

# Thermo Scientific CID8825D

## Radiation Hardened Color Camera

The Thermo Scientific CID8825D radiation hardened COLOR camera features new Low Noise, Preamplifier Per Pixel Radiation Hardened Charge Injection Device (CID) imager technology for use in radiation environments.

Video is available via Coax, or RGB connectors. Digital video is available via USB2.0.

The compact remote radiation hardened head is connected to a camera control unit (CCU) with a flexible cable supplied to length.



- . COLOR CID (Charge Injection Device)  
Radiation Hardened Imager
- . Exceptional signal to noise and sensitivity.
- .  $3 \times 10^6$  Rads Total Dose (gamma)
- . Excellent image at  $1 \times 10^5$  rads/hr
- . Replaceable Remote Head
- . USB2.0 digital output
- . Automatic White Balance

The CID8825D is the only rad. hard solid state camera capable of Color imaging in radiation environments.

The unique radiation hardened CID based cameras feature a small detachable remote head with radiation tolerance to at least  $3 \times 10^6$  rads total dose and low noise operation in flux rates up to  $1 \times 10^5$  rads/hr.

Video output is standard NTSC format via the Camera Control Unit (CCU) BNC connector, or digitally via the USB2.0 port.

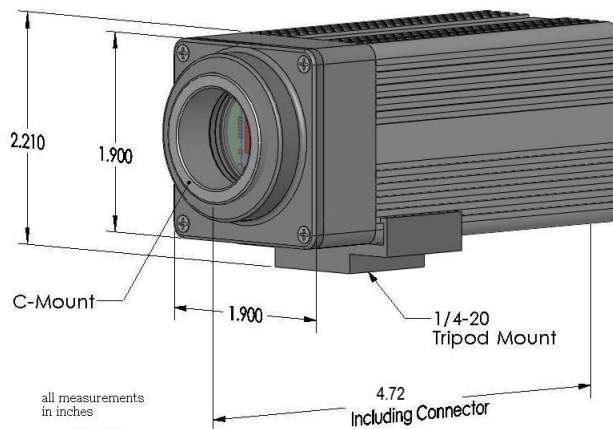
The radiation hard PPP (Preamplifier Per Pixel) CID imager technology allow exceptional signal to noise with sensitivity never before available with radiation hardened cameras.

These cameras have been tested and proven in high levels of gamma radiation, and since readout is within the pixel, loss due to SETI's (single event transfer inefficiencies) is minimized.

CID based cameras allow at least an order of magnitude improvement in operation when compared to CCD and CMOS based cameras and imagers. Versatile configuration capabilities allow them to be well suited in applications such as Patient monitoring, Inspection and measurement, Process monitoring, Robotic handling, Hot cell monitoring, Laser beam profiling, and Research.

Image Format	730H x 512V
Total Pixels	710H x 484V
Pixel Size	18.0 x 16.4 micron
Full Well Capacity	>100,000 electrons
Active Area	14.5 mm diagonal
Optical Format	1"
Scanning Format	NTSC, 30FPS, Interlace
Resolution	>380 TVL (horizontal)
S/N Ratio	-45db typ. signal/RMS 10KHz - 4.2MHz, with 3.58MHz trap
Sensitivity	.2 lux (for min. video) 2 lux (for maximum output) without AGC illumination T=2850K
Composite Video	1V p-p, terminated, 75 ohm
Black Level	+50mV (Auto Clamp)
White Level	+700mV
Sync Level	-300mV
Geometric Distortion	0%
Input Power	18 Watts (max.)
Input Voltage	Camera +15VDC Nominal TE cooler +7 (DX6), +10 VDC (DX7)
Input Current	Camera 1.2A avg.
Gain	X2 / X4
AGC	Selectable ON / OFF
White Balance	ATW (Auto Tracking) AWB (Automatic Balance)

The CID8825D Color solid state video camera is part of a proven line of radiation hardened cameras and sensors whose applications span a full spectrum of industries and applications. Thermo Scientific CIDTEC Cameras & Imagers has been in business for over 25 years with imaging products in scientific, machine vision, aerospace, medical, and radiation-hardened markets.



Interface	
Connectors	J3 Head Interface J4 Analog Video J1 Power Input

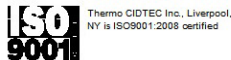
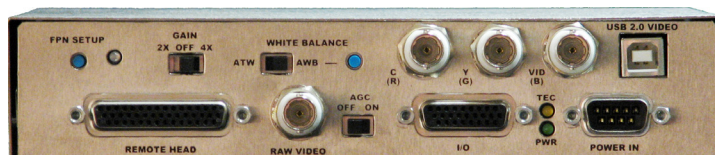
Digital Interface J2 USB2.0 type "B"

Weight CCU 0.86 kg. (30 oz.)  
Head 0.45 kg. (16 oz.)

Cable Length DX6 <50-M  
DX7 >50-M, up to 150-M

Lens Mount Standard "C" Mount (1.0" - 32 Thread)

Camera head case Extruded Aluminum  
Temperature Range  
Operating 0C to 55C case  
Storage -25C to 85C  
Humidity 0-95% noncondensing  
Shock 5G (1/2 Sinewave at 10ms duration)



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