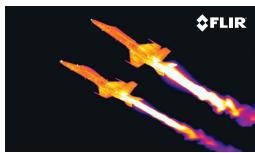


# \$FLIR

Space shuttle launch



Blackhawk Helicopter



FA/18 Super Hornets

## FLIR**RS8300**

### High-Speed MWIR Megapixel Infrared Cameras for Range Applications

The RS8300 is a multi-application long range infrared camera system designed for range tracking, target signature, research, and science applications. The RS8300 camera is a rugged, high performance, full-featured radiometric instrument that can survive harsh range environments.

#### **CRISP, CLEAR IMAGES**

Stunning, true megapixel infrared imagery.

#### **OPTIMIZED IMAGING**

Four active preset operating modes provide adjustable integration times, embedded non-uniformity correction, bad pixel replacement, and window size adjustments.

#### **HIGH-SPEED DATA**

Provides digital data at 200 megapixels per second for extreme imaging flexibility and data capture.

#### **FAST FRAME RATES**

Lightning fast frame rates from full-frame resolution 14-bit data at 125 fps to  $64 \times 64$  at 2 kHz.

#### WINDOWING FLEXIBILITY

FPA windowing for faster frame rates and focused analysis.

#### FRAME TIMESTAMPING

IRIG-B timing built directly into camera for on-board deterministic timestamping of every frame of data.

#### **CONTINUOUS METRIC ZOOM**

Provides a 10X continuous optical zoom from 120 - 1200mm. The RS8300 Metric Zoom provides IRIG synchronized, TSPI-accurate timestamping of lens focal length and focus position data right in the image header along with IRIG-B. Optics have active athermalization.

#### RANGE-RUGGED

A high durability lens coating is standard, and the enclosure is sealed and supports a positive-pressure gas purge.

#### **POWERFUL SOFTWARE & SDK**

With the included ResearchIR Max software, you can view, acquire, analyze, and share high-speed data from the camera. Alternately, using FLIR's SDK, you can command & control the camera with your own custom software.

#### **SMPTE STANDARD HD VIDEO**

HD-SDI supports both 720p and 1080p modes.



#### Imaging Specifications

| Detector Type   Indium Antimonide (InSb)   Spectral Range   3.0 − 5.0 µm     Resolution   1,344 × 784     Detector Pitch   14 µm     NETD   <25 mK     Well Capacity   5.9 M electrons     Operability   >93.5% (99.9% typical)     Sensor Cooling   Closed Cycle Linear     Electronics / Imaging     Readout   Snapshot     Readout Modes   Asynchronous Integrate While Read; Asynchronous Integrate Then Read     Synchronization Modes   Genlock; IRIG-B; Sync In, Sync Out, Trigger In     Image Time Stamp     Frame Rate (Full Window)   125 Hz     Subwindow Mode   User-Defined     Dynamic Range   14-bit     Digital Data Protocol   (Optional CameraLink Full over Fiber)     HD Video   (1720, 50/59/60 Hz, SMPTE 296M)     (1080p, 25/29/30 Hz, SMPTE 296M)     (1080p, 25/29/30 Hz, SMPTE 274M)     Gigabit Ethernet, RS-232 Serial, Coa Xpress (Optional CameraLink Full over Fiber)     Optics     Camera I/#   1/5     Available Lenses   120.1200 mm (10x) Continuous Metric Zoom     Rouse   140.000 Metric Presentation     Analog Palettes   Selectable 8-bit     Automatic Gain Control   Manual, Linear, Plateae Equalization, ROI, DDE     Analog Overlay   Customizable (IRIG-8, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)     Comparating Temperature Range   -40°C to 50°C I-40°F to 122°F     Storage Temperature Range   -40°C to 50°C I-40°F to 122°F     Storage Temperature Range   -40°C to 50°C I-40°F to 176°F     Altitude   0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational     Shock, Yubration   40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes     Power   24 VUC     Weight   34.926 kg 177 lb)   | System Overview                | FLIR RS8300   |
|--|--------------------------------|---|
| Resolution 1,344 × 784  Detector Pitch 14 µm  NETD < 25 mK  Well Capacity 5.9 M electrons Operability >99.5% (99.9% typical) Sensor Cooling Closed Cycle Linear  Electronics / Imaging Readout Snapshot Readout Modes Asynchronous Integrate While Read; Asynchronous Integrate Then Read Synchronization Modes Genlock; RiG-B; Sync In, Sync Out, Trigger In Integration Time 500 ns to Full Frame Frame Rate (Full Window) 125 Hz Subwindow Mode User-Defined Dynamic Range 14-bit Digital Data Protocol Simultaneous Gigabit Ethernet and Coa Xpress (Optional Camerat Inik Full over Fiber)  HD Video (170p, 50/59/60 Hz, SMPTE 296M) (1080p, 25/29/30 Hz, SMPTE 274M) Gigabit Ethernet, RS-23 Serial, Coa Xpress (Optional Camerat Link Full over Fiber)  Optics Camera f/# // 1/5  Available Lenses 120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 1200 mm, 0.9 deg HFOV @ 1200 mm Motorized with autofocus and active athermalization  Image Presentation Analog Palettes Selectable 8-bit Automatic Gain Control Manual, Linear, Plateau Equalization, ROI, DDE Analog Overlay Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom 1-4x, Digital Zoom, Panning  General Operating Temperature Range -55°C to 80°C (-67°F to 176°F) Altitude 0 to 40,000 Feet Operational, 0 to 70,000 Feet Non-Operational Shock / Vibration 40 g., 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes Power 24 VDC Weight 34.926 kg (77 lb) Size (Lx W x H ) Sunshield On (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Detector Type                  | Indium Antimonide (InSb)  |
| Detector Pitch  NETD  <25 mK  Well Capacity  5.9 M electrons  Operability  Sensor Cooling  Closed Cycle Linear  Electronics / Imaging  Readout Modes  Asynchronous Integrate While Read; Asynchronous Integrate Then Read  Synchronization Modes  Asynchronous Integrate While Read; Asynchronous Integrate Then Read  Synchronization Modes  Image Time Stamp  Integration Time  Frame Rate (Full Window)  125 H2  Subwindow Mode  User-Defined  Dynamic Range  14-bit  Simultaneous Gligabit Ethernet and Coaxpress (Optional CameraLink Full over Fiber)  (1720, 50/55/60 Hz, SMPTE 278M)  Gigabit Ethernet, RS-232 Serial, Coaxpress (Optional CameraLink Full over Fiber)  Optics  Camera f/#  f/5  Available Lenses  120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFDV @ 120 mm, 0.9 deg HFDV @ 1200 mm  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Automatic Gain Control  Menual, Linear, Plateau Equalization, ROI, DDE  Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x, Digital Zoom, Panning  General  Operating Temperature Range  -55°C to 80°C-(-67°F to 176°F)  Altitude  O to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  Size (Lx W x H ) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Spectral Range                 | 3.0 – 5.0 µm  |
| NETD   | Resolution                     | 1,344×784   |
| Well Capacity  Operability  Sensor Cooling  Closed Cycle Linear  Electronics / Imaging  Readout  Readout Modes  Asynchronous Integrate While Read; Asynchronous Integrate Then Read Synchronization Modes  Asynchronization Modes  Genlock; IRIG-B; Sync In, Sync Out, Trigger In Image Time Stamp Integration Time  500 ns to Full Frame Frame Rate (Full Window)  125 Hz Subwindow Mode  User-Defined Dynamic Range  14-bit  Digital Data Protocol  Gigabit Ethernet and CoaXpress (Optional CameraLink Full over Fiber)  HD Video  (1720p, 50/59/60 Hz, SMPTE 298M) (1080p, 25/28/30 Hz, SMPTE 298M) (1080p, 25 | Detector Pitch                 | 14 µm   |
| Sensor Cooling   Closed Cycle Linear   | NETD                           | <25 mK  |
| Sensor Cooling  Closed Cycle Linear  Electronics / Imaging  Readout  Readout Modes  Asynchronous Integrate While Read; Asynchronous Integrate Then Read  Synchronization Modes  Genlock; IRIG-B; Sync In, Sync Out, Trigger In  Image Time Stamp  Integration Time  500 ns to Full Frame  Frame Rate (Full Window)  125 Hz  Subwindow Mode  User-Defined  Dynamic Range  14-bit  Digital Data Protocol  Gigabit Ethernet and CoaXpress (Optional Cameral Link Full over Fiber)  (1720p, 50/59/60 Hz, SMPTE 296M) (1080p, 25/29/30 Hz, SMPTE 296M) (1080p, 25/29/30 Hz, SMPTE 274M)  Command & Control  Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional Camera Link Full over Fiber)  Optics  Camera f/#  f/5  Available Lenses  120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 1200 mm, 0.9 deg HFOV @ 1200 mm  Focus  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Selectable 8-bit  Automatic Gain Control  Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x, Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -40°C to 50°C (-40°F to 176°F)  Altitude  Oto 40,000 Feet Operational, Oto 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VOC  Weight  Size (Lx Wx H.) Sunshield On  (1927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)  | Well Capacity                  | 5.9 M electrons   |
| Electronics / Imaging  Readout Snapshot  Readout Modes Asynchronous Integrate While Read; Asynchronous Integrate Then Read  Synchronization Modes Genlock; IRIG-B; Sync In, Sync Out, Trigger In  Image Time Stamp  Integration Time 500 ns to Full Frame  Frame Rate (Full Window) 125 Hz  Subwindow Mode User-Defined  Dynamic Range 14-bit  Digital Data Protocol Simultaneous Gigabit Ethernet and CoaXpress (Optional Cameral link Full over Fiber)  HD Video (1720; 50/59/60 Hz, SMPTE 274M)  Command & Control Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional Cameral link Full over Fiber)  Optics  Camera 1/# // 55  Available Lenses 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm  Focus Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes Selectable 8-bit  Automatic Gain Control Manual, Linear, Plateau Equalization, ROI, DDE  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom 1-4x, Digital Zoom, Panning  General  Operating Temperature Range -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range -55°C to 80°C (-67°F to 176°F)  Attitude 0 to 40,000 Feet Operational: 0 to 70,000 Feet Non-Operational  Shock / Vibration 40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power 24 VDC  Weight 34.926 kg (77 lb)  Size (Lx Wx H) Sunshield On (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)  | Operability                    | >99.5% (99.9% typical)  |
| Readout Modes Asynchronous Integrate While Read; Asynchronous Integrate Then Read Synchronization Modes Genlock; IRIG-B; Sync In, Sync Out, Trigger In Image Time Stamp Integration Time 500 ns to Full Frame Frame Rate (Full Window) 125 Hz Subwindow Mode User-Defined Dynamic Range 14-bit Digital Data Protocol Simultaneous Gigabit Ethernet and CoaXpress (Optional CameraLink Full over Fiber) HD Video (1720p, 50/59/60 Hz, SMPTE 296M) (1080p, 25/29/30 Hz, SMPTE 274M) Command & Control Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional CameraLink Full over Fiber)  Optics Camera (/# // 5/5 Available Lenses 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm Focus Motorized with autofocus and active athermalization  Image Presentation Analog Palettes Selectable 8-bit Automatic Gain Control Manual, Linear, Plateau Equalization, ROI, DDE Analog Overlay Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours) Zoom 1-4x, Digital Zoom, Panning  General Operating Temperature Range -40°C to 50°C (-40°F to 122°F) Storage Temperature Range -55°C to 80°C (-67°F to 176°F) Altitude 0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational Shock / Vibration 40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes Power 24 VDC Weight 34,926 kg (77 lb) Size (L x W x H ) Sunshield On (927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)  | Sensor Cooling                 | Closed Cycle Linear   |
| Readout Modes Asynchronous Integrate While Read; Asynchronous Integrate Then Read Synchronization Modes Genlock; IRIG-B; Sync In, Sync Out, Trigger In Image Time Stamp Integration Time Frame Rate (Full Window) 125 Hz Subwindow Mode User-Defined Dynamic Range 14-bit Simultaneous Gigabit Ethernet and Coaxpress (Optional Cameral ink Full over Fiber) HD Video (720p, 50/59/60 Hz, SMPTE 296M) (1080p, 25/29/30 Hz, SMPTE 274M) Command & Control Gigabit Ethernet, RS-232 Serial, Coaxpress (Optional Cameral ink Full over Fiber)  Optics Camera f/# f/5 Available Lenses 120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm Focus Motorized with autofocus and active athermalization Image Presentation Analog Palettes Selectable 8-bit Automatic Gain Control Manual, Linear, Plateau Equalization, ROI, DDE Analog Overlay Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours) Zoom 1-4x, Digital Zoom, Panning General Operating Temperature Range -40°C to 50°C (-40°F to 122°F) Storage Temperature Range -55°C to 80°C (-67°F to 176°F) Altitude 0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational Shock / Vibration 40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes Power 24 VDC Weight 34.926 kg (77 lb) Size (L x W x H.) Sunshield On (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Electronics / Imaging          |   |
| Synchronization Modes Image Time Stamp Integration Time Frame Rate (Full Window) 125 Hz Subwindow Mode User-Defined Dynamic Range 14-bit Digital Data Protocol Simultaneous Gigabit Ethernet and CoaXpress (Optional CameraLink Full over Fiber) HD Video Command & Control Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional CameraLink Full over Fiber)  Optics Camera f/#  f/5 Available Lenses 120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm Focus Motorized with autofocus and active athermalization Image Presentation Analog Palettes Selectable 8-bit Automatic Gain Control Manual, Linear, Plateau Equalization, ROI, DDE Analog Overlay Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours) Zoom 1-4x, Digital Zoom, Panning General Operating Temperature Range -40°C to 50°C (-40°F to 172°F) Altitude O to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational Shock / Vibration 40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes Power 24 VDC Weight 34.926 kg (77 lb) Size (L x W x H ) Sunshield On (Separal) Sunshield On (Separal) Simultaneous Gigabit Ethernet and CoaXpress (Optional CameraLink Full over Fiber) (P25 April Frame Range) (P26 April For 176°F) Altitude (Separation Fiber) (P27 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)  | Readout                        | Snapshot  |
| Image Time Stamp Integration Time Frame Rate (Full Window)  125 Hz  Subwindow Mode User-Defined Dynamic Range 14-bit  Digital Data Protocol  MD Video  Command & Control  Digital Control  Gigabit Ethernet and CoaXpress (Optional CameraLink Full over Fiber)  (720p, 50/59/60 Hz, SMPTE 296M) (1080p, 25/29/30 Hz, SMPTE 274M)  Command & Control  Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional CameraLink Full over Fiber)  Dptics  Camera 1/#  Available Lenses  120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 120 mm 0.9 deg HFOV @ 1200 mm  Focus  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Automatic Gain Control  Analog Overlay  Customizable (RIG-8, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -40°C to 50°C (-67°F to 176°F)  Altitude  O to 40,000 Feet Operational; O to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (L x W x H ) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Readout Modes                  | Asynchronous Integrate While Read; Asynchronous Integrate Then Read |
| Integration Time   | Synchronization Modes          | Genlock; IRIG-B; Sync In, Sync Out, Trigger In                      |
| Frame Rate (Full Window)  Subwindow Mode  Dynamic Range  Digital Data Protocol  Digital Data Protocol  Command & Control  Digital Command & Control  Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional CameraLink Full over Fiber)  Digital Command & Control  Manual, Linear, Plateau Equalization, ROI, DDE  Analog Presentation  Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x, Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -55°C to 80°C (-67°F to 176°F)  Altitude  O to 40,000 Feet Operational; O to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (L xW x H) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)  | Image Time Stamp               |   |
| Subwindow Mode       User-Defined         Dynamic Range       14-bit         Digital Data Protocol       Simultaneous Gigabit Ethernet and CoaXpress (Optional CameraLink Full over Fiber)         HD Video       (720p, 50/59/60 Hz, SMPTE 296M) (1080p, 25/29/30 Hz, SMPTE 274M)         Command & Control       Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional CameraLink Full over Fiber)         Optics         Camera f/#       f/5         Available Lenses       120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm         Focus       Motorized with autofocus and active athermalization         Image Presentation       Selectable 8-bit         Automatic Gain Control       Manual, Linear, Plateau Equalization, ROI, DDE         Analog Overlay       Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)         Zoom       1-4x, Digital Zoom, Panning         General       Operating Temperature Range         Operating Temperature Range       -40°C to 50°C (-40°F to 122°F)         Storage Temperature Range       -55°C to 80°C (-67°F to 176°F)         Altitude       0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational         Shock / Vibration       40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes         Power       24 VDC  | Integration Time               | 500 ns to Full Frame  |
| Dynamic Range  Digital Data Protocol  Digital Data Protocol  Command & Control  Command & Control  Digital CameraLink Full over Fiber)  Command & Control  Digital CameraLink Full over Fiber)  Command & Control  Digital CameraLink Full over Fiber)  Digital CameraLink Ful | Frame Rate (Full Window)       | 125 Hz  |
| Digital Data Protocol  Simultaneous Gigabit Ethernet and CoaXpress (Optional CameraLink Full over Fiber)  HD Video  (720p, 50/59/60 Hz, SMPTE 296M) (1080p, 25/29/30 Hz, SMPTE 274M)  Command & Control  Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional CameraLink Full over Fiber)  Optics  Camera f/#  f/5  Available Lenses  120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 120 mm  Focus  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Selectable 8-bit  Automatic Gain Control  Analog Overlay  Customizable (IRIG-8, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x, Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  Altitude  O to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  Size (L x W x H ) Sunshield On  (927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)   | Subwindow Mode                 | User-Defined  |
| Coptional CameraLink Full over Fiber   | Dynamic Range                  | 14-bit  |
| Command & Control  Gigabit Ethernet, RS-232 Serial, CoaXpress (Optional CameraLink Full over Fiber)  Optics  Camera f/#  Available Lenses  Available Lenses  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Automatic Gain Control  Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x, Digital Zoom, Panning  General  Operating Temperature Range  Attitude  O to 40,000 Feet Operational; O to 70,000 Feet Non-Operational  Shock / Vibration  Auson (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Digital Data Protocol          |   |
| Command & Control  Optics  Camera f/#  Available Lenses  120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm  Focus  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Selectable 8-bit  Automatic Gain Control  Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x , Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (LxWxH) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | HD Video                       |   |
| Camera f/#  Available Lenses  120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm  Focus  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Selectable 8-bit  Automatic Gain Control  Manual, Linear, Plateau Equalization, ROI, DDE  Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x , Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -55°C to 80°C (-67°F to 176°F)  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (LxWxH) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Command & Control              |   |
| Available Lenses  120-1200 mm (10x) Continuous Metric Zoom 8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm  Focus  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Selectable 8-bit  Automatic Gain Control  Manual, Linear, Plateau Equalization, ROI, DDE  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x , Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -55°C to 80°C (-67°F to 176°F)  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g. 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (LxWxH) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)  | Optics                         |   |
| Available Lenses  8.97 deg HFOV @ 120 mm, 0.9 deg HFOV @ 1200 mm  Focus  Motorized with autofocus and active athermalization  Image Presentation  Analog Palettes  Selectable 8-bit  Automatic Gain Control  Manual, Linear, Plateau Equalization, ROI, DDE  Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x , Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -55°C to 80°C (-67°F to 176°F)  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (L x W x H ) Sunshield On  (927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)   | Camera f/#                     | f/5   |
| Analog Palettes Selectable 8-bit  Automatic Gain Control Manual, Linear, Plateau Equalization, ROI, DDE  Analog Overlay Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom 1-4x , Digital Zoom, Panning  General Operating Temperature Range -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range -55°C to 80°C (-67°F to 176°F)  Altitude 0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational Shock / Vibration 40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power 24 VDC  Weight 34.926 kg (77 lb)  Size (L x W x H ) Sunshield On (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Available Lenses               |   |
| Analog Palettes  Selectable 8-bit  Automatic Gain Control  Manual, Linear, Plateau Equalization, ROI, DDE  Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x , Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -55°C to 80°C (-67°F to 176°F)  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g. 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (LxWxH) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Focus                          | Motorized with autofocus and active athermalization                 |
| Automatic Gain Control  Manual, Linear, Plateau Equalization, ROI, DDE  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x , Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (LxWxH) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)  | Image Presentation             |   |
| Analog Overlay  Customizable (IRIG-B, Date, Integration Time, Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x , Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -55°C to 80°C (-67°F to 176°F)  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (Lx W x H ) Sunshield On  (927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)   | Analog Palettes                | Selectable 8-bit  |
| Internal Temp, Frame Rate, Sync Mode, Cooler Hours)  Zoom  1-4x , Digital Zoom, Panning  General  Operating Temperature Range  -40°C to 50°C (-40°F to 122°F)  Storage Temperature Range  -55°C to 80°C (-67°F to 176°F)  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (L x W x H ) Sunshield On  (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Automatic Gain Control         | Manual, Linear, Plateau Equalization, ROI, DDE                      |
| General       Operating Temperature Range     -40°C to 50°C (-40°F to 122°F)       Storage Temperature Range     -55°C to 80°C (-67°F to 176°F)       Altitude     0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational       Shock / Vibration     40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes       Power     24 VDC       Weight     34.926 kg (77 lb)       Size (L x W x H ) Sunshield On     (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)  | Analog Overlay                 |   |
| Operating Temperature Range         -40°C to 50°C (-40°F to 122°F)           Storage Temperature Range         -55°C to 80°C (-67°F to 176°F)           Altitude         0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational           Shock / Vibration         40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes           Power         24 VDC           Weight         34.926 kg (77 lb)           Size (L x W x H ) Sunshield On         ( 927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)  | Zoom                           | 1-4x , Digital Zoom, Panning  |
| Storage Temperature Range         -55°C to 80°C (-67°F to 176°F)           Altitude         0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational           Shock / Vibration         40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes           Power         24 VDC           Weight         34.926 kg (77 lb)           Size (L x W x H ) Sunshield On         ( 927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)   | General                        |   |
| Storage Temperature Range  -55°C to 80°C (-67°F to 176°F)  Altitude  0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational  Shock / Vibration  40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes  Power  24 VDC  Weight  34.926 kg (77 lb)  Size (L x W x H ) Sunshield On  (927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)   | Operating Temperature Range    | -40°C to 50°C (-40°F to 122°F)                                      |
| Shock / Vibration         40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes           Power         24 VDC           Weight         34.926 kg (77 lb)           Size (L x W x H ) Sunshield On         ( 927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)  | Storage Temperature Range      | -55°C to 80°C (-67°F to 176°F)                                      |
| Power         24 VDC           Weight         34.926 kg (77 lb)           Size (LxWxH) Sunshield On         (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)   | Altitude                       | 0 to 40,000 Feet Operational; 0 to 70,000 Feet Non-Operational      |
| Weight         34.926 kg (77 lb)           Size (L x W x H ) Sunshield On         ( 927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)   | Shock / Vibration              | 40 g, 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axes |
| Size (L x W x H ) Sunshield On (927 x 315 x 290 mm) (36.5 x 12.4 x 11.4 in)  | Power                          | 24 VDC  |
| Size (L x W x H ) Sunshield On (927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)   | Weight                         | 34.926 kg (77 lb)   |
| Mounting 9×1/4"-20   | Size (L x W x H ) Sunshield On | ( 927 x 315 x 290 mm ) (36.5 x 12.4 x 11.4 in)                      |
|  |                                | 9×¼"-20   |

#### **Back Panel**



Multiple port configurations allow for maximum flexibility when it comes to connectivity.

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