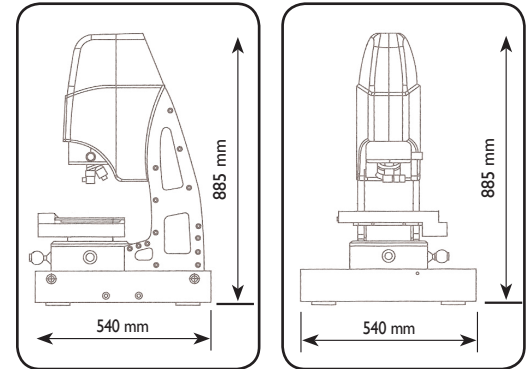


CCI SunStar system specifications

System	CCI SunStar SR	CCI SunStar TF1	CCI SunStar TFE	CCI SunStar RD
Measurement type	3D non-contact			
Measurement mode	Coherence Correlation Interferometry (CCI)			
Z scanner	Ultra high precision closed loop piezoless scanner			
Objective mount	3 position turret			
Performance	CCI SunStar SR	CCI SunStar TF1	CCI SunStar TFE	CCI SunStar RD
Single scan range (Z)	2.2 mm as standard (closed loop)			
Z -stitching range	Greater than 50 mm (closed loop)			
Z-resolution (max)	0.01 nm			
Noise floor (Z) ¹	<0.08 nm [0.8 Å]	<0.08 nm [0.8 Å]	<0.02 nm [0.2 Å]	<0.02 nm [0.2 Å]
Repeatability of surface RMS ²	<0.02 nm [0.2 Å]	<0.02 nm [0.2 Å]	<0.02 nm [0.2 Å]	<0.02 nm [0.2 Å]
Number of measurement points	1024 x 1024	1024 x 1024	2048 x 2048	2048 x 2048
Step height repeatability ³	<0.1%	<0.1%	>0.05%	>0.05%
Surface reflectivity	<0.3% - 100%	<0.3% - 100%	<0.3% - 100%	<0.3% - 100%
Software	CCI SunStar SR	CCI SunStar TF1	CCI SunStar TFE	CCI SunStar RD
Step height analysis	Yes	Yes	Yes	Yes
Roughness	Optional	Optional	Yes	Yes
Thick film analysis (>1.5 microns)	No	Optional	Optional	Yes
Film thickness (>50 nm)	No	No	Optional	Optional
Stitching	Optional	Optional	Optional	Yes
Multi-site	Optional	Optional	Optional	Yes
TalyMap	Optional	Optional	Yes	Yes
Stages	CCI SunStar SR	CCI SunStar TF1	CCI SunStar TFE	CCI SunStar RD
Component weight (max)	10 Kg			
Automated X-Y stage (medium)	125 mm x 75 mm			
Automated X-Y stage (large)	150 mm x 150 mm			
Manual tip/tilt (standard)	4 degrees			
System dimensions	CCI SunStar SR	CCI SunStar TF1	CCI SunStar TFE	CCI SunStar RD
Full system dimensions (floor space)	540 mm wide x 540 mm deep x 885 mm high			
Temperature (storage)	10 - 50°C			
Temperature (operating)	10 - 30°C			
Temperature gradient	< 1°C/hour (best performance)			
Humidity	< 70% non-condensing			
Internal anti-vibration	Advanced pneumatic anti vibration mounts supplied as standard			
External active anti-vibration	N/A	N/A	N/A	Optional



¹ As demonstrated by multiple measurements on a levelled fused silica optical flat

² As demonstrated by 1 sigma standard deviation of 20 Sq (RMS) measurements on SiC flat

³ As demonstrated by 1 sigma standard deviation of 20 measurements on a 5 µm step height standard

Other configurations are available upon request – please contact your local Taylor Hobson representative.
Specifications subject to change without prior notice.

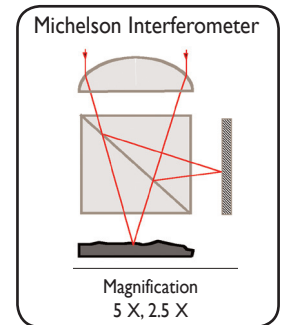
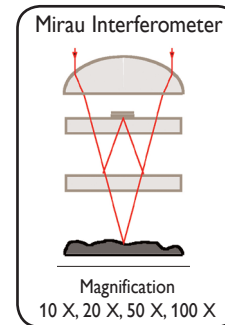
CCI SunStar objective lens specifications

A range of objective lenses are available, the choice of lens will depend on the application. The key parameters are:

- **Field of view** determines the measurement area
- **Optical resolution** defines the smallest features that can be distinguished
- **Slope** is an important consideration for curved and rough samples, a rougher surface will contain steeper slopes.

All objective lenses are supplied with a protective storage.

Magnification	Magnification power of the objective lens
Field of view	Area of the sample measured by a given objective
Optical resolution	The ability to distinguish adjacent heights
Pixel size	Sample resolution, pixel pitch (spatial sampling interval)
Slope	Maximum specular slope, restricted by pixel size and the numerical aperture. Steeper slopes can be measured on non-specular surfaces
Working distance	Distance between sample and lens
NA	Numerical aperture, expresses the angular aperture of the lens
Design	Type of interferometer used, Michelson or Mirau



	Magnification	Field of view (mm)	Optical resolution (um)	Pixel size (um)	Slope (max) (deg)	Working distance (mm)	NA	Design
CCI SunStar SR	2.5x	6.92 x 6.92	4.07	6.92	2	10.3	0.075	Michelson
	5x	3.46 x 3.46	2.35	3.46	4	9.3	0.13	Michelson
	10x	1.73 x 1.73	1.02	1.73	7.7	7.4	0.3	Mirau
	20x	0.865 x 0.865	0.76	0.865	14.6	4.7	0.4	Mirau
	50x	0.346 x 0.346	0.4 - 0.6	0.346	27.7	3.4	0.55	Mirau
	100x	0.173 x 0.173	0.3 - 0.5	0.173	33.3	2	0.7	Mirau

	Magnification	Field of view (mm)	Optical resolution (um)	Pixel size (um)	Slope (max) (deg)	Working distance (mm)	NA	Design
CCI SunStar TFI	2.5x	6.92 x 6.92	4.07	6.92	2	10.3	0.075	Michelson
	5x	3.46 x 3.46	2.35	3.46	4	9.3	0.13	Michelson
	10x	1.73 x 1.73	1.02	1.73	7.7	7.4	0.3	Mirau
	20x	0.865 x 0.865	0.76	0.865	14.6	4.7	0.4	Mirau
	50x	0.346 x 0.346	0.4 - 0.6	0.346	27.7	3.4	0.55	Mirau
	100x	0.173 x 0.173	0.3 - 0.5	0.173	33.3	2	0.7	Mirau

	Magnification	Field of view (mm)	Optical resolution (um)	Pixel size (um)	Slope (max) (deg)	Working distance (mm)	NA	Design
CCI SunStar TFE	2.5x	6.6 x 6.6	4.07	3.3	3.5	10.3	0.075	Michelson
	5x	3.3 x 3.3	2.35	1.65	6	9.3	0.13	Michelson
	10x	1.65 x 1.65	1.02	0.83	14	7.4	0.3	Mirau
	20x	0.825 x 0.825	0.76	0.415	19	4.7	0.4	Mirau
	50x	0.33 x 0.33	0.4 - 0.6	0.165	27.7	3.4	0.55	Mirau
	100x	0.165 x 0.165	0.3 - 0.5	0.0823	33.3	2	0.7	Mirau

	Magnification	Field of view (mm)	Optical resolution (um)	Pixel size (um)	Slope (max) (deg)	Working distance (mm)	NA	Design
CCI SunStar RD	2.5x	6.6 x 6.6	4.07	3.3	3.5	10.3	0.075	Michelson
	5x	3.3 x 3.3	2.35	1.65	6	9.3	0.13	Michelson
	10x	1.65 x 1.65	1.02	0.83	14	7.4	0.3	Mirau
	20x	0.825 x 0.825	0.76	0.415	19	4.7	0.4	Mirau
	50x	0.33 x 0.33	0.4 - 0.6	0.165	27.7	3.4	0.55	Mirau
	100x	0.165 x 0.165	0.3 - 0.5	0.0823	33.3	2	0.7	Mirau

Other objective lenses are available upon request – please contact your local Taylor Hobson representative.

Specifications subject to change without prior notice.