

# Leica RTC360 3D Reality Capture Solution

Fast. Agile. Precise.



## Fast

The Leica RTC360 laser scanner makes 3D reality capture faster than ever before. With a measuring rate of up to 2 million points per second and advanced HDR imaging system, the creation of coloured 3D point clouds can be completed in under 2 minutes. Plus, automated targetless field registration (based on VIS technology) and the seamless, automated transfer of data from site to office reduce time spent in the field and further maximise productivity.



## Agile

Small and lightweight, the Leica RTC360 scanner's portable design and collapsible tripod mean it's compact enough to fit into most backpacks, ready to be taken anywhere. Once on-site, easy-to-use one-button operation makes for fast, hassle-free scanning.



## Precise

Low noise data allows for better images, resulting in crisp, high-quality scans that are rich in detail and ready for use in a range of applications. Combined with Cyclone FIELD 360 software for automated registration in the field, the Leica RTC360 scanner offers outstanding precision that can be checked on-site.

[leica-geosystems.com](http://leica-geosystems.com)



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# Leica RTC360 Product Specifications

## GENERAL

3D laser scanner	High-speed 3D laser scanner with integrated HDR spherical imaging system and Visual Inertial System (VIS) for real time registration
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## PERFORMANCE

Data acquisition	< 2 mins for complete full dome scan and spherical HDR image at 6mm @ 10 m resolution
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Real time registration	Automatic point cloud alignment based on real time tracking of scanner movement between setups based on Visual Inertial System (VIS) by video-enhanced inertial measurement unit
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Double scan	Automatic removal of moving objects
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Check & Adjust	Field procedure for targetless checking of angular parameters
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## SCANNING

Distance measurement	High-speed, high dynamic time of flight enhanced by Waveform Digitising (WFD) technology
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Laser class	1 (in accordance with IEC 60825-1:2014), 1550 nm (invisible)
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Field of view	360° (horizontal) / 300° (vertical)
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Range	Min. 0.5 - up to 130 m
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Speed	Up to 2,000,000 pts / sec
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Resolution	3 user selectable settings (3/6/12 mm @ 10 m)
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Accuracy*	Angular accuracy 18" Range accuracy 1.0 mm + 10 ppm 3D point accuracy 1.9 mm @ 10 m 2.9 mm @ 20 m 5.3 mm @ 40 m
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Range noise**	0.4 mm @ 10 m, 0.5 mm @ 20 m
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## IMAGING

Camera	36 MP 3-camera system captures 432 MPx raw data for calibrated 360° x 300° spherical image
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Speed	1 minute for full spherical HDR image at any light condition
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HDR	Automatic, 5 brackets
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## NAVIGATION SENSORS

Visual Inertial System	Video enhanced inertial measuring system to track movement of the scanner position relative to the previous setup in real time
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Tilt	IMU based, Accuracy: 18" (for upright and upside down setups with +/- 10° inclination)
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Additional sensors	Altimeter, Compass, GNSS
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## OPERATION

On scanner	Touch-screen control with finger touch, full colour WVGA graphic display 480 x 800 pixels
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Mobile devices	Leica Cyclone FIELD 360 app for iOS and Android tablet computers and smartphones including: - Remote control of scan functions - 2D & 3D data viewing - Tagging - Automatic alignment of scans
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Wireless	Integrated wireless LAN (802.11 b/g/n)
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Data storage	Leica MS256, 256 GB exchangeable USB 3.0 flash drive
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## DESIGN & PHYSICAL

Housing	Aluminium frame and sidecovers
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Dimensions	120 mm x 240 mm x 230 mm / 4.7" x 9.4" x 9.1"
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Weight	5.35 kg / 11.7 lbs, nominal (without batteries)
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Mounting mechanism	Quick mounting on 5/8" stub on lightweight tripod / optional tribrach adapter / survey tribrach adapter available
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## POWER

Internal battery	2 x Leica GEB364 internal, rechargeable Li-Ion batteries. Duration: Typically up to 4 hours Weight: 340 g per battery
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External	Leica GEV282 AC adapter
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## ENVIRONMENTAL

Operating temperature	-5° to +40°C
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Storage temperature	-40° to +70°C
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Operating low temperatures****	-10° to +40°C
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Dust/Humidity***	Solid particle/liquid ingress protection IP54 (IEC 60529)
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Leica Cyclone FIELD 360



Leica Cyclone REGISTER 360



Leica ScanStation P50

All specifications are subject to change without notice.

All accuracy specifications are on a level of confidence of 68% according to the Guide of the Expression of Uncertainty in Measurement (JCGM100:2008) unless otherwise noted.

\* At 89% albedo.

\*\* For single shot measurements

\*\*\* For upright and upside down setups with a +/- 15° inclination

\*\*\*\* Extended low temperature operation is possible to -10°C if internal temperature is at or above -5°C when powered on. For extended low temperature measurement, it is recommended that QA procedures are followed.

Scanner: Laser class 1 in accordance with IEC60825:2014

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