Construction & MEP Layout

Yes, it's that simple

icon

intelligent cOnstruction

- when it has to be **right**

Leica Geosystems

Leica iCON trades
Makes Your Daily Layout Tasks Simple

The small but powerful layout sensor including accessories can be carried and operated by one person. Automated processes ensure that everything is ready for use quickly and reliably.

The specially developed 'quick mount release' allows the device to be snapped to the tripod without needing to screw it on. Automated processes such as 'auto levelling' and 'auto set-up' ensure that the device is correctly set up and quickly ready for use, ensuring a high level of efficiency.

- One-person operation increases productivity
- Compact design that is easy to carry
- Fast set-up with ‘quick mount’ and ‘auto levelling’
- Quickly ready for use due to the ‘auto-setup’ process
- Easy repositioning with ‘auto-relocation’ and Leica vTarget

Leica iCON trades supports layout and marking tasks. It is ideal for both simple layout tasks and more complex projects. The handling is easy to learn and the device and software can be used immediately.

The software follows the industry-specific workflows and supports many different file types, making time-consuming data preparation in the office a thing of the past. In addition it supports all common construction cloud services and ensures that the most up-to-date data is always available.

- Easy-to-use, segment specific and workflow-oriented software
- Standard mobile app approach
- No time-consuming data preparation in the office
- Always up-to-date data available
- Statistics and reports to track layout progress and quality
- BIM support

The visual measurement technology always displays the current situation and prevents anything from being forgotten. Automated workflows also reduce measurement complexity to a minimum.

It does not matter which direction you are moving. The unique pattern of the Leica vPole is always reliably detected by the Leica iCON iCS50, whatever the direction. It also automatically compensates for pole tilt and detects the pole height. This allows you to layout more points, including hidden points.

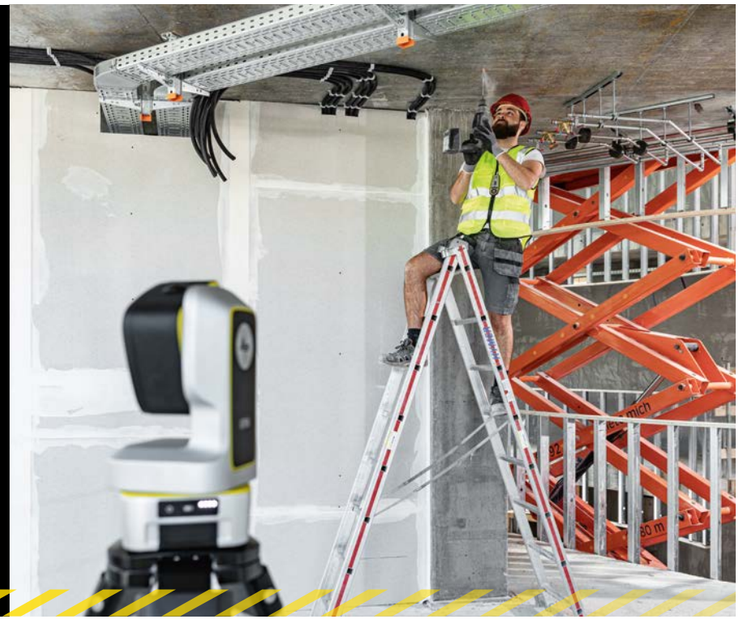
- Visual-based search and robust target lock on Leica vPole
- Leica vPole with tilt compensation and automatic pole height
- Flexible use of laser technology and Leica vPole
- Instrument movement alert to ensure consistent setup accuracy

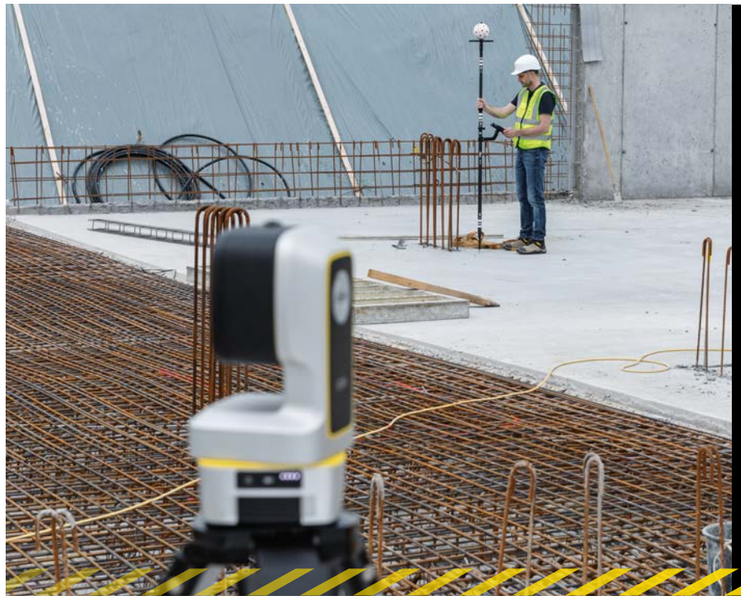
Layout More Points
By Working Less!

Leica iCON iCS20
Motorised Construction Sensor

The Leica iCON iCS20 is perfect for projecting installation points for mechanical, electrical, and plumbing systems. Its laser-pointer automatically points to the layout points on ceiling, floor or wall.

- One-person operation reduces staff resources and increases productivity
- Simplified laser layout process
- Quickly ready for use due to the ‘auto-setup’ process





Leica iCON iCS50
Robotic Construction Sensor

The Leica iCON iCS50 provides exceptional flexibility and efficiency. The Leica vPole allows you to layout points faster and mark even hidden points.

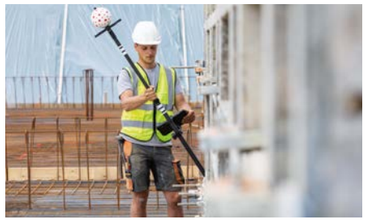
- Simplified layout process due to visual measurement technology
- Leica vPole with visual-based target tracking, automatic tilt compensation and auto-height detection
- Flexible use of laser technology and Leica vPole

Optimise Your Layout Process
Use Digital Workflows

Efficient Data Preparation
Save the time-consuming data preparation in the office with a special office software. Simply import the data which you receive from the architecture, planning or surveying office into the Leica iCON trades software. All common file types will be accepted: PDF, CSV, TXT, DXF, DWG and IFC.

Office to Field with Flexible Data Access
You can access the data either via USB, e-mail or common construction cloud services such as Bricsys 24/7, Autodesk Construction Cloud, Procore, Bluebeam, Allplan BIMPLUS, Google Drive, Dropbox, OneDrive. Always having the most recent data at hand enables you to react quickly to last-minute change requests with minimal efforts.

Comfortable and Intuitive Set-Up Process
You can carry all the equipment to the construction site in one go as it is very compact. Thanks to the 'quick-mount' tripod, automated set-up process and intuitive operation, it is immediately ready for use and the risk of inaccuracies or even errors is reduced to a minimum.



Fast and Accurate Layout
Now you can layout the points. Depending on the application, decide whether you want to work only with the laser or with the Leica vPole. The Leica iCON iCS50 always stays reliably connected to the vPole, thanks to the visual connection that is not interrupted by reflections. In addition, you no longer need to hold the tilted Leica vPole exactly plumb, which saves a lot of time and increases accuracy.

Easy Relocation
The automated relocation process uses visual targets to quickly and easily relocate the Leica iCON iCS20/ iCS50. Once the device is repositioned, it automatically finds and measures the vTargets, identifies its new position and you can continue your layout process straight away. Use this benefit to work in a closer range to the device thus reducing line of sight issues. This increases the efficiency of your layout process.

Scope of Delivery

Leica iCON iCS20
Laser Layout Package

- Leica iCON iCS20
- Leica iCON trades for Layout software
- Charger for indoor use
- Leica CSX8 tablet incl. pouch
- RC10 remote control
- GZM3 target plate
- vTarget plates incl. stands
- vTarget stickers
- Carry case incl. backstraps
- Leica wooden tripod
- Leica GAD122 quick mount adapter

Leica iCON iCS50
Robotic Layout Package

- Leica iCON iCS50
- Leica iCON trades for Layout software
- Charger for indoor use
- Leica CSX8 tablet incl. pouch and holder
- GZM3 target plate
- vTarget plates incl. stands
- vTarget stickers
- Carry case incl. backstraps
- Leica wooden tripod
- Leica GAD122 quick mount adapter
- Leica vPole incl. bipod

Leica iCON iCS50
Robotic Layout Pro Package

- Leica iCON iCS50
- Leica iCON trades for Layout Pro software
- Charger for indoor use
- Leica CSX8 tablet incl. pouch and holder
- GZM3 target plate
- vTarget plates incl. stands
- vTarget stickers
- Carry case incl. backstraps
- Leica wooden tripod
- Leica GAD122 quick mount adapter
- Leica vPole incl. pole tilt compensation and auto-height

Technical Data

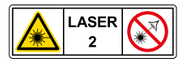
		iCON iCS20	iCON iCS50 Robotic
3D POINT ACCURACY			
Combination of angle and distance measurement	Laser	1.0 mm @ 10 m (0.04 in @ 33 ft) 2.5 mm @ 50 m (0.10 in @ 164 ft) 10.5 mm @ 250 m (0.41 in @ 820 ft)*	1.0 mm @ 10 m (0.04 in @ 33 ft) 2.0 mm @ 50 m (0.08 in @ 164 ft) 8.0 mm @ 250 m (0.31 in @ 820 ft)*
	vPen	1.5 mm @ 10 m (0.06 in @ 33 ft)**	1.0 mm @ 10 m (0.04 in @ 33 ft)
	vSphere	3.0 mm @ 50 m (0.12 in @ 164 ft)**	2.5 mm @ 50 m (0.10 in @ 164 ft)
	vPole tip	3.0 mm @ 50 m (0.12 in @ 164 ft)****	3.0 mm @ 50 m (0.12 in @ 164 ft)****
ANGULAR MEASUREMENT			
Accuracy Hz and V	Standard deviation ISO 17123-3	5" (1.54 mgon)	3" (0.93 mgon)
Working Range		horizontal (Hz): 360°, vertical (V): 290°	
DISTANCE MEASUREMENT			
Range	Reflectorless (Kodak White, 90% reflective)	0.3 to 50 / 250 m (0.98 - 164 / 820 ft)*	
	Reflectorless (Kodak Grey, 18% reflective)	0.3 to 50 / 120 m (0.98 - 164 / 394 ft)*	
	Standard prism (GPR1)	3.0 to 50 / 250 m (9.84 - 164 / 820 ft)*	
	Reflective tape (GZM31)	1.0 to 50 / 150 m (3.28 - 164 / 492 ft)*	
	vTarget (CVT3, CVT6)	1.2 to 40 m (3.94 - 131 ft)***	
	vPen	0.7 to 10 m (2.30 - 33 ft)**	
	vSphere	1.5 to 50 m (4.92 - 164 ft)**	
Accuracy Standard deviation ISO 17123-4	Non-Prism / Any surface	1.0 mm @ 10 m (0.04 in @ 33 ft) 1.5 mm @ 50 m (0.06 in @ 164 ft) 6.0 mm @ 250 m (0.24 in @ 820 ft)*	<1.0 mm @ 10 m (<0.04 in @ 33 ft)
	Standard prism (GPR1)	1.5 mm @ 50 m (0.06 in @ 164 ft) 3.5 mm @ 250 m (0.14 in @ 820 ft)*	
	Reflective tape (GZM31)	1.5 mm @ 50 m (0.06 in @ 164 ft) 2.5 mm @ 150 m (0.08 in @ 492 ft)*	
Laser dot size	Coaxial, visible red laser (II class)	17.2 x 27.3 mm @ 50 m (0.68 in x 1.41 in @ 164 ft)	
AUTOMATIC AIMING			
Auto aiming range	Standard prism (GPR1)	3.0 to 250 m (9.84 to 820 ft)*	
	vTarget	1.2 to 40 m (3.94 to 131 ft)***	
CAMERA			
Field of view / Resolution	Overview camera (diagonal)	27.6° (4.91 m @ 10 m / 16 ft @ 33 ft) / 12.33 MP	
	On-Axis camera (diagonal)	7.5° (1.31 m @ 10 m / 4.29 ft @ 33 ft) / 12.33 MP	
	Fish-eye camera (circular)	~200° (circular) / 13.31 MP	
Zoom		16x	
GENERAL			
Instrument category		iCON Construction Sensor	iCON Robotic Construction Sensor
Motorization		Motorized (robotic upgrade possible)	Robotic
Direct drives		180°/s	
Tilt compensation range		±3°	
Interfaces		USB-C (2.0), WLAN	
Weight		3.37 kg	
Environmental Specifications	Dust / Water / Humidity	IP54	
	Operating temperature	-20°C to +50°C	
	Charging temperature	0°C to +60°C	
	Storage temperature	-25°C to +70°C	
POWER MANAGEMENT			
Battery		Rechargeable Li-Ion	
Operating time		> 8h	
Charging time		70% in 1h, 100% in 2h	

* iCS 250 m option required.

** iCS20 requires iCS Robotic option

*** With rough aiming with the camera. Fully autonomous detection from 2 m / 6.56 ft to 25 m / 82 ft.

**** Including tilt compensation with vSphere at H3.



Laser class 2 in acc. with IEC 60825-1

Leica Geosystems – when it has to be right
With more than 200 years of history, Leica Geosystems, part of Hexagon, is the trusted supplier of premium sensors, software and services. Delivering value every day to professionals in surveying, construction, infrastructure, mining, mapping and other geospatial content-dependent industries, Leica Geosystems leads the industry with innovative solutions to empower our autonomous future.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 24,000 employees in 50 countries and net sales of approximately 5.2bn EUR. Learn more at hexagon.com and follow us @HexagonAB.

Leica iCON build
Brochure

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