

# STALKER<sup>®</sup> LIDAR XS SPECIFICATIONS

## Operational:

<b>Type:</b>	Handheld Lidar offering Tracking mode, Single Shot mode, and Time/Distance mode.
<b>Acquisition Time:</b>	0.33 second
<b>Nominal Range :</b>	Minimum < 5 feet (1.5 meters) Normal = 1500 feet (457.2 meters) approaching targets Maximum > 2000 feet (609.6 meters)
<b>Range Accuracy:</b>	± 1 foot (0.3 m *)
<b>Speed Measure:</b>	1 mph to 299 mph (2 km/h to 481 km/h; 2 to 260 knots)
<b>Speed Accuracy:</b>	±1 mph (±1 km/h; ±1 knot)
<b>Test/Alignment mode:</b>	Enter using the <b>TEST</b> key and the Trigger. Used to test HUD alignment using audio tone.
<b>Metric, Knots Operation:</b>	Setup menu selectable
<b>Lidar trigger modes:</b>	Setup menu selectable: 1. Constant trigger depression for constant XMIT 2. Separate trigger depressions to start/stop XMIT
<b>Time/Dist. trigger mode:</b>	Separate trigger depressions when target enters and exits speed zone
<b>Inclement Weather mode:</b>	Suppresses target returns from targets closer than approximately 250 ft to reduce interference from rain, fog, and snow
<b>Remote Trigger:</b>	Remote trigger signal available through I/O Port
<b>Target Speed Tone:</b>	Variable audio tone corresponding to target speed. A fast target generates a higher tone and a slow target generates a lower tone
<b>Target Return Tone:</b>	No tone when beam is off target; tone repetition increases as beam moves into target and return signal quality increases
<b>I/O Signals:</b>	Ext. Trigger, Tx, Rx, Gnd, and Switched battery voltage.

## Physical

<b>Dimensions:</b>	8.9" Height, 4.7" Length, and 4.7" Width 22.6 cm Height, 11.9 cm Length, 11.9 cm Width
<b>Weight:</b>	Including Battery Handle - 2.3 lbs (1.05 kg)
<b>Housing:</b>	High impact resistant polymer housing
<b>Shoulder Stock:</b>	Accessory shoulder stock is available
<b>Input Voltage Range:</b>	<b>Battery Handle:</b> 6.4V to 9.0V @ 400 ma. Nominal <b>Cigarette Cable:</b> 6.4V to 16.0V @ 400ma. Nominal Low voltage inhibit activates between 6.4V and 6.8V
<b>Low Voltage Inhibit:</b>	Inhibits all readings while input voltage is below the low voltage inhibit level
<b>Low Voltage Standby:</b>	After 10 seconds of inactivity (unit not transmitting), power consumption is reduced to 63% of nominal
<b>Input Power Protection:</b>	Solid state automatically resettable fuse
<b>Environmental:</b>	-22° to +140° F (-30° to +60° C), operating -40° to +185° F (-40° to +85° C) non-operating
<b>Humidity Protection:</b>	+37 C, 90% Relative Humidity, 8 hours minimum, operating
<b>Additional Resistance:</b>	Dust, water, and impact
<b>EMI:</b>	RFI icon indicates that the unit is in a high EMI field. No false readings when the unit is subjected to Electromagnetic Interference from vehicle alternator, ignition, air conditioner/heater motor, windshield wiper motor, Police FM transceiver, or CB Radio
<b>¼ "x 20 Tripod Mounts:</b>	Attachable bracket provides tripod mounting in normal orientation.
<b>I/O Connector:</b>	12-pin I/O connector on lower left side of case.

\* when the unit is in 0.1 (tenths) resolution

## Transmitter & Receiver:

<b>Operating Wavelength:</b>	905 ± 10 nm Peak @ 25° C
<b>Spectral Bandwidth:</b>	5 ± 3 nm FWHM
<b>Laser Type:</b>	MOCVD InGaAs Stacked Array Pulsed Laser Diode
<b>Eye Safety:</b>	FDA/CDRH CLASS 1M Laser Device (Rated Eyesafe)
<b>Pwr. Output:</b>	50uW maximum average power. 385 nJ maximum pulse energy. (meets FDA/CDRH regulations)
<b>Pulse Width:</b>	< 30 nsec.
<b>Pulse Repetition Rate:</b>	Fixed, 130 Hz (±0.1 % at 8.40 VDC)
<b>Beam Divergence:</b>	< 3 ± 0.5 mrad FWHM
<b>Optical Design Type:</b>	Bistatic (dual aperture)
<b>HUD</b>	
<b>Targeting:</b>	Illuminated Open E, keyboard adjustable intensity.
<b>Range and Speed Data:</b>	Range: Four 7-Segment Digits (8888) Speed: Three 7-Segment Digits (±888) Range and Speed have keyboard adjustable intensity

## PANEL

<b>Display:</b>	8-Character (7-segment) with ± LCD display with keyboard controlled backlight
<b>Display Clear:</b>	Activates prior to new measurement (with depression of trigger)
<b>Power-On Self Test:</b>	Electronic test, timing accuracy verified, and all display elements illuminated. Errors indicated by beep code.
<b>Speed Display Lock:</b>	Manual control (auto lock of speed and range with release of trigger)
<b>Controls:</b>	Silicon Rubber Keypad (with LED backlight) operating mechanical dome switches

## SWITCH DEFINITION

<b>TRIGGER:</b> <b>(Lidar mode)</b>	Setup Menu Selectable: 1. Constant trigger depression for constant Xmit 2. Separate trigger depressions start/stop Xmit
<b>TRIGGER:</b> <b>(time/dist mode)</b>	Separate trigger depressions when target enters and exits speed zone
<b>PWR:</b>	Toggles main power ON/OFF
<b>TEST:</b>	Performs a complete self-test
<b>HUD Light:</b>	Toggles the HUD intensity from low to high through six levels when pressed
<b>SPEED/RANGE:</b>	Used to select Tracking mode, Single Shot mode, Inclement Weather mode, and to toggle between SPEED only, RANGE only, and simultaneous SPEED and RANGE display. Used to exit from MIN, MAX, and TIME/DIST modes.
<b>PANEL LIGHT:</b>	Toggles both the LCD backlight and the keyboard backlight ON and OFF
<b>AUDIO:</b>	Used to adjust the volume of the speaker in 4 steps
<b>TIME/DIST:</b>	Selects TIME/DIST mode
<b>MAX:</b>	Used in TIME/DIST mode to display/update maximum range
<b>MIN:</b>	Used in TIME/DIST mode to display/update minimum range

## DISPLAY MESSAGES

<b>Enn:</b>	This message indicates that a measurement error has occurred
<b>PASS:</b>	This message (with "happy tone") indicates that a self-test has successfully completed