



### LOW-COST PROTECTION FOR BUILDING INTERIORS

The E3i™ is an intrusion detection sensor for the protection of building interiors. It adapts Senstar-Stellar's proven strain-sensitive microphonic cable technology to the specialized requirements of indoor security applications.

The E3i combines Senstar-Stellar's patented triboelectric cable sensor with a compact signal processor specifically designed to function with the wide range of surfaces and materials encountered when protecting structures such as walls, ceilings, roofs, stock cages, floors, and pipes. The E3i provides cost effective protection for warehouses, bank vaults, ammunition bunkers, weapons storage facilities and a variety of commercial and industrial establishments.

The E3i is easily integrated into any existing alarm system. The penetration and supervision alarm outputs are dry relay contacts. The E3i is intended for use in an unmanned internal security situation where an alarm can be used to deter most intruders as well as alert police or security forces.

Because the E3i sensing element is a low-profile simple coaxial cable, it is easily mounted on, or in, walls, ceilings, roofs and false floors. The sensor cable is attached directly to these surfaces. Sensor cable damage can be quickly repaired with inexpensive splice kits without the need to replace the cable. Use of a splice kit to repair the cable or replace a section will not affect the sensitivity of the sensor cable, which is uniform along its entire length.

The E3i signal processor can monitor up to 610 m (2,000 ft.) of sensor cable with a consistent probability of detection thus permitting a large area, up to 1115 sq. m (12,000 sq. ft.) to be protected by a single E3i sensor. Because the E3i sensor cable is microphonic, the E3i signal processor also provides a "listen-in" capability for alarm assessment.

The E3i sensor cable is fully supervised against cutting and shorting. It carries a minute supervision current of five micro amps and, therefore, is intrinsically safe and can be used in hazardous environments. The alarm output relays (Form A or Form B selectable) are fail-safe, and the signal processor is supervised for tampering.

Detects shock, impact and sustained attack

Used on walls, roofs, ceilings, stock cages, floors and pipes

Microphonic / Strain-Sensitive Technology

Selectable frequency response

Up to 1115 sq. m (12,000 sq. ft) coverage per zone

Built-in calibration indicator

Simple installer adjustments

Low power consumption

Built-in audio "listen-in" capability

# E3i Interior Security Microphonic Cable Sensor

Power and relay activation is annunciated by LEDs on the processor board. Once the sensor has been calibrated, the LEDs can be disabled for power conservation. Circuitry is protected from reverse polarity, transient and surge voltages. Since the alarm signal is generated by changes internal to the E3i sensor cable, the system has a high resistance to external electronic noise and interference.

## OPERATION

The E3i signal processor monitors and analyzes either of two selectable frequency bands, and produces an alarm when the signals, generated by the E3i sensor cable, exceed the threshold for the selected band. This enables the E3i signal processor to respond to the natural characteristics of the materials and the structure to which the cable is attached and to the nature of the intrusion: cutting, smashing, crushing, sawing, etc.

In addition to selecting the proper frequency response, the user can select the number of impacts required before an alarm is generated; the length of time during which those impacts must occur; and the minimum duration of a sustained attack required to generate an alarm. Total sensor sensitivity is adjustable to any of ten discrete levels. Since all materials have different responses to an intrusion attempt, the E3i can be calibrated to provide optimum performance for each application. These calibration features have been designed to ensure a simple and quick installation, and reliable, trouble-free operation.

## SPECIFICATIONS

### Solid State Circuitry

#### Maximum Length of Sensor Cable

- 610 m (2000 ft.)

### Operating Power Requirements

- 10.5 to 15.0 VDC, maximum ripple 2%
- 90 mA- with displays disabled
- 250 mA - with displays enabled

### Intrusion (K1) and Supervision (K2)

#### Alarm Relay Contacts

- Form A or B selectable, 28 V, 0.5 A

### Tamper Switch

- (SW1) - 1 pole 2-position

### Connectors

- Phoenix type, 8-pin

### Controls

- SW3 - Frequency band selector switch
- SS1 - Calibrated sensitivity selector; 10 steps
- JP4 - Count (impact) selector: 9 steps
- JP3 - Elapsed time (sustained attack) selector: 9 steps
- JP5 - Count (impact) time window selector; 5 steps
- SW4-1 - LED displays enable/disable
- SW4-2 - Local terminator for processor testing
- JP1- Supervision alarm relay contacts - Form A or B selectable
- JP2 - Intrusion alarm relay contacts - Form A or B selectable

### Indicators

- LD11 - Power on LED (green)
- LD12 - Supervision alarm LED (red)
- LD13 - Intrusion alarm LED (red)
- LD1-LD10 - Signal level LED display - 10 segment (red)

### Inputs

- J1-1 - E-Flex sensor cable-shield
- J1-2 - E-Flex sensor cable

- J2-1 - Ground
- J2-5 - +12VDC

### Outputs

- Intrusion alarm - J2-2 and J2-3
- Supervision alarm - J2-6 and J2-7
- Audio "listen-in"
- Sonalert

### Environment

- Operating Temperature: 10°C to +60°C (+14°F to +140°F) ambient
- Storage Temperature: -50°C to +70°C (-60°F to 158°F) ambient
- Relative Humidity to 95% non-condensing

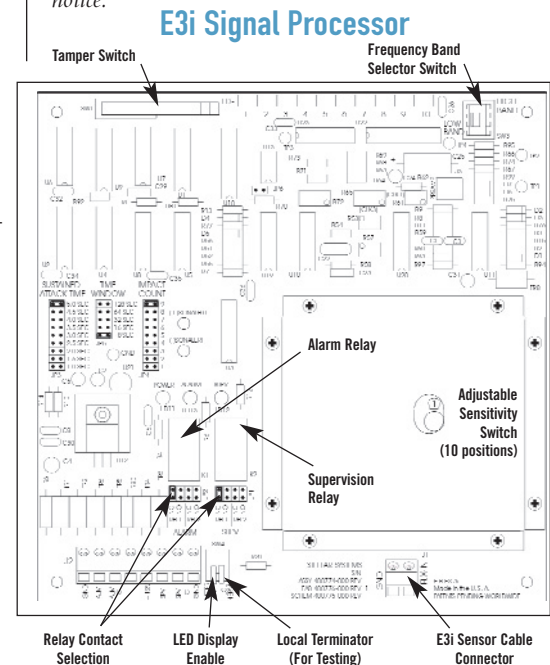
### Enclosure

- Steel Enclosure (24.1 cm H x 21.6 cm W x 3.8 cm D) (9.5 in.H x 8.5 in.W x 1.5 in.D)

### Components

- E3i sensor cable, 300 m (1000 ft.) per roll (not plenum rated)
- SK-8 Cable Splice and Terminator Kit

\* Specifications subject to change without prior notice.



ISO 9001:2000  
CGSB Registered  
Certificate 95711

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