

Focal Plane Assemblies

Focal plane assemblies for space applications

Modern image sensors consist of digital arrays of highly sensitive light detectors. Jena-Optronik advances such sensors into complex focal plane assemblies, which are designed and verified for commercial Earth observation from Space.

Focal plane assemblies (FPAs) made in Jena are typically designed to meet customer-specific requirements for space application. Jena-Optronik also offers the development and manufacturing of sophisticated electronics required to control the functions of such assemblies and to acquire image data from the high-resolution sensors. With such electronics, complete FPA systems compatible to various interfaces can be offered to customers.

A prominent example for the use of Jena-Optronik products is the ESA Copernicus program, which aims on spaceborne Earth observation for collecting and evaluating environmental data about oceans, land surfaces and the atmosphere. One of the Copernicus satellites is the Meteosat Third Generation Sounder (MTG-S), which monitors Earth's atmospheric condition from a geostationary orbit over Europa. With the Sentinel-4 instrument on-board of MTG-S, scientists are able to obtain an accurate status of pollution (ozone, nitrogen-oxide, sulphur-oxide, etc.) in the atmosphere over our continent. In cooperation with Airbus Defence and Space Jena-Optronik developed, manufactured and verified the focal plane assemblies for Sentinel-4. These FPAs detect light in a spectral range of 305nm to 775nm and are equipped with an internal calibration system based on LED technology.

Alongside customer projects as Sentinel-4, Jena-Optronik permanently enhances the technology behind. For that, Jena-Optronik is involved in various research projects, which investigate further development of FPAs.