Lighting and imaging in space

SCHOTT fiber optic solutions

Space is one of the harshest environments for technology. Vacuum, radiation, extreme temperatures, and strict size, weight, and power constraints push conventional lighting and imaging systems to their limits. Cameras and electronics often fail where visibility is essential for mission success.

SCHOTT offers a proven alternative: passive fiber optic solutions for lighting and imaging. They transfer light and high-resolution images from remote locations without power or direct line of sight - reducing system complexity and risk while ensuring reliability where electronics cannot.

Our light and image guides combine mechanical robustness, radiation resistance, and lightweight design with a clear path to Technology Readiness Level (TRL) qualification. Flexible or rigid designs allow easy integration into space-qualified systems, while proven durability from defense and aviation accelerates space readiness.

General properties

- Works without power
- Mechanical flexibility
- Non-magnetic and non-metallic packaging
- High resolution
- Small space requirement
- Pressure, shock and vibration resistance
- Lightweight
- Temperature resistance

Applications

SCHOTT light and image guides open up a wide range of possibilities for space applications. Examples include:

- Remote visual inspection in rockets and propulsion systems
- Display solutions for lunar rovers and space stations
- Head-mounted or head-up displays in astronaut helmets
- Sensor integration in confined or shielded areas where electronics cannot survive

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