OPTIMEX 64

ADVANCED OPTICAL ANALYZER OF EXPLOSIVE PROCESSES

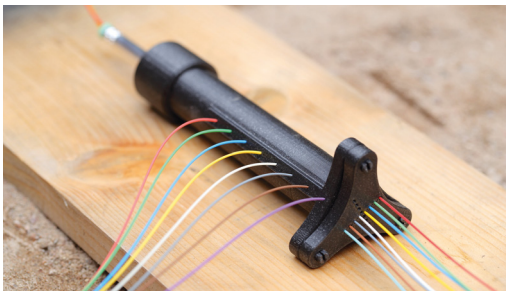
The OPTIMEX™ 64 is an advanced scientific instrument used for the measurement of detonation velocity (and other parameters of detonation) and shock waves using multiple fiber optic probes along with continuous recording of light signal intensity. The OPTIMEX 64 is an extended version of OPTIMEX 8 with the ability to accommodate even more optical measurement channels. The channel count can be user defined from 8 to up to 64. With such a high number of fiber optic probes, the instrument's capabilities resemble those of a high-speed streak camera. The fiber optic probes principally provide full resistance against humidity and electromagnetic disturbances allowing the instrument to be combined with other instrumentation.

APPLICATIONS

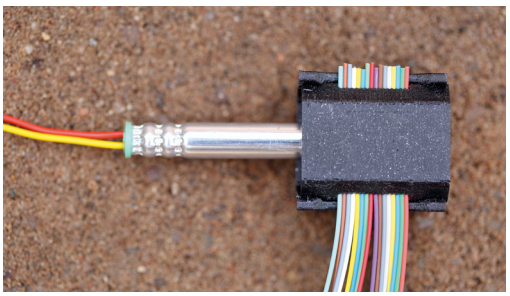
The **OPTIMEX 64** has all the application capabilities of the **OPTIMEX 8** plus many others. It can handle measurements of detonation velocity of energetic materials in advanced research, industrial, military, educational or engineering applications. The instrument records full light intensity-time profiles at specific places within an explosive charge which allows to track detonation or shock waves. Analysis of light intensity profiles makes evaluation of such signals robust and reliable for all existing samples including highly non-ideal explosives. Explosive's translucency, low light emissivity, afterburning, etc. will no longer spoil the measurement results.

Tasks for **OPTIMEX 64** may include determination of:

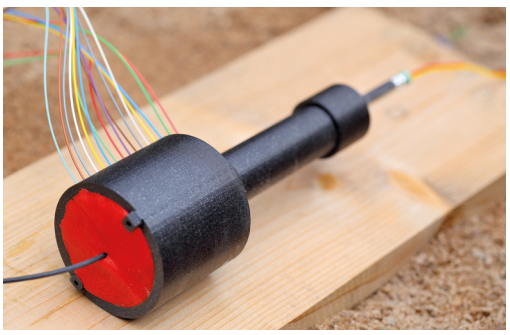
- Detonation velocity, the basic parameter of all explosives
- Detonation wave curvature, a measure of the ideality of detonation
- Shock velocities in inert materials, useful for estimating Chapman-Jouguet detonation pressure
- Shock or detonation wave tracking in complex initiation trains
- Basic cylinder expansion testing where wall velocity is a measure of explosive strength (less precise and cheaper alternative to the **VeloreX PDV**)



Simultaneous detonation velocity and shock curvature measurement



Detonation velocity measurement of a blasting cap



Preparation of a corner turning test

ADVANTAGES & FEATURES

- Up to 64 passive optical probes according to the customer's requirements
- Universal use for plastic and glass optical fiber probes
- Light intensity-time profiles recording
- Immune to stray currents and EM disturbances
- Touch screen LCD display and network connectivity
- NEW Adjustable light signal generator

COMPLIANCE

- **EN 13630-11** Explosives for Civil Uses – Detonating cords and safety fuses - Part 11: Determination of velocity of detonation of detonating cords
- **EN 13631-14** Explosives for Civil Uses – High explosives, Part 14: Determination of Velocity of Detonation
- **EN 13763-23** Explosives for Civil Uses – Detonators and relays – Part 23: Determination of the shock-wave velocity of shock tube

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