



ILRIS

Summary Specification Sheet

Key Features

- 10 kHz repetition rate
- High precision mode
- Rapid survey method
- Extended range mode

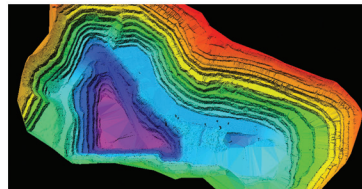
Benefits

- Fast data collection
- Improved accuracy
- Reduced processing time
- Long range scanning



Optech's ILRIS Laser Scanner is a fully portable, laser-based ranging and imaging system for the commercial survey, engineering, mining and industrial markets. A compact and highly integrated instrument with digital image capture and sophisticated software tools, the ILRIS is an industry-leading solution that addresses the needs of commercial users.

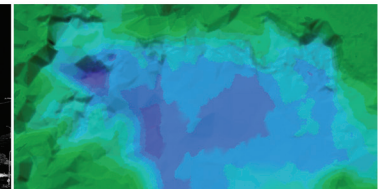
ILRIS



➤ Mining



➤ Civil Engineering



➤ Geological Survey



ILRIS Laser Scanner

Instrument Type: Dual-Mirror Pulsed Time of Flight



Parameter	ILRIS-3D	ILRIS-HD	ILRIS-LR
Range 80% reflectivity	1700 m	1800 m	3000 m
Range 10% reflectivity	650 m	650 m	1330 m
Minimum range	3 m		
Laser repetition rate (peak and effective PRF) ¹	2500 to 3500 Hz	10,000 Hz	10,000 Hz
Efficiency (effective PRF/peak PRF)	100%		
Raw range accuracy ^{2,3}	7 mm @ 100 m		
Raw range accuracy (averaged) ^{3,4}	n/a	4 mm @ 100 m	4 mm @ 100 m
Raw angular accuracy	8 mm @ 100 m (80 μrad)		
Scanner Performance			
Field of view	40° x 40° (-20° through 90°, -90° through 20° with 3 _D option)		
Minimum step size ⁵	0.001146° (20 μrad)	0.000745° (13 μrad)	0.001146° (20 μrad)
Maximum density (point-to-point spacing)	2 cm @ 1000 m	1.3 cm @ 1000 m	2 cm @ 1000 m
Rotational speed	0.001 to 20°/sec		
Rotational step size (minimum)	0.001146° (20 μrad)		
Beam diameter (1/e ²)	22 mm @ 100 m	19 mm @ 100 m	27 mm @ 100 m
Beam divergence	0.009740° (170 μrad)	0.008594° (150 μrad)	0.014324° (250 μrad)
Laser wavelength	1535 nm	1535 nm	1064 nm
Laser class ^{6,7}	1 or 1M	1 or 1M	3
Integrated camera	3.1 MP		
Physical and Environmental			
Size (L x W x H)	320 x 320 x 220 mm	320 x 320 x 240 mm	320 x 320 x 240 mm
Weight	13 kg	14 kg	14 kg
Operating temperature	0 to 40°C		
Storage temperature	-20°C to +50°C		
Power consumption	75 W		
Battery operation (standard battery pack, hot-swappable)	5 hours operation		
Data storage	Removable USB drive		
Optional Configuration			
3 _D	Automated pan/tilt base (7 kg)		
MC	Motion compensation option: enables GPS timestamping (from INS system)		
Standard Accessories			
Scanner control software for Windows and Window CE-based computers		Data extraction software to generate user-selectable file formats	
Automated alignment software		2.0-GB USB memory drive	
User manuals		Universal AC voltage power supply	
Interconnect power/battery cables		Rugged carrying case	
Optional Accessories			
Manual pan/tilt base		GPS/external camera mounting kit	
PDA, UMPC, Notebook PCs		Batteries and chargers	
Backpack		Cold-weather jacket	

¹ PRF is pulse repetition frequency.

² All ranges quoted are with ER Mode enabled.

³ All accuracies are 1 sigma, as performed under Optech test conditions. Details available on request.

⁴ Average of 4 shots minimum.

⁵ Independent fully-selectable vertical and horizontal step size selection.

⁶ Laser class in accordance with IEC 60825-1 and US FDA 21 CFR 1040.

⁷ ILRIS-LR laser Class 3 when viewing between 0-114 m. Class 1M when viewing at ranges greater than 114 m.

Data output to a variety of user-selectable formats and XYZ coordinates, including return intensity and digital photograph.

User interface: PDA, UMPC, tablet or notebook via wired/wireless connection (802.11b/g).

Digital imaging: Internal 3.1-Megapixel camera with calibration file for creating true color RGB point clouds.

Display: On-board 6.5" XVGA color LCD panel for image, system status, and data display.

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