

## iBoost X SWIR Camera (IMX993)



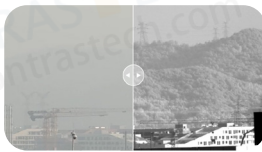
### Key Features

This high-performance industrial camera features a 1/1.8" InGaAs sensor with a 400-1700nm spectral range (optional 1030-1800nm filter), delivering 220fps@2048x1536 high-speed imaging. Equipped with a global shutter, 12-bit dynamic range, and -20° C~60° C operational stability.

### TYPICAL APPLICATIONS



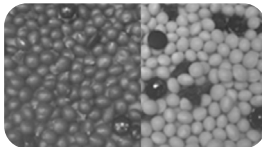
Fruit Spoilage  
Detection



Fog Penetration



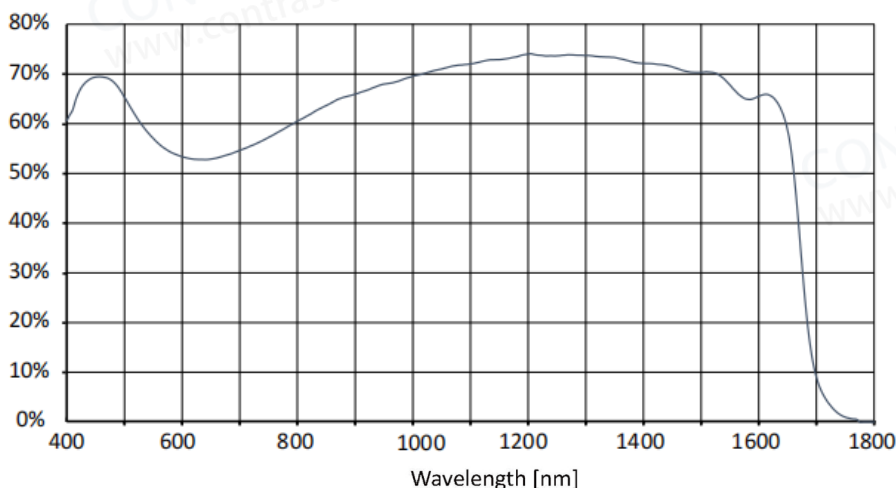
Inspection of Contents  
In Packaging



Sorting Materials

- Spectral Range: 400-1700nm
- Up to 220fps@2048x1536 (8-bit) and 12-bit high dynamic range
- USB 3.0, GigE, CoaXPress, Camera Link interface
- This camera employs Active Thermoelectric Cooling (TEC) technology to stabilize the sensor temperature at 25° C below ambient

### ► Spectral Response Curve



IMX993 Absolute Quantum Efficiency Curve

## iBoost X SWIR Camera (IMX993)

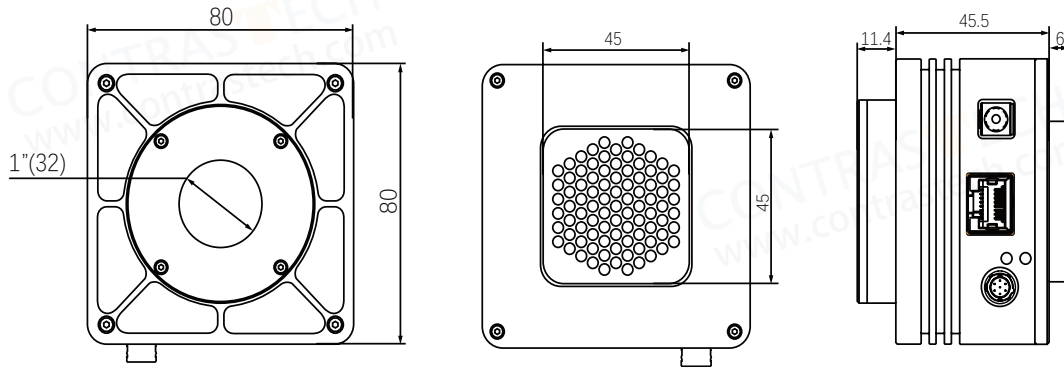
| Model                | iBX-SWTG993A                                                                   |     |     |          |     |     | iBX-SWU993A                              |    |          |     | iBX-SWX993A                            |     |    |          |     |     | iBX-SWC993A                            |     |          |     |
|----------------------|--------------------------------------------------------------------------------|-----|-----|----------|-----|-----|------------------------------------------|----|----------|-----|----------------------------------------|-----|----|----------|-----|-----|----------------------------------------|-----|----------|-----|
| Sensor               | Sony IMX993-AABA-C                                                             |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Sensor Technology    | InGaAs                                                                         |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Spectral Range       | 400nm-1700nm                                                                   |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Pixel Size           | 3.45 μm x 3.45 μm                                                              |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Sensor Size          | 1/1.8"                                                                         |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Resolution           | 2048x1536                                                                      |     |     | 1024x768 |     |     | 2048x1536                                |    | 1024x768 |     | 2048x1536                              |     |    | 1024x768 |     |     | 2048x1536                              |     | 1024x768 |     |
| ADC Bit              | 8                                                                              | 10  | 12  | 8        | 10  | 12  | 8                                        | 12 | 8        | 12  | 8                                      | 10  | 12 | 8        | 10  | 12  | 10                                     | 12  | 10       | 12  |
| FPS                  | 220                                                                            | 200 | 118 | 415      | 380 | 220 | 93                                       | 57 | 176      | 176 | 173                                    | 158 | 93 | 328      | 300 | 176 | 124                                    | 100 | 176      | 176 |
| Interface            | 10 GigE                                                                        |     |     |          |     |     | USB 3.0                                  |    |          |     | CoaXPress                              |     |    |          |     |     | Camera Link                            |     |          |     |
| Cooling              | 10° C below ambient temperature                                                |     |     |          |     |     | 25° C below ambient temperature          |    |          |     | 10° C below ambient temperature        |     |    |          |     |     | 10° C below ambient temperature        |     |          |     |
| Binning              | 2x2, 3x3, 4x4                                                                  |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Size                 | 80*80*45.5mm (<390g)<br>(Dimensions A)                                         |     |     |          |     |     | 80*80*45.5mm (<390g)<br>(Dimensions B)   |    |          |     | 80*80*45.5mm (<390g)<br>(Dimensions C) |     |    |          |     |     | 75*75*81.9mm (<390g)<br>(Dimensions D) |     |          |     |
| Hardware Image Cache | 512MByte                                                                       |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Conversion Gain      | 10.3e/ADU (HCG) 17.29e/ADU (LCG)                                               |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Dynamic Range        | 51.36dB (HCG) 51.47dB (LCG)                                                    |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Read Noise           | 111.88e (HCG) 186.61e (LCG)                                                    |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Full Well Capacity   | 41.39ke (HCG) 69.92ke (LCG)                                                    |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| SNR                  | 46.17dB (HCG) 48.45dB (LCG)                                                    |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Gain Range           | 1x-15x                                                                         |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Exposure Time        | 15μs-60sec                                                                     |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Shutter              | Global                                                                         |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Digital I/O          | 1 opto-isolated input, 1 opto-isolated output, 2 non-isolated input and output |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Optical Filter       | 400-1800nm(default); 1030-1800nm(optional)                                     |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| CRA                  | 2.35°                                                                          |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Power Supply         | DC 12 V                                                                        |     |     |          |     |     | Power with USB3.0 / DC 12 V              |    |          |     | Power with CoaXPress / DC 12 V         |     |    |          |     |     | DC 12 V                                |     |          |     |
| Power Consumption    | TBD                                                                            |     |     |          |     |     | <2.1W (without cooling) / <25W (Cooling) |    |          |     | TBD                                    |     |    |          |     |     | TBD                                    |     |          |     |
| Temperature          | -40~85 ° C ( Storage ), -20~60° C ( Working )                                  |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Humidity             | 20%–80% RH, non-condensing                                                     |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Lens Mount           | C-Mount                                                                        |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |
| Software             | Full SDK Package / iBoostX                                                     |     |     |          |     |     |                                          |    |          |     |                                        |     |    |          |     |     |                                        |     |          |     |

## iBoost X SWIR Camera (IMX993)

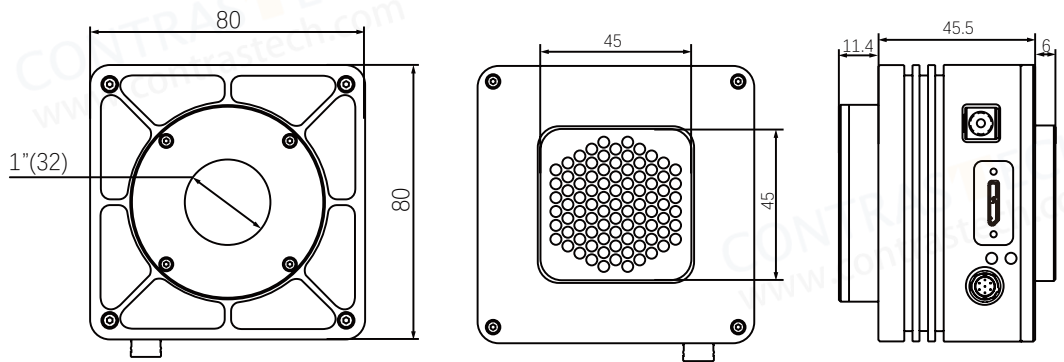


| Model                | iBX-SWU993J                                                                    |    |          |     | iBX-SWG993J-Lite             |      |          |    | iBX-SWU993J-Lite                                                               |    |          |     |
|----------------------|--------------------------------------------------------------------------------|----|----------|-----|------------------------------|------|----------|----|--------------------------------------------------------------------------------|----|----------|-----|
| Sensor               | Sony IMX993-AABJ-C                                                             |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Sensor Technology    | InGaAs                                                                         |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Spectral Range       | 400nm-1700nm                                                                   |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Pixel Size           | 3.45 μm x 3.45 μm                                                              |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Sensor Size          | 1/1.8"                                                                         |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Resolution           | 2048x1536                                                                      |    | 1024x768 |     | 2048x1536                    |      | 1024x768 |    | 2048x1536                                                                      |    | 1024x768 |     |
| ADC Bit              | 8                                                                              | 12 | 8        | 12  | 8                            | 12   | 8        | 12 | 8                                                                              | 12 | 8        | 12  |
| FPS                  | 93                                                                             | 57 | 176      | 176 | 37                           | 18.5 | 148      | 74 | 93                                                                             | 57 | 176      | 176 |
| Interface            | USB 3.0                                                                        |    |          |     | GigE                         |      |          |    | USB 3.0                                                                        |    |          |     |
| Cooling              | 10° C below ambient temperature                                                |    |          |     | /                            |      |          |    | /                                                                              |    |          |     |
| Binning              | 2x2, 3x3, 4x4                                                                  |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Size                 | 80*80*45.5mm(<390g)<br>(Dimensions B)                                          |    |          |     | 33*33*58mm<br>(Dimensions E) |      |          |    | 33*33*38mm (70g)<br>(Dimensions F)                                             |    |          |     |
| Hardware Image Cache | 512MByte                                                                       |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Conversion Gain      | 10.3e/ADU (HCG) 17.29e/ADU (LCG)                                               |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Dynamic Range        | 51.36dB (HCG) 51.47dB (LCG)                                                    |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Read Noise           | 111.88e (HCG) 186.61e (LCG)                                                    |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Full Well Capacity   | 41.39ke (HCG) 69.92ke (LCG)                                                    |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| SNR                  | 46.17dB (HCG) 48.45dB (LCG)                                                    |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Gain Range           | 1x-15x                                                                         |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Exposure Time        | 15μs-60sec                                                                     |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Shutter              | Global                                                                         |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Digital I/O          | 1 opto-isolated input, 1 opto-isolated output, 2 non-isolated input and output |    |          |     |                              |      |          |    | 1 opto-isolated input, 1 opto-isolated output, 1 non-isolated input and output |    |          |     |
| Optical Filter       | 400-1800nm(default); 1030-1800nm(optional)                                     |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| CRA                  | 2.35°                                                                          |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Power Supply         | Power with USB3.0 / DC 12 V                                                    |    |          |     | DC 12 V                      |      |          |    | Power with USB3.0                                                              |    |          |     |
| Power Consumption    | <2.1W (without cooling) / <25W (Cooling)                                       |    |          |     | <2.11W                       |      |          |    |                                                                                |    |          |     |
| Temperature          | -40~85 ° C ( Storage ), -20~60° C ( Working )                                  |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Humidity             | 20%~80% RH, non-condensing                                                     |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Lens Mount           | C-Mount                                                                        |    |          |     |                              |      |          |    |                                                                                |    |          |     |
| Software             | Full SDK Package / iBoostX                                                     |    |          |     |                              |      |          |    |                                                                                |    |          |     |

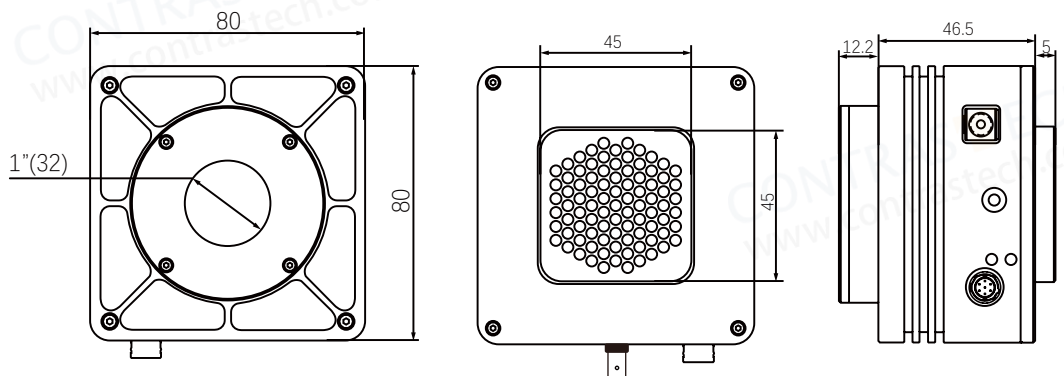
### iBoost X SWIR Camera (IMX993)



**Dimensions A**

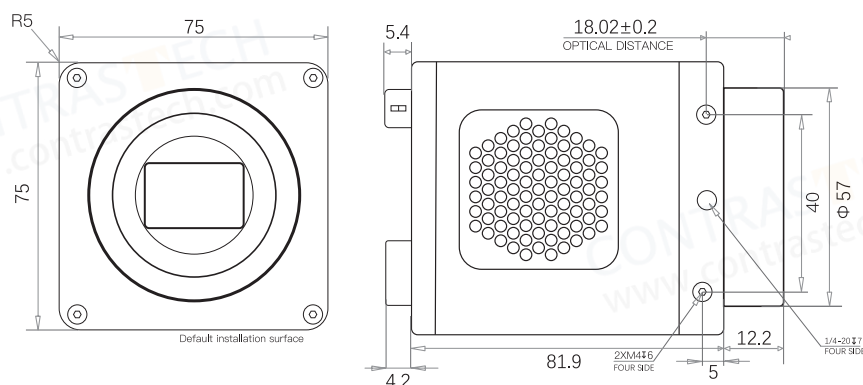


**Dimensions B**

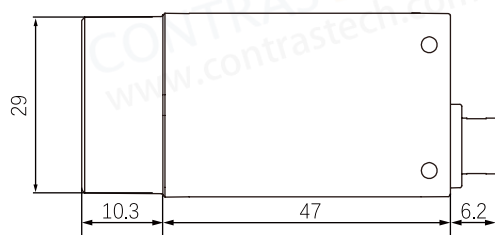


**Dimensions C**

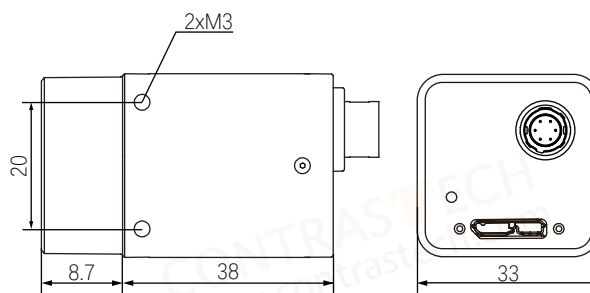
### iBoost X SWIR Camera (IMX993)



Dimensions D



Dimensions E



Dimensions F

### FOR MORE INFORMATION CONTACT



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