



KONGSBERG OPTOPYO

In an opto-pyro system, intense laser pulses distributed via optical fibres are used for initiation of pyrotechnic functions.

Kongsberg's optopyro system comprises a laser firing unit, an optical safety barrier and an optical harness.

Pyrotechnics is used in a multitude of applications, both on launchers and satellites.

On Ariane 5 the pyro system is used for:

- Main engine ignition
- Booster engine ignition
- Separation rockets ignition
- DAAV/DAAR cutting
- Valve opening
- Payload separation
- Launcher destruction

Main advantages of the opto-pyro system

- No primary explosives in the pyro-system (significantly reducing the integration cost).
- Low total mass
- Built-in system for test/verification (fully testable on ground)
- Immunity to EMI/ESD
- Green pyro, i.e. contains no lead.

FEATURES

General

- Designed to meet future environmental requirements for Ariane 6/NGL.
- Communication via MIL 1553
- Comprises 3 independent safety barriers of different nature.
- Sequential firing of up to 3 events, with +/- 1 ms accuracy of time delay.
- Multimode fibre optics

Laser Firing Unit (LFU)

- Driven from +28 V
- Capacity to fire up to 36 pyro functions
- Maximum 8 simultaneous firings

Optical Safety Barrier (OSB)

- Based on optomechanical technology.
- Remotely controlled via circuit independent from firing circuit.
- Visible sign showing arm status.

