

Brief Descriptions for Data Sheets of Optical Surface Measurement Devices

Version 1.2

	Term	Definition
Device-specific features	General features	Positioning volume
		Volume range in which measuring positions can be approached as well as the effectively usable path lengths of the axes
		Maximum number of measuring points in a single measurement
	Objective-specific features	Maximum number of measuring points
		Maximum total number of measuring points in a stitched measurement that the instrument can process in X and Y as well as the total number of measuring points X·Y
		Measuring area
		Maximum area that can be detected with a single measurement as well as its extension in X and Y direction
		Working distance
		Distance between measuring area or measuring point and the front optics
		Vertical measuring range
		Height measuring range detectable within a single measurement
	Extended measuring range	Objective magnification
		Nominal lateral imaging scale of an objective
		Numerical aperture
	Error-features	Aperture angle of the objective towards the object. A high numerical aperture usually means a high imaging quality
		Calculated maximum angle
		The maximum angle limited by the aperture angle that could theoretically be measured on mirror-like reflecting surfaces (not applicable to every measuring method)
	Dimensions and ambient conditions	Measuring point spacing
		Sampling interval of measuring points in the measuring volume, both in X and in Y direction
		Calculated lateral optical resolution
	Other features	Minimum theoretical distance between two adjacent, barely distinguishable features of an object, calculated from the numerical aperture
		Extended measuring area
		Maximum size of lateral measuring range that can be detected by stitching multiple single measurements when using the maximum number of measuring points in the measuring area
Application-specific features	Error-features	Extended measuring area with data reduction
		Maximum size of lateral measuring range that can be detected by stitching multiple single measurements, each with a respectively reduced number of measuring points
		Extended vertical measuring range
	Error-features	Maximum height range that can be detected by stitching multiple single measurements at a single lateral position
		Measurement noise
		Temporal noise of height values, determined during normal usage at ideal ambient conditions
	Error-features	Vertical resolution
		Smallest distinguishable step height calculated from the measurement noise, with a 95% probability of being detected
		Dimensions
	Error-features	Mass
		Dimensions of the instrument and accessories. Used to plan the space in which the equipment will be set up. Specified in the three dimensions in space: width, depth and height
		Mass
	Error-features	Ambient temperature range
		Total mass of equipment, including all components needed for operation
		Permitted range of ambient temperature during measurement in which the specifications in the data sheet are met
	Error-features	Permitted temperature gradient
		Maximum rate of temperature change during measurement
		Permitted relative humidity
	Error-features	Supply voltage and type of current
		Permitted range of relative humidity (non-condensing)
		Electrical power
	Error-features	Measuring principle
		Permitted voltage and frequency range of power supply voltage
		Maximum electrical power consumption
	Error-features	Export formats
		Name of fundamental physical phenomenon
		Data formats to which the topography data can be exported
	Error-features	Flatness deviation
		Deviation of the measured topography of ideal optical flat from a plane for the single measuring area
		Maximum deviation of a step height measurement
		Greatest deviation of step heights in the total vertical measuring range obtained by multiple measurements

