



Used primarily to measure multi fibre (MT/MPO® and MT-RJ) connectors, DORC's fifth generation "ZX-1 micro Array+" is the result of 24 years of hardware and software product development. Although optimized for multi-fibre connectors, the ZX-1 micro Array plus also does an excellent job of measuring single fibre PC and APC connectors. DORC's patented design is based on a variant of the Michelson configuration, and provides both 2D and 3D high resolution images of the sample under test in approximately 45 seconds for multi-fibre connectors and <1 second for single fibre connectors.

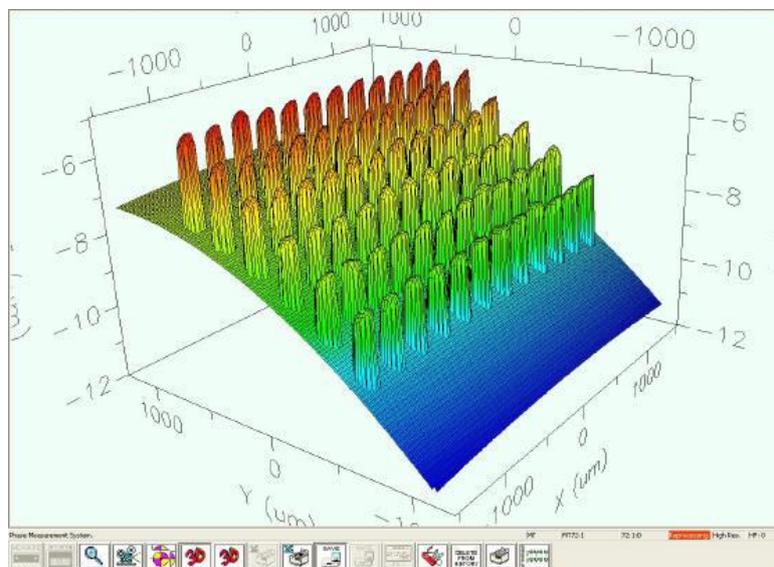
The innovative design leaves nothing for the operator to do other than insert and remove connectors. Focus, centring and reference mirror calibration adjustments are all automated – no user mechanical

adjustments required. The system is very compact and controlled by a laptop computer (desktop or Tablet PC optional) using a single USB 3.0 interface cable. The fan-less, hermetically sealed design is vibration insensitive and impervious to ingress of dust and contamination - making the ZX-1 micro PMS+ feel equally at home in both production and field based applications.

A variety of standard and custom chucks are available to support all types of multi-fibre and single fibre connectors. Only one screw is used to secure a chuck to the interferometer and changing chucks can be accomplished in just seconds. Incorporating DORC's novel Patented ceramic Reference Guide Pin method, not only guarantees measurement accuracy - but also means that NO calibration whatsoever is required when switching to or between multi fibre chucks. When installing single fibre chucks, and using DORC's Patent Pending "Connect ID" RFID reference connector, less than 30 seconds is required overall, including the apex offset calibration.

Once measured, all results are automatically saved in the industry standard Microsoft Excel® format. The operator has a wide variety of display, printing and saving options for both measurement "History" and "Quality Control" reports. The Patented design provides the ability to simultaneously provide 3D geometry and a 2D microscope image of the connector under test - removing the requirement for separate instruments to provide this additional functionality.

The ZX-1 micro Array+ stores all calibration, the PMS (Phase Measuring System) software itself and even a complete image of the system controller's hard drive on the instrument itself. This not only makes the system PC independent, but also means that the system can recover itself from virus attacks, Windows file corruption, deleted files, malicious employees and potential PC failures in just minutes. The system also has a "factory restore" capability, returning the unit to its shipped state at the press of a button. Add to this the fact that software updates can be downloaded directly from our web site and there is no scheduled maintenance whatsoever, and you end up with a maintenance technicians "dream machine".



Key Benefits:

- Measures BOTH multi-fibre and single fibre connectors.
- Very small footprint - supplied by default with a laptop computer. Desktop or Tablet PC's available upon request.
- Automatic reference mirror calibration – NO manual adjustments!!
- Automatic connector centring – NO manual adjustments!!
- Automatic focus – NO manual adjustments!!
- Hermetically sealed optical module – a dusty production environment is no longer a problem.
- High resolution camera and optics - results in improved repeatability and reproducibility.
- Simple connections – just a single power cord and USB 3.0 port on the rear.
- No anti-vibration table required. Fan-less design eliminates any system induced vibration.
- Patented reference guide pins are integrated into the chuck and made of ceramic, so they can never bend.
- Fast measurement – typically less than 45 seconds (including calibration verification).
- No calibration whatsoever required when changing chucks from single fibre to MT/MPO® or MT-RJ.
- Simple operation - insert the connector and right click to measure. Centring, focus and the scan are all automatic.
- Calibration is held on the instrument itself, eliminating the need to keep the interferometer and PC as a matched pair.
- Software backup, calibration and an image of the supplied PC are all stored on the instrument itself, in non-volatile memory – making lost disks, viruses, deleted files, corrupted Windows and PC failures a snap to recover from.
- Manufactured by a vendor that has sold more automated connector measuring interferometers than any other.
- Costs 30% less than the prior version and the complete system ships in a single 16"x16"x20" box when configured with a laptop.
- 1 Year Warranty included.

Configurations and Options

The ZX-1 micro Array+ is a "turnkey" system which includes everything you need to get started. The standard configuration is as follows:

- ZX-1 micro Array+
- One fixture included - Please specify type - MT/MPO® or M/T-RJ
- System controller - Laptop by default (Desktop available upon request)
- Windows 10 Professional/Home, Microsoft Office 2016 and PMS software are all preloaded and ready to run.
- Custom foam shipping container

Multi-fibre Connector Options:

Part Number:	Description:
MTCHUCK	MT/MPO® Chuck including adapters for connectors with and without housings.
MTRJCHUCK	MT-RJ Chuck including adapters for connectors with and without housings.
BARCODE	Bar code CCD reader for PMS systems.

Accessories for all ZX-1 micro Array+ Systems

2.50-WT	Universal 2.50mm V-groove connector chuck with tilt.
2.00-WT	Universal 2.00mm V-groove connector chuck with tilt.
1.58-WT	Universal 1.58mm V-groove connector chuck with tilt.
1.25-WT	Universal 1.25mm V-groove connector chuck with tilt.
REF2.50PMSRFID	2.50mm "Connect ID" RFID "Mapped" reference connector for PMS+ systems. PMS+ System MUST have ZXRfid to use this option!!
REF1.25PMSRFID	1.25mm "Connect ID" RFID "Mapped" reference connector for PMS+ systems. PMS+ System MUST have ZXRfid to use this option!!
REF2.50APCRfid	2.50mm "Connect ID" RFID APC "Mapped" reference connector for PMS+ systems. PMS+ System MUST have ZXRfid to use this option!!
REF1.25APCRfid	1.25mm "Connect ID" RFID APC "Mapped" reference connector for PMS+ systems. PMS+ System MUST have ZXRfid to use this option!!
REF2.50PMS	2.50mm "Mapped" reference connector for PMS systems.
REF1.25PMS	1.25mm "Mapped" reference connector for PMS systems.
REF2.50APC	2.50mm SC/APC "Mapped" reference connector for PMS systems.
REF1.25APC	1.25mm LC/APC "Mapped" reference connector for PMS systems.
RECERTIFY	Recertify an existing "PMS" reference connector. NOTE: Reference Connectors can ONLY be recertified if they are still in pristine condition - NO visible scratches on the surface.
FC/APC AP	FC/APC connector adapter plate.
SC/APC AP	SC/APC connector adapter plate.
DIN/APC AP	DIN/APC connector adapter plate.
E2K/APC AP	E2000/APC connector adapter plate.
LC/APC AP	LC/APC connector adapter plate.
MU/APC AP	MU/APC connector adapter plate.
BSC/APC AP	BSC/APC connector adapter plate.
FER/APC AP	FERRULE/APC adapter plate.
BARCODE	USB Bar code CCD reader for PMS Systems.
TOOLRFID	Replacement "Connect ID" RFID Enabled Chuck Removal Tool. PMS+ System MUST have ZXRfid to use this option!!
FIXCHUCK	Fixed charge to repair a worn out chuck - Current style only.

DORC® ZX-1 micro Array+ Interferometer

High precision measurement of fibre optic array connector end face geometry

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Multi-fibre Reproducibility and Repeatability

Measured Parameter	Reproducibility - One Sigma	Repeatability - One Sigma
Angle (X and Y)	0.015 degrees	0.005 degrees
Fibre Height	15nm	10nm

Reproducibility based on 50 measurements re-inserting connector between measurements

Repeatability based on 100 measurements without disturbing the connector between measurements

MT/MPO® connector reproducibility and repeatability is somewhat determined by the polish quality and surface geometry

Single Fibre Reproducibility and Repeatability

Measured Parameter	Reproducibility - One Sigma	Repeatability - One Sigma
Radius of Curvature	0.5%	0.25%
Apex Offset	3.0µm	1.0µm
Fiber Height	2.5nm	1.5nm

Reproducibility based on 50 measurements re-inserting connector between measurements

Repeatability based on 100 measurements without disturbing the connector between measurements

Single Fibre Measurement Range

Radius of Curvature	3mm - Flat
Apex Offset	0-500µm (value calculated if outside of captured frame)
Fiber Height	± 6µm

Other Specifications

Principle of Operation	Michelson Interferometer (non-contact system)
Measurement Speed	<45 seconds for MT/MPO® connectors. <1 second for single fibre (ex. auto-focus)
Field of View	3.0mm nominal - in the horizontal axis. Entire MT connector in the vertical axis
Operating Wavelengths	470nm to 645nm depending on mode (solid state sources)
Power requirements	100-120V and 210-250V AC 50/60Hz auto sensing

Due to continued product improvement, specifications are subject to change without notice

For further information and to discuss your application please contact:-

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ISO9001:2015
for the distribution
of fibre optic
products and the
manufacture of
fibre optic
assemblies.



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