



Asset Protection System

A Product of Integrated Security Corporation

PRODUCT INFORMATION

Hydra Sensor



Description: Dual sensing, intelligent battery powered nodes, connected via wireless mesh to other sensors and gateway.

Sensing technologies:

- Human Detection Sensor: Passive Infrared Sensor
 - Typical range: 12 feet deep, 30 feet wide
 - Viewing Angle: 360 x 160 degrees
 - Configurable shock detection – 5 to 100% Sensitivity
 - Independent or Dual Mode
- Shock Sensor: Low Power Accelerometer
 - 3 axis
 - Configurable shock detection – 10 to 100% Sensitivity
 - Independent or Dual Mode

Communication:

- 2.4 GHz low power mesh radio
- Range: Up to 200 feet with internal chip antenna, 1,000 feet with external antenna.

Battery:

- 3.6 V Primary Lithium-Thionyl Chloride

Valid Alarm Detection Modes:

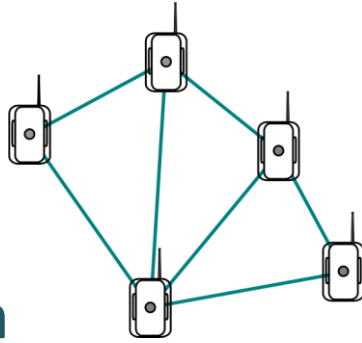
- Motion detection followed by shock detection
- Shock detection followed by motion detection
- Motion or shock only for independent sensing modes

Case:

- The enclosure is constructed for indoor and outdoor use while providing a degree of protection against falling debris, and ingress of water dripping or splashing (O-ring provided)
- Material and Color: ASA Plastic, Black
- Physical Dimensions: 5.48" (H) x 3.76" (W) x 1.28" (D)
- Mounting: 2 slots for fence mounting, wall base with (4) additional 0.145" dia. holes

Operating Temperature Range: -25 to 85 degrees Celsius

Hydra Mesh



The Hydra Sensor Mesh network consists of a self-forming multi-hop, mesh of nodes which collect and relay data, and a network manager incorporated in the Hydra Gateway Board that monitors and manages network performance and security.

Dynamic Network Optimization

The Hydra Mesh network always has a picture of the RF environment around the entire network with automatic site surveys – each mote tracks relevant performance statistics and periodically sends these statistics to the manager in packets called health reports. The network manager uses this data to proactively optimize network performance to:

- Maintain redundant pathways between motes in changing RF conditions
- Lower system latency by adjusting the routing between motes
- Reduce traffic retries by optimizing for paths with better RF performance
- Reduce overall power consumption

The Hydra Mesh incorporates and delivers:

- Time Synchronized Network-Wide Scheduling
- Per Transmission Frequency Hopping
- Redundant Spatially Diverse Topologies
- Network-Wide Reliability and Power Optimization
- NIST Certified Security
- >99.999% Network Reliability Achieved in the Most Challenging RF Environments
- 65 μ A Routing Nodes

Secure Mesh with 128-Bit Encryption

Hydra Mesh networks are among the most secure mesh networks available. All traffic in a Hydra Mesh network is protected by end-to-end encryption, message integrity checking and device authentication. Additionally, the Hydra Mesh network manager includes applications that enable secure joining of the network, key establishment and key exchange.

Hydra Gateway Board



Description:

This board contains the Hydra Mesh Network manager radio card capable of controlling up to 100 Hydra sensors and provides network interfaces to the Hydra Relay Module and Embedded Web Page.

Features:

- Embedded Web Page for Network Performance, Setup, and Testing
- 100 Node Manager Mesh Radio Card with MMCX antenna connector for external Omni Antenna
- 4 Port Ethernet Switch with two 10/100 Base TX (copper links) standard
- 2 Optional 10/100 Base FX links (on-board single or multimode fiber transceivers)
- Modbus TCP Protocol
- Power Over Ethernet
- 12 / 24 VDC Operation
- Physical:
 - Dimensions: 4.75"(H) x 9.13" (W) x 1.75" (D)
 - Black DIN Mounted PCB Carrier

Hydra Relay Module Board



Description:

This relay module provides 16 SPDT Form C Relays and either features an Ethernet 10/100 Base TX or a RS-485 interface for expanding up to 247 Modules.

Features:

- Ethernet Connectivity
- Modbus TCP Protocol
- 9 – 30 VDC Power Input / Terminal Block or DC Jack
- Status Indicator LED's for Communication, Fault, and Status
- Field Removable Terminal Blocks
- Physical:
 - Dimensions: 1.3" (H) x 5.1" (W) x 7.5"(D)
 - Rugged metal Enclosure
 - DIN or panel mount

HS20 / HS20E

Hydra Sensor, 20 Foot Motion Coverage



General Description

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Sensing Technologies

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Product Features

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Battery:

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- Shock detection followed by motion detection
- Motion or shock only for independent sensing modes

Sensor Housing:

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Why is Hydra Different?

Traditionally, the cost of high performance perimeter systems was limited to large or high-risk locations. Now, Hydra delivers this level of protection - and more - to any customers needing to protect their assets and property. Because of its significantly reduced component costs, our patented Hydra offers low-cost installation for smaller sites while delivering a near zero false alarm rate. For the very first time, mainstream security customers have access to highly reliable and affordable perimeter and outdoor asset protection System from Integrated Security Corporation.