SensorTech is dedicated to establishing itse
lf as the global leader in CBRNE Defense.

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Technology Development

SENSOR TECHNOLOGY

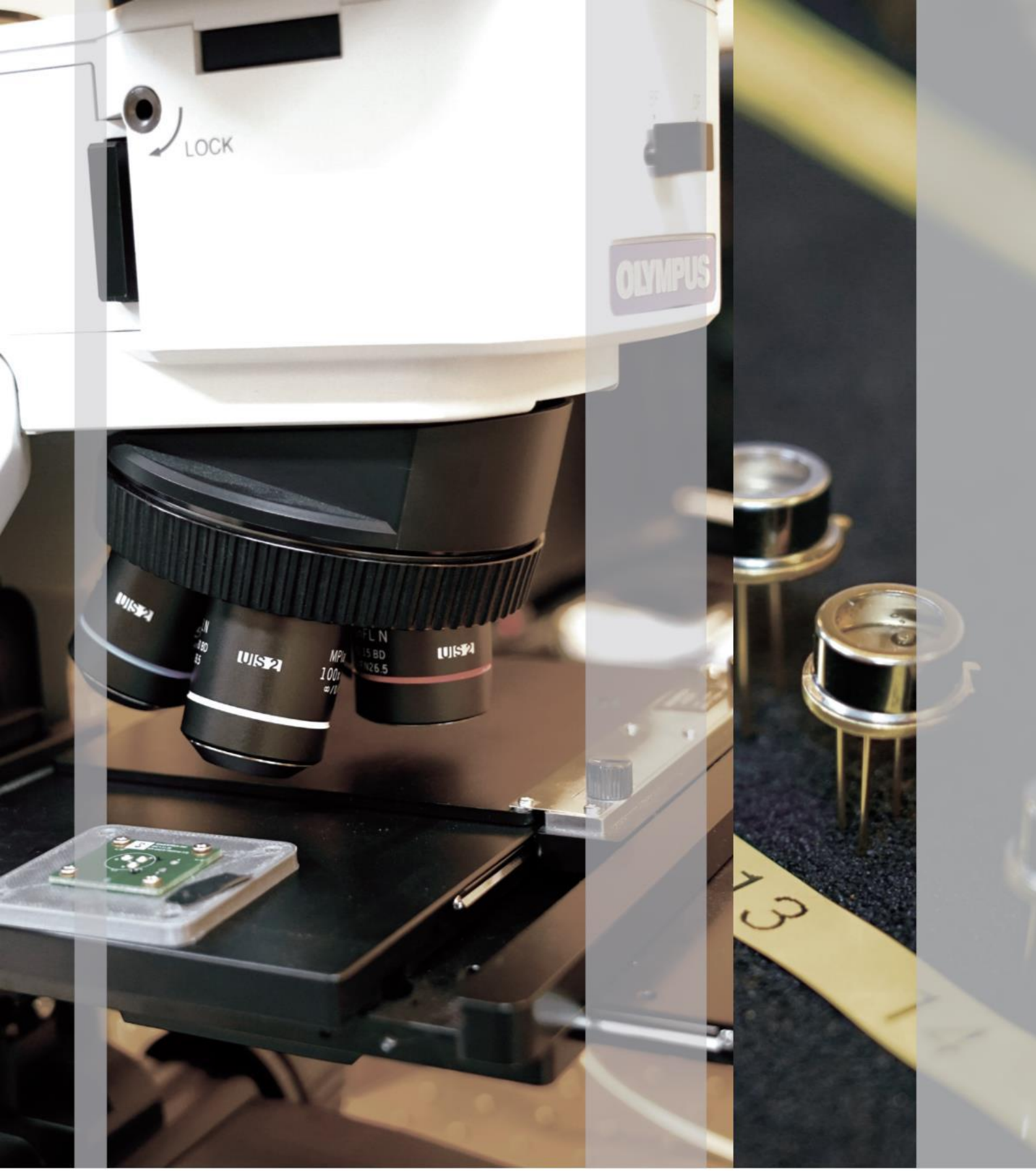
New Businesses through Technology Development
Value Creation through Knowledge Management
Customer Satisfaction through Trust

Pushing Beyond Dreams and Reality:

At SensorTech, we redefine the defense industry's horizons through relentless innovation and technological advancement, crafting a novel vision for the future of human life.

Our approach is rooted in warm, humane technology, forged from the genuine efforts of our dedicated team.

With cutting-edge technology, we transcend the boundaries of imagination and reality, paving the way for a new era.

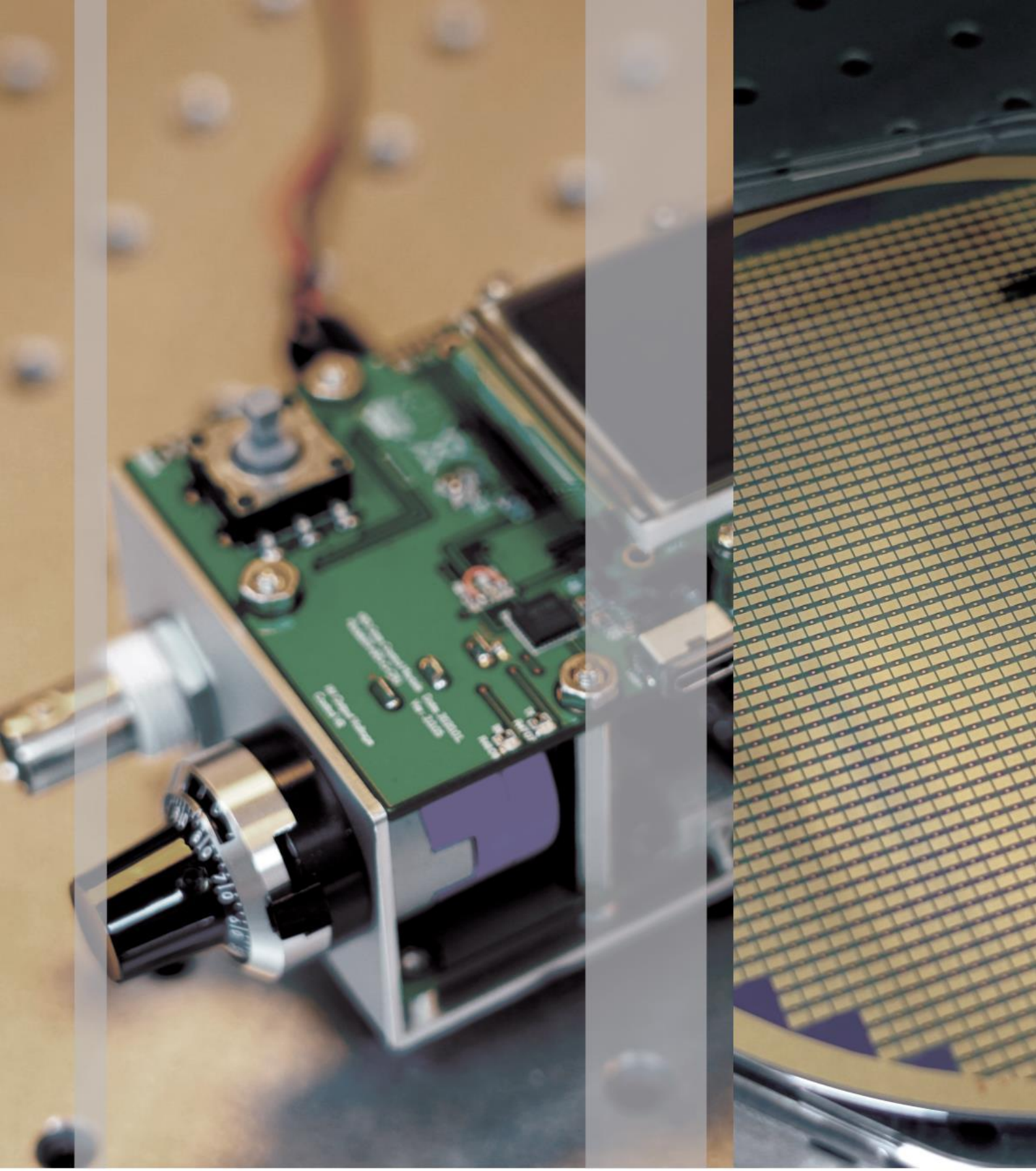


Knowledge Management

SENSOR TECHNOLOGY

Minimizing Risk, Maximizing Value:

At SensorTech, we prioritize mitigating the inherent risks of high-tech industries with a steadfast focus on quality, safety, and environmental management. Our commitment to enhancing customer value is a collective endeavor, actively involving everyone from the CEO to executives, employees, and partners. Leveraged by our unique knowledge management system, we are dedicated to the relentless pursuit of peak quality and unparalleled customer satisfaction.



Trust Management

SENSOR TECHNOLOGY

Crafting Excellence Across Sectors:

SensorTech carves a distinct niche across various domains — from defense to the private sector and R&D — through our precision manufacturing and state-of-the-art technology, where there's no room for error.

Our foundation in sustainable growth is laid by advanced technology and an extraordinary passion for innovation. As we create future value in cutting-edge industries, our goal is to work tirelessly towards becoming a globally recognized name synonymous with inspiration, trust, and the aspirations of the world.

SENSORTECH

CBRNE DEFENSE

SensorTech has supplied the South Korean army with chemical agent sensors for military safety.

Since its inception in 2000, SensorTech Inc. has evolved into a leading research-driven enterprise within the detection equipment and defense sectors. We allocate over 10% of our annual revenue to research and development, underlining our commitment to technological progress.

Throughout the years, our dedication has led to the creation of sophisticated analytical instruments, warfare chemical analyzers, and a diverse array of electronic, mechanical, and chemical sensors. Our focus remains on the commercialization of these innovations, contributing significantly to our recognition as an Atomic Energy Research Institute and a promising SME in Gyeonggi Province. Our achievements include the prestigious "Inno-biz" label, the Korean government's KT mark for New Technology, and ISO certification.

We continue to grow our domestic and global footprint by engaging in specialized joint research with domestic firms and academia, supplemented by insights from technical experts. Our pledge to deliver outstanding customer service remains unwavering.

Looking ahead, SensorTech is poised to broaden its ventures in defense, civilian markets, and R&D sectors. As a trailblazer in detection and analysis equipment and sensors, our vision is clear: to ascend as a premier industry leader.

Sungsuk Ko
CEO of SensorTech Inc.

HISTORY OF SensorTech

SensorTech is fully dedicated to becoming a global leader in the field of chemical agent and toxic gas detection systems for the 21st century.

2000–2008

2008
- Certified as a specialized company for parts & materials (Ministry of Commerce, Industry and Energy)

2007
- Purchase-conditioned Technology Development Project (Small and Medium Business Administration)
- Nominated for “Development of Continuous Sample Supply Device for Chemical Agent Automatic Analysis”

2005
- Transparent Management Certification (Technology Credit Guarantee Fund)
- Clean Workplace Recognition

2003
- Nominated as a Promising Small and Medium Enterprise (Gyeonggi Province)
- New Technology Certification (plasma chromatography, Ministry of Science and Technology)
- Nomniated as an Excellent Technology Company (Technology Credit Guarantee Fund)

2002
- Nominated as a Promising Small and Medium Enterprise (Korea Atomic Energy Research Institute)
- Approved as a Corporate Research Institute (Korea Industrial Technology Association)

2000
- Company Foundation (Seongnam-si, Gyeonggi-do)

2008–2012

2012
- Army Logistics Command Parts Localization Technology Development Project Agreement

2011
- Participation in the Defense Chemical and Biological Detection Specialized Research Center (Sungkyunkwan University)
- Selected as a Company for Military Service by Industrial Technical Personnel

2010
- Research and Development Certificate (Specimen collection kit for chemical agent, Defense Agency for Technology and Quality)
- Business Agreement with Army Logistics Command for Parts Development (sample suction membrane, sample dura)

2009
- Defense Industry Cluster Agreement (Daejeon City, LIG Nexone and 7 other companies)

2017-2020

2020
- Selected for "Development of GaN-based Epiwafer and Optical Sensor for Detection"
- Ministry of SMEs and Startups Industry-Academy-Research Collaboration Project "360nm optical signal"

2019
- Selected for "Development of Ultraviolet Sensor for Biological Particle Detection Device"
- Startups Innovative Enterprise Technology Development Project (Ministry of SMEs)

2018
- Designated as a Company Designated for Military Service by Professional Research Personnel

2017
- New Construction of Daejeon Office Building and Relocation of Headquarters (Juk-dong, Yuseong-gu, Daejeon)

2013-2016

2016
- ISO 9001 Certification (development and manufacture of gad detector and chemical, biological and radiological equipment)

2014
- Research and Development Certificate (pedestal, Army Logistics Command)
- Civil-military Technology Development Project (attachable sensor for detecting chemical terrorism gas)

2013
- Research and Development Certificate (diaphragm and actuator valve, Army Logistics Command)
- Research and Development Certificate (suction membrane, Army Logistics Command)
- Plaque of Appreciation (Commander of the Army Logistics Command)

2021-2023

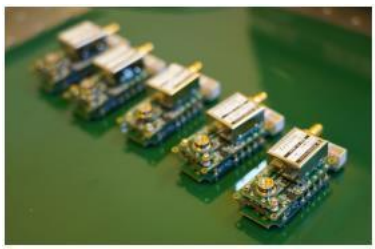
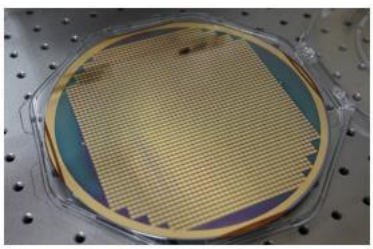
2023
- Selected for "GaN-Based High-Sensitivity Array APD Optical Sensor Technology" (Ministry of SMEs and Startups)
- Completed the Development of Fixed Installation Chemical Agent Detection Equipment
- Completed the Development of Arc Detector Utilizing Wide Band Gap Material
- Certified as a Venture Business (Registration No. 20230308020039)

2022
- Selected for "Developing a Compact Hydrogen Gas Sensor Module Using Nanopattern Technology" (Ministry of SMEs and Startup)
- Selected for "Disaster Risk Detection and Monitoring Technology Development" (Ministry of Public Administration and Security)
- Certified as a Technologically Innovative Small and Medium-Sized Enterprise (SME) (Certification No. R3051-0507)"
- Certified as a Management Innovation-Type SME (Certification No. 220501-03209)

2021
- Selected for "Development of ultra-high performance harmful gas sensor using secondary sputtering" (Ministry of SMEs and Startup)

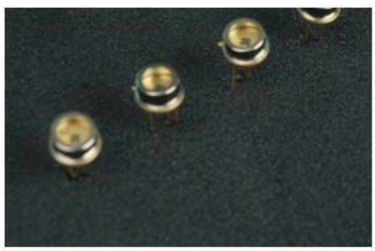
DEFENSE

Portable Chemical Agent Detector Kit
Specimen collection kit (for chemical agents)
Stand, diaphragm, sample suction membrane

NANO

Residual Antibiotic Analysis Equipment (LIFM)
Nano-particles



SENSOR

Attachable Sensor
Attachment Sensor for Toxic Gas Detection
Ion mobility Sensor
Ultraviolet Sensor

TECH

Electron Capture Detector (ECD))
300 amu RGA
RF POWER
Nuclear Power Plant Cooling Water Analysis Equipment

A+ Certification

ISO 9001

Innovative Business (Inno-biz) Certificate

Certificate for Corporate Research Institute

ROK Army Logistics Command Appreciation Plaque

Military R&D Certificate - Sample Dura Mater

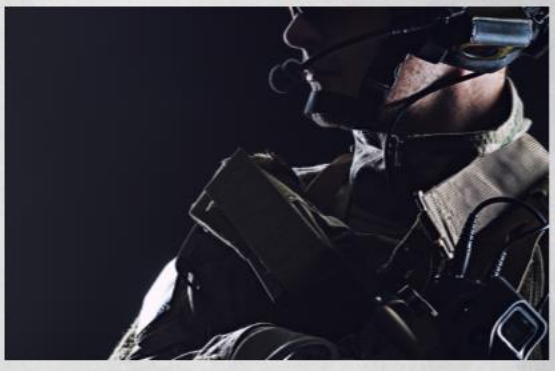
Military R&D Certificate - Pedestal

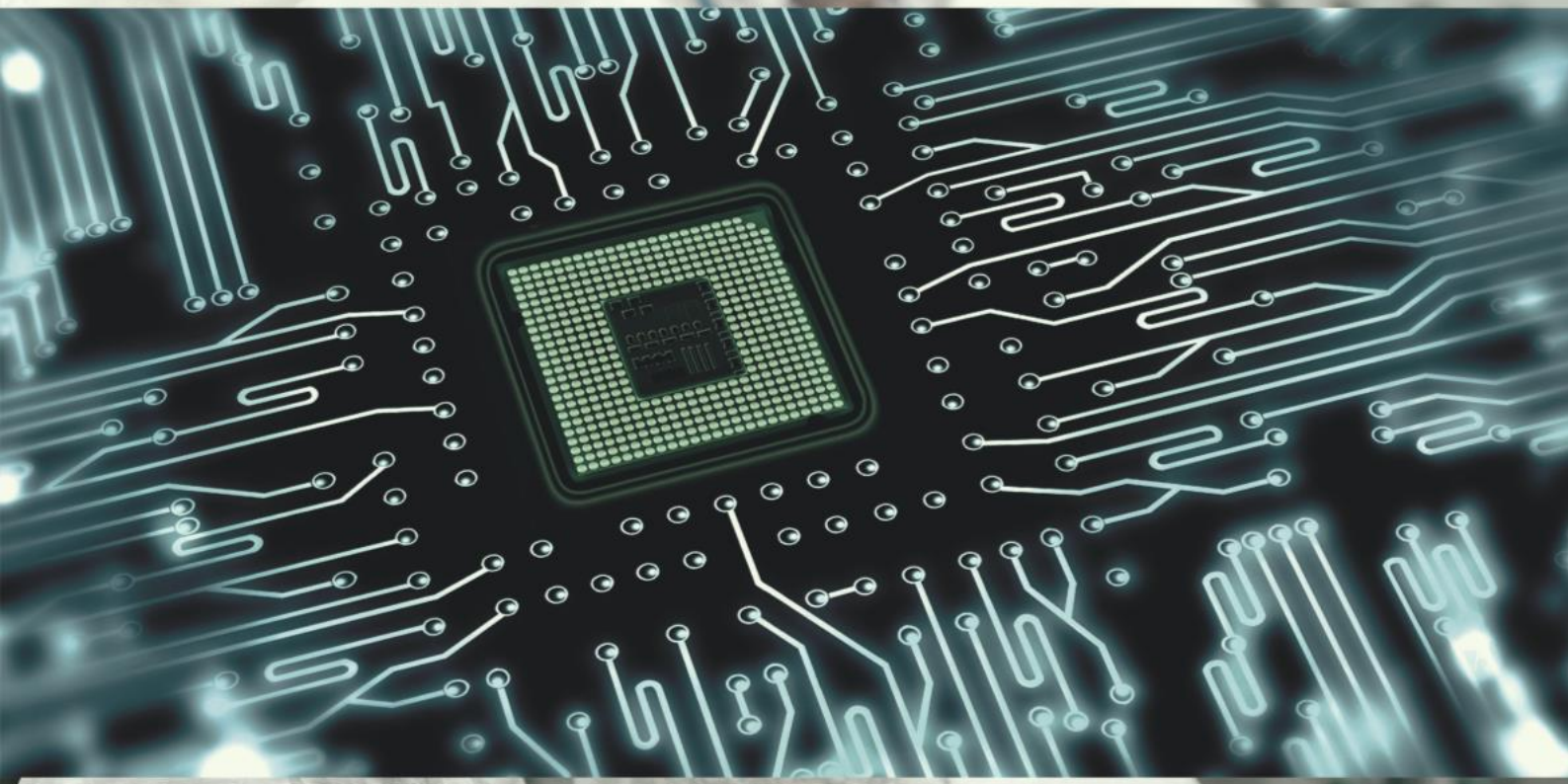
Military R&D Certificate - Sample Intake Membrane

Military R&D Certificate - Continuous Sample Supply Device

SensorTech excels in developing the equipment and sensors for detection and analysis. We actively engage in the advancement of Korean defense industry technology, thereby enhancing its overall value.

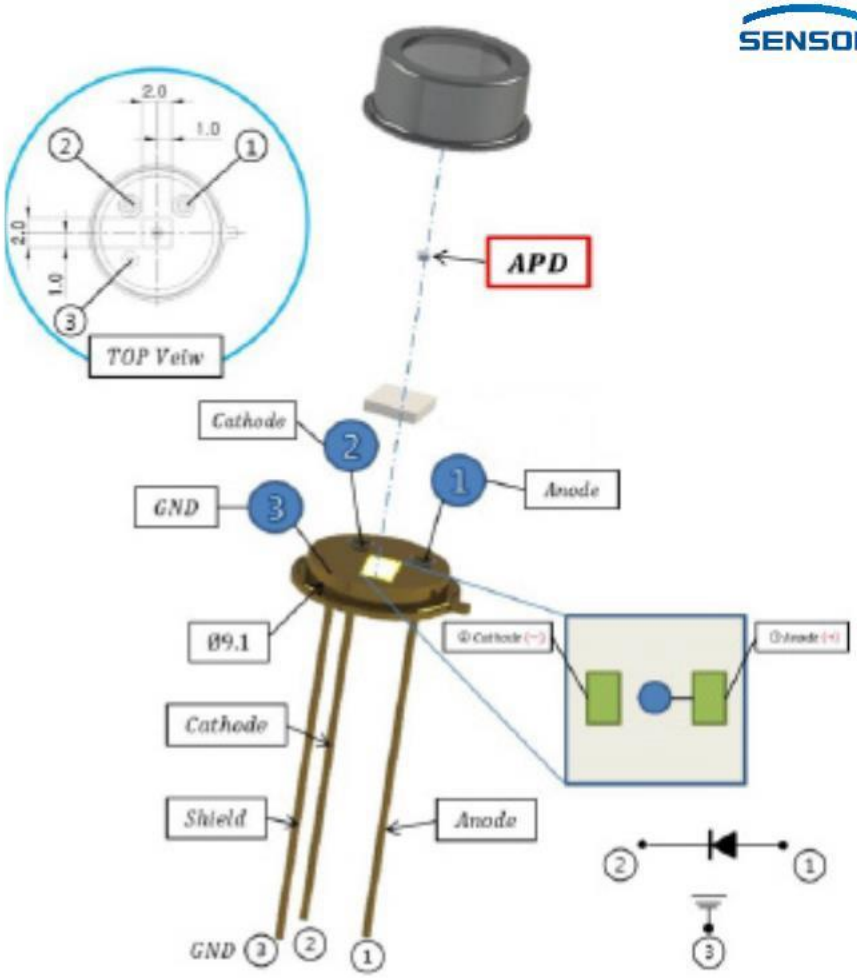
A PIONEER IN MILITARY EQUIPMENT

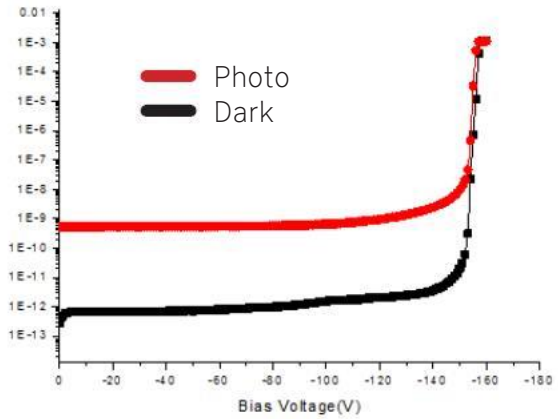




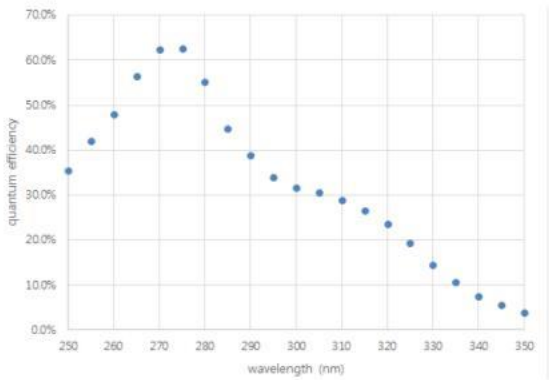
Ultraviolet Sensor APD

This silicon carbide (SiC) optical sensor showcases wide bandgap properties, selectively responding to ultraviolet (UV) light. Designe d as an avalanche photodiode, it's capable of Geiger-mode operati on for single-photon detection of UV rays. It features a breakdown voltage of approximately 150V and boasts a rapid recovery with a dead time of under 200ns. The sensor is encapsulated in a TO-5 p ackage for robustness.





I-V



QE

Parameters	Value
Material	SiC (Silicone carbide)
Chip size	₡100, 150, 250um
Dark current	〈0.1nA
Packaging	TO-5
Breakdown voltage	-151V
Peak responsivity (at 275nm)	0.12A/W
Response range (R=0.1×Rmax)	230~330nm

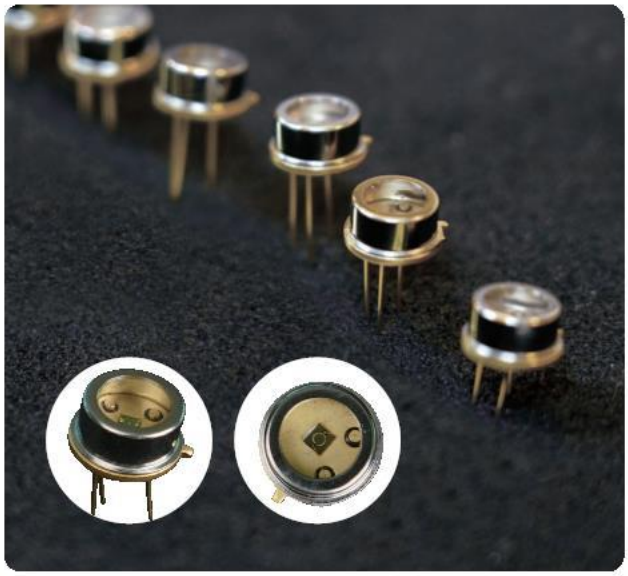
Ultraviolet Sensor Module

This sensor is engineered for the efficient operation of an avalanche photo diode (APD) in conjunction with an active quenching circuit. It facilitates veri fication of the APD's functionality in Geiger mode, assesses light detection efficacy, and accommodates the application of a variable high voltage rang ing from 0 to 200V to the optical sensor.

To maintain accuracy despite temperature fluctuations, the sensor is equip ped with a temperature compensation circuit that adjusts for variations in t he breakdown voltage due to temperature changes. Calibration of the high voltage, temperature compensation, and precision tuning can be easily ma naged via a graphical user interface (GUI).

The sensor module, requiring an input power of 5V, allows for signal output observation through an oscilloscope. The TO-5 packaged optical sensors a re readily operational, and compatibility with other optical sensors is achiev ed via a separate dummy mount.

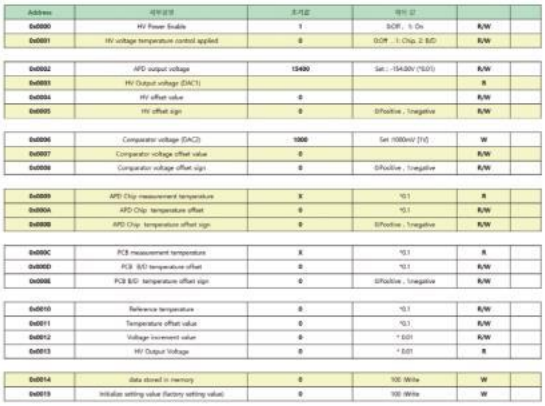
This assembly combines a silicon carbide (SiC) avalanche photodiode wit h a UV sensor module that operates through an active quenching circuit. T his setup is adept at measuring fluorescence and detecting ultraviolet rays at the single-photon level.



[APD (Avalanche photo diode)]

[Sensing module]

[UV Measurement Output Waveform]



[UV Measurement Waveform]

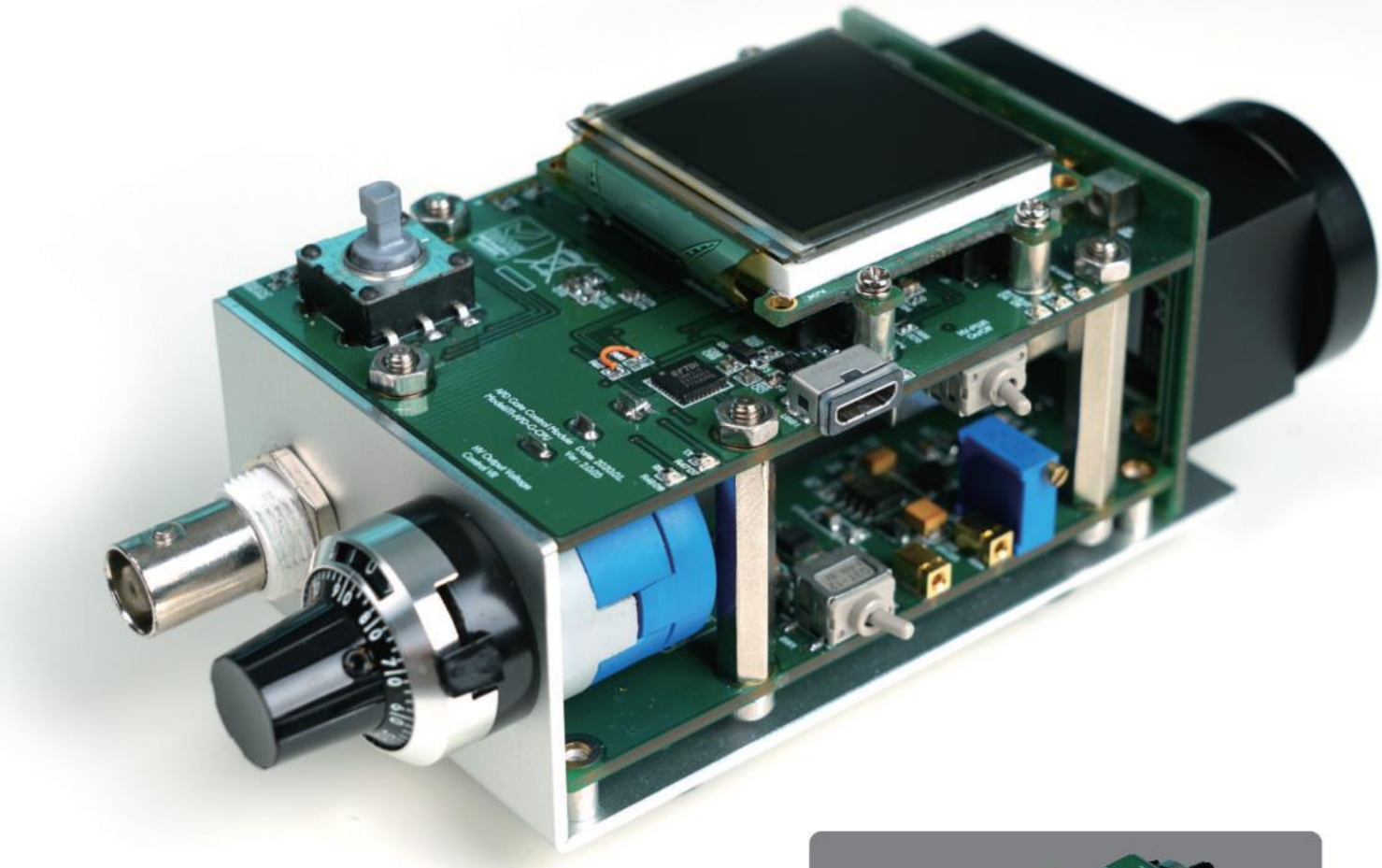
Parameters	Value
Material	SiC (Silicone carbide)
Chip size	₡100, 150, 250um
Dark current	〈0.1nA
Packaging	TO-5
Breakdown voltage	-151V
Peak responsivity (at 275nm)	0.12A/W
Response range (R=0.1 × Rmax)	230~330nm
Size	70 × 30 × 28mm 이내
Input voltage	+5V
Output signal	0V, 5V (TTL)
Power consumption	≤ 0.3W

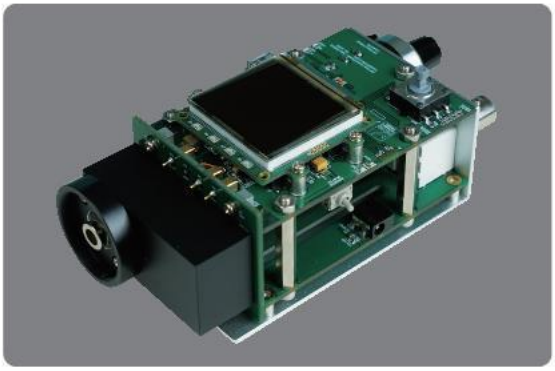
Gated Quenching Circuit

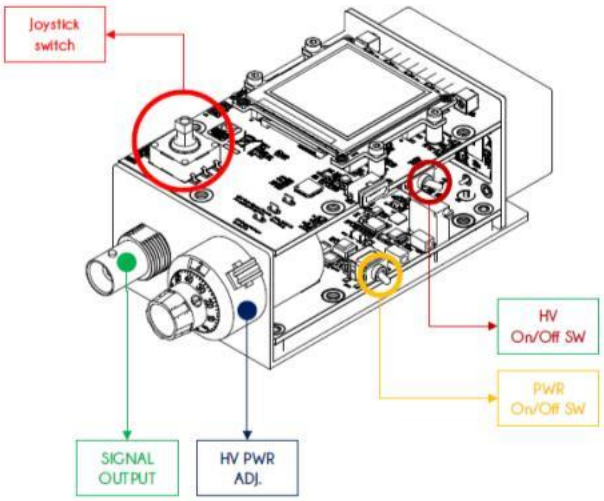
The device is designed to operate Avalanche photodiodes (APDs) via a gated quenching circuit, capable of functioning at a duty ratio of 10 to 100% within the frequency range of 1 to 10 MHz.

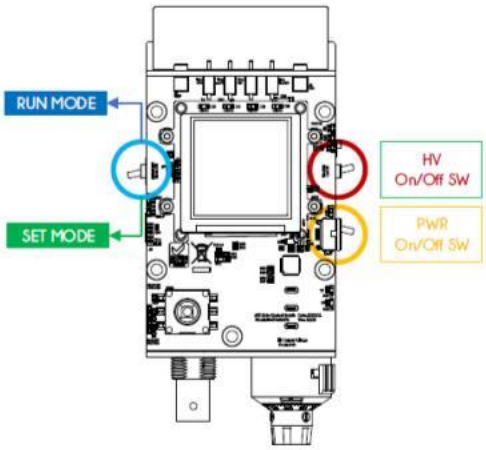
Its primary use is to verify the operation of the APD in Geiger mode and to evaluate the efficiency of light detection. It is also capable of applying a high voltage, adjustable between 0 and 200V, to the optical sensor.

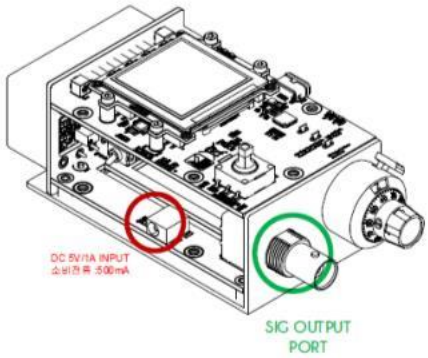
The system requires an input power of 5V, with signal outputs that are observable through an oscilloscope. It is configured to operate TO-5 packaged optical sensors, and a separate dummy mount allows for the operation of other packaged optical sensors.

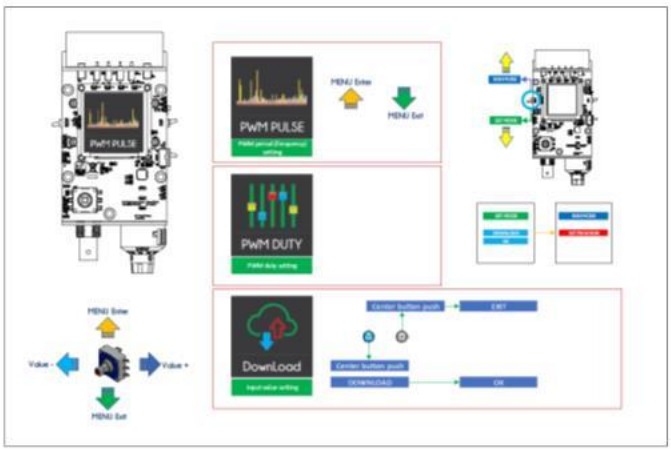


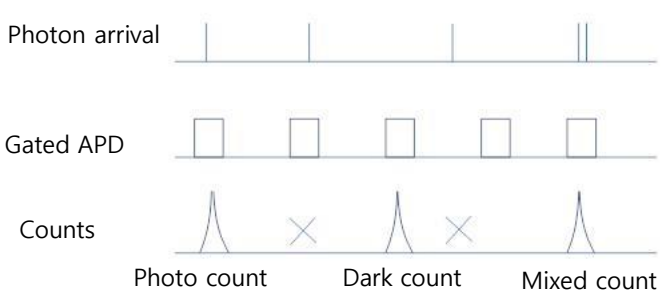












[Gated Quenching Circuit Operation]

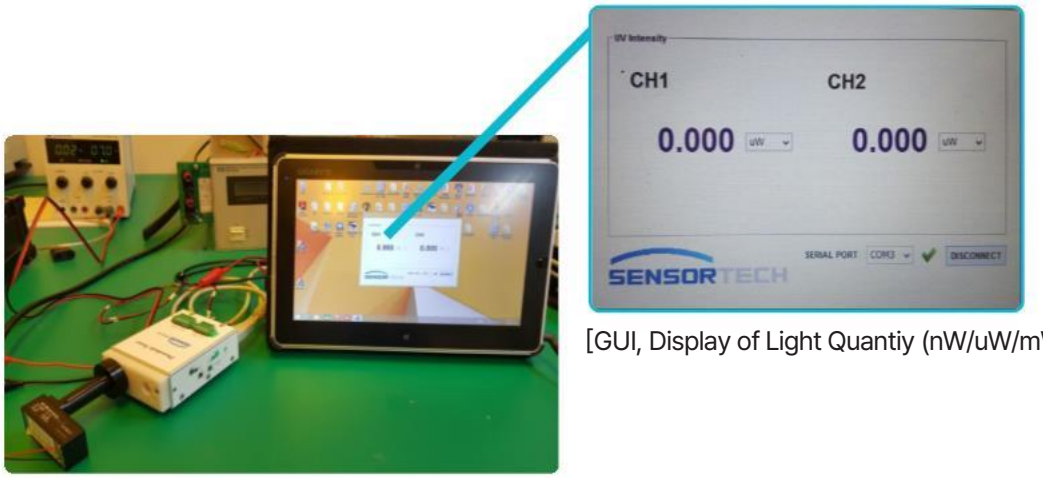
Variable Range	1 ~ 10Mhz
Duty Ratio	10 ~ 100%
Output	+5Vdc
Input Voltage	TTL pulse (0V, 5V)
Per-APD individual high voltage control is possible	

Linear Mode Photodiode Tester

This testing equipment is designed to analyze the signal output from optical sensors, featuring an integrated OP-AMP that amplifies the sensor's subtle signal output, then digitizes and outputs it.

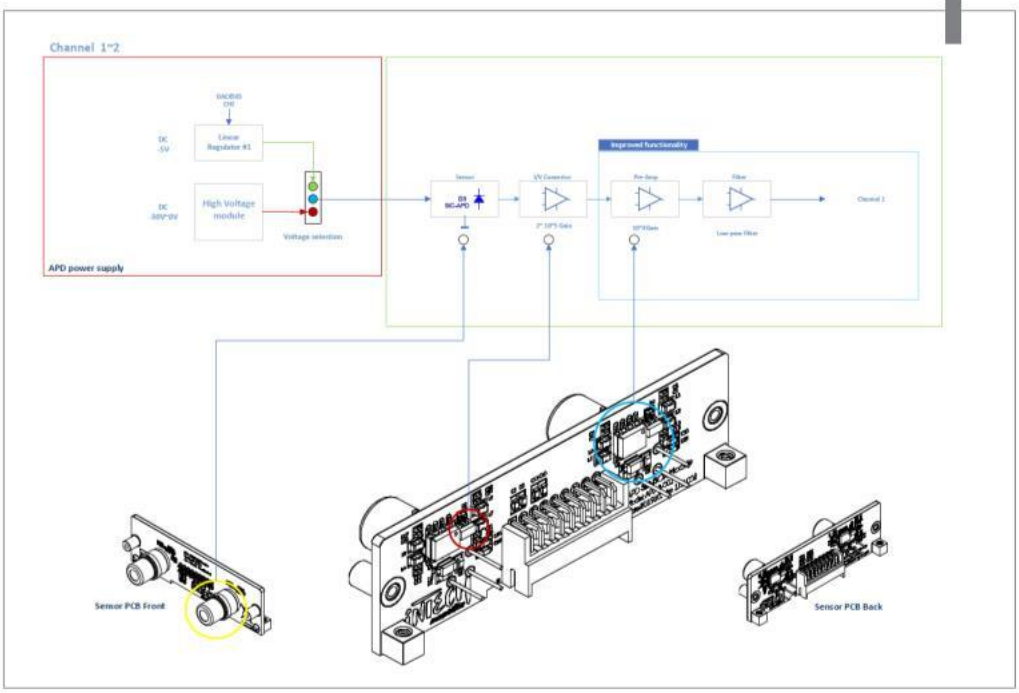
It allows for the application of voltages ranging from 0 to 30V to the optical sensor, with the capability to operate two sensors concurrently, producing simultaneous outputs. The equipment accommodates TO-5 packaged optical sensors directly, while other packages necessitate an additional dummy mount for operation.

Powered by a 5V input, the device interfaces with a standard serial communication program for data transmission. Signals are designed to be received and can be visualized using an oscilloscope.

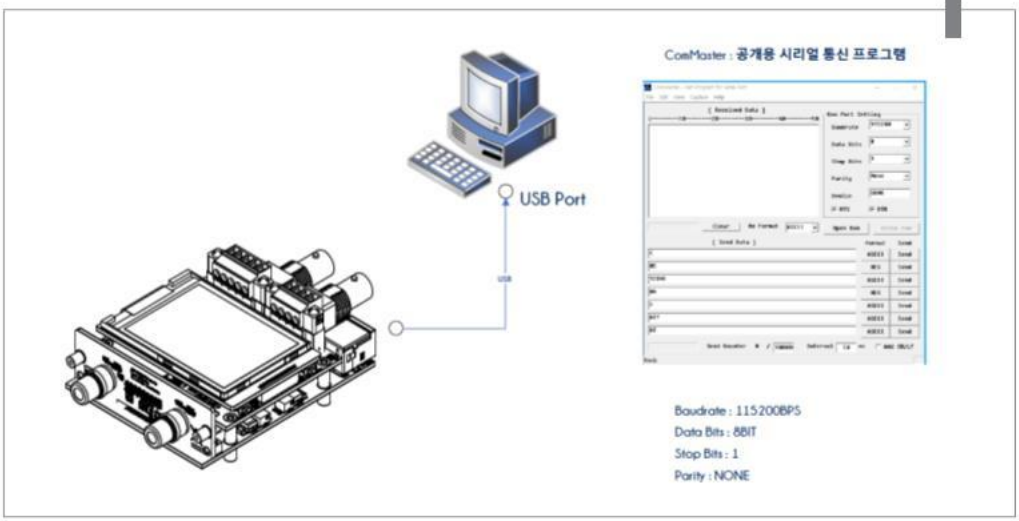


Light quantity display for 2 channels (sensors)

[GUI, Display of Light Quantiy (nW/uW/mW)]



[Internal Structure]

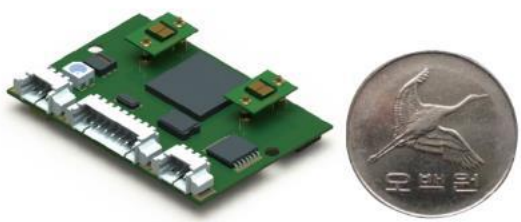


Drone-mount Private Soldiers Chemical Agent Detection Module

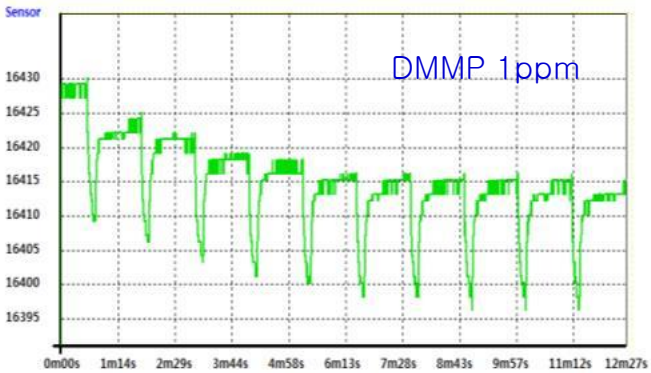
Weighing just 3 grams, this sleek and portable sensor can be easily mounted on drones or carried by individual soldiers. It employs a capacitance change detection mechanism utilizing carbon nanotubes, making it capable of identifying chemical agents used by terrorists.

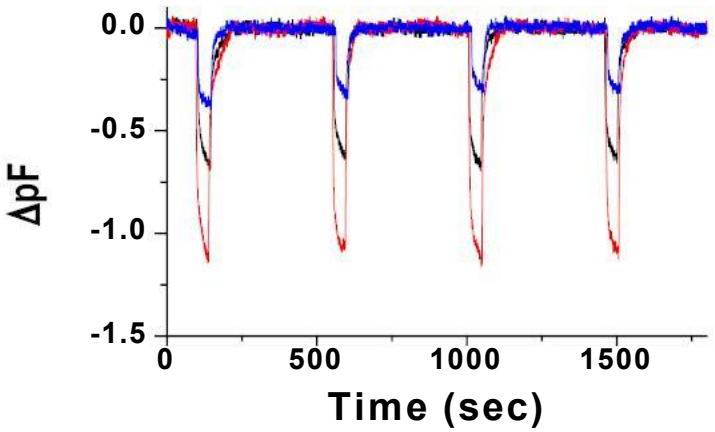
Furthermore, it features a Bluetooth module that pairs with a smartphone app for seamless wireless communication. Upon detecting gas, the sensor sends an alert to the connected smartphone, which is then relayed to users through the app's broadcasting function.

[Compact and lightweight detection module for detection of military chemical agents]



[Dimension comparison with a Korean coin]





Parameters	Values
Size	40 x 30 x 7 mm (W x H x D)
Weight	5g
Input voltage	+3.3 ~ 3.7VDC
Power consumption	< 40mA
communication	RS232, Bluetooth wireless
Agents detected	DMMP, G-agents
Detection limit	0.5ppm
Response time	30sec
Recovery time	5min

Portable Chemical Agent Detection Kit

Chemical agent detection equipment is a portable detector that detects chemical agents that affect nerves, blisters, blood, and asphyxiation.

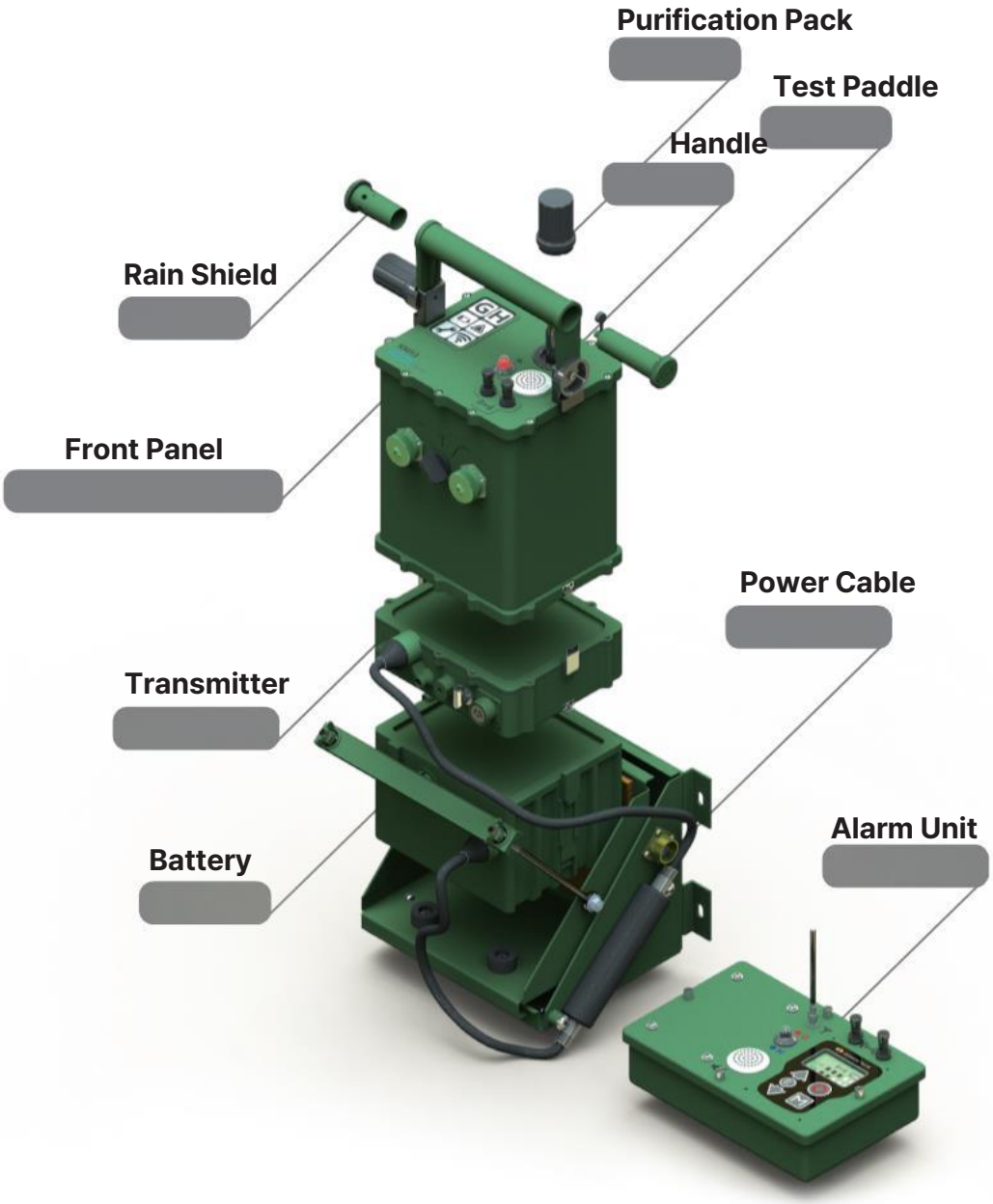
The method of detecting this is the ion mobility spectrometry (IMS), with which the portable device can detect extremely small amounts of nerves, blisters, blood, and asphyxiating agents. The device can rapidly detect/identify the presence or absence of chemical agents in chemical warfare. The device is used in various countries for terrorism prevention and military purposes.

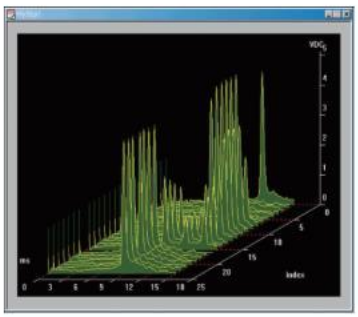
Method	Ion mobility spectrometry
Input Power	6V battery (LiSOCl2 primary battery), Power
Operating Temp	-32°C ~ +43°C
Op. Humidity	0% ~ 95%
Detecting Agents	NERVE AGENTS : GA, GB, GD, VX BLISTER AGENTS : HD, L BLOOD & CHOKING AGENTS : AC, CK, CG, CL2
Sensitivity and Response Time	G : ≤ 0.1mg/m³, ≤ 20 sec VX : ≤ 0.05mg/m³, ≤ 20 sec HD, L : ≤ 0.1mg/m³, ≤ 20 sec AC, CK, CG, CL2 : ≤ 10mg/m³, ≤ 10 sec
Dimension	85×385×145cm

For Fixed Installation

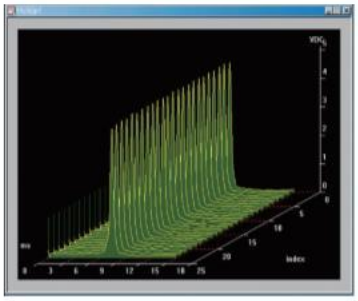
Chemical Agent Detection

This detection equipment incorporates a non-radioactive ionization source with a semi-permanent lifespan, enhancing security significantly. It is designed for installation and operation on a unit's perimeter fence, offering preemptive detection of chemical gas hazards.





Chromatogram before agent detection



Chromatogram after agent detection

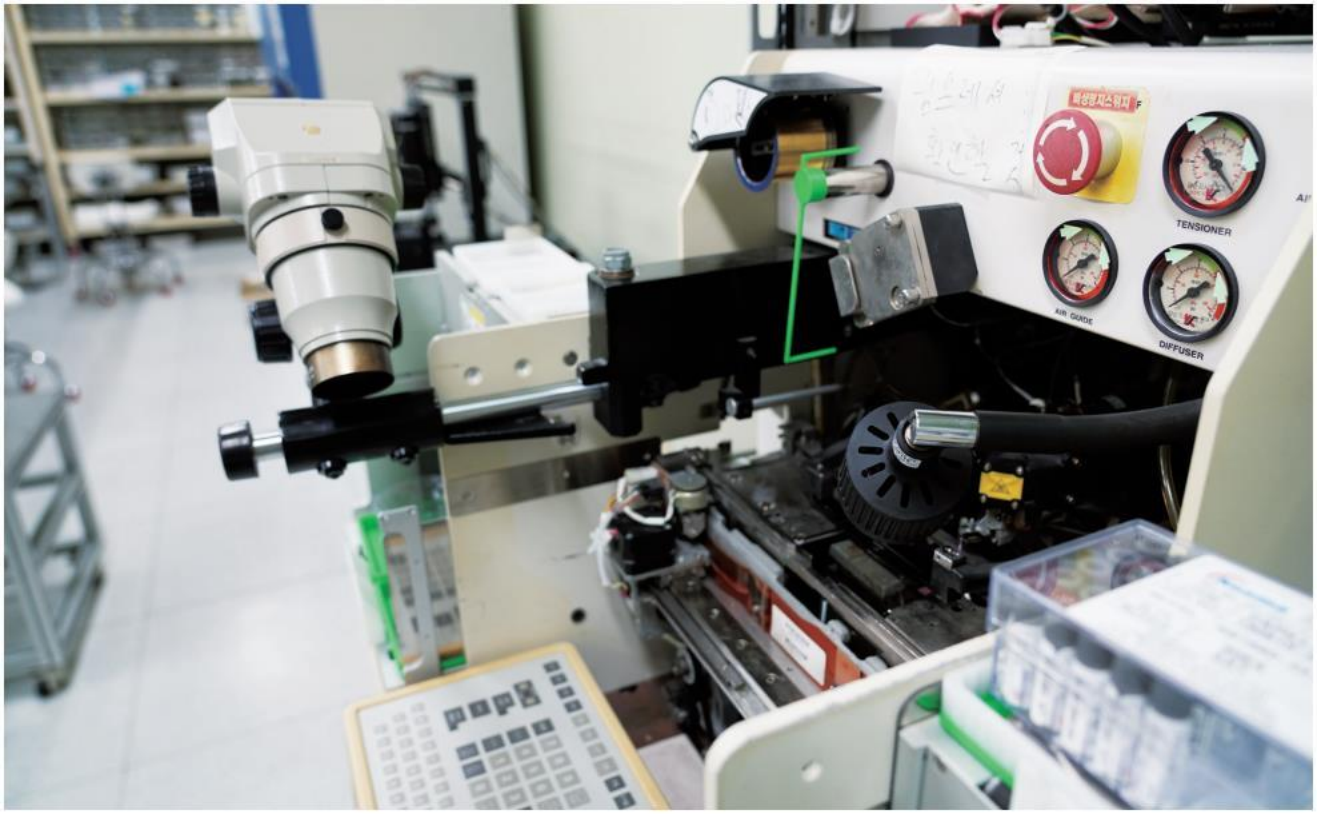
Method	Ion Mobility Spectrometry (Non-radioactive ion source)	
Input Power	DC 24V	
Operating Temp	-32°C ~ 49°C	
Op. Humidity	0 ~ 95%	
Detecting Agents	Nerve	GA, GB, GD, GF, VX
	Blister	HD, HN3, L
Sensitivity and Response Time	Nerve	0.1mg/m³, ≤ 30 seconds
	Blister	2.0mg/m³, ≤ 120 seconds
Recovery Time	Less than 5 minutes	
Environment Test	MIL-STD-461, MIL-STD-810G applied	
Weight	< 4.5kg (without battery)	

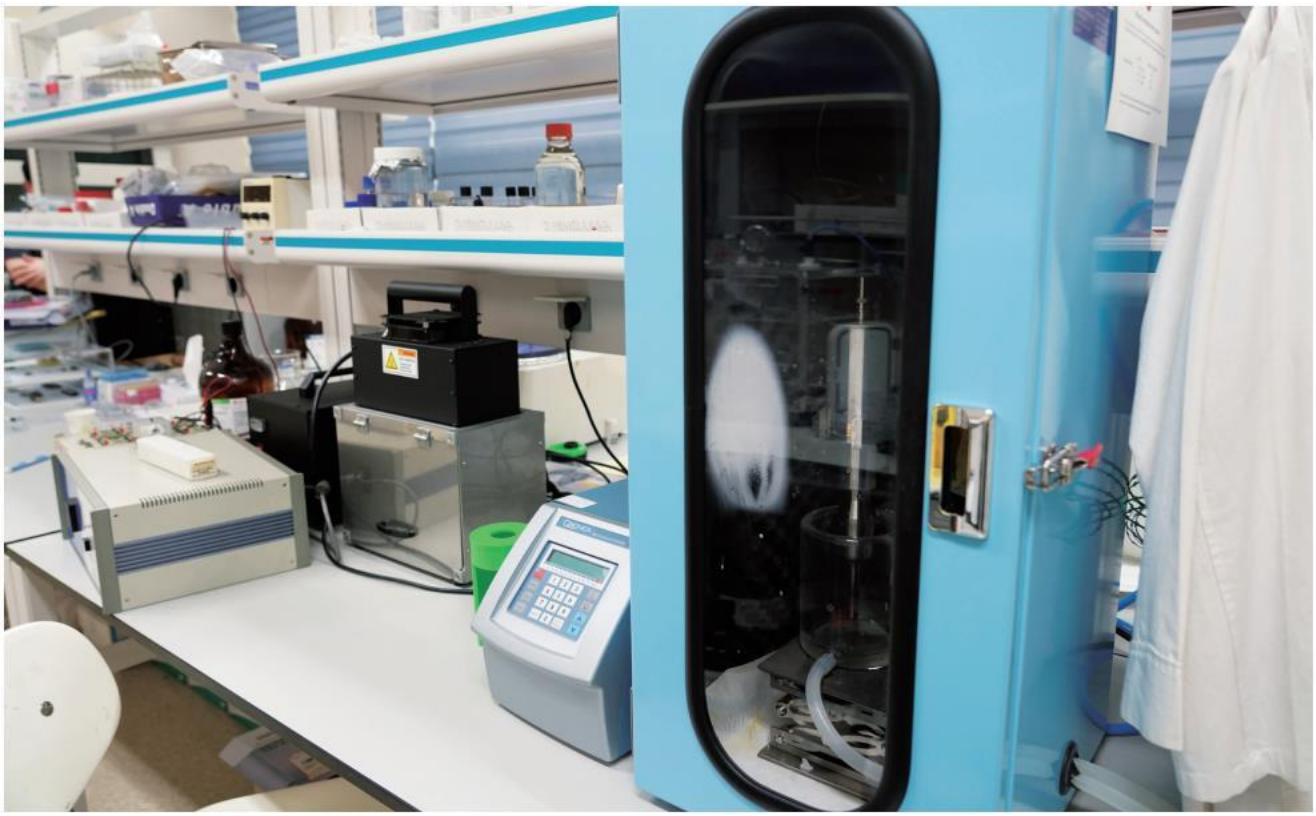
SENSORTECH

Vision of SensorTech

Leveraging our extensive experience garnered over many years, we are continually enhancing our expertise and capabilities within the defense industry.

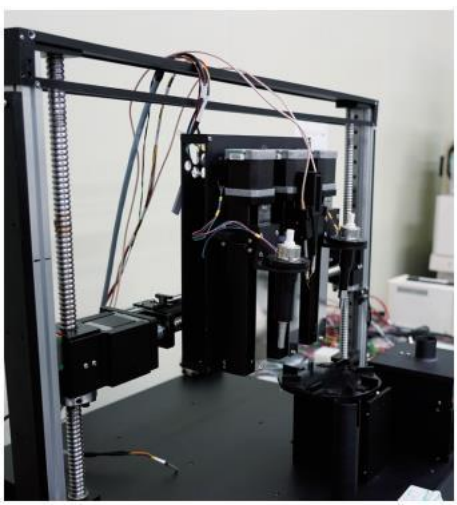
SENSORTECH


TENSIONER
AIR GUIDE
DIFFUSER



SENSORTECH

TOMORROW AND BEYOND



BRINGING
LIGHT
TO
THE
WORLD

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