

TERAHERTZ SECURITY BODY SCANNER

Stand-off Imaging System for Security Screening

Detection of hidden objects under clothes (weapons, drugs, explosives)

With the rising level of violence and terrorism all over the world TeraSense is now receiving many inquiries for security screening systems, similar to those used at the airports, but based on terahertz (THz) imaging technology. Terahertz waves are absolutely harmless to humans, and have no ionizing radiation unlike X-ray machines. These properties of terahertz and sub-terahertz spectral ranges makes T-ray based screening solutions valuable for applications where human health and safety are of utmost importance.

The TeraSense team has taken on these challenges seriously and is now ready to offer our own active terahertz-based stand-off security screening system ('body scanner').



Dummy explosive belt



Hidden hand-gun

SYSTEM PARAMETERS

Working distance	3 - 6 m
Imaging area	70 x 70 cm (at 3 m) 120 x 120 cm (at 6 m)
Resolution	3 cm (at 3 m) 6 cm (at 6 m)
Operating frequency	100 GHz

THz sensor array	3 x 3 mm, 32 x 32 px
Number of sources	6
Frame rate	Live stream

The Terasense Body Scanner system operates in reflection mode at a distance up to 6 m away from the target (human body).

Its effective field of view covers an area of approximately 70 x 70 cm at distance 3 m and 120 x 120 cm at 6 m.



Application

Terasense body scanner is intended for stand-off detection of weapons, including cold steel and fire arms, bombs and grenades, explosive belts and various contraband items hidden under clothes.







This new Terasense product opens the doors to many application areas with high throughput rates, such as:

- Airports checkpoints
- Train stations and subways
- Secure areas
- Public places
- VIP locations
- High-profile events
- Customs checkpoints
- Border-crossings
- Industrial facility

...and many other fields with high throughput rates, where lives can be jeopardized, or where there is a risk of smuggling prohibited objects.

Competitive advantages

-  **Covert and overt surveillance**
If mounted inside a proper enclosure, our Body Scanner allows the operator to stealth-screen people without their knowledge. This can ensure effective detection of various person-borne threats with no disturbance to individuals. When installed in public places, major events, and high profile venues, it allows the operator to effectively counter urban violence and prevent street crimes by discovering hidden knives, brass knuckles and hand guns. Such enclosed body scanners can be installed at the entrances to buildings, secure areas, and other places with high throughput capacities.
-  **Stand-off imaging**
The effective imaging range (imaging distance) of up to 3m ensures remote detection of suspicious objects hidden under clothes. The mere presence of such hidden items may help law enforcement and security personnel to mark the suspect person and isolate him/her for subsequent physical inspection (body search) by police / security / customs officers – depending on the scene.
-  **Compact solution / easy deployment**
With an overall size of 1 x 1m our Stand-off Security Imaging System module can be easily and quickly deployed in any security area environment. Depending on the specific task, our Body Scanner can be set to screen of any part of the human body, be it the front, rear or sides of a person.
-  **Low cost**
Considering that the cost of the overall screening system (Body Scanner) is one of the primary concerns for many customers and system integrators, we have achieved considerable savings compared to other screening solutions available on the market.