



## ROSS Optical Calibration Module

The Sydor ROSS Optical Calibration Module (OCM) is exclusively designed to work with the Sydor ROSS Streak Camera for system calibration and imaging of fiber coupled and free space signals onto the streak tube of the Sydor ROSS Streak Camera. This patented module enables 1% measurement accuracy, remote operation, and auto-calibration for the Sydor ROSS Streak Camera.

THE FOLLOWING SPECIFICATIONS ARE UNIQUE TO THE SYDOR ROSS OPTICAL CALIBRATION MODULE (OCM):

| FEATURE                         | KEY PERFORMANCE PARAMETERS   |
|---------------------------------|--|
| <b>IMAGING OPTICS</b>           | Achromatic all reflective Offner relay with a motorized secondary mirror |
|                                 | Aluminum w/MgF2 broadband HR coating                                     |
|                                 | 1:1 magnification  |
|                                 | 25mm field of view   |
|                                 | F/2.5 to f/10 continuously variable (motorized)                          |
|                                 | P510 with 25mm FOV – MTF @ f/2.5, 79% @ 10 lp/mm                         |
|                                 | P820 with 10mm FOV – MTF @ f/8.0, 75% @ 20 lp/mm                         |
| <b>FREE SPACE OPTICAL INPUT</b> | Imaged on the cathode by internal high-performance imaging optics        |
|                                 | 25mm slit  |
|                                 | Variable slit width 20um to 1mm with 5um resolution (motorized)          |
|                                 | Adjustable focus position (motorized)                                    |
|                                 | 35mm shutter   |
| <b>FIBER COUPLED INPUT</b>      | 20 total fiber input channels (SMA 905 connectors)                       |
|                                 | 10 IR/visible and 10 UV channels with graded index fiber                 |
|                                 | Up to any 10 channels simultaneously imaged to the cathode               |
|                                 | 2 additional dedicated comb pulse channels imaged to the cathode         |
|                                 | 1.5mm H x (10um, 50um, 100um or 500um)W channel size                     |
|                                 | Four axis adjustment, motorized in x,y,z, and theta                      |
|                                 | 25mm shutter   |

Specifications subject to change at any time

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| FEATURE  | KEY PERFORMANCE PARAMETERS  |
|--|---|
| <b>FLAT-FIELD CORRECTION IMAGE ACQUISITION</b> | 30mm H x (10um, 50um, 100um or 500um)W cathode illumination<br><1% peak to valley illumination uniformity<br>4 internal illumination LED's: Red, Green, Blue and choice of IR or UV<br>1 external fiber coupled channel for user illumination input<br>Four axis adjustment, motorized in x,y,z, and theta<br>25mm shutter<br>Patented slow ramp acquisition technique  |
| <b>STATIC SPATIAL RESOLUTION MEASUREMENT</b>   | 30mm H x (10um, 50um, 100um or 500um)W cathode illumination<br>4 user selectable resolution targets<br><1% peak to valley illumination uniformity<br>4 selectable internal illumination LED's: Red, Green, Blue, and IR or UV<br>1 external fiber coupled channel for user illumination input<br>25mm shutter<br>30mm H x (10um, 50um, 100um or 500um)W cathode illumination  |
| <b>DYNAMIC SPATIAL RESOLUTION MEASUREMENT</b>  | 20 total fiber input channels (SMA 905 connectors)<br>10 IR/visible and 10 UV channels with graded index fiber<br>Up to any 10 channels simultaneously imaged to the cathode<br>4 user selectable resolution targets<br>25mm shutter  |
| <b>GEOMETRIC CORRECTION IMAGE ACQUISITION</b>  | 30mm H x (10um, 50um, 100um or 500um)W cathode illumination<br>Continuously variable grid density in the temporal direction<br>4 user selectable grid densities in the spatial direction<br><1% peak to valley illumination uniformity<br>4 selectable internal illumination LED's: Red, Green, Blue, and IR or UV<br>1 external fiber coupled channel for user illumination input<br>Four axis adjustment, motorized in x,y,z, and theta |
| <b>TIME BASE CALIBRATION</b>                   | Internal or external optical comb pulse generator<br>3 user selectable internal comb rates from 100MHz to 6GHz<br>40ps internal comb pulse width<br>Time base calibration at 12 cathode spatial positions<br>Simultaneous sweep the internal and the external comb pulses   |
| <b>PHYSICAL DATA</b>                           | 10"W x 12"H x 26"L (Sydor ROSS with OCM)<br>+28VDC OCM power (provided by the Sydor ROSS base camera)<br>Extensive EMI shielding  |

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