



Profile360 Detailed Specifications



Parameter	Capability ⁽¹⁾	Note
Absolute Accuracy	0.2% of FoV ⁽²⁾	<p>The maximum amount of error present in any single measurement of a target located anywhere within the field of view (FoV).</p> <p>This is the ability to measure an absolute dimension of a product, regardless of product position or rotation. The average reported dimension of a product will not deviate from the true dimension by more than 0.2% of the FoV dimension.</p>
Relative Accuracy	<p>Typical (limited movement) 0.03% of FoV</p> <p>Worst Case (any movement) $(1\% * X \text{ Displacement}) +$ $(1\% * Y \text{ Displacement}) +$ $(1\% * \text{Angular Displacement}/360)$ - Not to exceed 0.2% of FoV -</p>	<p>The maximum amount of error present when comparing successive measurements of a target with changing dimensions located at a <u>fixed position</u> within the FoV.</p> <p>A fixed position of the target enables the Relative Accuracy to be better than the Absolute Accuracy. In practice, the position of a moving target is not "fixed". The Worst Case calculation incorporates target movement into the relative accuracy specification. The Typical Relative Accuracy specification assumes a product movement of less than 1% of FoV in the X, Y Axis and less than 3.6 degrees in the rotational axis.</p>
Resolution	0.001mm, 0.001 degree	The smallest meaningful unit of measurement that is reported by the system. This is the fundamental operating resolution of the system.
Static Measurement Variation	<0.01% of FoV	The measurement variation taken over a short time period (i.e., no thermal drift) for a product that is static within the field of view.
Thermal Stability	< 0.01% of FoV / deg. C	The amount of measurement variation that might be observed for each degree change in ambient temperature. The user registration process compensates for this drift.
Warm-up Period	10 minutes	The amount of time the system should be allowed to warm-up prior to ensure reliable measurements.
Warm-up Drift	0.2% of FoV	The amount of measurement variation due to temperature change during the warm-up period.

- 1) Specifications may require an averaging period of up to 1 minute (300 samples), depending on product properties. Greater performance can be achieved by utilizing longer averaging periods.
- 2) Standard FoV's = 25mm, 50mm, 75mm and 100mm within the stainless steel C-Frame chassis. Custom FoV's and associated chassis are available.