

Transducer terminology

Capacity

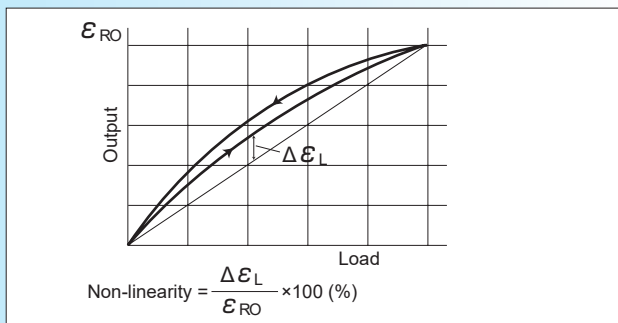
Maximum load that a transducer can measure and still maintain specifications.

Rated Output (RO)

Output at the rated load minus output under no-load conditions. Rated output is expressed per volt applied to the transducer (mV/V).

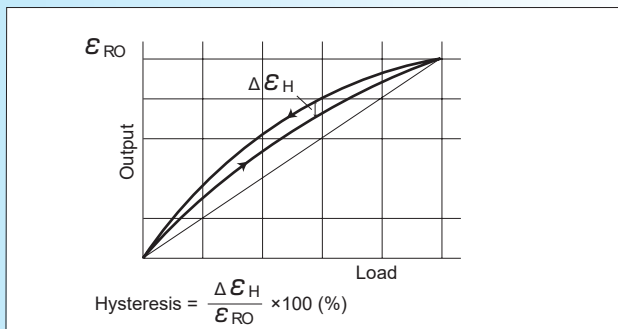
Non-linearity

Maximum distance of the transducer's output from a line connecting the calibration curve origin and the rated load point with increasing loads. Non-linearity is expressed as a percentage of rated output (%RO).



Hysteresis

Maximum difference between transducer output with increasing and decreasing loads. Hysteresis is expressed as a percentage of rated output (%RO).



Repeatability

Maximum difference in output when the same rated load is measured repeatedly under identical load and environmental conditions. Repeatability is expressed as a percentage of rated output (%RO).

Temperature effect on zero

Transducer output due to changes in ambient temperature. Temperature effect on zero expresses change per degree of ambient temperature as a percentage of rated output (%RO/°C).

Temperature effect on span

Rate of change in rated output due to changes in ambient temperature. Temperature effect on span is expressed per degree of ambient temperature (%/°C).

Compensated temperature range

Range of temperatures compensated for temperature effect on zero and span. (°C).

Allowable temperature range

Range of temperatures that can be applied continuously without causing permanent destructive change to the transducer (°C).

Overload

Load that can be applied continuously without causing permanent destructive change exceeding specifications (%).

Ultimate overload rating

Maximum load that can be applied continuously without causing permanent destructive change mechanically (%).

Recommended exciting voltage

Voltage that can be applied to the transducer and still maintain specifications (V).

Allowable exciting voltage

Maximum voltage that can be applied continuously to the transducer without causing permanent destructive damage (V).

Zero balance

Output strain while unloaded (%RO)

Frequency response

Maximum frequency at which the transducer can output within a specified range using a sine wave load (Hz).

Natural frequency

Approximate frequency under no-load conditions at which a transducer oscillates freely (Hz).

Allowable bending moment

Maximum bending moment that can be applied continuously to the transducer without causing permanent destructive damage (kN·m).

Sensitivity

Transducer output with a fixed load. Sensitivity expresses strainmeter output per millimeter ($\times 10^{-6}$ strain/mm) when the strainmeter coefficient on the displacement transducer is set at 1.000 (2.00 gauge factor fixed).

Gauge length

Distance between two points used to measure displacement or strain.

Spring force

Approximate force required to displace capacity on the displacement transducer (N).

Input/Output resistance

Resistance between input and output terminals measured under no-load conditions with input and output terminals disconnected (Ω).

Input/Output cable

Cable that cannot be disconnected from the transducer.

Supplied cable

Standard cable accessory that can be disconnected from the transducer.

Weight

Approximate weight of the main unit minus I/O cable and cable accessories.

About IP ratings

A classification system rates how well enclosures and package for electrical components seal against intrusion by foreign materials such as dust and moisture. It conforms to JIS C0920, or IEC 60529, and entails various levels of ingress protection afforded against solid objects and water.