

Monitoring of Measuring Equipment

Monitoring of measuring equipment for *Leica DISTO™* –users who perform the required monitoring themselves, in accordance with their quality management systems:

Measure an easily accessible distance of 2 to 10 m with a distance measuring instrument approved by your national bureau of standards. Make 10 measurements over the same distance. Determine the deviation of your measurements from the actual distance and calculate the standard deviation from the results. Record the value and set the time for the next series of measurements. Repeat these check measurements regularly, especially before and after important measuring tasks.

Mark the *Leica DISTO™* with an "inspected" sticker and protocol the entire monitoring process. Your *Leica DISTO™* meets the specified accuracy, if the standard deviation is equal to or less than the value stated as the typical standard deviation. A *Leica DISTO™* checked on the test distance works with the specified accuracy over the entire specified measuring and temperature ranges.

Please take note of the technical data in the operating manual and of the explanations of measuring accuracy.

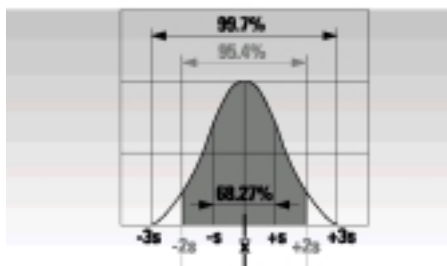
A method to calculate the standard deviation s (= Sigma):

A calculator with statistics functions or Excel is required to calculate the mean \bar{x} and the standard deviation s , directly using the measured values.

The formula for the standard deviation s is:

$$s = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2}$$

n ... Anzahl der Messungen
 x_i ... Einzelwert einer Messreihe
 \bar{x} ... Mittelwert einer Messreihe



n ... Number of measurements

x ... Single value in a series of measurements

\bar{x} ... Mean of a series of measurements