METROTEC

OPTICAL EXTENSOMETERS

MTE-OE-M2
MTE-OE-M5
MTE-OE-M9

Non-contacting optical extensometers based on digital image correlation technology. Designed for tensile, compressive, bending, shear, torsional and fatigue testing. Compatible with a wide range of test frames.

TECHLABSYSTEMS

MTE-OE Series

The MTE-OE series optical extensometers are smart and easy-to-use devices for routine testing for both industrial and R&D environments.

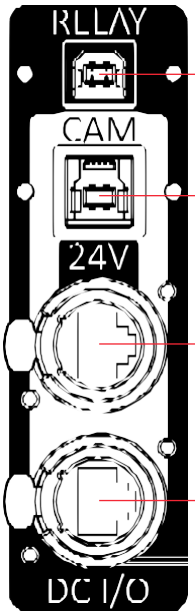
The compact housing includes a monochromatic LED bar light and can be mounted directly to a testing machine frame, creating a lean test setup, or fixed to a tripod using standard screw threads.

The lens is easily accessible and can be changed in a short time to equip the MTE-OE for diverse applications.

Features

- An all-in-one solution
- Stackable
- Lens and LED light included
- Automatic light ON/OFF
- Axial or Transversal T-SAS DIC software license included
- One calibration grid
- All cabling included
- Easy to mount

MTE-OE Series Wiring



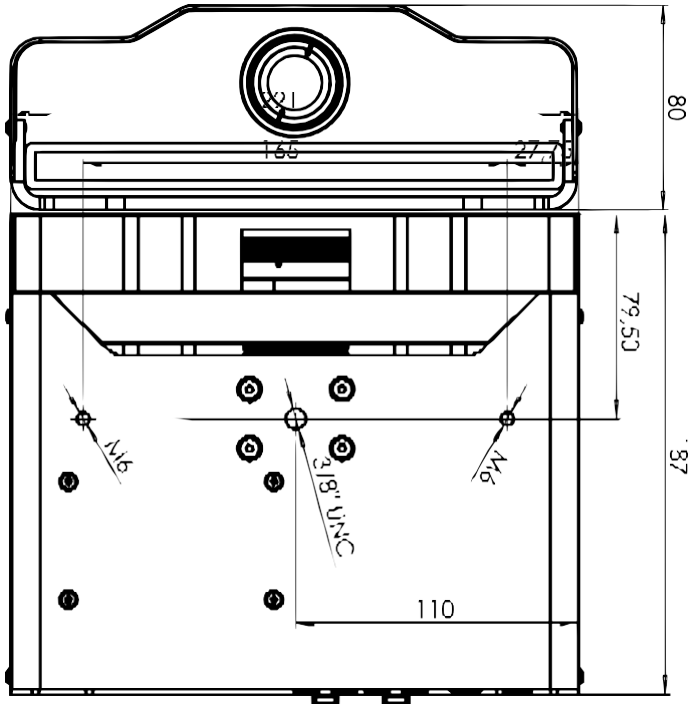
USB 2.0 connection of the light relay

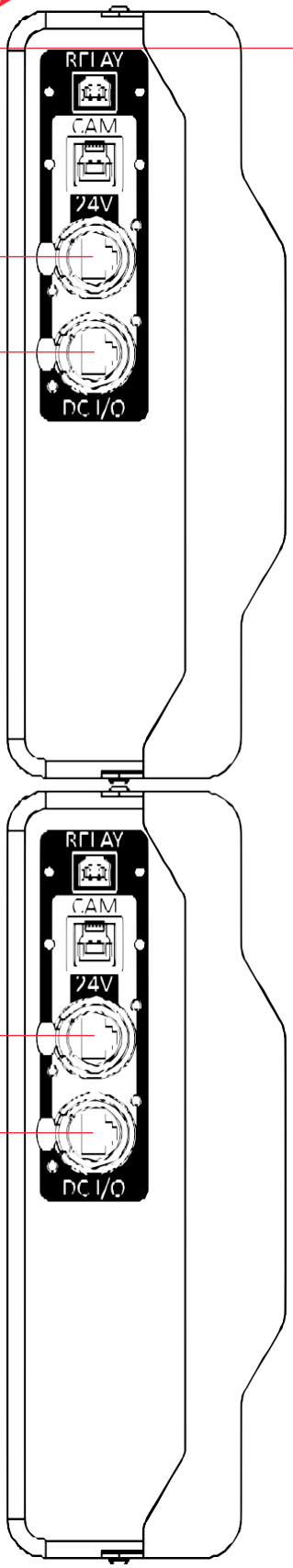
USB 3.0 camera connection

24 V input over RJ45 connector

A. Power output for a slave VE-XS unit / additional light

B. 24 V input for bypassing the USB relay





24 V input

Slave one unit power

Additional light output

MTE-OE Series Modes

Single Mode

The most common setup. Multiple single cameras can be used simultaneously.

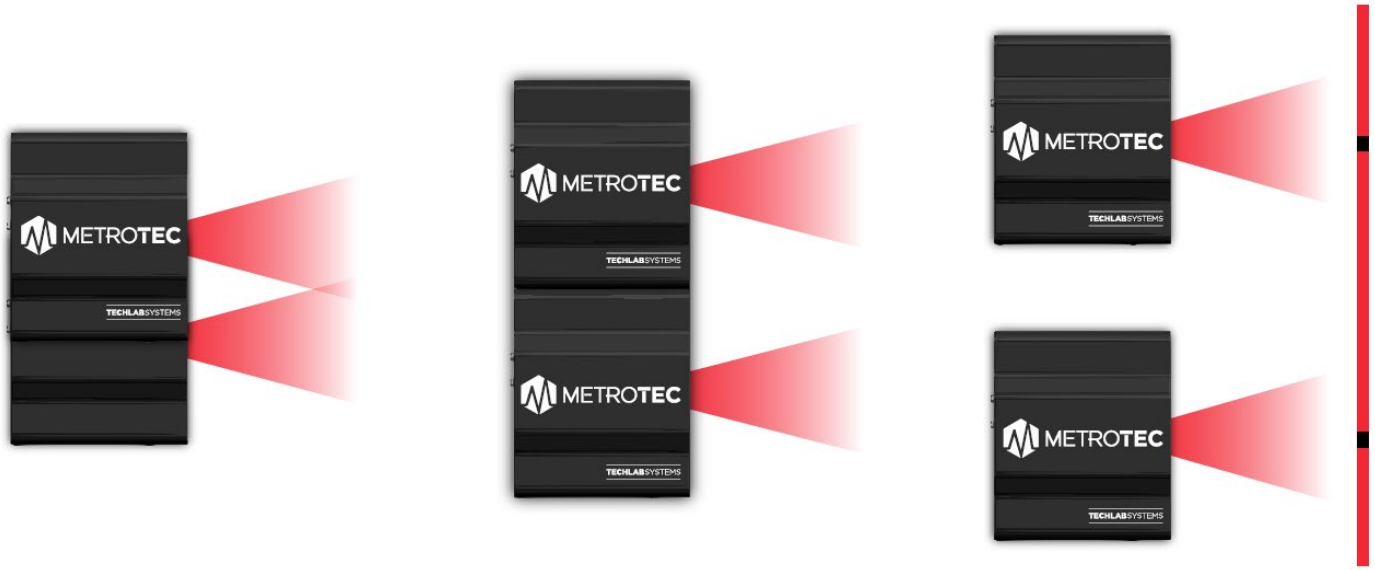
Joined Mode

Identical FoVs where a point can travel between cameras.

Dual FoV Mode

An uncommon setup with different resolutions.

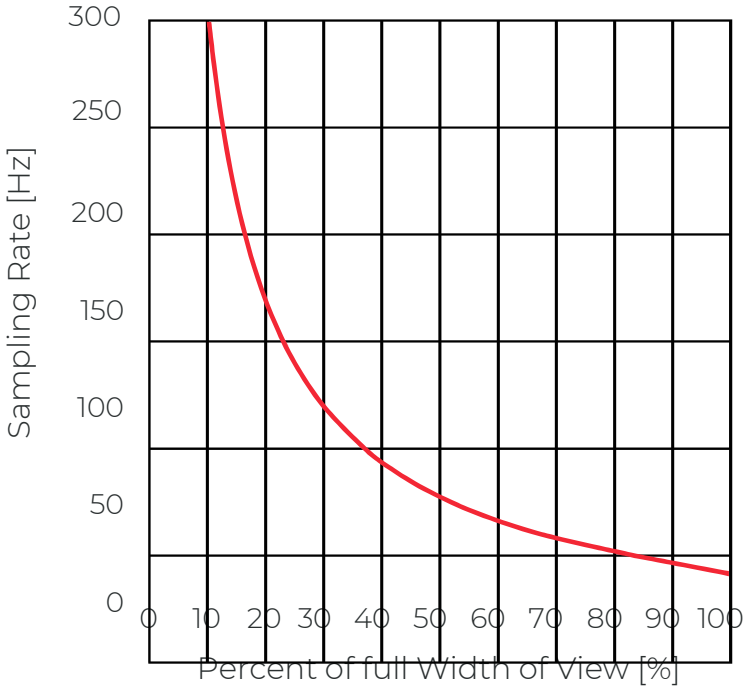
In cases when the field of view of one camera is less than 210 mm, it is not mechanically possible to merge the fields of view. That means the JOINED mode is not applicable.
However, this setup can still be used for multiple standalone views calibrated into one coordinate system. The typical use is measurement of long specimens with a relatively small extension.



MTE-OE-M2

Specification

- Single camera resolution – 2.3 MPx
- 1/1.2" sensor size
- CMOS sensor
- 5.86 µm pixel size
- USB 3.0 interface
- 43 Hz at full resolution
- C-Mount lens mounting
- S-Series lens recommended



ISO 9513	Field of View [mm]						Working Distance [mm]				
	MTE-OE1-M2		MTE-OE1-M2		MTE-OE1-M2		Lens Focal Length				
	Height	Width	Height	Width	Height	Width	12mm	16mm	25mm	35mm	50mm
Class 0.5	110	70	2x110	70	3x110	70	-	95	185	285	430
Class 1	190	120	360	120	530	120	145	210	360	530	785
Class 2	380	238	720	238	1060	238	345	480	785	1120	1630

Separate Fields of View; for Joined mode check MTE-OE-M9
Additional lighting may be needed

MT-OE1-M2

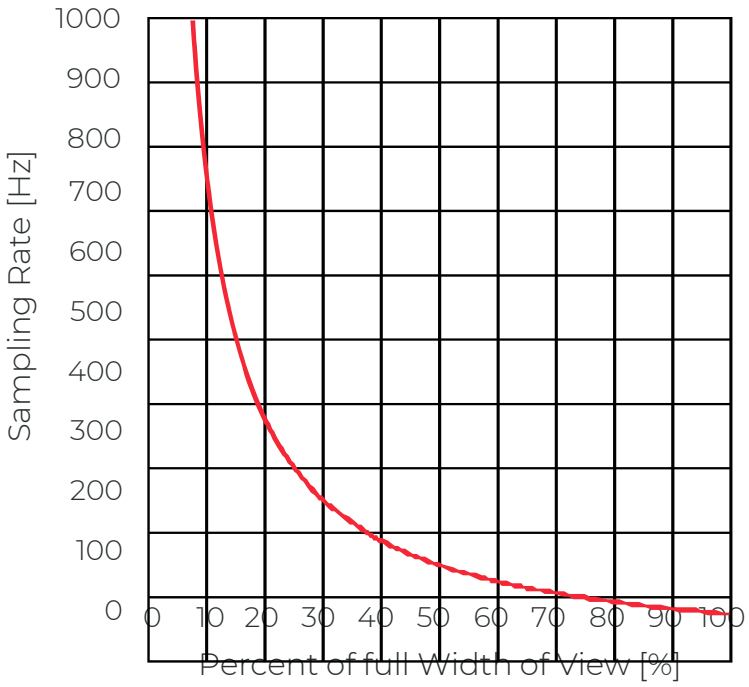
MT-OE2-M2

MT-OE3-M2

MTE-OE-M5

Specification

- Single camera resolution – 5 MPx
- 2/3" sensor size
- CMOS sensor
- 3.45 µm pixel size
- USB 3.0 interface
- 75 Hz at full resolution
- C-Mount lens mounting
- S-Series lens recommended



ISO 9513	Field of View [mm]						Working Distance [mm]				
	MTE-OE1-M5		MTE-OE2-M5		MTE-OE3-M5		Lens Focal Length				
	Height	Width	Height	Width	Height	Width	12mm	16mm	25mm	35mm	50mm
Class 0.5	130	109	260	109	390	109	125	185	325	480	710
Class 1	260	218	520	218	760	218	310	435	710	1020	1480
Class 2	520	435	1040	435	1500	435	680	925	1480	2095	3020

Joined mode not applicable

Additional lighting may be needed

MT-OE1-M5

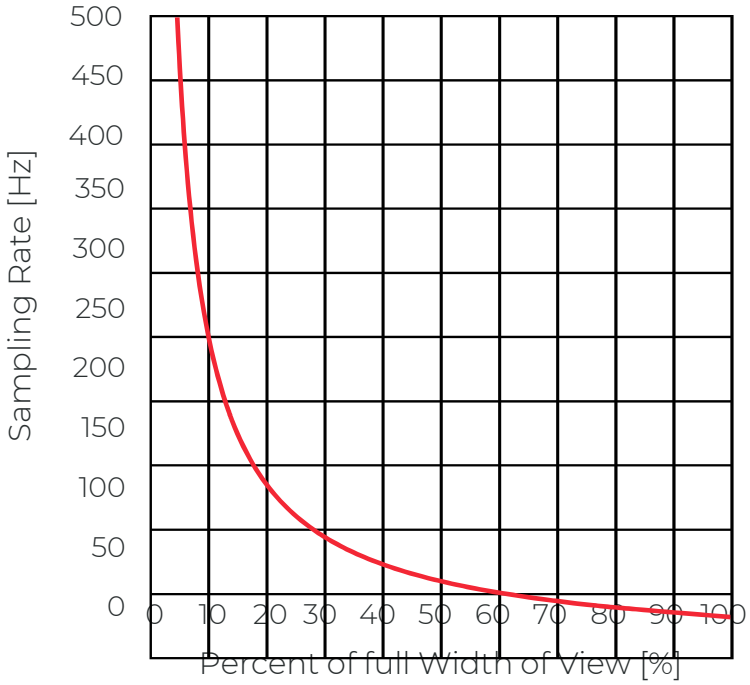
MT-OE2-M5

MT-OE3-M5

MTE-OE-M9

Specification

- Single camera resolution – 9 MPx
- 1" sensor size
- CMOS sensor
- 3.45 µm pixel size
- USB 3.0 interface
- 32 Hz at full resolution
- C-Mount lens mounting
- H-Series lens recommended



ISO 9513	Field of View [mm]						Working Distance [mm]				
	MTE-OE1-M9		MTE-OE2-M9		MTE-OE3-M9		Lens Focal Length				
	Height	Width	Height	Width	Height	Width	12mm	16mm	25mm	35mm	50mm
Class 0.5	220	116	420	116	620	116	130	190	330	485	720
Class 1	440	232	840	232	1240	232	315	440	715	1025	1485
Class 2	880	464	1680	464	2480	464	690	935	1500	2120	3055

Additional lighting may be needed

MT-OE1-M9

MT-OE2-M9

MT-OE3-M9

MTE-OE Stereo

A 3D upgrade of the top-selling industrial optical extensometer MTE-OE provides the opportunity to measure specimens with complex geometry or specimens displaying large out-of-plane displacement during testing.

Suitable mainly as an auxiliary sensor for testing machines. As such, it can be fixed and calibrated without re-setting for longer periods of time.

Any couple of standard MTE-EO optical extensometers can be paired and converted into a 3D system by using the dual mode and the appropriate 3D DIC software modules. The result is a flexible and adjustable system suitable for various applications and measurements.