



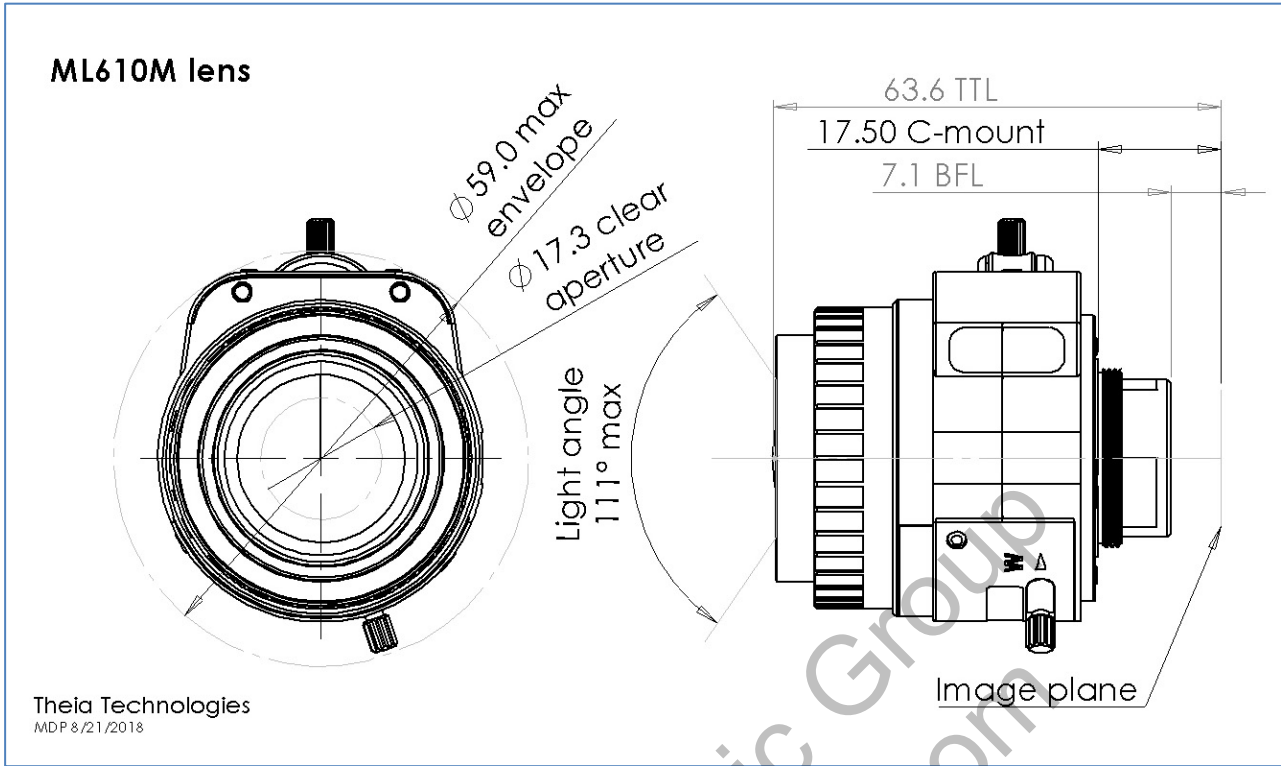
## ML610M Varifocal 4K NIR 2/3" Lens

- ✓ **Ultra-high resolution for 4K cameras**, up to 12 megapixel for pixels as small as 1.55µm
- ✓ **Variable focal length** covering fields of view of 6mm, 8mm, and 10mm prime lenses
- ✓ Locking focus, zoom, and iris thumbscrews
- ✓ **Resistant to vibration** of 20-200Hz at 10G/axis
- ✓ **IR corrected** 440nm-940nm for true Day/Night cameras & multispectral imaging
- ✓ **Compact, lightweight design** to fit into small space requirements
- ✓ Ideal for sensor sizes **up to 2/3"** including, 1/1.7", 1/1.8", 1/2" and as small as 1/2.3"

### ML610M specifications

|   |  |
|---|--|
| Mount type  | C-mount                                      |
| Iris type   | Manual iris                                  |
| Focal length  | 6-10mm                                       |
| Image circle  | Ø11.0mm                                      |
| Resolution  | 12.4 megapixel                               |
|   | 300 lp/mm at image center                    |
|   | 150 lp/mm at 55% image height                |
| F/#   | F/1.6 @ 6mm – F/2.4 @ 10mm                   |
| Distortion  | Max 37% - 11% barrel distortion @ 6mm – 10mm |
| Relative illumination                                   | >57% (corner) @ 6mm                          |
| Entrance pupil location<br>(from front plastic housing) | 13.44mm at 6mm                               |
|   | 14.71mm at 7mm                               |
|   | 15.55mm at 10mm                              |
| Minimum object distance                                 | 0.2m   |
| Focus range   | 0.5m to infinity                             |
| IR correction   | 440-940nm                                    |
| Lens length   | < 64mm TTL                                   |
| Weight  | 70g  |
| Filter thread   | M55x0.75 (with optional adapter)             |
| Operating temperature                                   | -20C to 60C (<70% humidity, non-condensing)  |
| Storage temperature                                     | -30C to 70C (<90% humidity, non-condensing)  |

| Sensor size | 2/3"       | 1/1.7"    | 1/2.5"    |
|-------------|------------|-----------|-----------|
| Horizontal  | 87° - 51°  | 74° - 44° | 55° - 33° |
| Vertical    | 64° - 38°  | 55° - 33° | 41° - 25° |
| Diagonal    | 111° - 64° | 93° - 55° | 70° - 42° |



**Environmental robustness**

Vibration/shock specification test 1

Machine vision lens specification

|           |   |
|-----------|---|
| Vibration | Sweep vibration 20Hz to 200Hz to 20Hz at acceleration 10G, 30 minutes per axis      |
| Shock     | Acceleration 38G, half amplitude 6ms, 6 times in axis perpendicular to optical axis |

Vibration specification test 2

NASA ATB PQVT specification

| Freq [Hz]           | PQVT [ $g^2/Hz$ ] |
|---------------------|-------------------|
| 20.0                | 0.0106            |
| 150.0               | 0.0800            |
| 600.0               | 0.0800            |
| 2000.0              | 0.0072            |
| OA g-rms            | 8.69              |
| Duration [min/axis] | 120               |

