

Measuring Plan

1. Ranging Distance

Procedure: Place objects at various distances within the specified range (2cm to 400cm).

Slowly move the module to within 2cm and beyond 400cm, compare the measured distance with the actual distance using precise measuring tools, and repeat the process multiple times to ensure consistency and accuracy.

2. Measuring Angle

Procedure: Place an object in front of the sensor, first put the sensor horizontally and vertically on the table. Then tilt it upward at a certain angle until no more value can be measured.

3. Accuracy

Procedure: Place the object at different distances within the module range, trigger the module to perform distance measurement and record the measured distance. Compare the measured distance with the actual distance using precise measuring tools. Calculate the percentage error or deviation from the true value to evaluate accuracy.

4. Precision

Procedure: Repeat distance measurements multiple times for a fixed object at a specific distance. Calculate the standard deviation or variance of the measurement distance to quantify accuracy. Evaluate the module's ability to consistently measure the same distance under the same conditions.