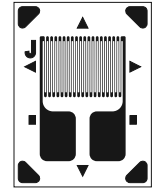


Transducer Class[®] Strain Gages

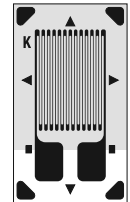
N2A SERIES

N2A gages are open-faced constantan-alloy patterns constructed on a thin, laminated, polyimide-film backing. This series is capable of low and repeatable creep performance. Construction is very rugged, which will help prevent gage handling damage.



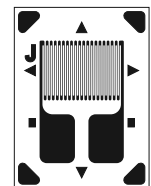
J2A SERIES

J2A gages are encapsulated constantan-alloy patterns. Both the encapsulation and backing are thin, laminated polyimide film. Gage soldering tabs are exposed for simplified lead connections. Creep performance is equal to the N2A Series, although the presence of an encapsulating layer will require a change in creep code selection to maintain the same performance.



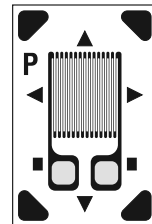
EA SERIES

EA gages are open-faced constantan-alloy patterns with a flexible cast-polyimide backing. Creep scatter is somewhat more pronounced than with all other series. Consequently, EA gages are normally available with only one creep code per pattern.



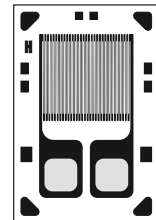
N2K SERIES

N2K gages are open-faced modified-Karma-alloy patterns constructed on a thin, laminated, polyimide-film backing. More rugged and flexible than the TK or SK Series, N2K gages are popular for transducer applications where lower cost K-alloy gages are desired. All N2K gages are supplied with copper soldering pads (DP) for ease of leadwire attachment. Most gages in the N2K Series can also be modulus compensated.



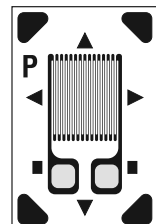
N3K SERIES

N3K gages are special, open-faced, modified-Karma-alloy patterns constructed on an ultrathin, laminated polyimide-film backing. Their small size and high resistance (5000 Ω) makes them ideally suited for 4 to 20mA process control transmitters and battery-operated systems. All N3K gages are supplied with a copper soldering pad (DP) on each gage tab.



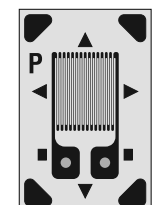
TK SERIES

TK gages are open-faced modified-Karma-alloy patterns with a thin, reinforced, laminate backing. These gages have a higher operating temperature range and greater fatigue life than N2A, J2A, EA, N2K, or N3K gages. However, they are generally more costly. Most gages in the TK Series can also be modulus compensated. All TK gages are supplied with a copper soldering pad (DP) on each gage tab.



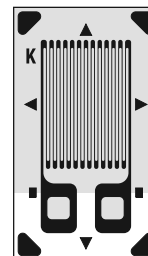
SK SERIES

SK gages are fully encapsulated, modified-Karma-alloy patterns with a preformed solder dot on each gage tab. Both backing and encapsulation are thin, reinforced, laminated material. Due to the relatively stiff backing and encapsulation, SK-Series gages are less flexible than all other series and care must be exercised in handling and bonding. Some SK patterns can be supplied with modulus compensation (EMC) options.



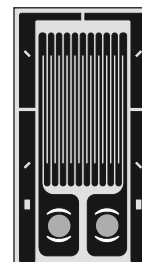
J5K SERIES

J5K gages are encapsulated, modified-Karma-alloy patterns specially constructed to improve gage performance at elevated temperatures. Because of the laminated polyimide-film backing and encapsulation, all J5K patterns are fully flexible without being brittle. Copper soldering pads (DP) are exposed for simplified lead connections. Some J5K gages can be supplied with modulus-compensation (EMC) options. For best high-temperature performance, J5K-Series gages should be installed with M-Bond 450 high-temperature adhesive.



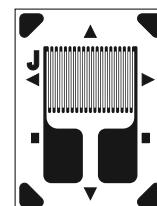
J5E SERIES

J5E gages are a family of platinum-tungsten-alloy patterns constructed with a thin, flexible polyimide backing. Sensing grids are fully encapsulated by a polyimide film overlay and include a preformed solder dot on each gage tab. With a gage factor more than double that of conventional strain gages, platinum-tungsten-alloy patterns provide standard transducer output levels at less than half the normal spring-element stress values. This allows for higher overload safety, increased fatigue life, and improved linearity in many transducer designs. A negative gage-factor-versus-temperature slope also provides modulus compensation in many types of steel transducer spring elements. A relatively high thermal output of platinum-tungsten alloy makes precision static measurements difficult.



RE SERIES

RE gages are platinum-tungsten alloy patterns constructed with a thin, flexible, glass-fiber-reinforced polyimide film backing. Option E2 grid encapsulation is recommended for RE series gages. Solder tabs are fully exposed. Platinum-tungsten alloy is quite easy to solder using conventional rosin type fluxes. RE Series gages have the same beneficial high gage factor of J5E Series, and are useful in the same applications.



GAGE SERIES	TEMPERATURE RANGE		GAGE FACTOR (SEE NOTE)	FATIGUE LIFE	
	STATIC	DYNAMIC		STRAIN LEVEL IN $\mu\epsilon$	NUMBER OF CYCLES
N2A	-100° to +200°F [-75° to +95°C]	Same as Static	2.05 nom.	± 1500 1500	10^7 10^8 (2)
J2A	-100° to +200°F [-75° to +95°C]	Same as Static	2.05 nom.	± 1700 1700	10^6 10^7 (2)
EA	-100° to +200°F [-75° to +95°C]	[-320° to +350°F -195° to +175°C]	2.05 nom.	± 1500 1500	10^6 10^7 (2)
N2K	-100° to +200°F [-75° to +95°C]	Same as Static	2.1 nom. (1)	± 1800	10^7
N3K	-100° to +200°F [-75° to +95°C]	Same as Static	2.1 nom. (1)	± 1800	10^7
TK	-100° to +300°F [-75° to +150°C]	-320° to +400°F [-195° to +205°C]	2.1 nom. (1)	± 2000 2000	10^7 10^8 (2)
SK	-100° to +350°F [-75° to +175°C]	-320° to +450°F [-195° to +230°C]	2.1 nom. (1)	± 2000 2000	10^7 10^8 (2)
J5K	-100° to +400°F [-75° to +205°C]	-320° to +500°F [-195° to +260°C]	2.1 nom. (1)	± 2000 1800	10^7 10^8 (2)
J5E	-100° to +400°F [-75° to +205°C]	Same as Static	4.5 nom.	± 1500	10^8
RE	-100° to +400°F [-75° to +205°C]	Same as Static	4.5 nom.	± 1500	10^8

Notes:

- Transducer-Class® gages are supplied with nominal gage factor values that will vary slightly with pattern. They are not suitable for strain measurement in stress analysis applications. Request our Precision Strain Gages databook, or contact our Applications Engineering Department, for a complete listing of gages for precision strain measurement applications.

(1) Nominal gage factor is 2.3 for EMC options.

(2) Unidirectional strain.

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