



Falcon 4G-S Stand-off Detector of Chemical and Biological Warfare Agents

Falcon 4G-S is a laser sensor, which detects chemical warfare agents using absorption of laser radiation caused by molecules of CWA and biological warfare agents by evaluating particle size using DISC technology.



Key Features:

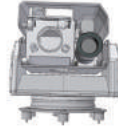
- Detection of CWA, BWA, TIC without physical contact with agent
- Automatic detection mode
- Detection range up to 5000 m
- Very fast detection less than 0.25 sec
- Weight: 28 kg
- Active laser technology
- Permanent surveillance of area of interest
- Clear information from display
- Easy manipulation
- Small and compact size (used by battery power)
- Short installation time of tripod version
- Installation on vehicles possible



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Principle of operation	Active - Differential Absorption LIDAR using CO ₂ lasers
CO ₂ isotopes useable in System's lasers	¹² C ¹⁶ O ₂ and ¹³ C ¹⁶ O ₂
Spectral range	9.2 - 10.7 (9.6 -11.3) * μm
Number of useable laser lines	> 60 (125) * CO ₂ lines
Number of lasers in System	2 tunable pulsed CO ₂ lasers
Energy of laser pulse (on 10P20 laser line using ¹² CO ₂)	Approx 50 mJ
Pulse repetition rate of lasers	< 4 pulses per second
Detectable CWAs	GA, GB, GD, GF, VX, HD, L
Detection threshold concentrations for 300 m cloud	GA - 0.05 mg/m ³
	GB - 0.10 mg/m ³
	GD - 0.15 mg/m ³
	GF - 0.40 mg/m ³
	VX - 0.10 mg/m ³
	HD - 1.25 mg/m ³
	L - 0.50 mg/m ³
Detectable TICs - Standard library (10 TICs)	Acetic Acid, Ammonia, Di-ethyl-ether, Diesel, Ethanol, Ethylene, Formic Acid, Gasoline, Methanol, SF ₆
Sensitivity: Comparison of System's detection threshold with NATO D/100 Requirements	0.5 (exceeds requirements)
Warm-up time	< 2 minutes
Detection time (one detection path, one agent)	< 0.25 sec.
Instantaneous field of view (FOV)	1 mRad
Maximum range	> 6 000 m
Effective range (agent up to 10m above terrain)	> 5 000 m
Ability to evaluate concentration profiles	YES, up to 1.500 m
Stand-off detection of Biological Warfare Agents	YES, using DISC Technology
Cloud size measurement	YES
Eye-safety	YES
Dimensions (l x w x h)	507 x 272 x 296 mm
Weight (without pan and tilt platform)	28 kg
Power requirement	Approx. 25 W

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