

Leica Total Station Builder Series



Builder Specifications	Builder 100	Builder 200	Builder 300	Builder 400	Builder 500
Full Power Site Software					✓
Accuracy up to 1.5mm @100m distance					✓
Wireless Communication					✓
30°C ready					✓
Full RedDot range					✓
Prism Measurement Mode					✓
Full internal memory					✓
MEAS / REC Switch Key					✓
Cell-phone style use					✓
Extended RedDot range			✓		✓
Industrial USB Memory Stick			✓		✓
USB Type A and mini B			✓		✓
Volumes Calculation			✓		✓
Data (m) Export to USB Stick			✓		✓
Call up plan data & record points			✓		✓
Direct DXF download			✓		✓
1-person Station		✓	✓	✓	✓
Serial Interface		✓	✓	✓	✓
Tracking Mode		✓	✓	✓	✓
Laser Pointer Switch Key		✓	✓	✓	✓
PC / Handheld Interface		✓	✓	✓	✓
Laser Distance Measure		✓	✓	✓	✓
Control Line Setup		✓	✓	✓	✓
Free Choice Setup		✓	✓	✓	✓
Theft Protection	✓	✓	✓	✓	✓
PIE Stop Alert	✓	✓	✓	✓	✓
3 Languages	✓	✓	✓	✓	✓
Leveling Aid	✓	✓	✓	✓	✓
Sector Beep	✓	✓	✓	✓	✓
Dual Axis Compensator	✓	✓	✓	✓	✓
End-less Drives	✓	✓	✓	✓	✓
Laser Plummet	✓	✓	✓	✓	✓
Display Heating and Illumination	✓	✓	✓	✓	✓
Lithion Batteries	✓	✓	✓	✓	✓
Set Delivery	✓	✓	✓	✓	✓
Data Storage / Communication					
Internal Memory (points)			15'000	50'000	50'000
Angle Measurement					
Accuracy/Option	9"/6"	9"/6"	9"/6"	9"/5"	9"/5"/3"/2"
Distance Measurement					
Laser Pointer		✓	✓	✓	✓
Without reflector (90% reflective)		80 m/260 ft	120 m/395 ft	15 m/50 ft	250 m/820 ft
to reflective tape (60 mm x 90 mm)		250 m/820 ft	250 m/820 ft	15 m/50 ft	250 m/820 ft
to glass prism				500 m/1640 ft	500 m/1640 ft
				(3500 m / 11500 ft)	(3500 m / 11500 ft)
Laser Dot Size		at 30 m: approx. 7 x 10 mm, at 50 m: approx. 8 x 20 mm / at 100 ft: approx. 1.14 x 3.18 inch, at 165 ft: approx. 5/16 x 3/4 inch			
General					
Weight incl. Battery and Tribrach	4.4 kg/9.7 lbs		5.1 kg/11.2 lbs		
Operating Temperature		-20°C to +50°C / -4°F to +122°F			
Battery Type/Life		Li-Ion/approx. 20 hours*			
Environmental		IP55			
Keyboard		Standard		Full Alphanumeric	
Switch Key		Single Function		dual function	

* Single Measurement every 30 second at 25°C / 77°F with GSA221. Battery time may be shorter if battery is not new

Characteristics	Measuring systems: Type: Carrier wave: System analysis basis: 100 MHz - 150 MHz Coaxial, visible red laser 658 nm wave:
Distance [m]	Laser dot size, approximately [mm]
at 20	10 x 12
Telescope	
Type	Builder 100
Magnification	30 x
Clear objective diameter	40 mm
Focusing	1.6m/5.2 ft to infinity
Field of view	1'21"/1.50 gon
	2.4m at 100 m
Compensator	
Type	Setting accuracy
	["] [mgon]
All Builder models	2 0.7 4 0.07

Level	Circular level Sensitivity Electronic level resolution
	6"/2 mm 6" (±20)
Control Unit	
Display:	280 x 160 pixels, monochrome, graphics capable LCD, illumination
Keyboard:	7 keys / 20 keys (only Builder 400 and 500)
Angle Display:	360° / 360' decimal, 400 gon, 640 mil, 1/4°
Distance Display:	in, ft, mil, ft. in, ft. inch, 1/16" (except Builder 100)
Position:	in One Face and Face 2 is optional

Instrument Ports, Builder 200 or Higher

Name	Description
RS232	1 pin DMS-02 for power, communication, data transfer. This port is located at the base of the instrument.
USB Host port	USB memory stick port for data transfer (only for Builder 400 or higher)
USB Device port	USB communication from USB device for connection with data transfer (only for Builder 400 or higher)
Bluetooth	Bluetooth communication for communication and data transfer (only for Builder 400)

Angle Measurement	Standard deviation Hz, V, ISO 17123-3	Display least count
All Builder models, type		
	["] [mgon]	["] [mgon]
09	9 2.8	1 1
06	6 1.8	1 0.1
05	5 1.5	1 0.1
03	3 1	1 0.1
02	2 1	1 0.1

Distance Measurement	Type	Range F
Kodak Gray Card		[m] [ft]
White side, 90% reflective	Builder 200	>80 >260
	Builder 300	>120 >390
	Builder 400	15 50
	Builder 500	>250 >820
Grey side, 18% reflective	Builder 200	>50 >160
	Builder 300	>70 >230
	Builder 400	15 50
	Builder 500	>200 >660

Reflector range (red dot)	Range of measurement	Flat prism CPR105	1.5 m to 250 m Up to 250 m
Type	CPR105		
		Range F	
		[m] [ft]	
Standard	Reflective tape	170 560	
Standard	Cat-eye	250 820	

Accuracy	Standard deviation ISO 17123-4	Measure time, typical [s]
Standard, reflectorless	3 mm + 2 ppm	3.0
CPR105 Flat prism (Cat-eye)	5 mm + 2 ppm	< 2
CPR105 Flat prism (Reflective tape)	3 mm + 2 ppm	< 2

Standard measuring	Standard deviation ISO 17123-4	Measure time, typical [s]
Tracking	5 mm + 2 ppm	1.0

Reflector range (prism mode)	Range of measurement:	1.5 m to 3500 m
Type		
	Range 1	Range 2
	[m] [ft]	[m] [ft]
CPR111 Builder prism true-zero offset	450 1500 800 2600 1000 3500	
Rounded prism	1800 6000 3000 10000 3500 12000	

Accuracy	Standard deviation ISO 17123-4	Measure time, typical [s]
Standard measuring		
Prism	2 mm + 2 ppm	< 1
Tracking	5 mm + 2 ppm	< 0.3



Total Quality Management - our commitment to total customer satisfaction.

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Laser plummet: Laser class 2 in accordance with IEC 60825-1 resp. EN 60825-1

Distance meter: (PinPoint 200/300/400/500) Laser class 3R in accordance with IEC 60825-1 resp. EN 60825-1



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Whether you have to precisely layout a construction site, perform control measurements, collect height and angle data, align concrete forms, install ceilings and partitions, lay gravity flow pipe, locate underground services or complete site preparation and earthworks – Leica Geosystems offers the right instrument, construction laser or machine control installation specifically designed for your construction application.

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When it has to be right.

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of underground
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- when it has to be right



- when it has to be right

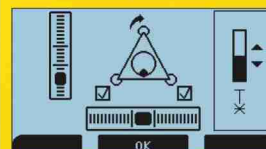


Multiple tasks – one product.

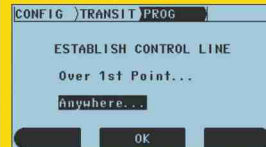
Still using a measuring tape or an optical theodolite? Do you need a tool that fulfills all measuring tasks on your construction site with ease, regardless of your profession? The Leica Builder does it all for you – trouble-free, accurately and much quicker. Simply discover the Leica Builder for your task.

The unique Builder setup method boosts your daily workflow.

It's as easy as that ...



1 Follow the Setup Wizard to level the Builder



2 Define your Control Line



3 Enter desired Offset values from plan and follow display to set out or record the point(s)

Swiss Technology
by Leica Geosystems

Builder Programmes :

(Setup, Height Transfer, Layout, As Built, Angle & Distance, Tie Distance, Area & Volumes, Measure & Descriptor, Parallel Lines, Hidden Point, COGO, Layout Line/Arc/Spiral, Stockpile Volumes)**

Optional external data collection
Connect the optional Leica DX-10 data collector to use with other standard software programs.



1. Batter Boards
Builder does it all: Setting out boards, transfer alignments to / from boards or simply storing all board data in the builder.

Your benefits:

- Precise transfer – directly from plans to the jobsite
- No tapes, strings, or plumbing-up required
- Re-setting damaged / missing boards take minutes

2. Line Layout
Columns, formwork, green-houses, racking, fencing lines, structures or terraces. Builder takes reference lines, alignment and curves in its stride.

Your benefits:

- Simple alignment of structures along the lines
- Easy transfer of line and offset values from the plan
- Straightforward layout in inclined terrain

3. Volumes
How much yd³ did you really move today? Cutting to formation, mass haul, cut / fills, stockpile monitoring – keep right on top of your earthworks progress with Builder.

Your benefits:

- No more rough-guessing of truckloads
- Fast and accurate volume determination
- Digital readout provides precise, easy to read data

4. Checks
Is that formwork vertical? Sufficient clearance between crane and roof? Are those walls parallel? Is the drainage at the right grade? Are this true 90°?

Your benefits:

- Checks on site, precise and immediate
- Measure to non-accessible points
- Hardly possible with plumb bob and tape

5. As-Built
Carpenters, landscapers, stage builders, architects, utilities companies, steel and façade constructors – all use Builder to record as-builts quickly and accurately.

Your benefits:

- Stores "as built" data for client records, e.g. for future reconstruction
- Data storage in the Builder or externally via interface
- Easy integration in the CAD planning process

6. Area
How many roof tiles? Want to be doubly-sure how much asphalt to order for the parking lot? Will those windows fit? Builder has the answer in ft².

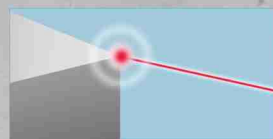
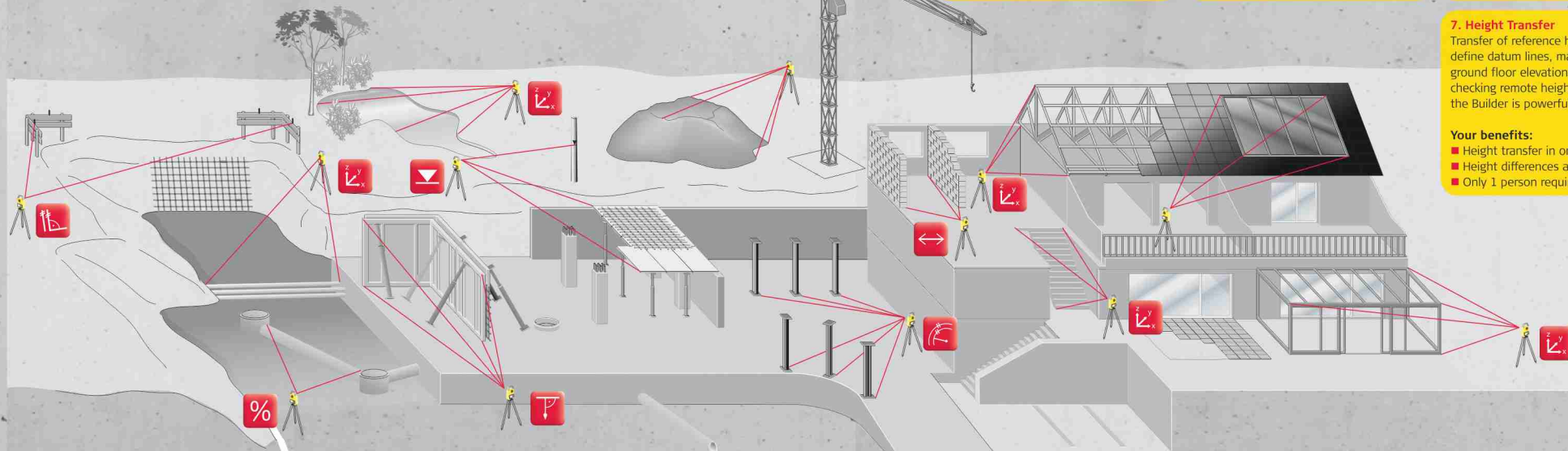
Your benefits:

- Ideal for tender preparation for surfaces of all kind
- Facts immediately on the spot
- 1-person mode via reflectorless measuring saves cost and time
- Simple capturing of inclined surfaces

7. Height Transfer
Transfer of reference heights, define datum lines, marking ground floor elevations, checking remote heights – also vertically the Builder is powerful.

Your benefits:

- Height transfer in one work step
- Height differences are no problem
- Only 1 person required



Leica Laser Technology
Excellent signal strength and pinpoint accuracy, where you need it most.

Your benefits:

- "Know what's being measured"
- Precise measurement to corners and edges too



Data exchange via USB Stick or Bluetooth

Your benefits:

- Handy removable data storage
- Cable-free and fast connection
- New plan loadable simply on site



PowerSite Software
Professionals praise the Builder's on-board programs designed to be the right tool for every job.

Your benefits:

- A solution for every application
- Amazing ease of use
- Versatile and fast to learn



Simple, clear & intuitive Graphical Interface and best-in-class display technology

Your benefits:

- Graphical assistance thanks to spacious display
- Class-leading visibility, in all light conditions
- Graphic supports daily work flow



Setup with Control Line or coordinates
Existing axis form the reference line for the Builder.

Your benefits:

- Same procedure as known from working with the tape
- Work with line and offset values straight from the plan
- Free choice of setup positions



Multilingual support
the world is getting smaller, Builder is prepared.

Your benefits:

- Switch between 3 languages of your choice
- No errors due to linguistic misunderstandings
- 25 languages available