

# What do the terms Linearity/Accuracy and Repeatability mean?

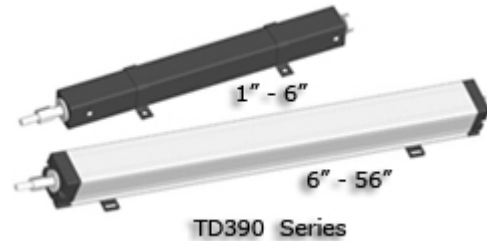
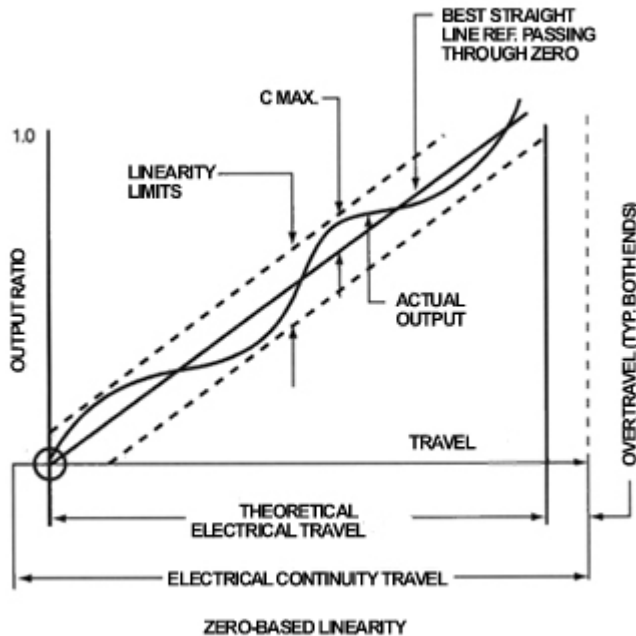


When discussing applications, we often hear the terms Accuracy / Linearity and Repeatability used within the same definition. Although these terms are very important to your application, it is crucial that they are defined properly. Typically when someone asks you how accurate or how linear a unit is, they are referring to the same thing.

Accuracy / Linearity is defined as how precise a unit can be to various target points. Accuracy / Linearity is measured in percentage. For example, if you have a 6 inch stroke transducer and the accuracy / linearity is 1 %, your unit will be within 0.06 inches accurate or linear over the full stroke.



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The [TD390](#) has improved linearity with rugged long-life design featuring greater resistance to vibration and a smooth high quality signal. It has a solid stainless steel shaft with water protected seal, a vibration-free damped element and a high precision precious metal wiper. Carrier guides extruded the full length of the housing insure smooth operation even under severe side load conditions.

The [TD390's](#) newly designed internal components provide improvements which were developed after worldwide testing and field experience has lead to longer life and lower costs than other technologies.

Repeatability, on the other hand, is defined as how exact a unit can travel to a given point, back to its place of origin and back to the given point again. Repeatability is measured in inches or millimeters. For example, if a 6 inch stroke transducer has a repeatability of 0.0004 inch, the unit will be within 5.9996 inches to 6.0004 inches at that 6 inch mark every time.

It is very important for you to determine if Accuracy / Linearity or Repeatability is important to your application. As a rule of thumb, if your application requires you to measure several different points, your application requires a transducer that is more accurate / linear. If your application requires the transducer to go to one given point over and over again, then

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your application requires a unit that has a good repeatability specification.



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## Our Recent Customer Comments

*"Dwain was great, got me the exact information I needed in a timely fashion and was as polite as one can be over a computer.. thanks, I will be ordering the unit shortly",* - David, Food Technology Engineer

*"We at the University Bio.Ag.Engr lab are very pleased with the performance of the TD590M-D-100."* - Chris, University Staff

*"Christine took care of my needs very quickly and gave me great service."* - Jason, Buyer

*"Mike, Thank you very much for the info along the way, your help really made the difference for me to pick your company over others."* - Michael, University Educator

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