

# OPTISUB

SUBTERRANEAN FIBRE OPTIC INTRUSION DETECTION SENSOR

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**OPTISUB** is an advanced intrusion detection sensor that uses a special optical fibre buried in soft ground, such as soil, grass or gravel. It delivers an exceptional degree of protection and can be installed along the perimeter or at particular areas such as outside doors or windows, ramps, storage areas, around fuel tanks, etc.

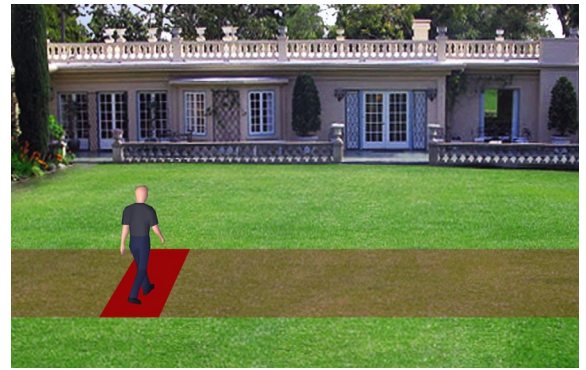
When an intruder steps on a protected area, their body weight is detected by the sensor and an alarm is signalled immediately. Small animals, e.g. cats and small dogs, do not generate alarms thanks to their smaller weight. OPTISUB is absolutely free of false alarms and is not affected by environmental conditions or the condition of the terrain or by any other factors.

The optical fibre is installed 5-10 cm under the surface of the ground, between two special protective layers. The shape and dimensions of each detection zone can be configured during deployment to match specific requirements.

OPTISUB requires no maintenance. The fact that no electronic components or electrical cables are installed underneath the ground (but only the passive optical fibre), guarantees a solution of high reliability and with a long lifecycle.

## Key points

- ▶ **Very high Probability of detection (Pd)**
- ▶ **No false or nuisance alarms** – for any reason
- ▶ **Can be installed in any soft terrain** such as grass, soil, gravel, sand, etc.
- ▶ **Can be installed along the perimeter or locally** e.g. next to doors, windows, ramps, storage areas, etc.
- ▶ **Any shape and width of each detection zone** – deployed according to requirements
- ▶ **Covert and non-detectable** by any type of detector
- ▶ **Operation completely unaffected** by weather conditions such as rain, wind, fog, snow, bright sun, etc.
- ▶ **10 sensitivity levels** set independently for each zone
- ▶ **Fibre optic technology** – immune to EMI/RFI, nearby lightning/thunder or strong electromagnetic fields
- ▶ **Built-in optical power meter** with automatic indication of optical signal faults
- ▶ **LED indications:** STATUS - ACTIVITY - OPTICAL SIGNAL FAULT (per zone), DC POWER (per device)
- ▶ **Quick installation and repair** – no costly tools or instruments required, no optical connectors, no sanding, the optical fibre is cut and inserted directly into the device
- ▶ **No need for calibration** or special adjustments
- ▶ **Designed and made in the European Union**



## Applications

- VIP residences – Embassies
- Fuel tanks – Storage areas – Industrial areas
- May also be used as safety means

## Technical characteristics

### OPU-1 PROCESSOR

**Detection zones/loops:** 1 or 2 (model OPU-1S or OPU-1D respectively)

**Optical fibre length:** Up to 200 m per loop with redundancy for at least 2 splicings

**Outputs:** 1 or 2 alarm outputs, 1 tamper output (all outputs are dry contact, NO/NC selectable)

**Power supply:** 9-24 V DC (100 mA max) with reverse polarity protection

**Surge protection:** Electronic 3-stage protection networks on power supply and all dry contacts

**Calibration:** Automatic initial calibration and automatic silent recalibration during operation

**Sensitivity selection:** 10 levels independently selected for each zone via mini rotary switch

**Ingress protection:** IP65

**Operational temperature:** -40 to +85 °C

**Physical dimensions:** 244 x 176 x 56 mm

### SENSING OPTICAL FIBRE

**Jacket material:** Polyethylene (PE)

**Minimum bending radius:** 30 mm

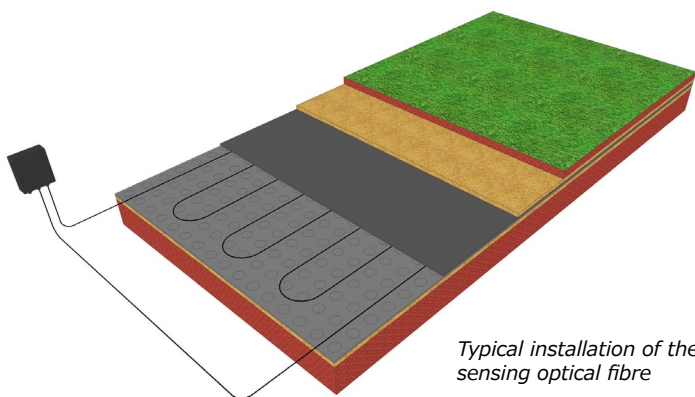
**Operational temperature:** -40 to +80 °C

### PROTECTIVE MAT

**Material:** Polyethylene (PE)

**Width:** 1.5 m, 2 m or multiples thereof

**Operational temperature:** -35 to +80 °C



*Typical installation of the sensing optical fibre*