



quDIS

Interferometric distance measurement on the nanometer scale



Key Features

- Signal stability < 0.05 nm
- Absolute distance measurement
- 0.1 ... 20 m working distance
- 25 kHz bandwidth
- 1 m/s target speed
- 3 sensor axes, multiple devices

quDIS Specifications

Interferometer

Laser source	DFB laser (class1)
Laser power (class 1)	< 400 μ W
Wavelength (IR)	1 535 nm
Laser linewidth	<5 MHz
Sensor axes	3
Fiber input connectors	FC Narrow-Key-Slot Mating Sleeves
Synchronization	Multiple devices

Sensor

Resolution	1 pm
Signal stability *1	< 0.05 nm
Signal stability, absolute distance *2	< 200 nm
Bandwidth *3	25 kHz
Working distance *4	0.1 ... 20 m
max. target velocity	1 m/s

Interfaces

Digital out (HDMI)	AquadB, HSSL
Resolution HSSL	8..48 bit
Bandwidth	Up to 6,25 MHz

Applications

- Interferometric distance measurement
- Vibration analysis
- Beam interrupt compensation
- Gap and edge measurement
- Environment analysis
- Quality control

Operation

Interface	USB 3.0, Ethernet
Operating systems	Windows, Linux
Supplied software	GUI, DLL, LabView, Python, Command line
Alignment support	Numerical, graphical

Accessories

Sensor heads	Vacuum, low temperature
Fibers and feedthroughs	Single mode, vacuum, low temperature
Reflectors	Reflecting surfaces, mirrors, retroreflectors

Hardware

Dimensions (in mm)	440 x 330 x 50
Weight	4 kg
Power consumption	< 50 W at 100 to 230 VAC

*1: relative distance RMS@ 100Hz, 2s, 200mm *2: absolute distance RMS@ 100Hz, 200mm
*3: @ 1000mm, distance dependend *4: sensor head dependend

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