

Intelli-Field

Electrostatic Field Disturbance Sensor



Intelli-FIELD™ is a terrain-following, volumetric sensor that creates an electrostatic field between parallel field and sense wires. The resulting zone of detection is high and narrow and surrounds the wires. Typically, a four-wire system (two field wires and two sense wires) is used for a field approximately 2.5 m (8 ft.) high, 1.0 m (3.3 ft.) wide at the center and up to 150 m (500 ft.) long. The wires are mounted on free-standing posts or on a fence, adjacent to or between physical barriers. In controlled applications, the wire spacing may be altered and the wires may be mounted on walls, roofs and other structures. For higher fences, six-wire and eight-wire systems are available to extend the height of the detection field to greater than 5.0 m (16 ft.). The wires present a visible, formidable barrier to the potential intruder.

The Intelli-FIELD system is the next generation of Senstar-Stellar's proven E-Field® sensor technology and is easily retrofitted to existing Series 600, 680 and 800/5000 systems. Its digital signal processor is designed to significantly improve performance and reduce False Alarm Rate/Nuisance Alarm Rate (FAR/NAR).

An innovative electronic design allows the Intelli-FIELD system to operate in complete isolation from any electrical ground reference and when compared with previous electrostatic sensors, a much lower voltage is used to excite the field generating wires.

The electronic processor also automatically adjusts and calibrates the output signal strength to the transducer environment. This enhanced design reduces the

criticality of the electrical field components and minimizes the effects of environmental contamination of the insulators. The result is less maintenance and simpler installation.

Powerful digital algorithms analyze the signal of each sense wire individually and eliminate alarms from signals caused by birds and vegetation. The signal processor is able to recognize the signal patterns caused by the onset of heavy fog, light mist, or rain. The net effect is an advanced electrostatic field sensor that performs with virtually no nuisance alarms from most environmental causes and with increased probability of detection.

The Intelli-FIELD processor analyzes a compound signal consisting of amplitude change (mass of the intruder), rate of change (movement of the intruder) and the time the intruder is in the detection field. When these changes occur within specified limits, an intrusion alarm is activated. Intelli-FIELD will detect a mass of 35 kg (77 lbs.) moving at a speed between 5 cm (2 in.) per second to 8 m (26 ft.) per second, with a probability of detection greater than 99%.

A simple hand-held Configuration Module enables the user to easily set the parameters for each zone of the single/dual zone processor and monitor alarms locally. Optionally, with a multiplexed adapter, parameters can also be adjusted and maintenance diagnostics analyzed from centralized monitoring and control systems.

Narrow-pattern, terrain-following volumetric field sensor

Ideal for free-standing, fence-mounted, roof and wall applications

Adaptive sensing algorithms virtually eliminate nuisance alarms

Intelligent digital signal processing

Backward compatible with all existing E-Field installations

Simple set-up with hand-held Configuration Module

Communications Protocol supports remote adjustment of all operating parameters

Automatic adjustment algorithms eliminate manual maintenance calibrations



SPECIFICATIONS

Standalone Dual Zone Processor

(With relay outputs)

- Digital Signal Processor on a baseplate in a steel IP66/NEMA 4 enclosure
- Two inputs for remote test and four relay outputs for alarm, fail and tamper
- Two system status relays for enclosure open and DC power low
- Local adjustment of operating parameters using a hand-held Configuration Module

Input Power Requirements

- 20 to 56 VDC
- Auxiliary Power Output Available
12 VDC @ 150 mA

Optional Input Power

- 12 VDC

Alarm, Supervision and Power Failure Relays

- Form C, 0.5A maximum, 30 VAC/DC maximum non-inductive load
- One alarm relay and one supervision relay supplied for each zone
- One power failure relay supplied for each processor

Network Dual Zone Processor

(For copper or fiber data network)

- Optional Copper twisted pair network interface with support for Senstar-Stellar StarNeT™ 1000 protocol
- Optional fiber optic network interface with support for Senstar-Stellar StarNeT 1000 protocol
- Four auxiliary device inputs with six relay outputs for remote device control
- Alarm output information (including auxiliaries) via data network to Central Controller
- Remote adjustment of individual processor operating parameters from the Central Controller over the communications network

- Local adjustment of operating parameters using a hand-held Configuration Module

Lightning Arrestor

- Transorbs and gas discharge devices on all relay outputs, copper communication lines and power supply input

Tamper Switch

- Integral "Hall Effect" magnetic field switch for enclosure open circuit
- Additional mechanical switch input available

Supervision

- Monitoring of generator and sense wires to detect opens, shorts and grounding
- Detection of excessive loading of field generators
- Monitoring of the signal coupling between the generator and sense wires to detect requirements for site maintenance

Environment

Operating temperature

- -40°C to +70°C (-40°F to +158°F) ambient
- Relative Humidity to 95% non-condensing

Standard Enclosure

- Weatherproof steel IP66/NEMA 4 - 35 H x 30 W x 15 cm D (14 H x 12 W x 6 in. D)

Preconditioning and Testing

- Each processor is burned in at a temperature of 70°C (+158°F)
- Each control unit is functionally tested for operation at -40°C, +25°C, +70°C (-40°F, +77°F, +158°F)

Standard Accessories

- Standard terminator
- Sense filter (Isolation transformer)
- Solid stainless steel #305 Tefzel coated generator and sense wires
- All-weather support insulators

Configuration Module

- Hand-held panel with tactile switches and LED display
- Interconnecting cable with 8-pin modular snap-in connectors
- Operating temperature: -30°C (-22°F) to +40°C (+104°F)

Options

- High Reliability Processor with full factory test documentation
- Stainless steel enclosure, IP66/NEMA 4X
- High performance support insulators

Upgrades to Previous E-Field Systems

- Intelli-FIELD processor is backward compatible to earlier E-Field processors
- Intelli-FIELD processor improves existing E-Field system performance and lowers nuisance alarms
- Existing E-Field systems can be upgraded to a network architecture
- Upgrade kits available

** Specifications subject to change without prior notice.*

INTERNATIONAL
Senstar-Stellar Corp.
119 John Cavanaugh Drive
Carp, ON KOA 1L0
Canada
Tel: (613) 839-5572
Fax: (613) 839-5830
info@senstarstellar.com

UNITED STATES
Senstar-Stellar Inc.
43184 Osgood Road
Fremont, CA 94539
Tel: (510) 440-1000
Fax: (510) 440-8686
1-800-676-3300 • West Coast (HQ)
usinfo@senstarstellar.com

UNITED KINGDOM
Senstar-Stellar Limited
Orchard House
Evesham Road
Broadway
Worcs., U.K. WR12 7HU
Tel: (1386) 834433
Fax: (1386) 834477
senstaruk@senstarstellar.com

LATIN AMERICA
Senstar-Stellar Latin America,
Pradera No.214
Col. Pradera
Cuernavaca, Morelos
62170, Mexico
Tel: 011 52 (73) 130 288
Fax: 011 52 (73) 170 364
sstarlat@infosel.net.mx

EUROPE
Senstar GmbH
Riedheimer Str. 8
88677 Markdorf Germany
Tel: 011 49 7544-95910
Fax: 011 49 7544-959129
info@senstar.de



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represented by dealers
in over 76 countries.
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www.senstarstellar.com