|                |                   |      |            |                  |   |                                      |                |          |
| GAGE<br>LENGTH | OVERALL<br>LENGTH |      | rid<br>Oth | OVERALL<br>WIDTH |   |                                      |                |          |
| 0.060          | 0.17              | 0.1  | 180        | 0.180            |   |                                      |                |          |
| 1.52           | 4.3               | 4.   | 57         | 4.57             | N2A-XX-T002Q-350<br>N2K-XX-T003Q-350/DP | 350 ± 0.15%<br>350 ± 0.15%           | Q              | E2<br>E2 |
| MATRIX SIZE    | 0.24 L x 0.2      | 24 W | 6.1        | L x 6.1 W        | TK-XX-T003Q-350/DP                      | $350 \pm 0.15\%$<br>$350 \pm 0.15\%$ | ğQ             | E2<br>E2 |

|             | R                 |         |                  | One of the most popular of the most popular of the most popular of the term of | 080 is 0.25 in (6.4m  | ım).                  |                                  |
|-------------|-------------------|---------|------------------|--|---|-----------------------|----------------------------------|
| GAGE        | OVERALL<br>LENGTH | GRID    | OVERALL<br>WIDTH | N2A-XX-S107N-120<br>N2A-XX-T004R-350<br>N2A-XX-T096R-500<br>N2A-XX-S108N-10C<br>J2A-XX-S108N-10C<br>N2K-XX-T005R-350/DP  | $120 \pm 0.15\% \\ 350 \pm 0.15\% \\ 500 \pm 0.15\% \\ 1000 \pm 0.15\% \\ 1000 \pm 0.3\% \\ 350 \pm 0.15\% \\ 1000$ | N<br>R<br>R<br>N<br>R | E2<br>E2<br>E2<br>E2<br>E2<br>E2 |
| 0.125       | 0.23†             | 0.125   | 0.125            | N2K-XX-S163R-500/DP<br>N2K-XX-S078W-10C/DP<br>TK-XX-T005R-350/DP   | $500 \pm 0.15\%$<br>$1000 \pm 0.15\%$<br>$350 \pm 0.15\%$   | R<br>W<br>R           | E2<br>E2<br>E2                   |
| 3.18        | 5.8†              | 3.18    | 3.18             | TK-XX-1005H-350/DP<br>TK-XX-S078W-10C/DP<br>SK-XX-S080W-350  | $350 \pm 0.15\%$<br>1000 ± 0.15%<br>$350 \pm 0.3\%$   | W<br>W                | E2<br>E2                         |
| MATRIX SIZE | 0.29 L x 0.1      | 9 W 7.4 | L x 4.8 W        | SK-XX-S078W-10C  | $1000 \pm 0.3\%$  | Ŵ                     |                                  |

Note 1: Products shown in bold are not RoHS compliant.

## Linear Patterns - Single Grid

## **EMEME** Micro-Measurements



#### Transducer-Class® Strain Gages

| GAGE PATTERN | Actual size shown.<br>Enlarged when neces<br>definition | sary for           | GAGE<br>DESIGNATION | RES.<br>IN | STANDARD<br>CREEP | ENCAPSU-<br>LATION  |
|--------------|---|--------------------|---------------------|------------|-------------------|---------------------|
| DIMENSIC     | NS m  | inch<br>nillimeter | See Note 1          | OHMS       | CODE              | OPTION<br>AVAILABLE |

|                | ĸ                 |               |                  | One of the most popular ga                | age sizes.                           |        |          |
|----------------|-------------------|---------------|------------------|---|--------------------------------------|--------|----------|
|                |                   |               |                  |   |                                      |        |          |
|                |                   |               | I                |   |                                      |        |          |
| GAGE<br>LENGTH | OVERALL<br>LENGTH | GRID<br>WIDTH | OVERALL<br>WIDTH |   |                                      |        |          |
| 0.125          | 0.21              | 0.100         | 0.100            | J2A-XX-S033P-350<br>J2A-XX-S182K-10C      | $350 \pm 0.3\%$<br>1000 ± 0.3%       | P<br>K |          |
| 3.18           | 5.6               | 2.54          | 2.54             | N2K-XX-S081P-20C/DP<br>TK-XX-S081P-20C/DP | $2000 \pm 0.3\%$<br>$2000 \pm 0.3\%$ | P<br>P | E2<br>E2 |
| MATRIX SIZE    | 0.28 L x 0.1      | 6 W 7.1       | L x 4.1 W        | J5K-XX-S100P-350/DP                       | $350 \pm 0.3\%$                      | P      |          |

|                | Q                 |               |                  | Tabs at both ends of grid fo | or simplified wiring o | on some transd | ucer designs. |
|----------------|-------------------|---------------|------------------|------------------------------|------------------------|----------------|---------------|
|                |                   |               |                  |                              |                        |                |               |
| GAGE<br>LENGTH | OVERALL<br>LENGTH | GRID<br>WIDTH | OVERALL<br>WIDTH |                              |                        |                |               |
| 0.125          | 0.255             | 0.125         | 0.125            |                              |                        |                |               |
| 3.18           | 6.48              | 3.18          | 3.18             |                              |                        |                |               |
| MATRIX SIZE    | 0.32 L x 0.1      | 9 W 8.1       | L x 4.7 W        | N2A-XX-S044Q-350             | 350 ± 0.15%            | Q              | E2            |

|                |                   |               |                  | Narrow, encapsulated vers | sion of S044.   |   |  |
|----------------|-------------------|---------------|------------------|---------------------------|-----------------|---|--|
|                |                   |               |                  |                           |                 |   |  |
| GAGE<br>LENGTH | OVERALL<br>LENGTH | GRID<br>WIDTH | OVERALL<br>WIDTH |                           |                 |   |  |
| 0.110          | 0.285             | 0.080         | 0.080            |                           |                 |   |  |
| 2.82           | 7.31              | 2.03          | 2.03             |                           |                 |   |  |
| MATRIX SIZE    | 0.34 L x 0.1      | 4 W 8.7       | L x 3.6 W        | J2A-XX-S113M-350          | $350 \pm 0.3\%$ | М |  |

**Note 1:** Products shown in bold are not RoHS compliant.



### **Linear Patterns - Single Grid**

Micro-Measurements

#### Transducer-Class® Strain Gages

| GAGE PATTERN Actual size show<br>Enlarged when r<br>definition |                    | GAGE<br>DESIGNATION | RES.<br>IN | STANDARD<br>CREEP | ENCAPSU-<br>LATION  |
|--|--------------------|---------------------|------------|-------------------|---------------------|
| DIMENSIONS   | inch<br>millimeter | See Note 1          | OHMS       | CODE              | OPTION<br>AVAILABLE |
|  |                    |                     |            |                   |                     |

|                | M                 |               |                  | Narrow-grid version of T004/T005.       |                           |        |    |  |
|----------------|-------------------|---------------|------------------|---|---------------------------|--------|----|--|
|                | ••••••••          |               |                  |   |                           |        |    |  |
| GAGE<br>LENGTH | OVERALL<br>LENGTH | GRID<br>WIDTH | OVERALL<br>WIDTH |   |                           |        |    |  |
| 0.125          | 0.20              | 0.060         | 0.070            | N2A-XX-T019M-350                        | 350 ± 0.15%               | М      | E2 |  |
| 3.18           | 5.1               | 1.52          | 1.78             | J2A-XX-S038M-350<br>N2K-XX-T020T-350/DP | 350 ± 0.3%<br>350 ± 0.15% | M<br>T | E2 |  |
| MATRIX SIZE    | 0.27 L x 0.1      | 2 W 6         | 6.9 L x 3.0 W    | TK-XX-T020T-350/DP                      | $350 \pm 0.15\%$          | Т      | E2 |  |

|                |   |                      | Longer grid for strain averaging or where higher power dissipation is required. |   |                                      |   |          |
|----------------|---|----------------------|---|---|--------------------------------------|---|----------|
|                | · • • • • • • • • • • • • • • • • • • • |                      |   |   |                                      |   |          |
| GAGE<br>LENGTH | OVERALL<br>LENGTH                       | GRID<br>WIDTH        |   |   |                                      |   |          |
| 0.250          | 0.37                                    | 0.125                | 0.125   | N2A-XX-T007R-350                        | 350 ± 0.15%                          | R | E2       |
| 6.35           | 9.4                                     | 3.18                 | 3.18  | J2A-XX-S109M-350<br>N2K-XX-T008R-350/DP | $350 \pm 0.3\%$<br>$350 \pm 0.15\%$  | M | E2       |
| MATRIX SIZE    | 0.44 L x 0.1                            | 0.44 L x 0.19 W 11.2 |   | TK-XX-T008R-350/DP                      | $350 \pm 0.15\%$<br>$350 \pm 0.15\%$ | R | E2<br>E2 |

| R              |                      |               |                  | Large grid and high resistance permit higher-than-normal excitation voltage. |              |   |    |  |
|----------------|----------------------|---------------|------------------|--|--------------|---|----|--|
|                |                      |               |                  |  |              |   |    |  |
| GAGE<br>LENGTH | OVERALL<br>LENGTH    | GRID<br>WIDTH | OVERALL<br>WIDTH |  |              |   |    |  |
| 0.250          | 0.36                 | 0.175         | 0.175            |  |              |   |    |  |
| 6.35           | 9.1                  | 4.45          | 4.45             |  |              |   |    |  |
| MATRIX SIZE    | 0.42 L x 0.24 W 10.7 |               | 7 L x 6.1 W      | N2A-XX-S051R-10C   | 1000 ± 0.15% | R | E2 |  |

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