

# ViSWIR

## REFLEX ZOOM LENS E3Z5247P-MPSW

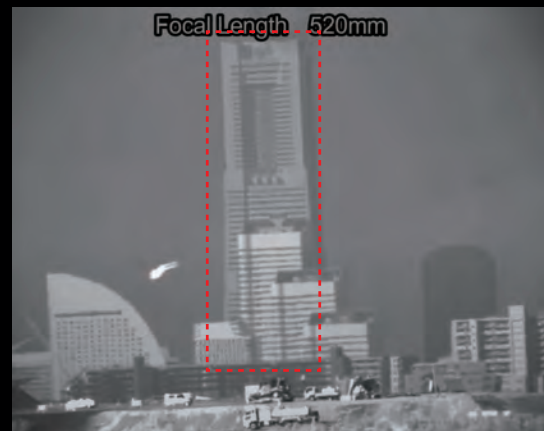
FOR IMX990/991  
520-1300mm



### VISIBLE STANDARD LENS + CMOS



### SWIR E3Z5247P-MPSW + IMX990



The longer the wavelength, the lower the scattering coefficient, which means that objects can be seen further away.

Rayleigh scattering coefficient:

$$K_s = \frac{2\pi^5}{3} n \left( \frac{m^2 - 1}{m^2 + 1} \right) \frac{d^6}{\lambda^4}$$

$\lambda$  : Wavelength  
 $m$  : Refractive index  
 $n$  : Number of scattering particles  
 $d$  : Diameter of scattering particles

\*  $\frac{(SWIR)1300nm^4}{(Visible)550nm^4} \approx 30 \text{ times}$  , SWIR enables visibility up to 30 times further than visible light.

### ViSWIR Reflex Zoom Lens

- Dedicated design for Visible+SWIR image sensor (IMX990/IMX991)
- Special optical design for 400-1700nm
- Reflex zoom for super-telephoto spec
- Adjustable back-focus mechanism
- Compact & Light weight design (W130 x H133.5 x D275.5mm, 2500g)

### Overviews

| SENSOR SIZE | FOCAL LENGTH | WAVE LENGTH  | MOUNT | F-NUMBER | WORKING DISTANCE |
|-------------|--------------|--------------|-------|----------|------------------|
| 1/1.8"      | 520 - 1300mm | 400 - 1700nm | C     | 4.7      | 25m - INF.       |

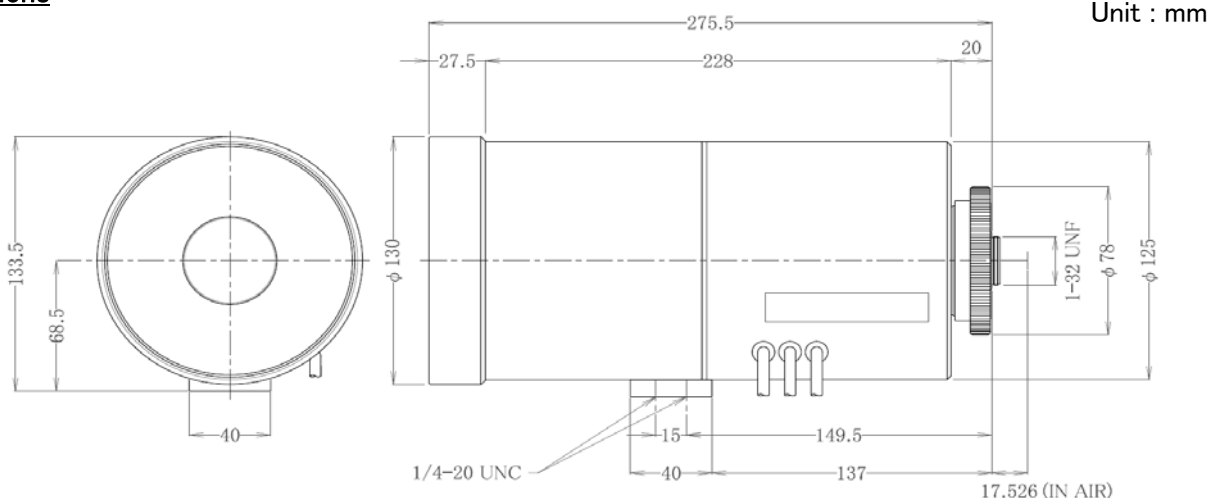
2.5X 520mm-1300mm F4.7

for 1/1.8 type SWIR Cameras, Motorized Reflex Zoom

C-Mount

|                       |       |                               |               |                               |               |                              |  |
|-----------------------|-------|-------------------------------|---------------|-------------------------------|---------------|------------------------------|--|
| Model No.             |       | E3Z5247P-MPSW                 |               | Effective                     | Front         | φ 120mm                      |  |
| Focal Length          |       | 520mm - 1300mm                |               | Lens Aperture                 | Rear          | φ 24.6mm                     |  |
| Max. Aperture Ratio   |       | 1:4.7~(11.8)                  |               | Back Focal Length             |               | 46.8mm - 23.3mm              |  |
| Max. Image Circle     |       | φ 8.9mm                       |               | Flange Back Length            |               | 17.526mm                     |  |
| Operation Range       | Iris  | —                             |               | Mount                         |               | C-Mount                      |  |
|                       | Focus | 25m - Inf.                    |               | Filter Size                   |               | —                            |  |
|                       | Zoom  | 520mm - 1300mm                |               | Tripod Screw                  |               | 1/4 -20UNC                   |  |
| Control               | Iris  | ——                            |               | Dimensions                    |               | W130mm x H133.5mm x D277.5mm |  |
|                       | Focus | Motorized                     |               | Weight                        |               | 2.5kg                        |  |
|                       | Zoom  | Motorized                     |               |                               |               |                              |  |
| Angle of View         | D     | IMX990<br>(H6.40mm x V5.12mm) | 0.89° - 0.36° | IMX991<br>(H3.20mm x V2.56mm) | 0.45° - 0.18° |                              |  |
|                       | H     |                               | 0.70° - 0.28° |                               | 0.35° - 0.14° |                              |  |
|                       | V     |                               | 0.56° - 0.23° |                               | 0.28° - 0.11° |                              |  |
|                       |       | Iris                          |               | Focus                         |               | Zoom                         |  |
| Supply Voltage        |       | ——                            |               | DC6-12V                       |               | DC6-12V                      |  |
| Current               |       | ——                            |               | 20mA or less                  |               | 20mA or less                 |  |
| Response Time         |       | ——                            |               | Approx. 15 sec. (12V)         |               | Approx. 5 sec. (12V)         |  |
| Preset Potentiometer  |       | ——                            |               | 10kΩ VR                       |               | 10kΩ VR                      |  |
| Operating Temperature |       | -10°C - +50°C                 |               |                               |               |                              |  |

## Dimensions



## Wiring Diagram

### FOCUS

|       | Near | Far |
|-------|------|-----|
| GREEN | -    | +   |
| BLACK | +    | -   |

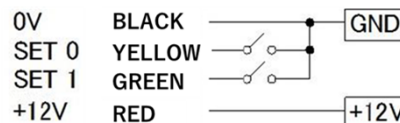
### Zoom

|        | Tele | Wide |
|--------|------|------|
| YELLOW | +    | -    |
| RED    | -    | +    |

### PRESET POTENTIOMETER

|                |        |
|----------------|--------|
| Supply(+)      | ORANGE |
| Focus Pot. Out | WHITE  |
| Return(-)      | GRAY   |
| Zoom Pot. Out  | BLUE   |

### FILTER CONTROL



### FILTER Selection

| SET 0 | SET 1 | FILTER                    |
|-------|-------|---------------------------|
| OFF   | OFF   | Glass                     |
| ON    | OFF   | Long Path Filter (830nm)  |
| OFF   | ON    | Long Path Filter (1300nm) |
| ON    | ON    | None                      |