The BD300 has embedded measurement firmware in its design. This firmware utilizes a specific application to detect and cross-examine results of scanned subjects in order to effectively alert the operator of possible threats.

The sensors within the system’s configuration consist of a series of passive, ultra-precision magnetic measurement features with enhanced capabilities and analytical technologies. The BD300 Suicide Bomb Detector is a real-time, self-contained, long-range, sensitive ferrous and ferromagnetic technology, able to detect and measures disturbances in electromagnetic fields. These detections are converted into ‘threat attributes’ that can be analyzed by intensity levels, such as the intensity of the disturbance caused by the object(s) which trigger the system to react provided the subject is within range of the system’s sensors.

The system utilizes low-power, fluxgate magnetometer technology in conjunction with HSS’ proprietary embedded system processing algorithm to detect effects in the magnetic field at sub-pico-Tesla (pT) levels.

This degree of sensitivity is capable of long range standoff detection of threat items (e.g., personnel with ferrous metal up to 50 meters).

The sensors have been developed to monitor and alert to the movement of ferrous and ferromagnetic materials within the sensor’s detection range. In general, Fluxgate magnetometers respond to changes in the Earth’s magnetic field. This sensor is designed to detect minute changes in the Earth’s magnetic field as ferrous or ferromagnetic metals pass within range of the flux gates.

During the sensor’s power-on algorithms, the sensing elements measure ambient fields for a period of time to establish a baseline. The unit then goes into detection mode, looking for changes in the ambient magnetic field. This process is repeated, allowing a self-normalization result to occur.

The fluxgate circuitry is designed to oscillate at a frequency that is proportional to the ambient magnetic field. This oscillation is pulse shaped and subsequently fed into the sensor’s intelligent microcontroller unit (MCU). The MCU processes the oscillation over a given sample time and the results are passed into a buffer for use by the sensor’s processing block.

In the processing block, the input data is filtered in various ways to detect disturbances. When a disturbance meets the detection criteria, a message, or alarm, is sent out.

**Deployment sensor spacing from 2m to 7m**
- Deployment at -0.5M to +1.5M above ground
- Dependent on types and minimum threat size

**Assessment Capabilities**
- Magnetic moment – orientation of object
- Magnetic moment – mass/magnitude of object
- Position of object – Single axis
- Position of object – Dual axes
- Elimination of False Alarms
- Vector/Speed of object

**Output Overlaid on Real-time Video**

* Subject to local laws and regulations

Note: All Specifications are subject to change without notice.
BD300
Suicide Bomb Detector
Data Sheet (replaced by RDS400)

(Note: There is no technology that will detect C4, TNT and chemicals from a distance, but the BD300 can provide a logical response to in-range detection of shrapnel on C4, TNT, and other chemical bombs that employ destructive metals to maximize the explosive).

US Department of Defense recommendations for detection of C4, TNT and chemicals *by itself* is:
1. Use a dog
2. Use the chemical sampling / swabbing process (found in airports in the US for example).

EFS Technology
- Electric Field Sensing or EFS is a sensor-based technology that operates on the premise that an electric field can be perturbed by the existence of a nearby object, provided it is at least slightly conductive. The BD300 Detector is enhanced with a micro-electronic based application that can detect the presence of both moving and stationary objects through solid materials.

- Its ability to operate through any non-conductive material permits complete invisibility. The sensor functions by detecting small changes in an ultra-low-power electromagnetic field generated between two remotely located antenna electrodes.

- Its range is adjustable from a few centimeters [inches] to 4 m [over 12 feet]. Electric field proximity detectors can detect partially conducting or less-conducting objects (Blasting Caps/ Detonator/ Copper/ Aluminum / Brass) and detection does not depend on impedance to ground.

Conducting or less-conductive materials mean materials like Aluminum, Silver, brass, copper material which are not highly electromagnetic and stimulating to the magnetic field of the earth but, highly detectable using this method.

The BD300 using E Field will work to detect C4 & TNT and other chemicals with Detonator and triggering devices. Otherwise, please note, it will not detect chemicals or explosives alone.

The e-field and RF detection addition to the BD300 Suicide Bomb Detector has also provided a better solution in identifying the small magnets that are present in some cell phones (and cases) that are present and have NO threatening attachments; this helps to eliminate most / all false positives that might occur during scanning.

* Subject to local laws and regulations

+001 914.304.4333 (tel) +001.914.368.9729 (Fax) info@secintel.com (email) www.secintel.com (web)

Disclaimer: All Jamming devices in part or whole may be regulated by the US Department of State in accordance with the guidelines of ITAR (International Traffic in Arms) title 22, Code of Federal Regulations (CFR), Parts 120-130. An export license may be required before proceeding. RF Jamming in some countries is regulated. In the United States, RF Jamming is prohibited by the FCC. Using an RF Jammer without FCC permission is a violation. Some Federal Agencies and US Armed Forces may be exempt.
In addition to the threats that the BDS300 Suicide Bomb Detector is able detect, HSS integrates an ECM Signal Jamming technology as a reactionary precaution option. Should a criminal or terrorist plan on carrying out a terror-attack, and the threat of a handler is present, the vulnerability may exist that the handler will detonate the explosive vest or belt by remote control.

For that reason, an RF Jamming capability is able to be activated by the operator should the situation require active blocking of radio trigger frequencies.

Not only can the BD300 detect instances of threats at a high speed rate, but the system automatically engages countermeasures to mitigate the threat, and give the authorities a chance to engage the subject without incident.

**BD300 Operational Procedures**

The BD300 carry out the following procedures upon detection of threats of subjects during screening by building entrances via the Graphic User Interface operation:

1. A live video image of subjects in the screening area
2. An alarm video image
3. 6 previous alarm images (viewable below on the right side of the GUI screen)
4. Upon detection, the system automatically sends a command to engage integrated RF Jamming technology at the location (viewable below - red square in the middle is showing the location of the alert).

* Subject to local laws and regulations

---

**Shown here:**
The RDS400 - replacement for the BD300 Suicide Bomb Detector

---

+001 914.304.4333 (tel)  +001.914.368.9729 (Fax) info@secintel.com (email)  www.secintel.com (web)

Disclaimer: All Jamming devices in part or whole may be regulated by the US Department of State in accordance with the guidelines of ITAR (International Traffic in Arms) title 22, Code of Federal Regulations (CFR), Parts 120-130. An export license may be required before proceeding. RF Jamming in some countries is regulated. In the United States, RF Jamming is prohibited by the FCC. Using an RF Jammer without FCC permission is a violation. Some Federal Agencies and US Armed Forces may be exempt.
BD300
Suicide Bomb Detector
Data Sheet (replaced by RDS400)

Example Application layout BD300 Detector

Security Operator

Camera

Building

People walking to enter this building.
Last security check (entry point)

Walkway (sensor spacing)

MAX DIST
1-10 meters
1.5m 2 sensor
3.65m 3 sensor
10m 9 sensor

BD300 Covert Position

* Subject to local laws and regulations

Note: All Specifications are subject to change without notice.