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 tripodbased 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.



📀 Fresh Snow





📀 Ski Hill

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ILRIS Laser Scanner

Instrument Type: Dual-Mirror Pulsed Time of Flight



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 10000 Hz 10,000 Hz 10,000 Hz 10,000 Hz Laser rejettion rate (peak and effective PRF) 2500 to 3500 Hz 10000 Hz 10,000 Hz 10,000 Hz Raw range accuracy (3 veraged) ^{1,4} n/a 4 mm @ 100 m 4 mm @ 100 m 8 mm @ 100 m Raw range accuracy (3 veraged) ^{1,4} n/a 4 mm @ 100 m 4 mm @ 100 m 2 mm @ 100 m Scanner Performance 5 8 mm @ 100 m 12 md @ 100 m 2 m @ 100 m 2 m @ 100 m Maximum density fooint-to-point spacing) 2 cm @ 1000 m 1.3 cm @ 1000 m 2 cm @ 1000 m 2 m @ 100 m Bean diameter (1/e ⁰) 22 mm @ 100 m 19 mm @ 100 m 27 m @ 100 m 20 m @ 100 m Bean diameter (1/e ⁰) 22 mm @ 100 m 19 rum @ 100 m 320 x 320 x 240 rum 320 x 320 x 240 rum Size (L x W x H) 320 x 320 x 240 mm 320 x 320 x 240 rum 320 x 320 x 240 rum 320 x 320 x 2	Parameter	ILRIS-3D	ILRIS-3D	-ER	ILRIS-HD	ILRIS-HD-ER	ILRIS-LR	
Range 10% reflectivity 400 m 650 m 1330 m Minimum range 3 m Laser repetition rate (peak and effective PRF) 2500 to 3500 Hz 10,000 Hz 10,000 Hz Efficiency (effective PRF/peak PRF) 7 mm @ 100 m 4 mm @ 100 m Raw range accuracy (averaged) ¹⁴ n/a 4 mm @ 100 m 4 mm @ 100 m Raw range accuracy (averaged) ¹⁴ n/a 4 mm @ 100 m 4 mm @ 100 m Raw range accuracy (averaged) ¹⁴ n/a 4 mm @ 100 m 600 µrad) Samer Performance 5 0.001146° (20 µrad) 0.000745° (13 µrad) 0.001146° (20 µrad) Maximum density (point-to-point spacing) 2 cm @ 100 m 1 3 cm @ 1000 m 2 cm @ 1000 m Rotational step size (ninimum) 0.001146° (20 µrad) 0.001146° (20 µrad) 0.001142° (20 µrad) Beam diameter (1/e ²) 22 mm @ 100 m 19 mm @ 100 m 27 mm @ 100 m Beam diameter (1/e ²) 22 mm @ 100 m 19 mm @ 100 m 27 mm @ 100 m Laser vavelength 1335 n 1 or 1 M 3 or 148 µrad Laser class ^{1/2} 1 or 1 M 3 0 x 320 x 240 mm 320	Range 80% reflectivity	1200 m	1700 m	n	1250 m	1800 m	3000 m	
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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® 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 0.001146° (20 µrad) 0.001146° (20 µrad) 0.001146° (20 µrad) Beam diameter (1/e°) 22 mm @ 100 m 19 mm @ 100 m 27 mm @ 100 m Beam diameter (1/e°) 22 mm @ 100 m 19 mm @ 100 m 27 mm @ 100 m Laser wavelength 1535 nm 1535 nm 1064 nm Laser class^* 1 or 1M 3 1 Integrated camera 3.1 MP 9 Physical and Environmental 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 4 Operating temperature -20°C to +50°C Poreconsumption 75 W Battery operation (standard battery pack, hot-swappable) S hours operation 3,D Data storage Removable USB drive Optional Configuration <td< td=""><td>Raw range accuracy (averaged)^{3,4}</td><td colspan="3">n/a</td><td colspan="2">4 mm @ 100 m</td><td>4 mm @ 100 m</td></td<>	Raw range accuracy (averaged) ^{3,4}	n/a			4 mm @ 100 m		4 mm @ 100 m	
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Physical and EnvironmentalSize (L x W x H)320 x 320 x 220 mm320 x 320 x 240 mm320 x 320 x 240 mmWeight13 kg14 kg14 kgOperating temperature0 to 40°CStorage temperature-20°C to +50°CPower consumption75 WBattery operation (standard battery pack, hot-swappable)S hours operationData storageRemovable USB driveOptional Configuration	Integrated camera				3.1 MP			
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Backpack Cold-weather iacket	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. 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.

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.

Optech Incorporated

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