

The MT Systems are the modular units of the Exicor<sup>®</sup> birefringence measurement system family of products. These systems are designed to be integrated into customer equipment or on production lines where an automated stage is not necessary. These models are widely used in industry to measure components such as thin glass, plastic films, bulk material, fibers, and many others. The standard flex rated cabling allows motion applications such as traversing production lines or as part of custom XY tables.

#### **Exicor MT**

The Exicor MT is designed for low level birefringence and stress birefringence measurements. This system is focused on thin glass, thick plastic and thin plastic films applications where low level resolution and repeatability are required to produce high tech materials and products.

#### **Exicor MT-3**

The Exicor MT-3 is designed for higher level birefringence applications up to half wave of the probe light. This system is focused on thick plastic and thin plastic films applications where low level to mid-level birefringence needs to be evaluated in one instrument.

#### **Exicor MT-4**

The Exicor MT-4 is designed to measure high levels of birefringence. This system is focused on plastic films and applications where retardation levels exceed the half wave value of the probe light. This system uses a unique, patented dual wavelength and orientation technique to measure birefringence magnitudes up to 4000 nm.

#### **Exicor MT-5**

The Exicor MT-5 is an integrated multi-source and multi-detector system. It is designed for web applications where multiple fixed measurement points are needed and traversing stages are either impractical or not an option.

#### **Exicor MT-Custom**

The MT family is designed to fully adapt to the demanding needs of industry. These systems are all easily adapted to your requirements and the demands of your application environment. The Exicor NEXUS program<sup>™</sup> is available to help you integrate or develop processes using the Exicor family of products.

#### **General Systems Features:**

- ◆ DLL or UI software (2D and 3D graphical representation of birefringence parameters)
- ◆ Modular Design (Flexible mounting options for quick and custom integration)
- ◆ Well-suited for production line applications



**SPECIFICATIONS**

	<b>MT / CUSTOM</b>	<b>MT-3 / MT-5 / CUSTOM</b>	<b>MT-4</b>
<b>Retardation Range:</b>	0.005 to 120+ nm	0.005 to 300+ nm	0.1 to 4000nm
<b>Retardation Resolution<sup>2,3</sup>/ Repeatability<sup>1</sup>:</b>	0.001 nm / ± 0.008 nm	0.001 nm / ± 0.015 nm	0.1 nm / Contact Us
<b>Angular Resolution / Repeatability<sup>1</sup>:</b>	0.01° / ±0.05°	0.01° / ±0.07°	0.01° / ±0.05°
<b>Measurement Rate<sup>4</sup>:</b>	up to 100 pps		
<b>Light Source Wavelength<sup>5</sup>:</b>	Various (633nm standard)		633 nm / 543 nm
<b>Measurement Spot Diameter<sup>6</sup>:</b>	Between 1 mm and 3 mm (can be as low as 50 μm)		1 mm
<b>Modulation Technique / Frequency</b>	PEMLabs™ Photoelastic Modulator / 50 kHz and 50/60 kHz	PEMLabs™ Photoelastic Modulator 50/60 kHz	
<b>Demodulation Analysis Technique:</b>	Hinds Instruments Signaloc™ Lock-in Amplifier or Waveform Capture Card		
<b>Measurement Units:</b>	nm (retardation), ° (angle)		

<sup>1</sup> Typical performance at 5nm retardation

<sup>2</sup> Up to 0.8 nm, 1% thereafter

<sup>3</sup> Up to 1.5 nm, 1% thereafter

<sup>3</sup> Maximum data collection speed. Sample XY scan time dependent on stage movement parameters

<sup>4</sup> Custom wavelengths available

<sup>5</sup> Spot sizes of less than 1mm native require optional high resolution detector module

OPTIONS:

- ♦ Additional Polarization Parameters
- ♦ Hinds Scan in Motion™ (High Speed Scanning)
- ♦ Spectroscopic and RGB measurements
- ♦ Custom wavelengths (VIS, NIR)
- ♦ Custom mounting brackets
- ♦ Custom Software (UI or DLL)
- ♦ Stress Estimation Calculations