

Leica iCON iCR70 & iCR80 Robotic Total Stations for Construction



The Leica iCON iCR70 and iCR80 robotic total stations are the most productive one-person layout solution for construction professionals. This intuitive solution delivers fast prism search, locks and re-locks onto the prism and delivers the most reliable, simple and automated setup routine. Thanks to the industry's most reliable prism lock you never lose lock. With the iCON build layout object app integrated into the solution users benefit from a unique handling of fully rendered 3D design models in the field including the flexible creation of layout work packages for effective work progress management.

Achieve more layout points all day every day

- **Work faster:** Layout more points per day thanks to the most robust lock and re-lock to the prism in the market, supported by our easy-to-use and familiar Leica iCON build field software.
- **Stay flexible:** Create layout work packages with the highest flexibility thanks to unique handling of fully rendered 3D design models in .IFC format.
- **Automated set up:** Stay confident with the most reliable, simple and fully automated setup routine. The successful setup completion is visually communicated and constantly monitored during the workday.
- **Machine Control:** The Leica iCON iCR80S has been designed to efficiently control a wide variety of construction machines, such as milling machines, asphalt and concrete pavers, graders and dozers.

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Leica iCON iCR70/iCR80S/iCR80



Leica iCON iCR70



Leica iCON iCR80S



Leica iCON iCR80

ANGULAR MEASUREMENT

Accuracy ¹ Hz and V	Absolute, continuous, diametrical	2" (0.6 mgon), 5" (1.5 mgon)	1" (0.3 mgon), 2" (0.6 mgon) 5" (1.5 mgon)
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DISTANCE MEASUREMENT

Range ²	Prism (GPR1, GPH1P) ³ Non-Prism / Any surface ⁴	1.5m to 3500m R500: 1.5m to >500m	1.5m to 3500m R30: 1.5m to 30m R500 (optional)	1.5m to 3500m R30: 1.5m to 30m, R1000: 1.5m to >1000m
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Accuracy / Measurement time	Single (prism) ^{2,5} Single (any surface) ^{2,4,5}	1mm + 1.5ppm / typically 2.4s 2mm + 2ppm / typically 3s	1mm + 1.5ppm / typically 2.4s 2mm + 2ppm / typically 3s ⁶
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Laser dot size	At 50m	8mm x 20mm	
Measurement technology	System analyser	Coaxial, visible red laser	

AUTOMATIC AIMING

Target aiming type		ATR	ATRplus
Target aiming range ² / target locking range ²	Circular prism (GPR1, GPH1P) 360° prism (GRZ4, MPR122)	1000m / 800m 800m / 600m	1500m / 1000m 1000m / 1000m
Accuracy / Measurement time	ATR angle accuracy Hz, V Automated aiming angle accuracy Hz, V	2" (0.6 mgon), 5" (1.5 mgon) / typically 3-4 sec	1" (0.3 mgon), 2" (0.6 mgon), 5" (1.5 mgon) / typically 3-4 sec

PRISM FAST SEARCH

Prism search type		SpeedSearch	PowerSearch
Range / Search time	360° prism (GRZ4, MPR122)	300m / typically 7s	300m / typically 5s

GUIDE LIGHT (EGL)

Working range / Accuracy	5–150m / typically 5cm @ 100m		
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GENERAL

Field software	Leica iCON field software	iCON Field Software running on CC80 field tablet connected via BT or LR-BT (optional)	iCON Field Software running on the instrument
Machine Control enabled	With optional Machine Control App	No	Yes
Display & keyboard		4 button keyboard with status LEDs	5" (inch), WVGA, colour, touch, face I standard /face II optional, 22 keys, illumination
Processor	TI OMAP4430 1GHz Dual-core ARM® Cortex™ A9 MPCore™	Operating system – Windows EC7	
Power management	Exchangeable Lithium-Ion battery	Operating time 8–10h	Operating time 6–8h
Data storage	Internal memory Memory card	No 1 GB (for upload functions only)	Yes 2 GB 1 GB
Interfaces	RS232, USB, Bluetooth®, WLAN	RS232, Bluetooth®	RS232, USB, Bluetooth®, WLAN
Weight	Total station including battery	5.0kg	5.3kg
Environmental specifications	Working temperature range Dust / Water (IEC 60529) / Humidity	–20°C to +50°C IP55 / 95%, non-condensing	

Legend:

- Standard deviation ISO 17123-3
- Overcast, no haze, visibility about 40 km, no heat shimmer
- 1.5m to 2000m for 360° prisms (GRZ4, GRZ122)
- Object in shade, sky overcast, Kodak Gray Card (90% reflective)
- Standard deviation ISO 17123-4
- Distance > 500m: Accuracy 4mm + 2ppm, Measurement time typically 6s



Laser radiation, avoid direct eye exposure.
Class 3R laser product in accordance with IEC 60825-1:2014.

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