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## LASERCAM<sup>®</sup> 4 TECHNICAL SPECIFICATIONS

Powered by ProLaser<sup>®</sup> 4

Revision 8 November 5, 2019

<b>Key Features</b>	
AutoTrak <sup>™</sup> (Global patents pending) Patented S. Africa	Automatic optical zoom with approaching & receding target tracking User selectable post recording action for faster target to target measurement (returns camera zoom to desired initial view)
On image data	Date, time, serial number, GPS or site code, record #, user ID, operating mode, camera mode, posted speed, capture speed, target speed and range with units, and laser diameter at the target. Several fields optional.
Operational Modes	Video: Automatic, manual, range with video, video record only Photo: Automatic, manual, range with photo*, photo* only *capture on trigger release Poor weather setting available for all measurement modes, on screen icon
Languages	30+ language settings supported including English, Arabic, Bosnian, Chinese, Croatian, Czech, German, Estonian, Hungarian, Italian, Macedonian, Polish, Portuguese (Brazil), Portuguese, Romanian, Russian, Serbian (Cyrillic), Serbian (Latin), Slovak, Slovenian, and Spanish. New languages easily added.
Encryption	AES 256 on file transfer
<b>Performance</b>	
Optimum Focal Distance	From 10 m to 500 m (33 to 1,640 ft.) Identify European registration plates at 200+ m (650 ft.) – typical Identify US registration plates at 175+ m (575 ft.) – typical
Lens Operating Range	from 0 to infinity
Speed Accuracy	±1 km/h (±1 mph)
Speed Range	16 to 320 km/h (10 to 200 mph) optional 0 minimum speed
Range Accuracy:	± 0.15 m (± 6 inches)
Display Resolution	Speed: 1 km/h or 1 mph Distance: 0.1 meter or 0.1 foot
Minimum Distance	3 m. (10 ft.)
Maximum Distance	Up to 2.4 km (up to 8,000 ft.)
Measurement Time	0.33 seconds
Laser Pulse Rate	200 Hz (200 pulses/second)
Laser Output Power	108 μWatts
Battery Life	10+ hours (typical), battery level indicator on rear display
Laser Wavelength	904 nm ± 10 nm

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<b>Certifications</b>	
Laser Class & Eye Safety	FDA/CDRH Class 1 Eye Safe (CFR 21) IEC 60825-1
Shock & vibration	SAE J575 & J577
ESD, conducted & radiated immunity	EN 55024, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-11, IEC 61000-3-2, IEC 61000-3-3, IEC 801-3, EN 61326-1, & CISPR-11
FCC Class A	FCC CFR47 Part 15B: 2011
Ingress protection	IP-55 liquid & solid resistant to IEC 60529
NHTSA (formerly IACP)	Conforming Product List (CPL)
Certification Management	Program calibration date, period, and behavior on expiration including warning title on evidence or system lockout until recertified.
<b>Construction</b>	
Body	Aluminum housing with rubber bumpers, high-impact polycarbonate handle
Weight	1.70 kg (3 lb. 12.1 oz.) with battery 1.46 kg ( 3lb. 3.4 oz. ) without battery
Size	17.3 cm x 10.7 cm x 31.2 cm (6.8 in. x 4.2 in. x 12.3 in.)
Temperature Range	Operating: -30° C to +60° C Charging: 0° C to +50° C Storage: -30° C to +70° C
Hard carry case	40.9 cm x 32.5 cm x 17.5 cm (16.1 in. x 12.8 in. x 6.9 in.)
<b>Hardware</b>	
Data Storage (defaults)	16 GB Video, internal, expandable to 32 GB or 64 GB (below) 16 GB meta-data, internal (67,000,000 events)
High video quality	4 MB/second (PAL = 25 fps)
Video Record Time	16 GB (default) = 8.1 hours (~ 5,900 5-second video files or 18,600 images)
Expandable Video Memory	Option: 32 GB = 16.9 hours (~ 12,200 5-second video files or 38,564 images) Option: 64 GB = 33.8 hours (~24,350 5-second video files or 76,960 images)
Still Image Size	720 x 576 (equivalent to 15.8 MP with 36X optical zoom)
Photo Mode	16 GB 18,600 images 32 GB 38,564 images 64 GB 76,960 images
Aiming reticles	HUD – 4 user selectable including dot, cross, x, & circle with dot DVR – 10 user selectable recorded with video/image
Microphone	Audio recording with video modes (may be disabled if audio recording is not permissible)



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Maximum Record Size	No limit
Touch Screen Display	8.1 cm 800 x 480, color touch screen (3.2"), glove friendly
Camera Sensor	Sony FCB-EX1020P camera module with 720 x 576 video resolution
Camera Lens	36X optical zoom f=3,4mm to 122,4mm with auto focus and auto iris Progressive scan, Image stabilizer
GPS Receiver	Quectel L86 with Horizontal Position Accuracy 2.5m with SBAS; Receiver - 33 tracking/99 acquisition. Update rate: 1 to 10 Hz; Acquisition Time: Hot Start <1 second, Cold Start <15 seconds.
Wi-Fi	IEEE 802.11 B/G/N with rear display icon
Real Time Clock	Li-backup battery: 5 years without primary battery inserted Temperature compensated crystal oscillators (TCXOs) Frequency temperature characteristics max. $\pm 2$ PPM TCXO frequency aging max $\pm 3$ PPM / year
Input/output (I/O)	USB, low energy wireless, Wi-Fi, touch screen, microphone, 15 button keypad, and 2 button zoom control
<b>Power</b>	
Battery Pack	3.7 v dc, 10.8Ah Lithium-Polymer rechargeable battery pack, short circuit and overcharge protected
Battery Charger	100 to 240 VAC 50/60Hz, 2 Amp
Corded power	12 VDC 2.8 m corded handle insert with cigarette plug adapter
<b>Software</b>	
Evidence management	ProLog Lite (included) ProLog Standard with multiple device support, expanded reports ProLog Standard Client – use with additional PC(s) that will access a common ProLog SQL database
Data logging	Proprietary (ProLog) or DLLs with XML support
System setup	Menu selectable on device PC Setup utility

Each LaserCam 4 bundle\*\* includes the LaserCam 4 with Li-polymer rechargeable battery, AC battery charger, USB cable, 16 GB internal video memory, 16 GB metadata memory, compass, inclinometer, GPS, 802.11 B/G/N Wi-Fi, low energy wireless, microphone, rugged carry case, and ProLog LITE video evidence management tool.

\*\*bundles may vary based on region or contract requirements.



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<b>Optional Accessories</b>	
Stabilization	Tripod kit (rugged tripod, fluid video head, & LaserCam 4 adapter) or Adjustable shoulder stock
Bluetooth Printer	Brother PocketJet 7 (below)
Padded Soft Case	Motorcycle saddlebag sleeve with battery pocket & shoulder strap

<b>Wireless Printing Direct from LaserCam 4</b>	
Model	Brother PocketJet® 763 with Bluetooth and Linux support
Print method	Direct thermal technology
Printer resolution	300 x 300 dpi
Media Sizes	Letter, legal, A4, continuous, custom sizes, & pre-printed media
Max Print Speed	8 ppm (pages per minute)
Dimensions	25.4 cm L x 5.6 cm W x 3.0 cm H (10.0" L x 2.2" W x 1.2" H)
Weight	0.58 kg (1.3 lbs.)
Power	Li-ion battery; AC adapter, and DC vehicle adapter
Battery yield	600 pages from 100% charge
In-Vehicle Kit	Includes PocketJet 7, battery, DC adapter, paper roll, & enclosure

<b>6 LED Infrared Emitter for Night Operation</b>	
IR Operating Modes	Flood light (always on) OR Dynamic Bluetooth control (LaserCam 4) based on range to target
Performance	125 meters (European front registration plate - reflective) 330 feet (US front registration plate - reflective) Results will vary for non-reflective registration plates
Wireless range	Up to 60 m (200 ft.) down the road from LaserCam 4
IR LED	6 LEDS with 850 nm, 2θ =8° lens
Array weight	1.11 kg (7.45 lbs.)
Array dimensions	17.8 cm x 8.9 cm x 10.2 cm 7.0" x 3.5" x 4.0"
Power	12 VDC 18 Ah lead acid battery (battery sourced locally) Battery dimensions: 18 cm x 16.5 cm x 6 cm (7.0" x 6.5" x 2.4")
Power supply case	32 cm x 27 cm x 13 cm 12.6 in x 10.6 in x 5.1 in
Power supply weight	7.43 kg (17.0 lbs.) with battery
Current draw	2.8 Amp (max)
Battery life	6 hours (typical)
Ingress protection	IP-55 liquid & solid resistant to IEC 60529

LaserCam 4 night time illumination kit includes IR LED array with tripod mount, daylight cut filter, 2.8 m power cable, AC charger, power supply case with wireless antenna (12 VDC battery sourced locally)  
 Optional: 12 VDC adapter to power supply case  
 Optional: Tripod sourced separately

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<b>Infrared Torch Emitter for Night Operation</b>	
IR Operating Modes	1 Watt Optical power, focusable beam
Controls	Single push button or remote with toggle / momentary switches
IR LED	850 nm, 100,000 hours operational life
Performance	Up to 150 meters (European front registration plate - reflective) Results will vary for non-reflective registration plates
Power	3.7v single 18650 rechargeable battery (USB charger included)
Weight	167 grams
Dimensions	145 mm (long) x 43mm (dia. lens) x 28mm (dia. rear)
Battery life	4 hours (typical)
Housing	Anodized Aluminum with o-ring seals, weather and shock resistant

<b>Long Range Yoke and Telephoto Lens kit</b>	
Performance	Identify European registration plates 400 m (1,310 ft.) - typical
Yoke & breach mount weight	2.7kg (6.0lbs.)
Yoke & breach mount dimensions	35.0 cm (H) x 16.5 cm (W) x 14.0 cm (D) 13.75" (H) x 6.5" (W) x 5.5" (D)
Polarizing filter	82 mm HRT Circular-Polarizer UV Filter
Telephoto lens	Magnification 2.2x Front filter thread 82 mm (3.2") Mounting thread 62 mm (2.4") Dimensions 123 mm x 86 mm (4.8" x 3.4") Weight 275 g (9.7oz)

Each LaserCam 4 Long Range Yoke kit includes tripod mounted yoke with fluid video head, 2.2x optical telephoto camera lens, polarizing filter, tripod with carry bag and hard carry case.