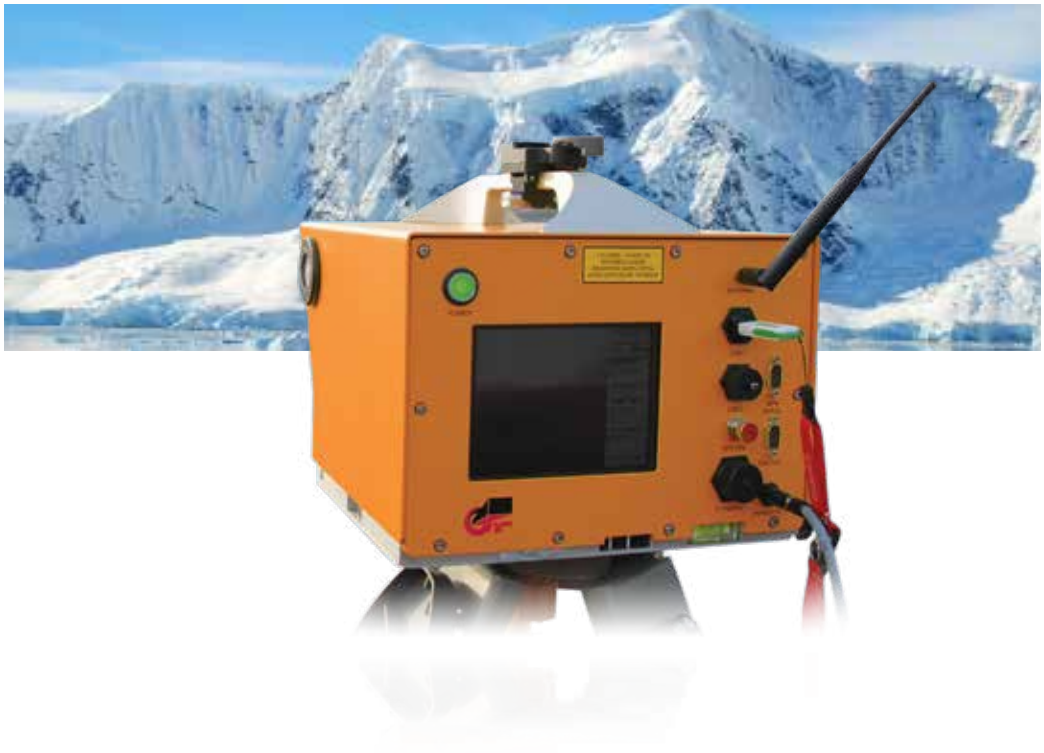
TELEDYNE OPTECH
Everywhereyoulook™

ILRIS-LR Terrestrial Laser Scanner

Summary Specification Sheet



Key Features

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

Benefits

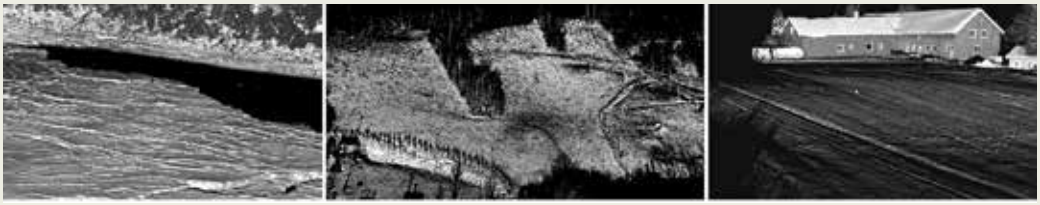
- Fast data collection
- Reduced set-ups
- Snow and glacier modeling
- All-weather scanning

Capture Every Dimension

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

The ILRIS-LR Laser Scanner has been developed to meet the evolving needs of our clients, applying lidar imaging to research areas such as glacier monitoring, avalanche research and the scanning of wet surfaces. With improved laser characteristics and enhanced optics, the ILRIS-LR takes full advantage of certain reflective properties to improve range capabilities in almost all scanning applications.

- Market leader in long-range capability
- Permanent mounted solutions
- Out-scans and out-specs other systems
- Scan from safe areas



River Ice | Ski Hill | Fresh Snow

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ILRIS-LR Terrestrial Laser Scanner

Parameter	ILRIS-LR
Range 80% reflectivity	3000 m (9842 ft)
Range 10% reflectivity	1330 m (4363 ft)
Minimum range	3 m (9 ft, 10 in)
Laser repetition rate (peak and effective PRF) [1]	10,000 Hz
Efficiency (effective PRF/peak PRF)	100%
Raw range accuracy [2,3]	7 mm @ 100 m
Raw range accuracy [3,4]	4 mm @ 100 m
Raw angular accuracy	8 mm @ 100 m (80 µrad)
Scanner Performance	
Field of view	40° × 40° (-20° through 90°, -90° through 20° with 3_6D option)
Minimum step size [5]	0.001146° (20 µrad)
Maximum density (point-to-point spacing)	2 cm @ 1000 m (1 in @ 3280 ft)
Beam diameter ($1/e^2$)	27 mm @ 100 m
Beam divergence	0.014324° (250 µrad)
Laser wavelength	1064 nm
Laser class [6,7]	3
Integrated camera	3.1 MP
Physical and Environmental	
Size (L × W × H)	320 × 320 × 240 mm (12.6 × 12.6 × 9.5 in)
Weight	14 kg (31 lbs)
Operating temperature	-20°C to +40°C (-4°F to +104°F)
Storage temperature	-20°C to +50°C (-4°F to +122°F)
Relative humidity	0 – 95% non-condensing
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/16 lbs)
MC	Motion compensation option: Enables GPS timestamping (from INS system)

Standard Accessories	
Scanner control software for Windows-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

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 (0-374 ft). Class 1M when viewing at ranges greater than 114 m (374 ft).

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.