

IRX SERIES™

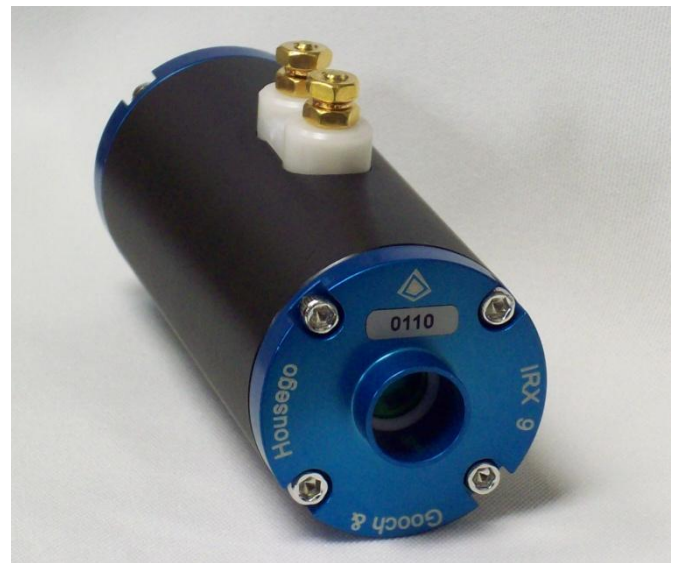
CdTe Pockels Cell

IRX3 / IRX4 / IRX5 / IRX7 / IRX9

Initially designed to address the Q-switched CO₂ laser market at 10.6 μm, Gooch & Housego's cadmium telluride-based IRX Q-switch may be configured to operate from ~5-12 μm. Its high electro-optic coefficient and non-hygroscopic nature makes CdTe well-suited for this purpose.

Through more than 30 years of electro-optic device design experience, G&H provides IRX Pockels cells with application-specific AR coatings or Brewster-cut ends, in apertures ranging from 3mm-10mm.

The IRX Pockels cells are able to address applications beyond the spectral range of traditional oxide Pockels cells. The unique, patent pending design also isolates the CdTe from the exterior environment increasing the lifetime of the cell. Water-cooled designs are available to increase the average power handling capacity. (Patent Pending)



Features

- High electro-optic coefficient CdTe crystal
- Useful as a Q-Switch for CO₂ lasers
- Available with apertures ranging from 3-10 mm
- AR coated or Brewster-cut crystals available
- Environmentally isolated EO crystal (Patent Pending)
- Customized versions available (Optional end-caps depicted)
- Active Cooling Available (Patent Pending)

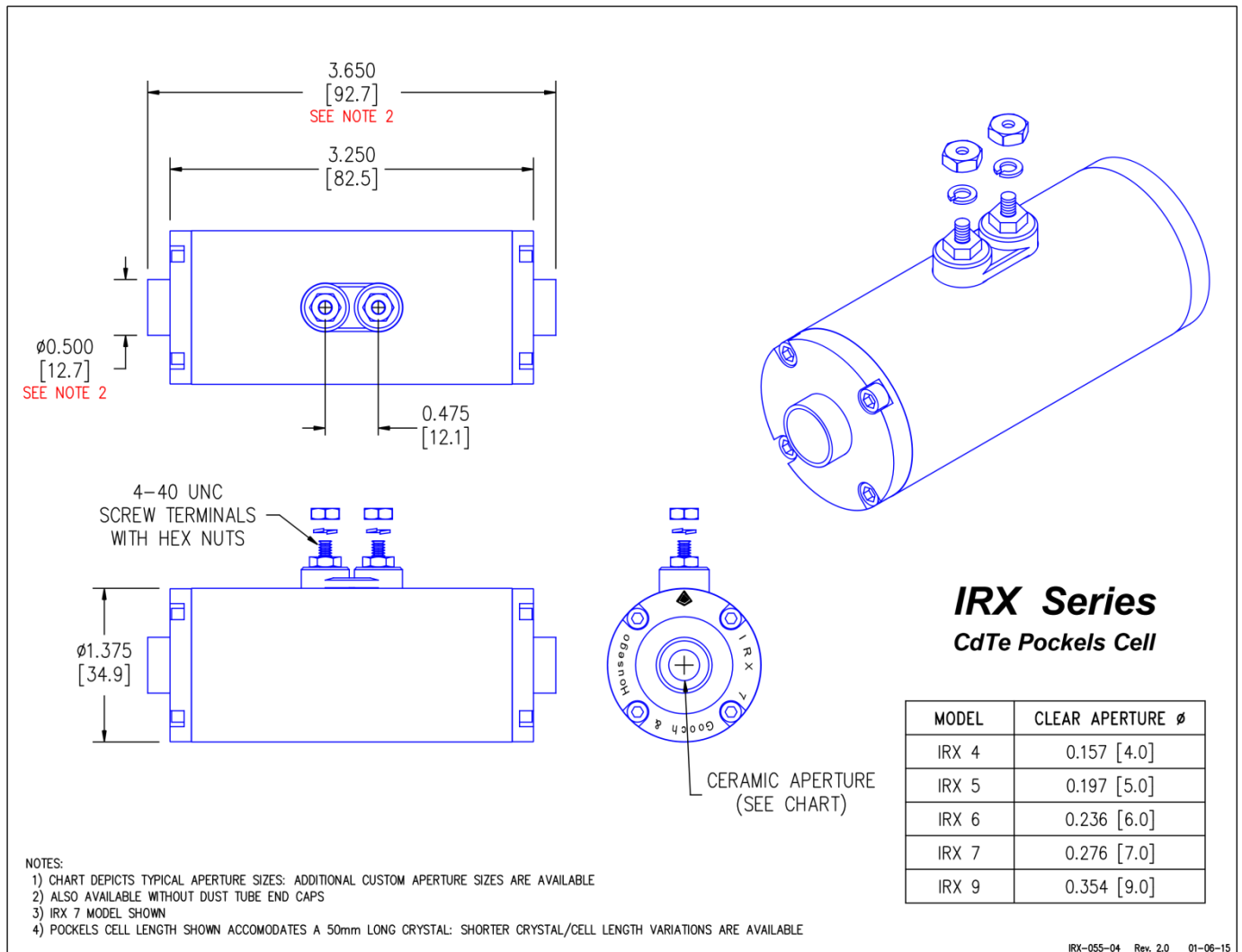
Typical specifications	IRX3	IRX4	IRX5	IRX7	IRX9
Aperture diameters ¹	3 mm	4 mm	5 mm	7 mm	9 mm
Optical transmission	>98% @ 10.6 μm with 10.6 μm coatings				
Intrinsic Contrast Ratio (ICR) @ 10.6 μm	>500:1				
Voltage Contrast Ratio (VCR) @ 10.6 μm	>500:1				
Single Pass Wavefront Distortion @ 10.6 μm	<λ/4				
Spectral range of operation	Must specify wavelength or band within 5-12 μm range				
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LIDT ²	2.3 J/cm ² , 1mm diameter, 2.94 μm, 2 Hz, 100 ns				

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DC quarter-wave voltage ($\pm 6\%$) @ 10.6 μm	~4 kV	~5 kV	~6 kV	~7 kV	~9 kV
Capacitance (DC)			~ 6 pF		
10-90% Rise time (theoretical) into 50 Ω line			~0.3 ns		
Duty cycle in 1 s (applied voltage time/total time)			$\leq 10\%$		

1 Custom aperture sizes available

2 Recommended operation at 1/10 this fluence for increased longevity. LIDT will vary with wavelength and beam parameters.



For further information

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IRX Series CdTe Pockels cell

Datasheet ref: IRX

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time.

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