ILRIS-LR

Summary Specification Sheet

Key Features

- 10 kHz repetition rate
- Range capability >3000 m
- Snow and ice capability
- Improved data from wet surfaces

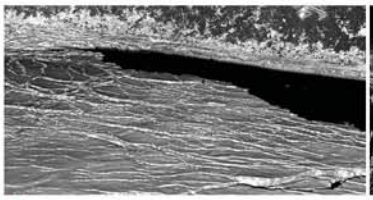
Benefits

- Fast data collection
- Reduced set-ups
- Snow and glacier modeling
- All-weather scanning

CAPTURE EVERY DIMENSION

Optech's ILRIS-LR Laser Scanner has more range capability than any other tripod-based laser scanner. The ILRIS-LR's design enables surveyors to scan ice, snow and wet surfaces with the same high accuracy and precision as other ILRIS models.

ILRIS-LR



River Ice

Ski Hill

Fresh Snow

Optech
Lidar Imaging Solutions

ILRIS Laser Scanner

Instrument Type: Dual-Mirror Pulsed Time of Flight

Parameter	ILRIS-3D	ILRIS-3D-ER	ILRIS-HD	ILRIS-HD-ER	ILRIS-LR
Range 80% reflectivity	1200 m	1700 m	1250 m	1800 m	3000 m
Range 10% reflectivity	400 m	650 m	400 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_6D 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_6D	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 RBG point clouds.
Display: On-board 6.5" XVGA color LCD panel for image, system status, and data display.

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