

SCHOTT® High Resolution Image Inversion

Fiber Optic Image Inverters



Photo courtesy of the US Army

Image Inverters flip the image 180° minimizing the size and complexity of the night vision eyepiece assembly.

Performance Characteristics

Fiber optic inverters are used primarily in night vision image intensifier tubes, but these imaging components can be used in any application that requires the correction of an inverted image, while also providing a compact, vacuum tight and rugged package. Fiber optic inverters are manufactured using fiber elements ranging in size from 4 to 25um that are fused together into a coherent imaging array. The billet is then heated and twisted to invert the image 180 degrees from the input surface to the output surface.

| Typical Material Properties | | | |
|---|------------------------|--|----------------------------------|
| Typical Performance Parameters | Glass Type* | | |
| | 24A | 24AS | 24C |
| Fiber Size (µm) / Resolution lp/mm** | 25/23 10/64 8/72 | 25/23 10/64 8/72 6/102 4/128 | 25/23 10/64 6/102 4/128 |
| Numerical Aperture | 1.0 | 1.0 | 1.0 |
| Stray Light Control (EMA) | Yes | Yes | No |
| Collimated Transmission at 550 nm 30mm Thick (%) | 66 | 66 | 83 |
| Coefficient of Thermal Expansion (x10 ⁻⁷ /°C) 20 – 300°C | 68 | 68 | 68 |
| Lead Free | No | No | No |
| Phosphor Compatible | Yes | Yes | Yes |
| * Other special glass types available upon customer's request. | | | |
| ** Resolution Measurement performed with an 1951 USAF Resolution Target using diffuse white light illumination. Resolution may vary with other wavelengths. | | | |



ENGLISH Version 01.2019

All specifications are subject to change without prior notice. This datasheet of any extracts thereof may only be used in other publications with express permission of SCHOTT.
© SCHOTT AG

Lighting and Imaging
SCHOTT AG
Hattenbergstrasse 10
55122 Mainz
Germany
Phone: +49 (0) 6131/66 7833
Fax: +49 (0) 6131/66 77850
lightingimaging@schott.com

