

# CoaXpress Cameras



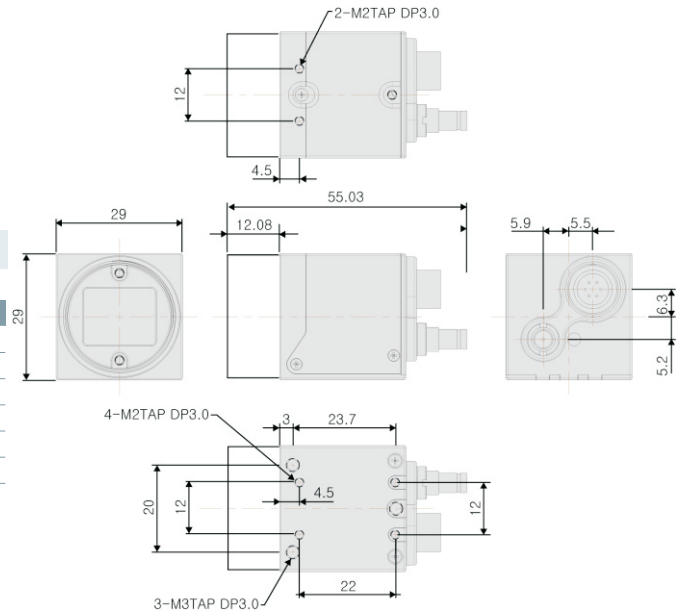
**Pregius** **STARVIS**



## Key Features

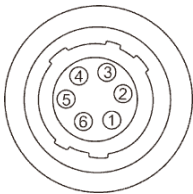
Mini-size CMOS CoaXpress camera  
 Camera standard  
 - GenICam, CoaXpress  
 Trigger input range : +3.3V~24V(Photo coupler)  
 PoCXP 지원

## Dimension (Unit : mm)

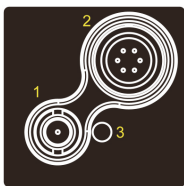


## Pin map

| Pin No. | Name    | IN/OUT | Description                         |
|---------|---------|--------|-------------------------------------|
| 1       | PWR     | IN     | 10.8V~26.4V Input Range             |
| 2       | Trigger | IN     | Opto-Isolated Input, Trigger input  |
| 3       | GND     | OUT    | Strobe GND                          |
| 4       | Strobe  | OUT    | Opto-Isolated output, Strobe output |
| 5       | GND     | IN     | Trigger GND                         |
| 6       | GND     | IN     | Power GND                           |



## back Panel



| No. | Name                  | Remark        |
|-----|-----------------------|---------------|
| 1   | CoaXpress Connector   | DIN           |
| 2   | Power & I/O Connector | 6Pin Circular |
| 3   | LED Indicator         | LED           |

## LED Indicator

| State                          | Indication        |
|--------------------------------|-------------------|
| No power                       | Off               |
| System booting                 | Solid orange      |
| Powered, but nothing connected | Slow pulse red    |
| no data being transferred      | Solid green       |
| Waiting for event              | Slow pulse orange |
| Data being transferred         | Fast flash green  |

| Model                        | MX-A040M-523  | MX-A040K-523        |
|------------------------------|---|---------------------|
| Sensor                       | Sony CMOS Pregius IMX287  |                     |
| Sensor size                  | 1/2.9"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 6.9 x 6.9   |                     |
| Resolution                   | 720 x 540   |                     |
| Frame Rate (Max.)            | 523fps  |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI(Horizontal+Vertical) / Reverse(X,Y,All)  |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Global  |                     |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |                     |
| Gain                         | Analog : 0dB ~ 24dB (1x ~ 15.8x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 33dB  | 36dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 2.5W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1:2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE, UL  |                     |
| Warranty                     | 3 years   |                     |

| Model                        | MX-A160M-276  | MX-A160K-276        |
|------------------------------|---|---------------------|
| Sensor                       | Sony CMOS Pregius IMX273  |                     |
| Sensor size                  | 1/2.9"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 3.45 x 3.45   |                     |
| Resolution                   | 1440 x 1080   |                     |
| Frame Rate (Max.)            | 276fps  |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI / Decimation (Horizontal + Vertical) / Reverse (X, Y, All) / Binning (Only mono models)  |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Global  |                     |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |                     |
| Gain                         | Analog : 0dB ~ 24dB (1x ~ 15.8x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 34dB  | 35dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 2.6W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1;2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE, UL  |                     |
| Warranty                     | 3 years   |                     |

|                              |   |                     |
|------------------------------|---|---------------------|
| Model                        | MX-A320M-184  | MX-A320K-184        |
| Sensor                       | Sony CMOS Pregius IMX252  |                     |
| Sensor size                  | 1/1.8"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 3.45 x 3.45   |                     |
| Resolution                   | 2064 x 1544   |                     |
| Frame Rate (Max.)            | 184fps  |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI / Decimation (Horizontal + Vertical) / Reverse (X, Y, All) / Binning (Only mono models) / Binning (Vertical)                                     |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Global  |                     |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |                     |
| Gain                         | Analog : 0dB ~ 24dB (1x ~ 15.8x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 38dB  | 40dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 3.1W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1;2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE, UL  |                     |
| Warranty                     | 3 years   |                     |

| Model                        | MX-A500M-116  | MX-A500K-116        |
|------------------------------|---|---------------------|
| Sensor                       | Sony CMOS Pregius IMX250  |                     |
| Sensor size                  | 2/3"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 3.45 x 3.45   |                     |
| Resolution                   | 2464 x 2056   |                     |
| Frame Rate (Max.)            | 116fps  |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI / Decimation (Horizontal + Vertical) / Reverse (X, Y, All) / Binning (Only mono models) / Binning (Vertical)                                     |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Global  |                     |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |                     |
| Gain                         | Analog : 0dB ~ 24dB (1x ~ 15.8x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 38dB  | 40dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 3.1W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1;2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE, UL  |                     |
| Warranty                     | 3 years   |                     |

|                              |   |                     |
|------------------------------|---|---------------------|
| Model                        | MX-A890M-66   | MX-A890K-66         |
| Sensor                       | Sony CMOS Pregius IMX255  |                     |
| Sensor size                  | 1"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 3.45 x 3.45   |                     |
| Resolution                   | 4096 x 2176   |                     |
| Frame Rate (Max.)            | 66fps   |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI / Decimation (Horizontal + Vertical) / Reverse (X, Y, All) / Binning (Only mono models)  |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Global  |                     |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |                     |
| Gain                         | Analog : 0dB ~ 24dB (1x ~ 15.8x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 38dB  | 41dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 3.5W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1;2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE, UL  |                     |
| Warranty                     | 3 years   |                     |

| Model                        | MX-A121M-23   | MX-A121K-23         |
|------------------------------|---|---------------------|
| Sensor                       | Sony CMOS Pregius IMX304  |                     |
| Sensor size                  | 1.1"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 3.45 x 3.45   |                     |
| Resolution                   | 4096 x 3000   |                     |
| Frame Rate (Max.)            | 23fps   |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI / Decimation (Horizontal + Vertical) / Reverse (X, Y, All)   |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Global  |                     |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |                     |
| Gain                         | Analog : 0dB ~ 24dB (1x ~ 15.8x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 38dB  | 41dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 2.6W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1;2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE, UL  |                     |
| Warranty                     | 3 years   |                     |

|                              |   |                     |
|------------------------------|---|---------------------|
| Model                        | MX-A121M-48   | MX-A121K-48         |
| Sensor                       | Sony CMOS Pregius IMX253  |                     |
| Sensor size                  | 1.1"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 3.45 x 3.45   |                     |
| Resolution                   | 4096 x 3000   |                     |
| Frame Rate (Max.)            | 48fps   |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI / Decimation (Horizontal + Vertical) / Reverse (X, Y, All) / Binning (Only mono models)  |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Global  |                     |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |                     |
| Gain                         | Analog : 0dB ~ 24dB (1x ~ 15.8x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 38dB  | 40dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 3.5W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1;2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE, UL  |                     |
| Warranty                     | 3 years   |                     |



| Model                        | MX-A121R-43   | MX-A121L-43         |
|------------------------------|---|---------------------|
| Sensor                       | Sony CMOS Starvis IMX226  |                     |
| Sensor size                  | 1/1.7"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 1.85 x 1.85   |                     |
| Resolution                   | 4016 x 3036   |                     |
| Frame Rate (Max.)            | 43fps   |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI / Reverse (X, Y, All)  |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Rolling / Global Reset  |                     |
| Shutter speed                | 450.00us ~ 3sec   |                     |
| Gain                         | Analog : 0dB~27dB (1x ~ 22.5x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 39dB  | 44dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 2.6W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1:2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE  |                     |
| Warranty                     | 3 years   |                     |

| Model                        | MX-A201R-26   | MX-A201L-26         |
|------------------------------|---|---------------------|
| Sensor                       | Sony CMOS Starvis IMX183  |                     |
| Sensor size                  | 1"  |                     |
| Pixel size ( $\mu\text{m}$ ) | 2.4 x 2.4   |                     |
| Resolution                   | 5488 x 3672   |                     |
| Frame Rate (Max.)            | 26fps   |                     |
| Color / Mono                 | Mono Chrome   | Color               |
| Scanning method              | Full / ROI / Reverse (X, Y, All)  |                     |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |                     |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |                     |
| Shutter                      | Rolling / Global Reset  |                     |
| Shutter speed                | 806.00us ~ 3sec   |                     |
| Gain                         | Analog : 0dB~27dB (1x ~ 22.5x)<br>Digital : 0dB ~ 18dB (1x ~ 8x)  |                     |
| Black level                  | Analog : 0 ~ 1023 (10bit) / Digital : 0 ~ 1023 (10bit)  |                     |
| Gamma / LUT                  | Gamma Correction, Adjustable LUT (10bit to 10bit)   |                     |
| Auto white balance           | Off / Once / Continuous (Only Color Models)   |                     |
| Auto gain / exposure         | Off / Once / Continuous   |                     |
| Interface                    | CoaXpress   |                     |
| Pixel Data Format            | Mono8/10  | Mono8/10, Bayer8/10 |
| SNR                          | 38dB  | 41dB                |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Shading Correction(FFC), Color Transformation Control, Noise Reduction Filter |                     |
| Lens mount                   | C mount   |                     |
| Power requirements           | DC 12V ~ 24V $\pm$ 10% or PoCXP   |                     |
| Consumption                  | DC  | < 2.9W              |
|                              | PoCXP   |                     |
| Weight                       | < 49g   |                     |
| Dimension                    | 29 x 29 x 29 mm (without mount)   |                     |
| Temperature                  | 0°C ~ 40°C (Operating) / -5°C ~ 45°C (Storage)-(with <20~80% RH)  |                     |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |                     |
| Standard compliancy          | CE (EN61326-1:2006년; Class A)   |                     |
| Conformity                   | RoHS, WEEE  |                     |
| Warranty                     | 3 years   |                     |

## CoaXPress Cameras



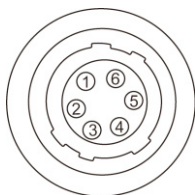
### Key Features

High Resolution CMOS CoaXPress Camera(47MP)  
 Higher frame rates with AOI  
 FFC(Flat Field Correction) Function 지원  
 PoCXP 지원

### Pin map

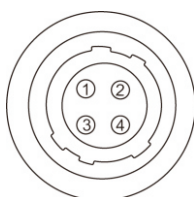
Power & I/O Connector Pin Assign

| Pin No. | Name  | IN/OUT | Description                     |
|---------|-------|--------|---------------------------------|
| 1       | PWR   | IN     | 10.8V~25.2V Input Range         |
| 2       | PWR   | IN     | 10.8V~25.2V Input Range         |
| 3       | GPIO1 | IN/OUT | General purpose I/O (GPIO) line |
| 4       | GPIO2 | IN/OUT | General purpose I/O (GPIO) line |
| 5       | GND   | IN     | Power GND                       |
| 6       | GND   | IN     | Power GND                       |

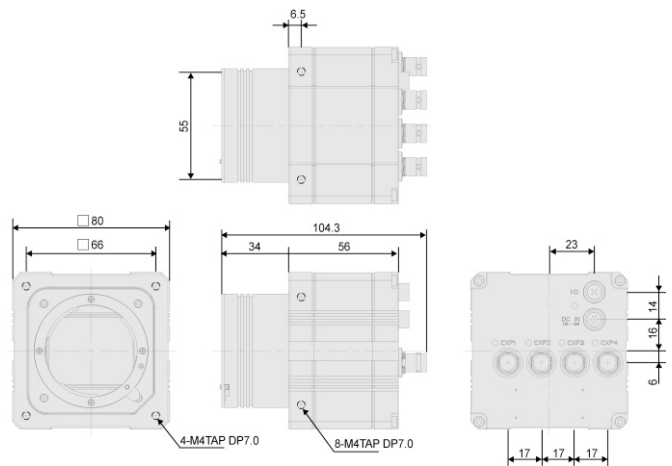


I/O Connector Pin Assign

| Pin No. | Name     | IN/OUT | Description                         |
|---------|----------|--------|-------------------------------------|
| 1       | GPI_ISO+ | IN     | Opto-Isolated input, Trigger Input  |
| 2       | GPI_ISO- | IN     | Trigger GND                         |
| 3       | GPO_ISO+ | OUT    | Opto-Isolated Output, Strobe Output |
| 4       | GPO_ISO- | OUT    | Strobe GND                          |



### Dimension (Unit : mm)



### LED Indicator

| State  | Indication                          |
|--|-------------------------------------|
| No power   | Off                                 |
| System booting   | Solid orange                        |
| Powered, but nothing connected                         | Slow pulse red                      |
| Connection detection in progress, PoCXP active         | Fast flash alternate green / orange |
| Connection detection in progress, PoCXP not in use     | Fast flash orange                   |
| Device / Host connected, but no data being transferred | Solid green                         |
| Device / Host connected, waiting for event             | Slow pulse orange                   |
| Performing Function                                    | Solid red                           |

| Model                        | HX-C471M   | HX-C471K |
|------------------------------|--|----------|
| Sensor                       | CMV 50000  |          |
| Sensor size                  | 35 mm  |          |
| Pixel size ( $\mu\text{m}$ ) | 4.6 x 4.6  |          |
| Resolution                   | 7920 x 6004  |          |
| Pixel clock                  | 69MHz  |          |
| Frame Rate (Max.)            | 30fps  |          |
| Color / Mono                 | Mono Crome   | Color    |
| Exposure Time                | Min. 100us   |          |
| Scanning system              | Progressive  |          |
| Scanning method              | Full / ROI / Reverse(X)  |          |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC  |          |
| Trigger mode                 | Fixed shutter, Pulse width shutter   |          |
| Gain                         | Digital : 1x ~ 4x  |          |
| Black level                  | Digital : 0 ~ 1023 (10bit)   |          |
| Gamma / LUT                  | Adjustable LUT (12bit to 12bit)  |          |
| Auto gain / exposure         | Off / Once / Continuous  |          |
| Interface                    | CoaXpress  |          |
| Pixel Data Format            | Mono Model : Mono8/10/12   |          |
| Minimum illumination         | 1.0 lx, F1.4, Gain MAX, without IR cut filter  |          |
| SNR                          | 36dB   |          |
| Function control             | GainAuto, ExposureAuto, Acquisition Frame Rate(Adjustable)   |          |
| Lens mount                   | F mount  |          |
| Power requirements           | 12~24VDC $\pm$ 10% or PoCXP  |          |
| Consumption                  | < 12.0W at 24Vdc $\pm$ 10%   |          |
| Weight                       | < 579g (With F-Mount)  |          |
| Dimension                    | 80 x 80 x 56 mm (Without mount, Connector)   |          |
| Temperature                  | 0 $^{\circ}$ C ~ 40 $^{\circ}$ C (Operating) / -10 $^{\circ}$ C ~ 50 $^{\circ}$ C (with < 20~80% RH) (Storage) |          |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 490m/s <sup>2</sup> (50.0G)   |          |
| Standard compliancy          | CE (EN61326-1:2006년; Class A)  |          |
| Conformity                   | RoHS, WEEE   |          |
| Warranty                     | 3 years  |          |

# CoaXPress 2.0 Cameras

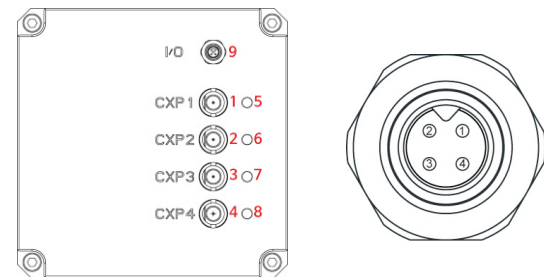


## Key Features

High resolution CMOS CoaXPress2.0 Camera (25/36/67M)  
 Supporting FFC  
 Supporting PoCXP  
 12.5Gbps x 4ch  
 Max Cable Length : 30meter @ CXP12

## Back Panel

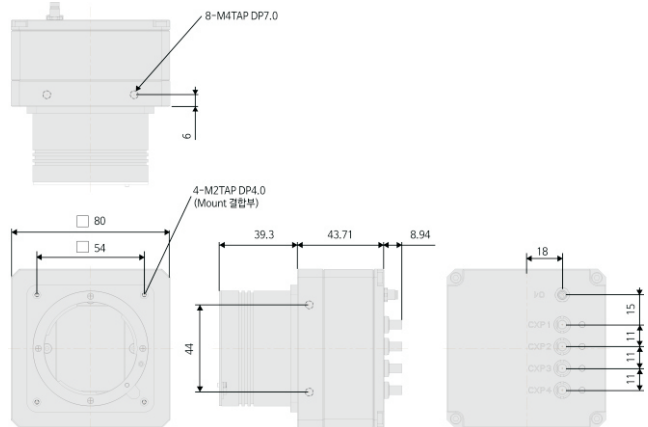
| Pin No. | Name                  | Description              |
|---------|-----------------------|--------------------------|
| 1       | CoaxPress Connector 1 | MicroBNC Type            |
| 2       | CoaxPress Connector 2 | MicroBNC Type            |
| 3       | CoaxPress Connector 3 | MicroBNC Type            |
| 4       | CoaxPress Connector 4 | MicroBNC Type            |
| 5       | LED Indicator 1       | LED                      |
| 6       | LED Indicator 2       | LED                      |
| 7       | LED Indicator 3       | LED                      |
| 8       | LED Indicator 4       | LED                      |
| 9       | I/O Connector         | 4 Pin Circular Connector |



## 4 pin Circular Connector

| Pin No. | Name  | IN/OUT | Description             |
|---------|-------|--------|-------------------------|
| 1       | GPIO1 | IN/OUT | LINE2 (Direct IO, 3.3V) |
| 2       | GND   | IN     | Direct IO GND           |
| 3       | GPIO2 | IN/OUT | LINE3 (Direct IO, 3.3V) |
| 4       | GND   | IN     | Direct IO GND           |

## Dimension (Unit : mm)



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| State  | Indication                          |
|--|-------------------------------------|
| No power   | Off                                 |
| System booting   | Solid orange                        |
| Powered, but nothing connected                         | Slow pulse red                      |
| Connection detection in progress, PoCXP active         | Fast flash alternate green / orange |
| Connection detection in progress, PoCXP not in use     | Fast flash orange                   |
| Device / Host connected, but no data being transferred | Solid green                         |
| Device / Host connected, waiting for event             | Slow pulse orange                   |

| Model                        | HX-F251M-150  | HX-F251K-150 |
|------------------------------|---|--------------|
| Sensor                       | GMAX0505 25M  |              |
| Sensor size                  | 1.1"  |              |
| Pixel size ( $\mu\text{m}$ ) | 2.5 x 2.5   |              |
| Resolution                   | 5120 x 5120   |              |
| Pixel Clock                  | 96MHz   |              |
| Frame Rate (Max.)            | 150fps  |              |
| Color / Mono                 | Mono Chrome   | Color        |
| Scanning method              | Full / ROI(Horizontal+Vertical) / Reverse(X), Decimation(Y)   |              |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |              |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |              |
| Shutter                      | Global  |              |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |              |
| Gain                         | Digital : 1x ~ 4x   |              |
| Black level                  | Digital : 0 ~ 1023 (10bit)  |              |
| Gamma / LUT                  | Adjustable LUT (10bit to 10bit)   |              |
| Auto white balance           | Off / Once / Continuous   |              |
| Auto gain / exposure         | Off / Once / Continuous   |              |
| Interface                    | CoaxPress Standard  |              |
| Pixel Data Format            | Mono8   | Bayer8       |
| SNR                          | 36dB  |              |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Defective Pixel Correction, Shading Correction(FFC), Noise Reduction Filter |              |
| Lens mount                   | C mount   |              |
| Video I/F                    | CoaXPress / Micro-BNC   |              |
| Power requirements           | PoCXP (Two PoCXP cables required)   |              |
| Consumption                  | PoCXP   |              |
| Weight                       | < 450g  |              |
| Dimension                    | 80 x 80 x 50.56 mm (without connector)  |              |
| Temperature                  | 0°C ~ 35°C (Operating) / -20°C ~ 60°C (with < 20~80% RH) (Storage)  |              |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |              |
| Standard compliancy          | CE (EN61326-1:2013년; Class A)   |              |
| Conformity                   | RoHS, WEEE, UL  |              |
| Warranty                     | 3 years   |              |

| Model                | HX-E361M-43   | HX-E361K-43 |
|----------------------|---|-------------|
| Sensor               | EMERALD 36M   |             |
| Sensor size          | 4/3"  |             |
| Pixel size (μm)      | 2.5 x 2.5   |             |
| Resolution           | 6144 x 6144   |             |
| Pixel Clock          | 75.4MHz   |             |
| Frame Rate (Max.)    | 43fps   |             |
| Color / Mono         | Mono Chrome   | Color       |
| Scanning method      | Full / ROI(Horizontal+Vertical) / Reverse(X,Y,All)  |             |
| Synchronization      | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |             |
| Trigger mode         | Fixed shutter, Pulse width shutter  |             |
| Shutter              | Global  |             |
| Shutter speed        | 1us ~ 3sec (Exposure Offset 별도)   |             |
| Gain                 | Analog : 1x ~ 3.99x<br>Digital : 1x ~ 4x  |             |
| Black level          | Digital : 0 ~ 1024 (10bit)  |             |
| Gamma / LUT          | Adjustable LUT (10bit to 10bit)   |             |
| Auto white balance   | Off / Once / Continuous   |             |
| Auto gain / exposure | Off / Once / Continuous   |             |
| Interface            | CoaxPress Standard  |             |
| Pixel Data Format    | Mono8/10  | Bayer8/10   |
| SNR                  | 37dB  |             |
| Function control     | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Defective Pixel Correction, Shading Correction(FFC), Noise Reduction Filter |             |
| Lens mount           | F mount   |             |
| Video I/F            | CoaXPress / Micro-BNC   |             |
| Power requirements   | PoCXP (Two PoCXP cables required)   |             |
| Consumption          | PoCXP   |             |
| Weight               | < 461g  |             |
| Dimension            | 80 x 80 x 44.14 mm (without connector)  |             |
| Temperature          | 0℃ ~ 45℃ (Operating) / -20℃ ~ 60℃ (with < 20~80% RH) (Storage)  |             |
| Vibration / Shock    | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |             |
| Standard compliancy  | CE (EN61326-1;2013년); Class A)  |             |
| Conformity           | RoHS, WEEE, UL  |             |
| Warranty             | 3 years   |             |

| Model                        | HX-E671M-65   | HX-E671K-65 |
|------------------------------|---|-------------|
| Sensor                       | EMERALD 67M   |             |
| Sensor size                  | APS-C   |             |
| Pixel size ( $\mu\text{m}$ ) | 2.5 x 2.5   |             |
| Resolution                   | 8192 x 8192   |             |
| Pixel Clock                  | 75.4MHz   |             |
| Frame Rate (Max.)            | 65fps   |             |
| Color / Mono                 | Mono Chrome   | Color       |
| Scanning method              | Full / ROI(Horizontal+Vertical) / Reverse(X,Y,All)  |             |
| Synchronization              | Internal(Freerun), External(CXP or Circular), Software trigger via PC   |             |
| Trigger mode                 | Fixed shutter, Pulse width shutter  |             |
| Shutter                      | Global  |             |
| Shutter speed                | 1us ~ 3sec (Exposure Offset 별도)   |             |
| Gain                         | Analog : 1x ~ 3.99x<br>Digital : 1x ~ 4x  |             |
| Black level                  | Digital : 0 ~ 1024 (10bit)  |             |
| Gamma / LUT                  | Adjustable LUT (10bit to 10bit)   |             |
| Auto white balance           | Off / Once / Continuous   |             |
| Auto gain / exposure         | Off / Once / Continuous   |             |
| Interface                    | CoaxPress Standard  |             |
| Pixel Data Format            | Mono8/10  | Bayer8/10   |
| SNR                          | 36dB  |             |
| Function control             | GainAuto, ExposureAuto, BalanceWhiteAuto, Acquisition Frame Rate(Adjustable), Defective Pixel Correction, Shading Correction(FFC), Noise Reduction Filter |             |
| Lens mount                   | F mount   |             |
| Video I/F                    | CoaXPress / Micro-BNC   |             |
| Power requirements           | PoCXP (Two PoCXP cables required)   |             |
| Consumption                  | PoCXP   |             |
| Weight                       | < 461g  |             |
| Dimension                    | 80 x 80 x 44.14 mm (without connector)  |             |
| Temperature                  | 0°C ~ 45°C (Operating) / -20°C ~ 60°C (with < 20~80% RH) (Storage)  |             |
| Vibration / Shock            | 98m/s <sup>2</sup> (10G) / 196m/s <sup>2</sup> (20.0G)  |             |
| Standard compliancy          | CE (EN61326-1;2013년); Class A)  |             |
| Conformity                   | RoHS, WEEE, UL  |             |
| Warranty                     | 3 years   |             |