HILTI

MEASURING SYSTEMS

Laser Range Meters

5

Multi-Directional Lasers

Rotating Lasers

Detection Systems

Optical Tools

Working range

Indoor	Outdoor	Measuring tools		10	30	50	100 m	200 m	300 m	Applications

Laser Range Meters

Indoor	Outdoor	Tool	Range	Notes
●	○	PD 5	→	70 m
●	○	PD-I	→ ⤍	With target plate
●	●	PD-E		

Rotating Lasers

Outdoor	Tool	Notes
●	PR2-HS	Laser receiver as remote / With laser receiver
● ●	PR 3 *	Laser receiver as remote / With laser receiver
● ●	PRI 36 *	Laser receiver as remote

Multi-directional Lasers

Indoor	Outdoor	Tool	Notes
●	○	PMC 46	Range of points / Range of lines
●	○	PM 4-M	Range of points / Range of lines

Optical Tools

Outdoor	Tool	Notes
●	POL 15	~ 90 m
●	POT 10	~ 100 m

* radial distance

Location and detection tools

Detection / Localize

Indoor	Outdoor	Tool	Range	Notes	Applications
●	●	PX 10	0,05 m — Localize — 1,35 m		Locate exit or entry point through floors and walls before drilling
●	●	PS 50	0 m — 0.08 m — 0.12 m / Max detection in concrete		Ferrous, Non-Ferrous metal, Non-Metal and live wire detection in different base materials
●	●	PS 250	0 m — Detection — 0.16 m		Rebar detection and analysis
●	●	PS 1000	0 m — Detection — 0.3 m		Ferrous, Non-Ferrous metal, Non-Metal and live wire detection in different base materials

● Optimal use
○ Possible use

Symbol	Meaning
Distance measuring	
Horizontal alignment	
Vertical alignment and plumb	
90° layout	
Slope	

Laser range meter PD 5

KEY APPLICATIONS & ADVANTAGES

- Measuring distances from 0.25 m to 100 m quickly and accurately
- Measuring heights where alternative measuring methods fail
- Measuring quickly and safely in places where access is difficult
- Simple and intuitive to use
- Single-button operation

PULSE▐▐▐POWER

Technical data

Accuracy	±1.5 mm
Laser class	<1 mW, 635 nm, Class 2 (IEC 60825-1:2008), Class II (FDA CFR 21 art. 1040)
IP protection class	IP 55 (IEC 529)
Dimensions (LxWxH)	164 x 33 x 21 mm
Weight with batteries	100 g
Operating temperature range	-10 - 50 °C
Operating time with alkaline battery	8000 measurements
Measuring range	0.25 m - 100 m
Data memory	Last 2 measurements
Measuring functions	Single and continuous measurement

Ordering designation	Package contents	Sales pack quantity	Item number
Combo PD 5, 6 pack		1 pc	**3493058**
Combo PD 5 x20 pack		1 pc	**3498746**
Combo PD 5 x 50 pack		1 pc	**3498748**
PD 5	1x Laser range meter PD 5, 1x Battery AAA (2) alkaline, 1x Toolbag PDA 605	1 pc	**2004788**

Extremely robust laser range meter for indoor applications and long distances up to 100 m PD-I

KEY APPLICATIONS & ADVANTAGES
- No minimum distance when measuring very short distances
- LEDs provide clear identification of the measuring reference and thus help avoid errors

PULSE ▶POWER

Technical data

Accuracy	±1 mm
Laser class	<1 mW, 635 nm, Class 2 (IEC 60825-1:2007), Class II (FDA CFR 21 art. 1040)
IP protection class	IP 65 (EN 60529)
Dimensions (LxWxH)	129 x 60 x 28 mm
Weight with batteries	165 g
Operating temperature range	-10 - 50 °C
Operating time with alkaline battery	5000 measurements
Measuring range	0 m - 100 m
Data memory	Last 30 measurements / calculation results with graphics
Calculation functions	Addition, Subtraction, Area, Volume, Painters area, Setting out, min/max, Timer, Offset, Memory (30x), Trapezoid (2x), Pythagoras (3x), Indirect measurement (3x)

Ordering designation	Package contents	Sales pack quantity	Item number
PD-I 6 Pack Combo	6x Laser range meter PD-I, 6x Battery AAA (2) alkaline, 6x Hand strap, 6x Toolbag PDA 65	1 pc	**3523921**
PD-I	1x Laser range meter PD-I, 1x Battery AAA (2) alkaline, 1x Hand strap, 1x Toolbag PDA 65	1 pc	**2061407**

Extremely robust laser range meter for outdoor applications and long distances up to 200 m PD-E

KEY APPLICATIONS & ADVANTAGES
- Measuring quickly and safely in places where access is difficult
- Measuring surface areas for quotations in renovation work
- Determining the length or height of objects that cannot be directly accessed (remote measurement)
- Measures up to 200 m even under the toughest outdoor conditions
- The outdoor display can be read even in very bright sunlight

PULSE ▶POWER

Technical data

Accuracy	±1 mm
Laser class	<1 mW, 635 nm, Class 2 (IEC 60825-1:2007), Class II (FDA CFR 21 art. 1040)
IP protection class	IP 65 (EN 60529)
Dimensions (LxWxH)	129 x 60 x 28 mm
Weight with batteries	165 g
Operating temperature range	-10 - 50 °C
Operating time with alkaline battery	5000 measurements
Measuring range	0 m - 200 m
Data memory	Last 30 measurements / calculation results with graphics
Calculation functions	Addition, Subtraction, Area, Volume, Painters area, Setting out, min/max, Timer, Offset, Memory (30x), Trapezoid (2x), Pythagoras (3x), Indirect measurement (4x)

Ordering designation	Package contents	Sales pack quantity	Item number
PD-E 6 Pack Combo	6x Laser range meter PD-E, 6x Battery AAA (2) alkaline, 6x Hand strap, 6x Toolbag PDA 65	1 pc	**3523920**
PD-E	1x Laser range meter PD-E, 1x Battery AAA (2) alkaline, 1x Hand strap, 1x Toolbag PDA 65	1 pc	**2062050**

Laser measurer with on-screen camera targeting for collecting and documenting measurements PD-CS

KEY APPLICATIONS & ADVANTAGES
- Lets you position the laser point accurately at long distances with real-time digital camera targeting
- Measuring outdoors – where the laser dot is not visible – with the support of on-screen camera targeting

Technical data

Accuracy	±1 mm
Laser class	<1 < 1 mW , 635 nm , Class 2 (IEC 60825-1:2007) , Class II (FDA CFR 21 art. 1040)
IP protection class	IIP 54 (IEC 529)
Dimensions (LxWxH)	154 x 75 x 24 mm
Weight with batteries	0.3 kg
Operating temperature range	-10 - 50 °C
Operating time with alkaline battery	10 h
Measuring range	0.15 m - 200 m
Data memory	Internal flash memory
Calculation functions	Addition, Subtraction, Area, Volume, Painters area, Setting out, min/max, Timer, Offset, Memory (30x), Trapezoid (2x), Pythagoras (3x), Indirect measurement (3x)

Ordering designation	Package contents	Sales pack quantity	Item number
PD-C	1x Laser range meter PD-C	1 pc	**2102498**

Accessories for Laser Range Meters

Ordering designation	PD-I	PD 5	PD-E	Sales pack quantity	Item number
Measuring extension PDA 72 Extension for convenient measuring from floors to ceilings and in difficult-to-reach locations	■		■	1 pc	**2062052**
Laser visibility glasses PP EY-GU R red Lens: PC material, thickness 2.1 mm, Supravision HC-AF coating, filter: 2C-1.2, impact energy: 45m/s, surface resistance to fine particles: K, antifog: N	■	■	■	1 pc	**2065448**

Combilaser PMC 46

KEY APPLICATIONS & ADVANTAGES

- Vertical alignment of pipes
- Leveling electric sockets, cable trays, radiators and pipe installations
- Leveling and aligning doors and windows
- Complete solution for interior measuring applications
- Everything you need for leveling, aligning, plumbing and squaring – in one tool

Technical data

Accuracy	±2 mm
Laser class	<1 mW, 635 nm, Class 2 (IEC 60825-1:2008), Class II (FDA CFR 21 art. 1040)
IP protection class	IP 54 (IEC 529)
Dimensions (LxWxH)	107 x 65 x 96 mm
Weight with batteries	515 g
Operating temperature range	-10 - 50 °C
Operating time with alkaline battery	20 h
Self-levelling range at room temperature	±5 °
Out-of-level warning	Yes
Horizontal fan angle	110 °

Ordering designation	Package contents	Sales pack quantity	Item number
PMC 46 kit	1x Combilaser PMC 46, 2x Battery AA (2) alkaline, 1x Tripod PMA 20 small, 1x Universal adapter PMA 78, 1x Case, 1x Bag	1 pc	**411210**

Multi-line laser PM 4-M

KEY APPLICATIONS & ADVANTAGES

- Setting out drywall tracks on floor, ceiling and wall for partitioning
- Transferring reference heights
- Vertical alignment of pipes
- Projects clear, 3D vertical lines with a cross on the ceiling
- Rotates around the center point for fast, easy alignment

Technical data

Accuracy	±2 mm
Laser class	<1 mW, 635 nm, Class 2 (IEC 60825-1:2008), Class II (FDA CFR 21 art. 1040)
IP protection class	IP 54 (IEC 529)
Dimensions (LxWxH)	124 x 124 x 187 mm
Weight with batteries	990 g
Operating temperature range	-10 - 50 °C
Operating time with alkaline battery	8 h
Self-levelling range at room temperature	±3 °
Out-of-level warning	Yes
Horizontal fan angle	180 °

Ordering designation	Package contents	Sales pack quantity	Item number
PM 4-M	1x Multi line laser PM 4-M, 2x Battery AA (2) alkaline, 1x Tripod adapter PMW 30, 1x Case	1 pc	**2047072**
PM 4-M kit	1x Multi line laser PM 4-M, 2x Battery AA (2) alkaline, 1x Tripod adapter PMW 30, 1x Tripod PMA 20 small, 1x Wall mount PMA 79, 1x Case	1 pc	**2088506**

Accessories for Multi-Directional Lasers

Ordering designation		PM 4-M	PMC 46	PMP 45	Sales pack quantity	Item number
Laser visibility glasses PP EY-GU R red Lens: PC material, thickness 2.1 mm, Supravision HC-AF coating, filter: 2C-1.2, impact energy: 45m/s, surface resistance to fine particles: K, antifog: N		■	■		1 pc	**2065448**
Laser receiver PMA 31 Laser receiver for detecting the laser beam easily in bright conditions		■	■		1 pc	**411288**
Tripod PMA 20 Compact tripod with 1/4" thread, extendable up to 1.2 m, fits neatly in the PMA 62 case Allows the user to set up the system quickly anywhere on the jobsite				■	1 pc	**411287**
Universal adapter PMA 78 Universal adapter for mounting tools on various objects, e.g. on pipes, a nail on a wall or on a ceiling profile				■	1 pc	**411286**
Wall mount PMA 79 For mounting the tool on perimeter trim for suspended ceiling applications		■		■	1 pc	**2068551**

Rotating laser PR 2-HS

KEY APPLICATIONS & ADVANTAGES

- Excavation
- Transferring and checking reference heights
- Levelling formwork and pouring concrete
- One button, one function makes the tool extremely easy to use
- Built to last - newly designed shock-absorbing handles and receiver holder as well as the rugged IP 66 protected housing provide the most reliable performance in the toughest jobsite environment (MIL-STD-810G)

Technical data

Accuracy	±0.5 mm at 10 m
Laser class	<4.85 mW, 620-690 nm, Class 2 (IEC 60825-1:2007), Class II (FDA CFR 21 art. 1040)
IP protection class	IP 66 (IEC 529)
Self-levelling range at room temperature	±5 °
Dimensions (LxWxH)	200 x 200 x 230 mm
Weight with batteries	2500 g

Ordering designation	Package contents	Sales pack quantity	Item number
PR 2-HS	1x Rotating laser PR 2-HS, 1x Battery pack PRA 84 assy, 1x Battery AA (2) alkaline, 1x Mains adapter PUA 81 (02), 1x Laser receiver PRA 20, 1x Laser receiver holder PRA 83, 1x Case	1 pc	**2071033**

Rotating laser PR 3

KEY APPLICATIONS & ADVANTAGES

- Leveling (transferring heights, pouring concrete, excavation)
- Aligning (transferring building lines, aligning colums and walls)
- Slopes (ramps, parking lots, pipes)
- Versatile rotating laser for leveling, aligning, slopes and squaring - indoors and outdoors
- Easy power management with rechargeable Li-ion battery pack

Technical data

Accuracy	±0.75 mm at 10 m
Laser class	< 4.85 mW, 635 nm, Class 2 (IEC 825-1: 2008), Class II (FDA CFR 21 art. 1040)
IP protection class	IP 56 (IEC 529)
Self-levelling range at room temperature	5 °
Dimensions (LxWxH)	252 x 252 x 201 mm
Weight with batteries	2400 g

Ordering designation	Package contents	Sales pack quantity	Item number
PR3 Ext combo 1	1x Rotating laser PR 3, 1x Battery pack PRA 84 assy, 1x Battery AA (2) alkaline, 1x Remote control PRA 2, 1x Target plate PRA 50 (CM), 1x Target plate PRA 51 (CM/IN), 1x Mains adapter PUA 81, 1x Case, 1x Laser receiver holder PRA 80, 1x Height transfer device PRA 81 (MM), 1x Laser receiver PRA 20	1 pc	**3529310**
PR 3	1x Rotating laser PR 3, 1x Battery pack PRA 84 assy, 1x Battery AA (2) alkaline, 1x Remote control PRA 2, 1x Target plate PRA 50 (CM), 1x Target plate PRA 51 (CM/IN), 1x Mains adapter PUA 81, 1x Case	1 pc	**2007617**

Rotating laser PRI 36

KEY APPLICATIONS & ADVANTAGES

- Leveling (suspended ceilings, transferring heights, pouring concrete, excavation...)
- Aligning (pipe runs and cable trays, transferring building lines, aligning columns, facades)
- Squaring (walls, partitions)
- Green laser for maximum visibility and a finer, more accurate line over typical working distances
- Thanks to auto alignment, the tool aligns the beam at the touch of a button

Technical data

Accuracy	±1 mm at 10 m
Laser class	< 4.5 mW, 532 nm, Class 3R (IEC 825-1:2007), Class IIIa (FDA CFR 21 art. 1040)
IP protection class	IP 56 (IEC 529)
Self-levelling range at room temperature	±5 °
Dimensions (LxWxH)	252 x 252 x 209 mm
Weight with batteries	2400 g

PULSE POWER

Ordering designation	Package contents	Sales pack quantity	Item number
PRI 36 Standard Combo 1	1x Rotating laser PRI 36, 1x Battery pack PRA 84 G assy, 1x Battery AA (2) alkaline, 1x Remote contr./laser rec. PRA 36, 2x Target plate PRA 54 (CM/IN), 1x Mains adapter PUA 81 (02), 1x Case, 1x Tripod PUA 20, 1x Measuring rod, 1x Laser receiver holder PRA 80	1 pc	**3515372**
PRI 36	1x Rotating laser PRI 36, 1x Battery pack PRA 84 G assy, 1x Battery AA (2) alkaline, 1x Remote contr./laser rec. PRA 36, 2x Target plate PRA 54 (CM/IN), 1x Mains adapter PUA 81 (02), 1x Case	1 pc	**2044074**

Accessories for Rotating Lasers

Ordering designation		PRI 36	PR 3	PR 2-HS	Sales pack quantity	Item number
Mains adapter PUA 81 For PSA 81 or PRA 84 batteries and PSA 100 monitor		■	■	■	1 pc	2006089
Battery pack PRA 84 Li-ion battery			■	■	1 pc	360055
Battery pack PRA 84 G Li-ion battery		■			1 pc	2044323
Crank tripod PA 921 Crank tripod with 5/8" thread and integrated circular bubble level Height can be adjusted between 0.76 m (2'3") and 1.63 m (4'9"), weight 4.8 kg (10.6 lb)		■	■	■	1 pc	378663
Crank tripod PA 931 (CM) 5/8" thread, combi tripod shoes, column with cm scale, tripod leg struts to central column and integrated circular bubble level Height can be adjusted between 0.86 and 2.88 m, weight 8.0 kg		■	■		1 pc	315998
Height transfer device PRA 81 (MM) For transferring a reference height with a glass-fibre measuring tape Can be extended to up to 1 m		■	■	■	1 pc	368627
Laser receiver PRA 20 Receiver with millimetre display for digital measurement allows easy, accurate detection of the rotating laser beam within a circular area up to 600 m in diameter				■	1 pc	2071120
Laser visibility glasses PP EY-GU R red Lens: PC material, thickness 2.1 mm, Supravision HC-AF coating, filter: 2C-1.2, impact energy: 45m/s, surface resistance to fine particles: K, antifog: N			■		1 pc	2065448
Measuring rod PUA 55 (CM) Made from aluminium, height can be adjusted between 1.31 and 2.42 m, with grid scale in cm		■	■	■	1 pc	435443
Remote contr./laser rec. PRA 36 Laser receiver and remote control unit in one device; with millimetre display for digital measurement		■			1 pc	2044077
Slope adapter PRA 79 Place the adapter between the rotating laser and the tripod for setting out slopes manually up to 60%				■	1 pc	2071083
Tripod bag PUA 40 Tripod bag for one tripod and one measuring rod		■	■	■	1 pc	377847
Tripod PUA 20 + PUA 50 kit Complete with PUA 20 tripod, PUA 50 telescopic staff with holder clip for ease of transport, weight 4.7 kg		■	■	■	1 pc	400936
Tripod PUA 20 Tripod with 5/8" thread, height can be adjusted between 1.06 m (41.7 in) and 1.70 m (67 in), metal tripod head, self-locking tripod legs, weight 4.1 kg (9 lb)		■	■	■	1 pc	400934

Transpointer PX 10

KEY APPLICATIONS & ADVANTAGES

- Transferring the starting point for drilling through-holes
- Wall and ceiling thickness measurement for easy selection of the right drill bit or core bit length
- Determining the drill bit exit position and transfering drilling positions when drilling through walls and ceilings in concrete and masonry
- Allows drilling to be carried out quickly and efficiently
- No need for time-consuming procedures such as drilling pilot holes, measuring out manually or "trial and error"

Technical data

Measuring range	0.05 m - 1.35 m
Accuracy wall thickness measurement	±5 %
IP protection class	IP 56 (IEC 529)
Dimensions (transmitter)	160 x 95 x 33 mm
Dimensions (receiver)	210 x 95 x 33 mm
Weight (transmitter) (incl. battery)	240 g
Weight (receiver) (incl. battery)	275 g
Operating temperature range	-20 - 55 °C
Operating time with alkaline battery	17 h
Automatic power-off (receiver)	Yes

Ordering designation	Package contents	Sales pack quantity	Item number
PX 10 R	1x Battery 9V Block alkaline, 1x Receiver PX 10 R, 1x Hand strap	1 pc	**273129**
PX 10 kit	2x Battery 9V Block alkaline, 1x Receiver PX 10 R, 1x Transmitter PX 10 T, 1x Adhesive putty PUA 91, 1x Adhesive strip PUA 92, 2x Hand strap, 1x Slope adapter PXA 70, 1x Marker pen PUA 70 set, 1x Case	1 pc	**273126**

Multidetector PS 50

KEY APPLICATIONS & ADVANTAGES

- Detecting metal, wood or plastic objects and electrical conduits at depths up to 150 mm
- Quickly and easily locating objects under the surface of structures prior to drilling, coring, sawing or slitting
- Drilling anchor holes or through penetrations for pipe and cable installations with minimal risk of hitting concealed objects
- Helps you drill right the first time – knowing where to drill helps avoid costly repairs, saves time and drill bits
- A real problem solver that brings peace of mind in anchoring or coring applications when plans are no longer available, e.g. in renovation projects

Technical data

Max. detection depth for object localization[1]	150 mm
Max. detection depth for live wires (50/60 Hz, 90 - 240V)[1]	60 mm
Minimum distance between two neighbouring objects	40 mm
Accuracy of depth indication[1]	±10 mm
IP protection class	IP 54 (IEC 529)
Dimensions (LxWxH)	195 x 90 x 75 mm
Weight with batteries	700 g
Operating temperature range	-10 - 50 °C
Operating time with alkaline battery	5 h
Automatic switch-off	Yes

[1] Performance and accuracy can be significantly affected by site conditions. See operating instructions.

Ordering designation	Package contents	Sales pack quantity	Item number
PS 50	1x Multidetector PS 50, 1x Battery AA (2) alkaline, 1x Marker pen PUA 70, 1x Hand strap, 1x Toolbag PSA 67, 1x Case	1 pc	**2075559**

Ferroscan system PS 250

KEY APPLICATIONS & ADVANTAGES

- Rebar verification and analysis
- Checking concrete coverage over large areas for structural repair work
- Building acceptance inspections and quality control
- Provides accurate depth of cover measurements for reinforcement at depths of up to 100 mm
- Displays a clear 2D image of the reinforcement on the monitor for on-the-spot structural analysis and depth of cover assessment

Technical data

Rebar diameter range	6 - 36 mm
Max. depth for determining rebar diameter[1]	60 mm
IP protection class	IP 54 (IEC 529)
Dimensions (scanner)	260 x 132 x 132 mm
Weight (scanner) (incl. battery)	1.4 kg
Data memory (scanner)	9 Images-cans plus up to 30 m (100 ft) Quickscan recordings
Operating temperature range	-10 - 50 °C
Operating time with NiMH battery	8 h
Dimensions (monitor)	292 x 208 x 65 mm
Weight (monitor) (incl. battery)	2.3 kg

[1] Performance and accuracy can be significantly affected by site conditions - see operating instructions

Ordering designation	Package contents	Sales pack quantity	Item number
PS 200 S kit	1x Scanner PS 200 S, 1x Battery pack PSA 80, 1x Battery charger PUA 80, 1x Battery AA (2) alkaline, 5x Reference grid PSA 10 (MM), 1x Hand strap, 1x Supply cord EU, 1x Infrared adapter PSA 55, 1x Concrete adhesive tape PUA 90, 1x Marker pen PUA 70 set, 1x Carry belt PSA 62, 1x Toolbag PSA 60, 1x Case	1 pc	**2044472**
PS 250	1x Scanner PS 200 S, 1x Battery pack PSA 80, 1x Battery pack PSA 82, 1x Battery charger PUA 80, 1x Battery AA (2) alkaline, 5x Reference grid PSA 10 (MM), 1x Monitor PSA 100, 1x Hand strap, 1x Mains adapter PUA 81 (02), 1x Supply cord EU, 1x Infrared adapter PSA 55, 1x Concrete adhesive tape PUA 90, 1x Marker pen PUA 70 set, 1x Toolbag PSA 60, 1x Toolbag PSA 61, 1x Case	1 pc	**2044434**

X-Scan system PS 1000

KEY APPLICATIONS & ADVANTAGES

- Locating rebars, tendons, metal and plastic conduits, glass-fibre cables, voids and wood in dry concrete structures at depths of up to 400 mm

- Minimizing the risk of hitting concealed objects when drilling anchor holes or through holes, breaking out openings and in diamond coring and sawing work
- Rebar extension (post-installed rebar connections) in structural applications
- Provides a real-time view of the inside of concrete structures and generates true images automatically for direct on-site evaluation of scan data by the user - no expert skills required
- Features three scan modes for specific applications: Quickscan Detection, Quickscan Recording and Imagescan (2-D and 3-D data visualization with top view and cross sectional views)

PULSE POWER

Technical data

Max. detection depth for object localization[1]	400 mm
Minimum distance between two neighbouring objects	40 mm
Accuracy of depth indication[1]	<100 mm: ±10 mm;>100 mm: ±15 %
IP protection class	IP 54 (IEC 529)
Dimensions (scanner)	318 x 190 x 143 mm
Weight (scanner) (incl. battery)	2.5 kg
Data memory (scanner)	Approx. 200 scans (SD) approx. 10 scans (internal flash memory)
Operating temperature range	-10 - 50 °C
Operating time with Li-ion battery	4 h
Operating time with Li-ion battery (scanner)	4 h

[1] Performance and accuracy can be significantly affected by site conditions. See operating instructions.

Ordering designation	Package contents	Sales pack quantity	Item number
PS 1000	1x Scanner PS 1000, 2x Battery pack PSA 81 (05), 1x Battery pack PSA 82, 5x Reference grid PSA 12, 2x Reference grid PSA 14, 1x Torque wrench PSW 1000-3, 1x Monitor PSA 100, 1x Hand strap, 2x Mains adapter PUA 81 (02), 1x Memory card PSA 95, 1x Adapter PSA 96, 1x Concrete adhesive tape PUA 90, 1x Marker pen PUA 70 set, 1x Trolley PS 1000 assy, 1x Toolbag PSA 64	1 pc	**2007503**
PS 1000	1x Scanner PS 1000, 2x Battery pack PSA 81 (05), 5x Reference grid PSA 12, 2x Reference grid PSA 14, 1x Torque wrench PSW 1000-3, 1x Hand strap, 1x Mains adapter PUA 81 (02), 1x Memory card PSA 95, 1x Adapter PSA 96, 1x Concrete adhesive tape PUA 90, 1x Marker pen PUA 70 set, 1x Case	1 pc	**2007501**

Accessories for Detection Systems

Ordering designation		PS 1000	PS 250	Sales pack quantity	Item number
Mains adapter PUA 81 For PSA 81 or PRA 84 batteries and PSA 100 monitor		■	■	1 pc	**2006089**
Battery pack PSA 81 Battery for the scanner		■		1 pc	**2006182**
Battery pack PSA 82 For PSA 100 monitor		■	■	1 pc	**2006183**
Mains adapter PUA 80 Replacement or additional charger for charging the PSA 80 battery pack			■	1 pc	**2095221**

Optical level POL 15

KEY APPLICATIONS & ADVANTAGES

- Measuring, checking and transferring heights
- Checking concrete pouring heights and levels
- Checking and adjusting formwork props
- High-quality optics for excellent staff readings
- High-quality mechanisms for smooth, easy operation

Technical data

Height accuracy (single measurement)	±1.5 mm at 30 m
Magnification	28 x
Standard deviation (1 km double levelling)	2 mm
Compensator type	Air-damping
Setting accuracy of compensator	0.5 ″
IP protection class	IP 55 (IEC 529)

Ordering designation	Package contents	Sales pack quantity	Item number
POL 15	1x Optical level POL 15, 1x Adjustment wrench POA 10, 1x Case	1 pc	**429474**

Theodolite with high-quality optics and 30x magnification for leveling and aligning structural components, setting out slopes and angles POT 10

KEY APPLICATIONS & ADVANTAGES

- Checking and aligning structural components and formwork
- Setting out slopes and angles
- Transferring control lines to batter boards
- Laser plummet for fast, easy setting up over a point
- Fine drive with locking system

Technical data

Angle measurement accuracy (DIN 18723)	5 ″
Laser class	<4.75 mW, 630-680 nm, Class 3R (EN: 60825-1), Class IIIa (FDA CFR 21 art. 1040)
Laser plummet accuracy	1.5 mm at 1.5 m
Magnification	30 x
Compensator type	1-axis, Liquid
Setting accuracy of compensator	5 ″

Ordering designation	Package contents	Sales pack quantity	Item number
POT 10	1x Theodolite POT 10, 1x Battery POA 80, 1x Adjustment wrench POW 10, 1x Mains adapter POA 81, 1x Mains adapter POA 82, 1x Case	1 pc	**435295**

Accessories for Optical Tools

Ordering designation	POL 15	POT 10	Sales pack quantity	Item number
Battery charger POA 82 For charging POA 80 batteries The POA 81 mains adapter is required for connecting POS 15/18 mechanical total stations to a power outlet		■	1 pc	435298
Bubble level PUA 42 For checking that the measuring rod is perfectly vertical - in order to avoid errors	■		1 pc	428688
Mains adapter POA 81 For charging the POC 100 controller or POS 15/18 mechanical total stations (POS 15/18 requires the additional POA 82 charger)		■	1 pc	435297
Measuring rod PUA 51 CM E-T Made from aluminium, height can be adjusted between 0.88 m and 4 m, E-scale increments, magnetic nail holder makes it easy to drive nails on formwork	■		1 pc	428684
Tripod PUA 20 + PUA 50 kit Complete with PUA 20 tripod, PUA 50 telescopic staff with holder clip for ease of transport, weight 4.7 kg	■		1 pc	400936
Tripod PUA 20 Tripod with 5/8" thread, height can be adjusted between 1.06 m (41.7 in) and 1.70 m (67 in), metal tripod head, self-locking tripod legs, weight 4.1 kg (9 lb)	■		1 pc	400934
Tripod PUA 35 Wooden tripod with 5/8" thread, height can be adjusted between 1.06 and 1.70 m, metal tripod head, self-locking tripod legs, weight 6.13 kg		■	1 pc	428683