

# RTP ELECTRO-OPTIC ASSEMBLIES

Rubidium Titanyle Phosphate -  $\text{RTiOPO}_4$

## MAIN FEATURES

- Non hygroscopic
- Large electro-optic coefficient
- Excellent extinction ratio
- No piezo- or pyroelectric effects

## APPLICATIONS

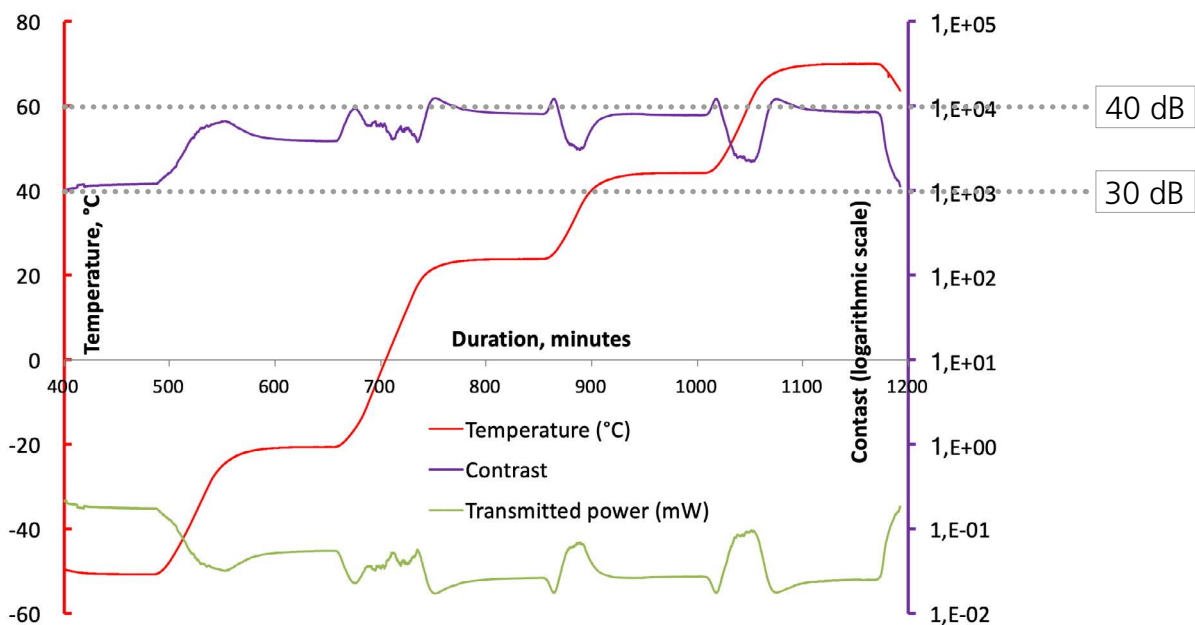
- Pulse-picking
- Q-switched industrial lasers
- Optical switch of regenerative amplifiers
- Q-switched lasers for space and defence

## WHAT MAKES US DIFFERENT?

- Available in cross-sections up to  $15 \times 15 \text{mm}^2$ . Custom lengths on request
- Excellent extinction ratio :  $>30 \text{dB}$  measured over a  $-50^\circ\text{C}/+70^\circ\text{C}$  temperature range
- No long-term degradation under static HV
- High damage threshold of AR-coatings:  $>10 \text{J}/\text{cm}^2$  at  $1064 \text{nm}$  for  $10 \text{ns}$  pulses
- Space-qualified assembly process and hardware (Aeolus, Curiosity, Perseverance)

## TECHNICAL HIGHLIGHTS

Temperature cycling with ER measurement:  
measured ER is 30dB or better over  $-50^\circ\text{C}/+70^\circ\text{C}$



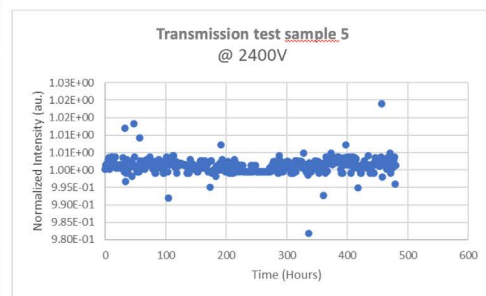
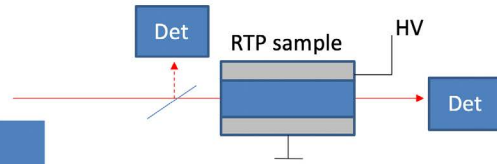
# TECHNICAL HIGHLIGHTS

Stability of Cristal Laser's RTP under static voltage- courtesy of Fibertek, USA:  
no degradation under 8kV/cm over 500 hours

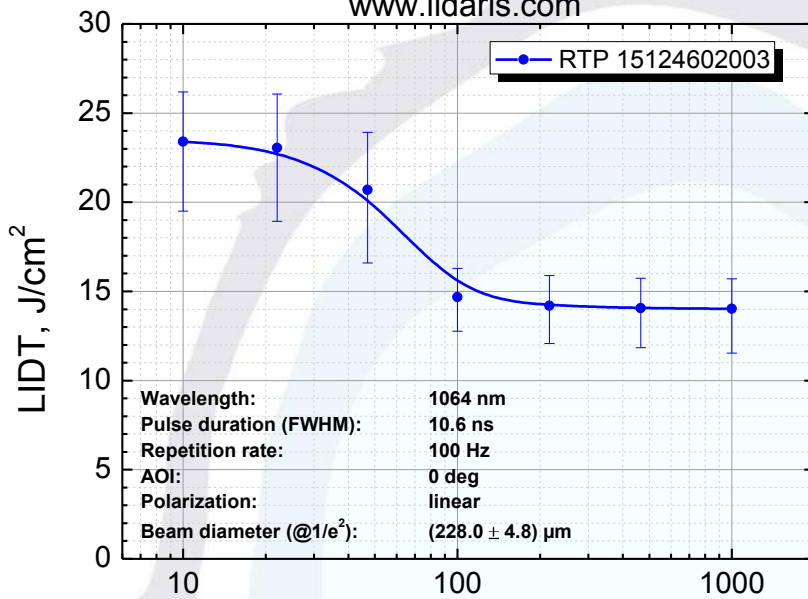
## RTP sample 5 testing



Sample voltage	E field (V/mm)	Run time (hrs.)	Transmission degradation
500	167	29	Negligible
1000	333	45	Negligible
1440	480	117	Negligible
2000	667	141	Negligible
2400	800	480	Negligible
Total hours=812			



Measured at LIDARIS 2015-08-03  
www.lidaris.com



Typical laser damage curve  
of AR-coated RTP substrates:

threshold > 10J/cm<sup>2</sup> at 1064nm,  
S on 1

# SPECIFICATIONS

<b>Aperture</b>	Up to 15x15mm <sup>2</sup>
<b>Standard lengths</b>	5, 7, 10 and 12,5mm. Other lengths on request.
<b>Flatness</b>	$<\lambda/10$ @633nm
<b>Wavefront distortion</b>	$<\lambda/8$ @ 633nm for each crystal
<b>Parallelism</b>	Down to 5"
<b>Perpendicularity</b>	Down to 5 arc min.
<b>Orientation of X- and Z-axes</b>	Better than 0.1°
<b>Bulk absorption</b>	$<100$ ppm/cm@1064nm
<b>Scratch and dig</b>	$<2/1$

*Ordering Information:*



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