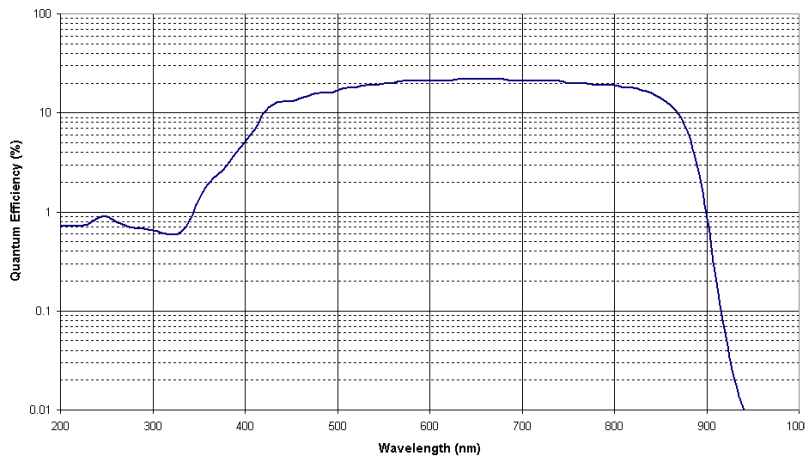




● Quantum Efficiency



Peak Quantum Efficiency at room temperature (%) \*2

<i>Intensifier Model Number</i>	Typical	Minimum
18*-C3 (BGT/HR/P43) @ 630 nm	22	18

● Noise

<i>System Readout Noise (e-) *3</i>	Typical	Maximum
31kHz pixel readout rate	3	6
1MHz pixel readout rate	8	16

● Image Intensifier Details

	<i>Intensifier Type</i>	
<i>Model Number [DH734-, DK734- ]</i>	18*-C3	
<i>Diameter (mm)</i>	18	
<i>Minimum Optical Gate Width (ns) *4</i>	U	2
	F	5
<i>Photocathode *5</i>	BGT	
<i>Input Window</i>	MgF2	
<i>Spectral Range (nm)</i>	200-940	
<i>Phosphor</i>	P43	
<i>Phosphor Decay Time (to 10%)</i>	2 ms	
<i>Max Photocathode rep rate (kHz)</i>	50	
<i>Max Gain (cts / photoe) *6</i>	typ	200
	min	>100
<i>Intensifier Tube Resolution Limit (μm) *7</i>	40	
<i>EBI (photoe / pix-s) *8</i>	typ	0.05
	max	<0.20

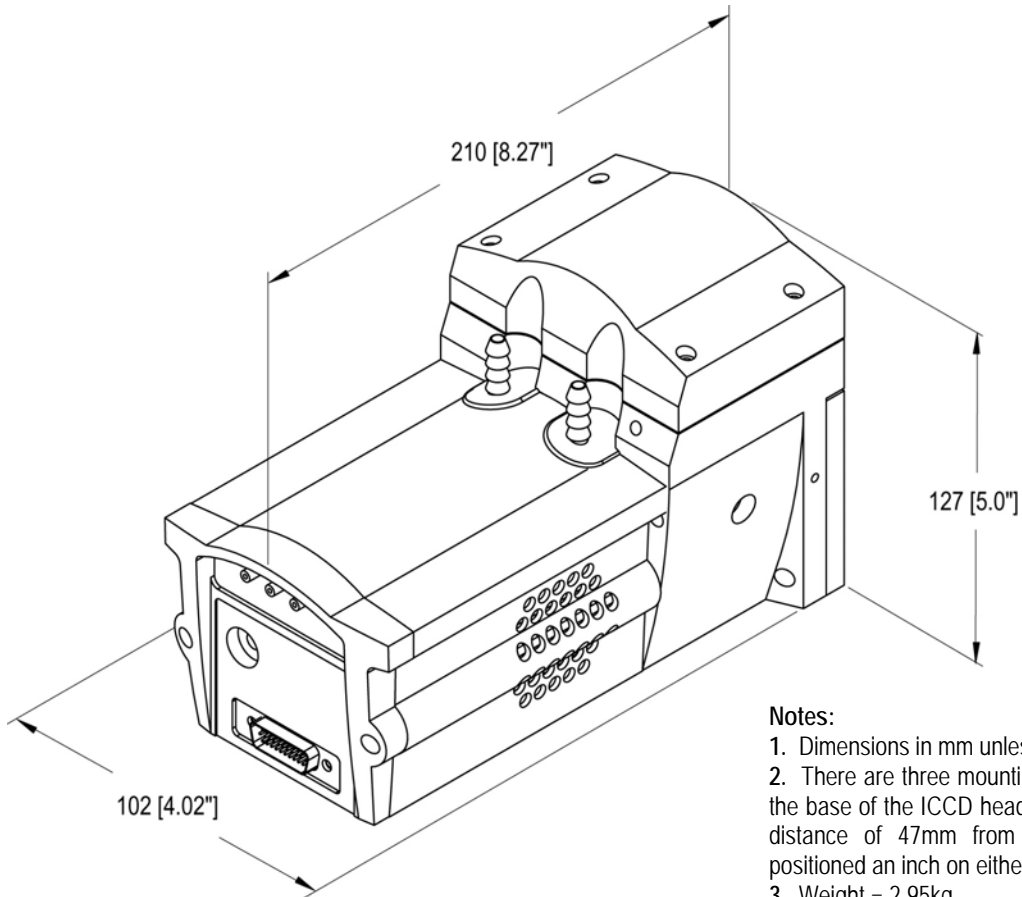
● Optional Digital Delay Generator Details	TTL Input	External trigger in (SMB) Insertion delay: ~19ns
	Programmable Gate Pulse Delay	0ns to 25s Resolution of 25ps
	Programmable Gate Pulse Width	1ns to 25s Resolution of 25ps
	Programmable TTL Output A	Auxiliary trigger out (SMB) Delay range: 0ns to 25s Resolution of 16ns

● Minimum Temperature (°C) *9		<b>Computer Power Supply 18mm</b>	<b>External PSU PS150 18mm</b>
	Air-cooled Temp [Dark Current (typ; e-/pix/s)] <i>(ambient air @ 20°C)</i>	-5 [4.2]	-15 [1.4]
	Water-cooled Temp [Dark Current (typ; e-/pix/s)] <i>(@ 10°C, 0.75 l/min)</i>	-25 [0.4]	-35 [0.1]

● Remote Control Functions	<ul style="list-style-type: none"> <li>• Output A Delay*</li> <li>• Gate Pulse Delay*</li> <li>• Gate Pulse Width*</li> </ul>	<ul style="list-style-type: none"> <li>• Gain</li> <li>• Autoscale ON/OFF</li> <li>• Run / Abort</li> </ul>
	* optional – when DDG™ is installed	

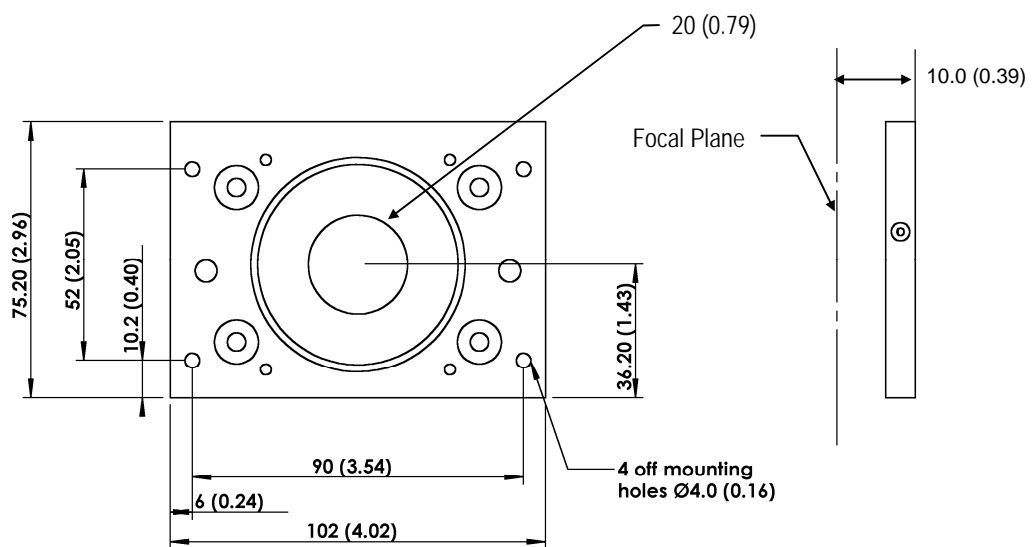
● Operating & Storage Conditions	Operating Temperature	0°C to 30°C ambient
	Relative Humidity	< 70% (non-condensing)
	Storage Temperature	-25°C to +55°C

● Computer Requirements	<b>Minimum:</b> 800MHz Pentium + 256Mbytes RAM Windows 2000 or XP operating system	<b>Also:</b> <ul style="list-style-type: none"> <li>• PCI-compatible computer</li> <li>• PCI slot must have bus master capability</li> <li>• Available auxiliary internal power connector</li> </ul>
	<b>Recommended:</b> 2.4GHz Pentium (or better) + 512 Mbytes RAM	<ul style="list-style-type: none"> <li>• 25 Mbytes free hard disc</li> </ul>

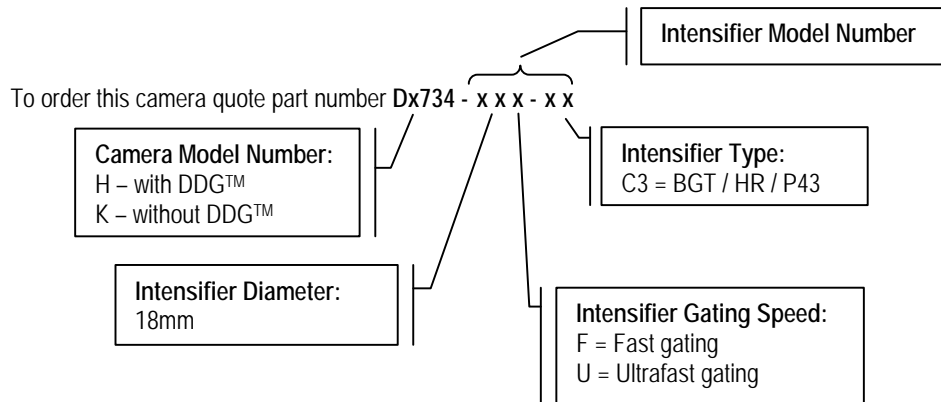


**Notes:**

1. Dimensions in mm unless otherwise indicated
2. There are three mounting holes (1/4-20UNC) located on the base of the ICCD head. One is positioned centrally at a distance of 47mm from the front. The other two are positioned an inch on either side of the central one.
3. Weight = 2.95kg



● **Ordering Information**



e.g. **DH734-18\*-C3** (a filmless Gen III iStar 734 with DDG™ option and 18mm Intensifier tube)

The iStar **DH734** Gen III model is available with the onboard Digital Delay Generator

The iStar **DK734** Gen III model does not have the onboard Digital Delay Generator

The iStar **DH/K734** Gen III requires one of the following controller card options:

**CCI-001** PCI Controller card with 16-bit 62KHz & 31KHz pixel readout rate options

**CCI-010** PCI Controller card with 16-bit 1MHz, 500KHz, 62KHz & 31KHz pixel readout rate options

The iStar **DH/K734** Gen III also requires one of the following software options:

**Andor Solis** – a ready-to-run Windows 2000 or XP -based package with rich functionality for data acquisition and processing

**Andor-SDK-ICCD** – a DLL driver and software development kit that let you create your own applications for the Andor Camera.

Available for Windows 2000 or XP and Linux.

The iStar **DH/K734** Gen III may be used with the following accessories:

**PS150** Power Supply Module for achieving the lowest temperatures

**IO160** Basic input/output box for interface signals

**IO165** Advanced input/output box for interfacing with many signals, including a DAC and an ADC

**LM-NIKON-F** Nikon F-mount lens adaptor

**LMS-NIKON-F** Nikon F-mount lens adaptor with shutter

Contact Andor for any of your custom requirements. (Contact details on back page)

**NOTE - Specifications are subject to change without notice.**

- ◆1 Linearity is measured from a plot of Counts vs. Signal up to the saturation point of the system. Linearity is expressed as a percentage deviation from a straight line fit.
- ◆2 This refers to the typical quantum efficiency of the photocathode of an 18mm intensifier tube and is measured by the tube manufacturer.
- ◆3 System Readout noise is for the entire system. It is a combination of CCD readout noise and A/D noise. Measurement is for single pixel readout with the ICCD at a temperature of -20°C and minimum exposure time under dark conditions.
- ◆4 The Minimum Optical Gate Width options refer to the measured optical full width half maximum (fwhm), not the electrical fwhm. Irising is less than a third of the optical fwhm.
- ◆5 The typical spectral response of the various photocathode options is shown in the QE graph on page 2.
- ◆6 The Maximum Gain is measured in A/D counts per photoelectron at the photocathode recorded at 16µs readout speed. Typical figures quoted. The ICCD gain is selectable from ~1ct/photoelectron to the maximum, using the software gain control.
- ◆7 The resolution limit is the typical resolution of the image intensifier tube. This is not the overall resolution of the ICCD system. As a rough guide, the smallest resolvable FWHM feature on a CCD will be approximately 1.5 to 2 times the pixel size.
- ◆8 Equivalent Background Illuminance (EBI) is measured in photoelectrons per pixel per second at the photocathode.
- ◆9 Systems are specified in terms of minimum dark current achievable rather than absolute temperature.

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iStar

DH734/DK734  
Gen III (Filmless Blue Enhanced)

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