

Measurement Criteria

Harris Instrument Corporation announces that it has adopted the Measurement Variation Specifications utilized by many automotive manufacturers in specifying measurement system variation requirements.

For truly legitimate measurement variation specifications, all of these criteria must be taken into account together. Taking one of these criteria out of context, without considering the others, is not a valid specification.

Following the lead of such industry giants as Chrysler, Ford and General Motors, all SCAN-A-LINE™ measurement sensors (10XAS-Series and 10XBR-Series) will be rated according to the following criteria:

- **Linearity**
- **Repeatability**
- **Stability**
- **Reproducibility**
- **Accuracy**

Linearity

Measurement system linearity is the difference in the accuracy values through the expected *operating range* of the system.

Repeatability

Measurement system repeatability is the variation in measurements obtained with *one system* when used several times by *one operator* while measuring the identical characteristics on the *same parts*.

Stability

Measurement system stability (sometimes called drift) is the total variation in the measurements obtained with a system on the *same master part* when measuring a single characteristic over an extended *time period*.

Reproducibility

Measurement system reproducibility is the variation in the average of the measurements made by *different operators* using the *same system* when measuring identical characteristics on the *same parts*.

Accuracy

Measurement system accuracy is the difference between the *observed* average of measurements and the *master* value. The master value can be determined by averaging several measurements with the most accurate measuring equipment available for measurement.

All SCAN-A-LINE™ 10XAS and 10XBR Series Sensors used in SCAN-A-LINE™ measurement systems are verified to perform within these measurement criteria using measurement standards whose dimensions are traceable to ANSI and ISO-10012. Refer to the specification sheets on those individual products for the exact specifications.



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