CMC-1550
Modal Content Analyser

For hollow core and few-mode fibers

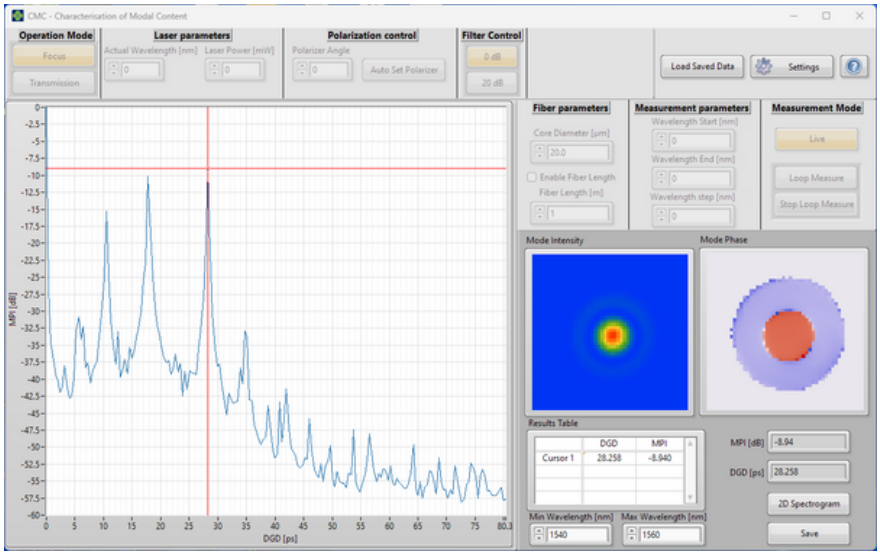
The CMC-1550 Modal Content Analyser is designed for measuring the modal characteristics of each individual mode in few-mode fibers and hollow core fibers which have complicated fiber structures.

Consisting of two different units - a launch unit and a receiver unit, it employs the spatially and spectrally resolved imaging (S2) technique to identify and characterise the fiber's individual mode, estimate its mode-dependent propagation loss, and assess its mode coupling effects.

The CMC-1550 obtains the Differential Group Delay (DGD) for each propagation mode and the relative intensity (or Multipath Interference (MPI)), compared to the most excited mode. It provides a comprehensive understanding of the individual mode characteristics and their interactions within the fiber, helps to reconstruct the propagation mode profiles and phases of the guided modes of the fiber under test.

Features & Benefits

- Measure hollow core and few-mode fibers, up to 400 µm in diameter
- Reconstruction of propagation mode profiles and phases
- Calculate the relative intensity of high order modes compared to the most excited mode
- Calculate the DGD of the propagation modes
- Loop measurement mode enables real time measurement



CMC software user interface main screen

Manufactured by
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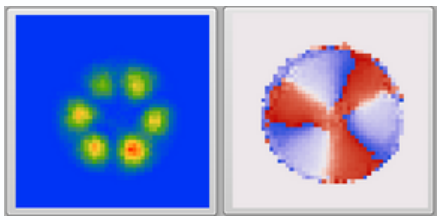
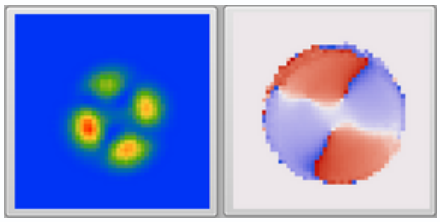
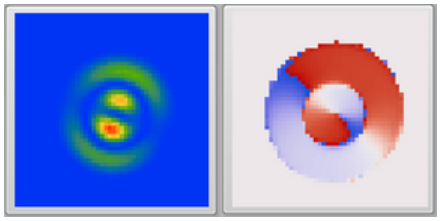
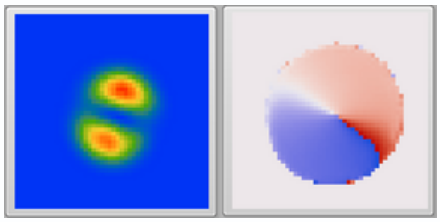
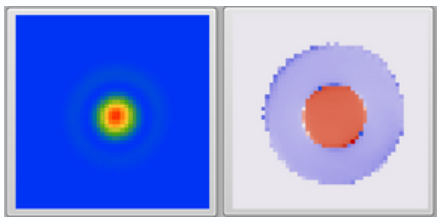
Examples of Mode Patterns

The two colors indicate different signs of the electric field values.

Mode Pattern	Mode Intensity	Mode Phase
LP31		
LP21		
LP12		
LP11		
LP02		

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Technical Specifications

Measurement Capabilities	
Fiber Diameter	< 400 µm
Fiber Length	5 to 100 m
Measurement Time*	< 28 sec (100 nm range, 0.05 nm spacing)
Fiber Type	Few-mode fibers, hollow core fibers
Input connector	Standard: Universal 2.5mm ferrule adapter, Bare fiber adapter Optional: LC, FC, ST, SC, MTP

Optical	
Measurement Wavelength	1,480 to 1,640 nm
Max DGD resolution	< 1,800 ps
Min DGD resolution	0.05 ps
Image sensor	512 x 512 pixels, 20 µm pixel pitch
Exposure range	0.1 ms to 20 ms exposure time

Physical	
Weight	7 kg (Launch unit) 6 kg (Receiver unit)
Size	0.45 m x 0.16 m x 0.13 m (Launch unit) 0.39 m x 0.22 m x 0.13 m (Receiver unit)
Operating Temperature	15 – 30°C
Computer Requirements	All systems are supplied with a computer running up-to-date Windows operating system
Data Interface	1 X USB 3.0 (USB A to USB B: 1m cable supplied)

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Ordering Information

Part Number	Description
CMC-1550	S2 measurement system for the characterisation of modal content in optical fibers up to 400 µm in diameter. Measurement range from 1480 to 1620 nm. Including optical receiver module, Santec tunable laser launch module, FC/APC patch cord kit, bare fiber adapter, rigid carrying case, cables, software package, APL-DC desktop computer, keyboard and mouse.
CMC-SMPC	FC/APC patch cord including bulkhead adapter
CMC-BFA127	Bare Fiber Adapter, 127 µm inner diameter, FC style
CMC-CC	CMC rigid carrying case
MPX-CALC	Input connector adaptor for LC connectors (CMC/MPX compatible)
MPX-CAFC	Input connector adaptor for FC connectors (CMC/MPX compatible)
MPX-CASC	Input connector adaptor for SC connectors (CMC/MPX compatible)
MPX-CAST	Input connector adaptor for ST connectors (CMC/MPX compatible)
MPX-CAMTP	Input connector adaptor for MTP connectors (CMC/MPX compatible)
CMC-1550EW3	CMC-1550 Modal Content Analyser extended warranty covering parts and labour for 3 years from purchase, return to base. Cover excludes camera and the laser unit.
CMC-1550EW5	CMC-1550 Modal Content Analyser extended warranty covering parts and labour for 5 years from purchase, return to base. Cover excludes camera and the laser unit.

For North American sales enquiries, call **+1 727 504 8748** or email us on **sales@ardenphotonics.com**

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