



TORSUS 50

Intrusion detection for rigid fencing

TORSUS 50 is a perimeter intrusion detection system for rigid metal fences. It is suitable for the protection of compounds of any size, in residential, industrial, military and government sectors. It is composed of special torsion sensors and sophisticated processing boards which **detect shock, breakthrough and climb attempts** on rigid metal fences and palisades.

Immune to environmental nuisances. The functioning of the system is not affected by adverse climatic events such as rain and wind and by man-made factors nearby the fence such as roads, highways and railways.

Compatible with climbing vegetation. The system tolerates evergreen climbing plants and the presence of trees and bushes near the fence.

Maintenance free. Thanks to its heavy-duty and passive sensors, the system does not need any planned maintenance.

Flexible. The sensor-strings follow the direction of the perimeter and suit the most difficult ground conditions.

Versatile. TORSUS 50 is available in three colours (grey, green or black) and may have different sensor spacing (2 metres and 2,5 metres). The black colour version is made of polyamide and is particularly suitable for the protection of petrochemical compounds.

Easy to install. For a quick and easy installation of the system, the sensors are supplied in prewired strings and the processing boards are preassembled in polyester cabinets.

Intelligent. The system can discriminate the different intrusion techniques, including climbing attempts without producing vibrations.



The sensors

TORSUS 50 employs **passive piezodynamic sensors** which perceive the torsions and the flexions of the bearing posts during an intrusion attempt. This feature enables the system to detect shock, breakthrough and climb, including climbing the fence without producing vibrations and noise.

The technology employed inside the sensors makes the system **immune to adverse weather conditions** (wind, rain, snow and strong temperature ranges) **and man-made factors nearby the fence**, such as roads, highways and railways.

TORSUS 50 tolerates evergreen climbing plants and the presence of trees and bushes near the fence.

The sensors **are not subject to electric failure** since they do not contain active electronic components; in addition, they are not influenced by electromagnetic emissions.

The detectors are supplied in prewired strings of 50-metre standard length. One string can be composed of 20 or 25 sensors according to the post-to-post spacing of 2,5 metres and 2 metres respectively. DEA can also provide sensor-strings with customized length.

The flexibility provided by the sensor-strings **allows to suit the system to the most difficult ground conditions and to the direction of the perimeter**, to follow slopes and differences in level, avoid obstacles and bypass possible interruptions of the fence.

In case a sensor or the relevant connection cable are intentionally or accidentally damaged, the full functioning of the system can be quickly recovered by executing a simple electric junction.

The sensors can be provided in two models: one with ABS housing and the other with **polyamide housing**, the latter specially designed for petrochemical compounds. The sensor with ABS housing is also available with the connection cable protected by flexible metal sheath.



The processing boards

The signals coming from the sensor-strings are amplified and processed by the **SC-TR50-Z1** and **ST-TR50-Z4 microprocessor boards**. The former manages one sensor-string (alarm zone) while the latter manages up to 4 sensor-strings.

The processing boards **allow to adjust the sensitivity parameters and the detection algorithms individually**, so as to maximize the performance of the system in each single installation or to calibrate it according to specific needs.

If needed, DEA can customize the analysis algorithms of the processing boards to suit the functioning of the system to particular structures, such as some types of handmade palisades.

The advanced analysis algorithms of the processing boards **enable the system to discriminate the different types of intrusion**, filtering the environmental factors which might trigger improper alarms.

The calibration and the programming of the processing boards can be performed from a PC by using the relevant service software which shows **a real time graph of the signals** coming from each sensor-string and the input and output status. By this software you can also upload a configuration previously saved and view the **event logs** where all the signals from the sensor-strings are recorded in chronological order. DEA Security's engineers can analyse these events to determine the cause raising the alarm (if any).

The processing boards raise alarm, tamper and failure signals through dry relay contacts (C/NC) but can be also connected over **DEA NET centralization network or over Ethernet with IP protocol**.



The components of the system

Standard sensor-string (LN-TR50)

Sensor-string of 50-metre length composed of 20 or 25 sensors with ABS housing (in grey or green colour) or with polyamide housing in black colour.

Customized sensor-string (SN-TR50)

Sensor-string provided in a customized length (less than 50 metres) and composed of a variable number of sensors with same spacing, colours and material as the standard sensor-strings.

Processing boards (SC-TR50)

Microprocessor electronic boards which amplify and analyse the signals coming from the sensor-strings. Two models are available: a single-zone board, which manages one sensor-string, and a multi-zone board, which manages up to 4 sensor-strings.

Connection cable (CV-ST50)

Shielded cable to connect the sensor-strings to the relevant processing board. The cable is available in a PVC version (grey or green colour) to be used with the sensors having the ABS housing and a polyurethane version (black colour) to be connected to the sensors with the polyamide housing.

Wiring accessories

They comprise a 100-piece pack of tie wraps (FPM-100) to fix the cable to the fence, a small case (JTBX-ST50) for the junction and termination of the sensor-strings and a 100-gram pack of polyurethane resin (RP-100) to seal the junction and the termination cases.

For further information about TORSUS 50 system, please refer to “TORSUS 50 brochure” which can be downloaded, in a PDF format, from our website.



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