





TORSUS 50




Intrusion detection for rigid fencing



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



-  **Immune to environmental nuisances.** The functioning of the system is not affected by harsh climatic events such as rain and wind and by man-made factors nearby the fence such as roads, railways or machinery.
-  **Compatible with the vegetation.** The system tolerates the evergreen climbing plants and the presence of shrubs 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 easily adapt to the ground contour and the perimeter route.

-  **Versatile.** TORSUS 50 is available in three colours (grey, green and black) and may have different sensor spacing (2 metres and 2,5 metres depending on the post to post distance). The black colour version 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.
-  **Smart.** The system can also discriminate and detect climbing events performed without generating vibrations or noises.

THE SENSORS

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

The technology employed inside the sensor makes the system immune to **harsh weather conditions** (wind, rain, snow and strong temperature ranges), and man-made factors nearby the fence, such as roads, motorways and railways. TORSUS 50 **tolerates evergreen climbing plants** and the presence of shrubs near the fence.

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

The detectors are supplied in prewired strings of 50-metre standard length. A string can be composed of 20 or 25 sensors depending on 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 the system to adapt to the ground contour and to the perimeter route**, making it possible to follow slopes and differences in level, to avoid obstacles and bypass possible interruptions of the fence. In case a sensor or the relevant connection cable are intentionally or accidentally damaged, the 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 body 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 **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 according to specific demands. If needed, DEA can customize the detection algorithms of the processing boards to adapt the functioning of the system to particular structures, such as some types of handmade palisades.

The advanced detection algorithms of the processing boards **enable the system to discriminate the different types of intrusion events**, 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 a specific service software which displays 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-strings (LN-TR50)

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

☆ Customized sensor-strings (SN-TR50)

Sensor-strings 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 PUR cast 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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