



Theia[®]

TECHNOLOGIES



ML183 Varifocal Ultra wide No Distortion 5 Megapixel Lens



LINEAR OPTICAL TECHNOLOGY

- ✓ Patented Linear Optical Technology[®] provides **ultra wide** field of view adjustable from 115° to 77° for greater coverage with fewer cameras
- ✓ **EasyZoom™** allows the user to optimize the field of view with minimal need for refocusing
- ✓ IR corrected from UV (435nm) to IR (850nm)
- ✓ Supports **multi megapixel resolution** cameras for demanding applications



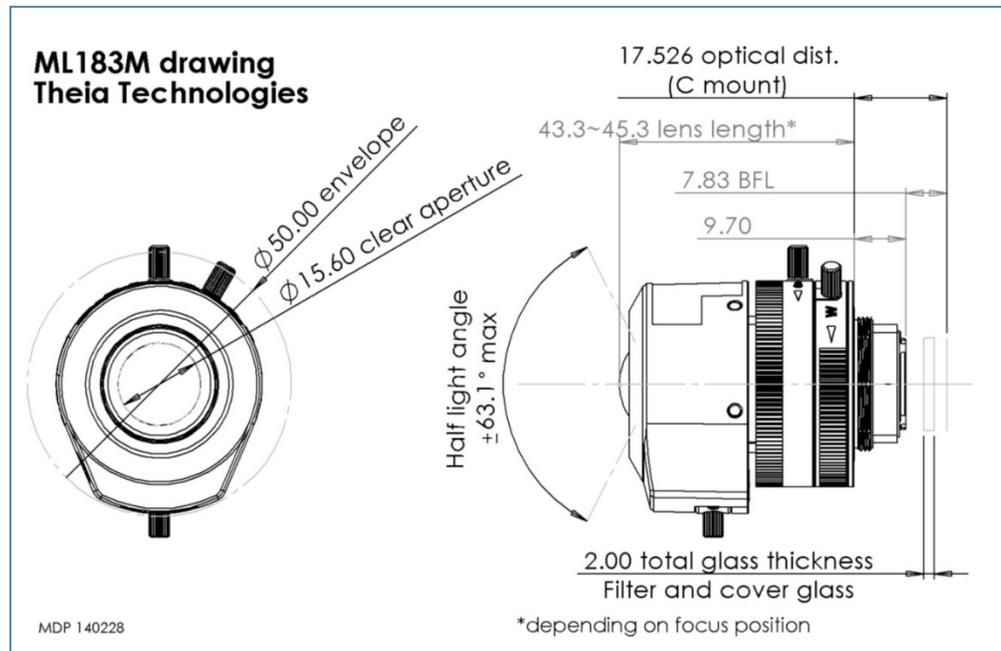
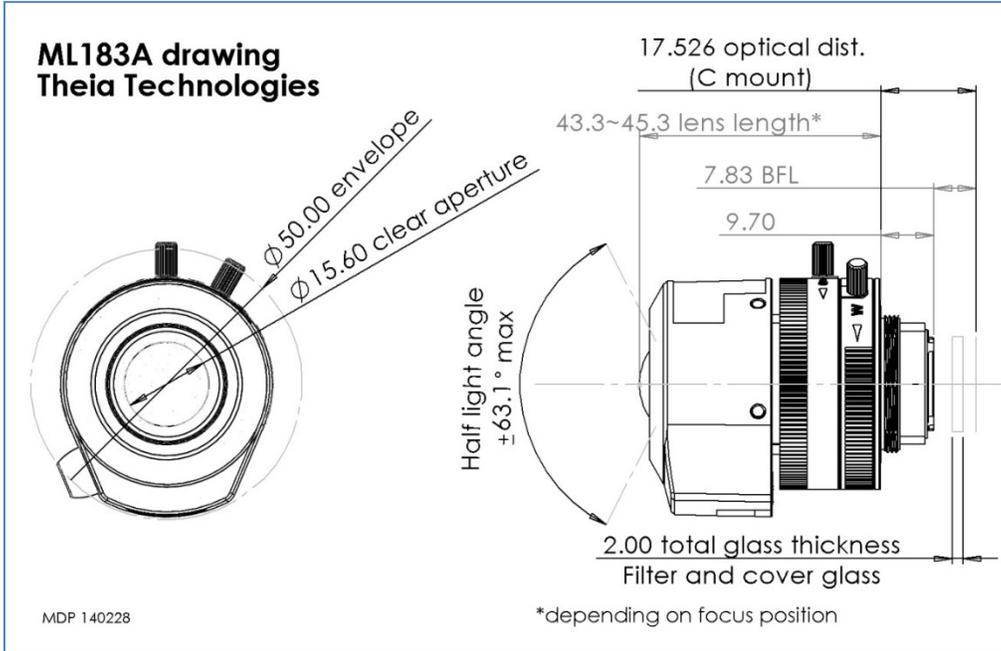
Typical wide angle lens

| Lenses | ML183A DC-autoiris | ML183M Manual iris |
|--|---|-----------------------|
| Mount | C mount | |
| Focal length | 1.8-3.0mm | |
| Linear Optical Technology [®] | Yes <i>(Note: this technology causes the image to be flipped)</i> | |
| Distortion | <1% | |
| Image circle | Ø7.4mm (at FL 1.8mm) | |
| Resolution | Up to 5MPix resolution | |
| F/# | F/1.8 to close | |
| IR Correction | 435-850nm, <10um focal plane shift | |
| EasyZoom™ | Yes | |
| Minimum focus distance | 30cm | |
| Pan focus | .5m ~ ∞ | |
| Lens Length to Mount | 44.3mm | |
| Lens length (TTL) | 61.8mm | |
| Back focal length (BFL) | 7.8mm | |
| Chief ray angle (CRA) | < 15° | |
| Temperature range | -20C to 60C | |
| Weight | 63g | 58g |
| Iris cable length | 30cm | N/A |

Fields of view

| | | | |
|-------------------|-------------|------------------|---------------|
| Sensor size | 1/3" | 1/2.7" HD | 1/2.5" |
| Field of view (H) | 105° - 77° | 111° - 84° | 115° - 88° |
| Field of view (V) | 90° - 62° | 95° - 68° | 99° - 71° |
| Field of view (D) | 117° - 90° | 123° - 96° | 126° - 100° |

Lens drawings



Entrance pupil location

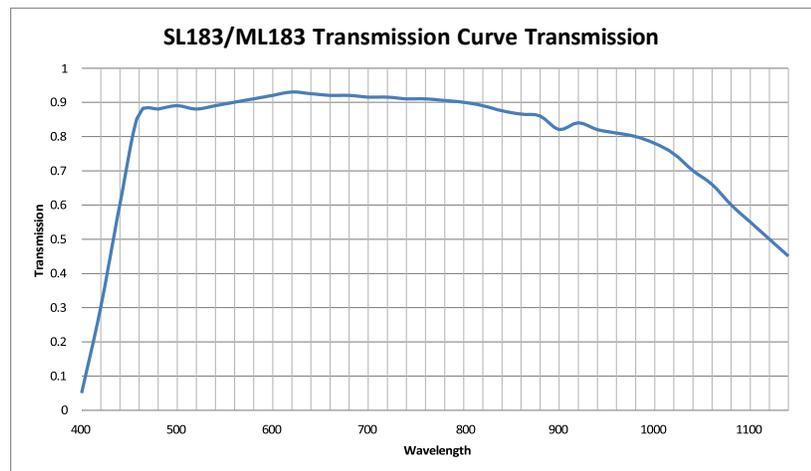
The entrance pupil location is inside the lens. The first lens element vertex or the lens plastic can be used as a reference to find the location.

| Field Angle (Deg) | Rel to lens vertex | Rel to lens housing |
|-------------------|--------------------|---------------------|
| 0 | 4.43 | 2.59 |
| 6 | 4.43 | 2.59 |
| 13 | 4.43 | 2.59 |
| 19 | 4.44 | 2.60 |
| 25 | 4.45 | 2.61 |
| 32 | 4.48 | 2.64 |
| 38 | 4.52 | 2.68 |
| 44 | 4.58 | 2.74 |
| 51 | 4.67 | 2.83 |
| 57 | 4.77 | 2.93 |
| 63 | 4.85 | 3.01 |



Lens transmission

| Wavelength | Transmission |
|------------|--------------|
| 420 | 0.3 |
| 440 | 0.6 |
| 460 | 0.87 |
| 500 | 0.89 |
| 540 | 0.89 |
| 580 | 0.91 |
| 620 | 0.93 |
| 660 | 0.92 |
| 700 | 0.915 |
| 740 | 0.91 |
| 780 | 0.905 |
| 820 | 0.89 |
| 860 | 0.865 |
| 900 | 0.82 |
| 940 | 0.82 |
| 980 | 0.8 |



For more information, contact

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Revisions

| Version | Change | Reason |
|---------|-------------------------------|--|
| 200106 | Revision list added | |
| 221114 | Transmission chart added | Customer requested |
| | Entrance pupil chart added | Customer requested |
| | Expanded main specs table | Missing some common items |
| | Corrected QR barcode | Incorrect target location (page not found) |
| 240410 | Added Length to Mount | Length clarification |
| 240516 | Corrected Image Circle length | Incorrect @FL listed |