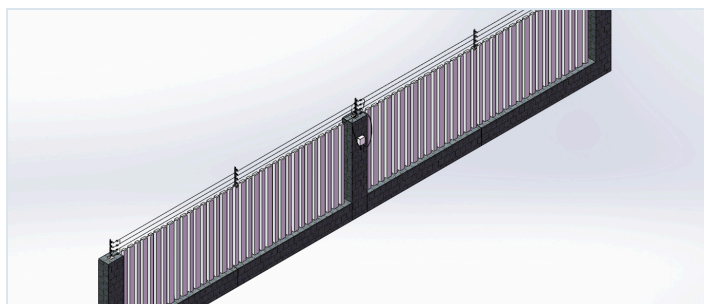
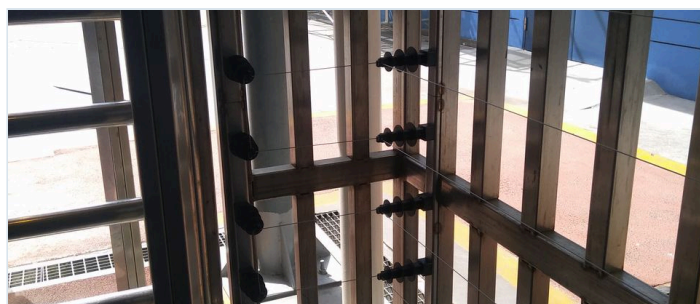


CTS-300 Electrostatic Field Detection System

Passive, non-electrified contact sensing for wall tops, fence crowns and building edges. Touch or move the sensing wires and the alarm fires instantly — differential capacitance processing keeps it reliable in fog, rain, snow, wind and ice.



Sensing wires on brackets along a wall-top fence line



Field installation: sensing wire insulators on a gate line

How It Works

Three stainless sensing wires are held on purpose-designed brackets with precise spacing along the protected edge. The CTS-300 measures and compares capacitance changes between adjacent wires and between the wires and ground. When an intruder touches or displaces a wire, the change is detected immediately.

Each CTM processor is a dual-zone unit supervising two zones of up to 150 m each (300 m per processor). By continuously comparing the signals of the two zones, the processor distinguishes environmental events that affect both zones simultaneously — storms, rain, fog — from a localized change in one zone, which is treated as an intrusion attempt. This differential technique is what keeps the false alarm rate near zero.

The system follows the terrain without requiring straight runs and mounts on existing fences, wall tops and parapets with no additional fittings. It is especially effective where intruders may use ladders or bridging to cross, and on walls where other sensor types cannot be installed.

Key Features

- Non-electrified passive sensing — no HV permits or safety controversy
- Differential dual-zone processing filters weather false alarms
- Stainless steel sensing wires, corrosion-proof
- One processor = two zones, up to 300 m coverage
- Follows terrain and corners — no straight line required
- Tamper, cut-wire and enclosure-open supervision
- Dry contacts + RS-422 (TCP/IP optional)
- 4-level surge protection on all ports
- Maintenance-free; MTTR 30 min

Typical Applications

- Airports, military bases and government facilities
- Energy plants, substations, water and power utilities
- Nuclear facilities and heritage sites
- Factories, warehouses and schools
- Custody facilities and prisons
- Residential estates and villas

Technical Specifications

Sensing principle	Passive differential capacitance (electrostatic field); stainless sensing wires
Zones / coverage	2 zones per CTM processor; up to 150 m per zone (300 m per processor)
Inputs	2 tamper/cut-wire switches; 1 enclosure-open switch; 2 zone sensing-wire interfaces
Outputs	2 zone alarm relays (NO/NC selectable) + 1 fault relay; contacts 500 mA @ 50 V
Communications	RS-422 (19.2 kbps), dry contacts; TCP/IP optional
Supply voltage	9–24 VDC (nominal 12 V); low-voltage alarm below 9.6 V
Surge protection	4-level protection circuit on all input/output ports
False alarm rate	Near zero (differential weather filtering)
Operating temperature	-40 °C to +85 °C
Humidity	Up to 95% RH, non-condensing
Enclosure	IP66; PC 200×300×150 mm; carbon/stainless steel 200×300×120 mm; aluminum 200×230×110 mm
Maintenance	Maintenance-free; MTTR 30 min; MTBF ≥ 100,000 hours

Compliance

- CE — EMC Directive 2014/30/EU (EN 61326-1:2013)
- FCC Part 15 Subpart B (ANSI C63.4:2014)
- IP66 enclosure

Third-party tested by accredited laboratory. Declarations of Conformity and full test reports available on request.