



Laser measuring tools and  
surveying equipment

Precision by tradition

geo  
F E N N E L





Don't judge us by our 150 years of measuring tradition,  
but by our surveying expertise.

The success of geo-FENNEL, a German supplier of laser measuring tools and surveying instruments, is due to single-minded motivation: customer satisfaction.

Quality, service, expertise, flexibility and price consciousness are therefore the standards, which essentially determine action throughout our company.

Good contacts with our customers and market closeness are a matter of course. Dialogue with practitioners increase our understanding of their requirements and permanently increases our experience to your advantage, because we use this information to produce tailored commercial solutions and individual products.

This will be our chosen approach in the future too and we will continue to ensure that you the customer and your wishes are our top priority.

Whether regional or international, simple or sophisticated, you will find our products in more than 60 countries worldwide – as they been for over 150 years now.

Our world is surveying. That is where we are at home.

**geo-FENNEL – Precision by tradition**





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## Multi-Pointer



## Multi-Pointer

5 self-levelling laser beams at right-angles to each other: up, down, left, right and forward. Plumb lines, aligning elements and many other applications – it couldn't be easier.

- Easy operation
- Out-of-level alarm
- Multi-functional mount to attach the instrument to
  - floor and wall
  - wall frames
  - pipes
  - tripod (5/8" and 1/4")
- Transport lock
- Robust housing
- Dust and water resistant

### TECHNICAL DATA

Accuracy	± 2 mm/10 m
Working range	30 m
Self-levelling range	± 3° – 5°
Laser diode/class	650 nm/2
Tripod mount	5/8" + 1/4"
Sizes	80 x 98 x 101,6 mm
Weight (instrument only)	0,74 kg
Power supply	3 x 1,5 V AA
Temperature range	-10 °C – +40 °C

### SUPPLIED WITH

Multi-functional mount, magnetic target, strap attachment, batteries, hard case

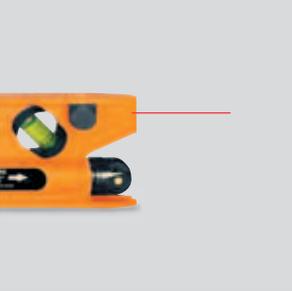
### OPTIONAL ACCESSORIES

KS 3 Floor-to-ceiling pillar, elevating tripod FS 10



# Torpedo

The universal laser spirit level optionally generates a laser dot or a laser line.



- Switchable laser point or laser line
- Stepless rotation of laser line plus 90° lock
- 45°, 90° & 180° vials
- Magnetic base
- 1/4"-thread for tripod

# Square Liner II

**New design and improved engineering!**  
The angle template generates two laser lines at 90° to each other. Ideal for all flooring work!



- Projects 2 laser lines at 90° to each other (right angle)
- Fine and clear visible laser lines
- 0° to 90° graduation for setting up 90°, 45° or any required angles to floor, wall or ceiling
- 2 built-in tubular vials for horizontal and vertical alignment

TECHNICAL DATA	
Accuracy	± 3 mm/10 m
Working range	30 m*
Visible laser diode	635 nm
Laser class	2
Power supply	2 x 1.5 V AA
Operating time	30h
Temperature range	0 – 40 °C
*depending on room illumination	

SUPPLIED WITH
Batteries, case

TECHNICAL DATA	
Accuracy	± 3 mm/10 m
Working range	30 m*
Visible laser diodes	2 x 635 nm
Laser class	2 M
Power supply	2 x 1.5 V AA
Operating time	48 h
Temperature range	0 – 40 °C
*depending on room illumination	

SUPPLIED WITH
Magnetic target, batteries and padded bag

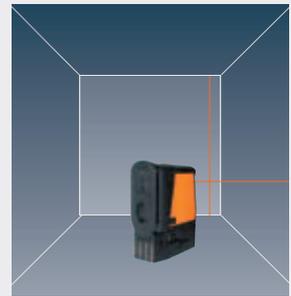
# V-Liner Red V-Liner Green



# FL 40-Pocket II

Now with pulse function for use with receiver

**Improved technical construction, larger and more robust.**



Fast, accurate and portable – the ideal laser tool for indoor measurements! Starter model for transferring levels, hanging suspended ceilings or aligning stud walls, windows, doors and for alignments.

- Laser cross
- Detachable multi-function mount
- Base and side magnets
- Visual and audible alarm when out of level
- Thread on instrument and mount (5/8" & 1/4")
- Locking device for safe transport
- Use with receiver FR 55/ FR 55-M (optional) to extend the working range up to 60 m

- Self-levelling line laser
- One vertical line
- Transport lock
- Visual alarm when out of level

### TECHNICAL DATA

Accuracy	± 1,5 mm/5 m
Fan Angle	140°
Self-levelling range	± 5°
Power supply	3 x AA batteries
Laser class	2M
Visible laser diode	635 nm

### SUPPLIED WITH

Set of batteries, case, operators' manual

### TECHNICAL DATA

Accuracy	± 3 mm/10 m
Self-levelling range (side/side)	± 4°
Working range without receiver Ø	10 m*
Working range with receiver Ø	60 m
Operating time	48 h
Power supply	3 x 1.5 Volt AA
Visible laser diodes	2 x 635 nm
Laser class	2M
Weight	0,4 kg

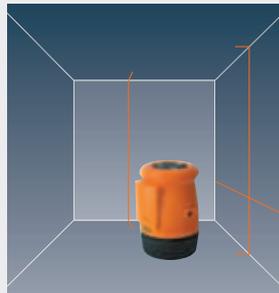
\*depending on room illumination

### SUPPLIED WITH

Multi-functional mount, set of batteries, magnetic target, padded carrying bag

## FL 40-3Liner

Now with pulse function for use with receiver



- Laser cross
- Vertical laser line at 90° to laser cross
- 3 visible laser lines
- Magnetic damping
- Locking device for safe transport
- Visual and audible alarm when out of level
- Use with receiver FR 55/ FR 55-M (optional) to extend the working range up to 60 m

### TECHNICAL DATA

Self-levelling range	
(side/side)	± 3,5°
(forward/backward)	± 3,5°
Damping system	magnetic
Accuracy	± 3 mm/10 m
Working range without receiver Ø	10 m*
Working range Ø	60 m
Operating time	15 h
Power supply	3 x 1.5 Volt AA
Visible laser diodes	2 x 635 nm
Laser class	2 M
Weight	0,8 kg

\*depending on room illumination

### SUPPLIED WITH

Wall/tripod-mount, set of batteries, magnetic target, laser intensive glasses, padded carrying case

## Laser Receiver FR 55-M for Line lasers

Height indication by LEDs.



- Height indication by 3 LEDs which are situated on front, side and back side
- With clamp
- Shut-off tone
- 2-step accuracy
- Automatic shut-off
- Supplied in case

## Laser Receiver FR 55 for Line lasers

Height indication by LEDs and a display.



- Height indication by 3 LEDs which are situated on front and back side, as well as by a large display on front side
- With clamp
- Shut-off tone
- 2-step accuracy
- Automatic shut-off
- Built-in vials

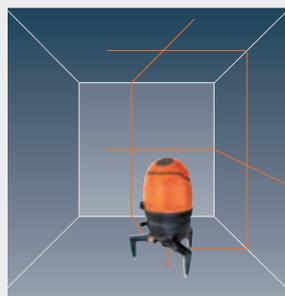
## Multi-Liner FL 50



## Multi-Liner FL 50

A professional tool that fulfils almost every wish. Applications as for the FL 40 Pocket and FL 40-3Liner. Furthermore, right-angles and plumb lines are also possible. The optional FR 55 receiver enables measurements to be taken in adverse light conditions and outdoors!

- 3 Laser crosses at 90° to each other
- Standard beam (high visibility) and pulsed beam function for use with receiver
- Laser cross to the ceiling
- Plumb down beam to the floor
- 3 visible laser lines switchable individually
- Adjustable 360° circle reading
- Slow motion screw
- Compensator-lock for transport
- Automatic shut-off and audible alarm when out of level
- Use with floor tripod (standard outfit)
- Use with builders' tripod (optional)
- Use with receiver FR 55 to extend the working range up to 80 m (optional)!



### TECHNICAL DATA

Self-levelling range	± 3,5°
Damping system	magnetic
Accuracy	± 3 mm/10 m
Working range without receiver Ø	20 m*
Working range with receiver Ø	80 m
Operating time rechargeable batteries	15 h**
Power supply	NiMH
Charger can also be used as power supply	yes
Visible laser diodes	4 x 635 nm
Laser class	2 M
Weight	2,0 kg

\*depending on room illumination

\*\*depends on numbers of switched diodes

### SUPPLIED WITH

Floor tripod, magnetic target, laser intensive glasses, 5/8"-adapter for connection of floor tripod to builders' tripod, rechargeable battery pack, charger and hard case

### OPTIONAL ACCESSORIES

Receiver FR 55 with clamp



## Multi-Liner FL 50 PLUS with receiver FR 55

The professional tool, which leaves nothing to be desired. Additionally equipped with a receiver, the Multi-Liner FL 50 PLUS provides 4 laser crosses.

- 4 Laser crosses at 90° to each other
- Standard beam (high visibility) and pulsed beam function for use with receiver
- Laser cross to the ceiling
- Plumb down beam to the floor
- 3 visible laser lines switchable individually
- Adjustable 360° circle reading
- Slow motion screw
- Compensator-lock for transport
- Automatic shut-off and audible alarm when out of level
- Use with floor tripod (standard outfit)
- Use with builders' tripod (optional)
- Use with receiver FR 55 to extend the working range up to 80 m!

### TECHNICAL DATA

Self-levelling range	± 3,5°
Damping system	magnetic
Accuracy	± 3 mm/10 m
Working range without receiver Ø	20 m*
Working range with receiver Ø	80 m
Operating time rechargeable batteries	12 h**
Power supply	NiMH
Charger can also be used as power supply	yes
Visible laser diodes	6 x 635 nm
Laser class	2 M
Weight	2,0 kg

\*depending on room illumination

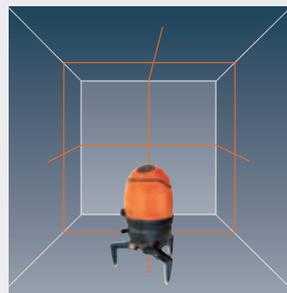
\*\*depends on numbers of switched diodes

### RECEIVER FR 55

Indication	Front Display / side LED's
Accuracy	± 1 mm
Tones	3
Operating time / Power supply	100 h (1 x 9V)

### SUPPLIED WITH

Receiver FR 55 with clamp and battery, floor tripod, magnetic target, laser intensive glasses, 5/8"-adapter for connection of floor tripod to builders' tripod, rechargeable battery pack, charger and hard case



## Maxi-Liner FL 60

The next milestone: electronic vials



- Electronic self-levelling
- 5 laser crosses
- 4 vertical lines at 90° to each other
- 2 horizontal lines
- Laser-cross to the ceiling
- Plumb down beam
- Use with receiver FR 55
- Adjustable 360° circle
- Tangent screw
- Automatic shut-off/visible alarm when out of level
- Integrated floor tripod
- 5/8"-thread for builders' tripod

### TECHNICAL DATA

Self-levelling range	± 3°
Accuracy	± 1 mm / 10 m
Working range	
without receiver*	20 m Ø
with receiver	80 m Ø
Fan angle Hz-lines	2 x 130°
Power supply	NiMH / Alkaline-batteries
Charger = power supply	yes
Laser diode / laser class	635 nm / 2 M
Temperature range	-10 °C – 40 °C
*depending on room illumination	

### SUPPLIED WITH

Receiver, rechargeable batteries, power supply, magnetic target, laser glasses, hard case

## FLG 40-Green

Finally there! Cross laser with green laser diode.  
Around a multiple better visible than a red laser beam.



- Laser cross
- Fully automatic self-levelling
- Locking device for safe transport
- Visual and audible alarm when out of level
- 360° base
- Self-levelling function can be switched off and laser beam can be run on manual
- Detachable multi-functional mount
- Base and side magnets
- Thread on instrument and mount (5/8" & 1/4")



### TECHNISCHE DATEN

Accuracy	± 3 mm / 10 m
Self-levelling range	± 3,5 °
Temperature range	0° - 40°C
Power supply	NiMH
Operating time rech. batteries	8 h
Charger = power supply	yes
Laser diode / laser class	532 nm / 3 R
Laser output power	< 5 mW

### SUPPLIED WITH

Multi-functional mount, rechargeable battery, charger, target, laser glasses, hard case

# SUMMARY DOT, LINE AND CROSS LASERS

Functions Supplied with

<b>FUNCTIONS</b>	<b>Multi-Pointer</b>	<b>Torpedo</b>	<b>Square Liner II</b>	<b>V-Liner Red</b>	<b>V-Liner Green</b>
Levelling system	fully automatic	–	–	fully automatic	fully automatic
Automatic shut-off if level is disturbed	yes / visual and audible alarm	no	no	yes / visual alarm	yes / visual alarm
Water resistant	yes	no	no	no	no
Use with receiver	no	no	no	no	no
<b>SUPPLIED WITH</b>					
Receiver	no	no	no	no	no
Laser glasses	no	optional	optional	optional	optional
Magnetic target	yes	optional	yes	optional	optional
Batteries	alkaline	akaline	alkaline	akaline	akaline
Charger	no	no	no	no	no

<b>FUNCTIONS</b>	<b>FL 40-Pocket II</b>	<b>FL 40-3Liner</b>	<b>FL 50 / FL 50 Plus</b>	<b>Maxi-Liner FL60</b>	<b>FLG 40-Green</b>
Levelling system	fully automatic				
Automatic shut-off if level is disturbed	yes / visual and audible alarm				
Water resistant	no	no	no	no	no
Use with receiver	yes	yes	yes	yes	no
<b>SUPPLIED WITH</b>					
Receiver	optional	optional	optional/yes	yes	no
Laser glasses	optional	yes	yes	yes	yes
Magnetic target	yes	yes	yes	yes	yes
Batteries	alkaline	alkaline	rechargeable	rechargeable	rechargeable
Charger	no	no	yes	yes	yes

FL 100HA



## Horizontal Laser Level FL 100HA

The fully-automatic horizontal laser with large working range. Very easy to use. Its robust, dust and water resistant housing makes it an ideal laser for every construction site.



- Large working range up to 650 m in Ø
- Auto shut-off when out of self-levelling range
- Automatic TILT-alarm function
- Powerful rechargeable battery
- Can be used with alkaline batteries
- Manual slope setting of both axis (X and Y) up to  $\pm 5^\circ$  (9%)

### TECHNICAL DATA

Self-levelling range	$\pm 5^\circ$
Horizontal accuracy	$\pm 1 \text{ mm}/10 \text{ m}$
Working range Ø with FR 44	600 m
with FMR 700	650 m
Slope setting X-axis	$\pm 5^\circ$ (9%)
Y-axis	$\pm 5^\circ$ (9%)
Rotating speed rpm	600
Operating time / power supply	30 h (NiMH)
	60 h (alkaline)
Remote control range	50 m
Temperature range	$-20^\circ\text{C}$ to $+50^\circ\text{C}$
Visible laser diode / Laser class	635 nm/2
Dust/waterprotection	IP 65

### SUPPLIED WITH

Receiver FR 44 with clamp for levelling staff, rechargeable battery with charger, battery compartment for alkaline batteries, remote control for slope setting, container





## Rotating Laser FL 400HA-G

Powerful, fully-automatic dual grade slope laser, fully equipped and extremely easy intuitive use. The large working range and digital grade adjustment make it ideally suited for numerous uses in building / civil engineering, road construction and landscape gardening, and for guiding excavators and other machines.

- Accuracy  $\pm 0,5 \text{ mm} / 10 \text{ m}$
- Digital slope setting of both axis (X and Y) up to  $\pm 7,999 \%$ , with a resolution of  $\pm 0,001\%$
- Automatic TILT-alarm function (also in slope mode)
- Zonal control with electronic beam screen
- Dust and water resistant according to IP 66, shock-proof
- Powerful rechargeable battery
- Can be used with alkaline batteries
- Telescopic viewfinder attached magnetically



### TECHNICAL DATA

Self-levelling range	$\pm 5^\circ$
Horizontal accuracy	$\pm 0,5 \text{ mm} / 10 \text{ m}$
Working range $\varnothing$ with FR 44	600 m
with FMR 700	650 m
Slope setting	X-axis $\pm 7,999\%$
Y-axis	$\pm 7,999\%$
X- and Y-axis	$\pm 10\%$
Rotating speed rpm	300/600/1100
Operating time / power supply	30 h (NiMH)
	60 h (alkaline)
Remote control range	50 m
Temperature range	$-20^\circ \text{C} - + 50^\circ \text{C}$
Visible laser diode / Laser class	635 nm/2
Dust/waterprotection	IP 66

### SUPPLIED WITH

Receiver FR 44 with clamp for levelling staff, telescopic viewfinder, rechargeable batteries, charger, remote control, container

### Rotating Laser FL 200A-N

A self-levelling rotating laser for horizontal and vertical applications indoors and outdoors. FL200A-N – the all-rounder with unbeatable fast self-levelling.

Its clearly visible laser beam and scanning function make it ideally suited for interior finishing work. The automatic func-

tion can be switched off. Used together with the grade mount, enables inclined surfaces to be created. Its robust design also makes it a versatile laser for different applications on the construction site.



- Very quick self-levelling
- Horizontal fully automatic, vertical set with foot screw
- Automatic shut-off with audible alarm when misaligned
- Multistage rotating beam or laser point only
- Double scanning function
- Permanent 90° plumb beam to ceiling
- Use with NiMH rechargeable battery (standard) or alkaline batteries

#### TECHNICAL DATA

Self-levelling range	± 3,5°
Accuracy horizontal	± 1,5 mm/10 m
vertical	± 1,5 mm/10 m
Working range Ø with receiver	200 m
not rotating w/o receiver	approx. 50 m*
scanning w/o receiver	approx. 30 m*
rotating w/o receiver	approx. 20 m*
Rotating speed rpm	0 – 350
Operating time	20 h (NiMH) 40 h (Alkaline)
Power supply	4 x D 1.5 NiMH
Temperature range	-10 °C – +40 °C
Visible laser diode / laser class	635 nm/2
Dust/waterprotection	IP 65
*depending on surrounding and average light conditions	

#### SUPPLIED WITH

Receiver FR 44 with clamp for levelling staff, remote control, rechargeable batteries, charger, floor / wallmount, container





## Rotating Laser FL 250VA-N

Horizontal and vertical, fully automatic self-aligning. Compact and robust, slope and scanning function. The ideal multi-functional laser for indoor and outdoor use.



- Visible laser beam
- Slope setting up to +/- 5° in X & Y axis
- Two rotating speeds
- Variable scanning mode
- Laser point mode
- Permanent 90° plumb beam to ceiling
- TILT-Function
- Use with NiMH rechargeable battery (standard) or alkaline batteries

### TECHNICAL DATA

Self-levelling range	± 5°
Accuracy horizontal	± 1 mm/10 m
vertical	± 1,5 mm/10 m
Working range Ø with receiver	500 m
not rotating w/o receiver	approx. 50 m*
scanning w/o receiver	approx. 30 m*
rotating w/o receiver	approx. 20 m*
Gradual slope setting in X & Y axis	± 5°
Rotating speed rpm	120, 500
Operating time	24 h (NiMH) 48h (Alkaline)
Power supply	4 x D Alkaline
Temperature range	-20 °C – +50 °C
Visible laser diode / laser class	635 nm/2
Dust/waterprotection	IP 65
*depending on surrounding and average light conditions	

### SUPPLIED WITH

Receiver FR 44 with clamp for levelling staff, remote control, rechargeable batteries, charger, floormount (integrated), magnetic target, laser glasses and container

FLG 250-Green

## Rotating Laser FLG 250-Green

Improved visibility through green laser beam – innovation for indoor use!



- Green laser beam
- Horizontal and vertical fully automatic self-levelling
- Compact and robust
- Variable scanning and laser point mode
- Permanent 90° plumb beam
- TILT-function
- Slope setting up to  $\pm 5^\circ$  in X & Y axis
- Use with NiMH rechargeable battery (standard) or alkaline batteries



### TECHNICAL DATA

#### FLG 250-Green

Automatic levelling range	$\pm 5^\circ$
Horizontal accuracy	$\pm 1,0 \text{ mm} / 10 \text{ m}$
Vertical accuracy	$\pm 1,5 \text{ mm} / 10 \text{ m}$
Operating range with receiver $\varnothing$	$\geq 250 \text{ m}$
Not rotating (without receiver)	ca. 80 m*
Scanning (without receiver)	ca. 40 m*
Rotating (without receiver)	ca. 30 m*
Remote control range	50 m
Rotating speed rpm	120, 500
Operating time/power supply	12 h (6.0 V NiMH) or 30 h (4 x C Alkaline)
Temperature range	$0^\circ \text{ to } + 40^\circ \text{C}$
Visible laserdiode / Laser class	532 nm / 3R
Output power of laserdiode	$< 5 \text{ mW}$
Weight	3,5 kg

#### FRG 44

Display	1 x LCD
Fine mode accuracy	$\pm 1 \text{ mm}$
Coarse mode accuracy	$\pm 3 \text{ mm}$
Operating time/power supply	400 h (3 x 1.5 V AA)

\*depending on light conditions

### SUPPLIED WITH

Remote control, rechargeable battery, charger, floor-/wallmount, magnetic target, laser glasses, hard case

### OPTIONAL

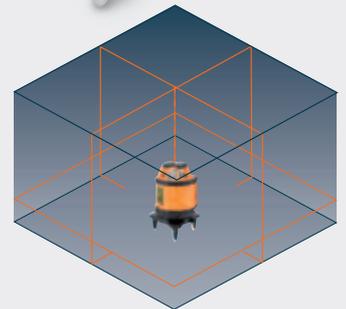
Receiver FRG 44 with clamp



# FL 1000

**Fully up-to-date.** With the worldwide new FL1000 even complicated surveying tasks are child's play! The electronic self-levelling device has, for example, a visible horizontally rotating laser beam and four vertical laser lines at 90° to each other. Especially convenient: The laser can be remote controlled. A combination in which every detail fits and which sets itself apart through its outstanding capability.

- Electronic self-levelling
- Horizontal visible rotating laser beam
- Vertical 4 laser lines at 90° to each other
- Laser-cross to the ceiling
- Plumb down beam
- Tilt-function, slope setting
- Combi-Receiver for rotating and line laser
- Remote control
- Adjustable 360° circle
- Tangent screw
- Automatic shut-off/audible alarm when out of level
- Integrated floor tripod
- 5/8"-connection for builders' tripod



### TECHNICAL DATA

Self-levelling range	± 5°
Accuracy	± 1 mm/10 m
<b>Rotating laser</b>	
Gradual slope setting X+Y Axis	± 5°
TILT-Alerting function	yes
Working range without receiver Ø	40 m*
Working range with receiver Ø	200 m
Scanning Ø	30 m*
Scanning range	10/30/60°
<b>Line laser</b>	
Working range without receiver Ø	20 m
Working range with receiver Ø	80 m
Rotating speed rpm.	200, 500
Power supply	NiMH/Alkaline
Charger = power supply	ja
Laser diode / laser class	635 nm/3R
Temperature range	-10 °C – +40 °C
Dust/Waterprotection	IP 54
*depending on room illumination	

### SUPPLIED WITH

Combi-receiver, rechargeable batteries, power supply, magnetic target, laser glasses, remote control, hard case

# SUMMARY

FUNCTIONS	FL 100HA	FL 400HA-G	FL 200A-N	FL 250VA-N	FLG 250-Green
Levelling system	fully automatic	fully automatic	H=fully automatic V=manual	H=fully automatic V=fully automatic	H=fully automatic V=fully automatic
Directions of use (horizontal/vertical)	H	H	H+V	H+V	H+V
Automatic shut-off if level is disturbed	yes	yes	yes	yes	yes
Slope function	2 axis	2 axis digital	no	2 axis	2 axis
Scanning	no	no	yes	yes	yes
Water resistant	yes	yes	yes	yes	yes
<b>SUPPLIED WITH</b>					
Receiver with clamp	yes	yes	yes	yes	yes
Remote control	yes	yes	yes	yes	yes
Magnetic target	optional	optional	optional	yes	yes
Laser glasses	optional	optional	optional	yes	yes
Batteries	rechargeable/ alkaline	rechargeable/ alkaline	rechargeable/ alkaline	rechargeable/ alkaline	rechargeable/ alkaline
Charger	yes	yes	yes	yes	yes

## Laser Receiver FR 33



With dual display and clamp for levelling staff, shut-off tone, automatic shut-off, illumination, built-in bubble vial.

## Laser Receiver FR 45



With dual display and clamp for levelling staff, shut-off tone, automatic shut-off, illumination, built-in magnetic strips on top and side, bubble vial.

### TECHNICAL DATA

Display	2 x LCD
2-step accuracy	± 2 mm/± 1 mm
Power supply	1 x 9V
Tones	3
Shut-off tone	yes
Automatic shut-off	yes
Illumination	yes
Weight	0,2 kg

### TECHNICAL DATA

Display	2 x LCD
3-step accuracy	± 2 mm, ± 4 mm, ± 10 mm
Power supply	1 x 9V
Tones	3
Shut-off tone	yes
Automatic shut-off	yes
Illumination	yes
Weight	0,2 kg

Telescopic Rule

Laser EasyFix 5 m



- Telescopic Rule with incorporated measuring tape
- Every section can be fixed by a clamp
- Universal adapter for laser receiver. Receiver can be fixed with on-level-mark on top of the rule. The height of the receiver (on-level-mark) can easily be read at measuring display
- Maximum length 500 cm
- Retracted length 121,5 cm
- Incorporated circular bubble
- Weight 2,7 kg
- Incl. case

Floor-to-Ceiling Pillar KS 3



- Floor-to-ceiling pillar (1-leg-tripod) to be fixed between floor and ceiling
- 5 sections
- Maximal length 3,40 m
- 5/8" and 1/4" adapter
- Supplied with carrying bag

**New: Sturdier design with metal reinforcement. The individual parts are now equipped with 5/8" connections. This enables them to be screwed onto standard tripods, e.g. if no ceiling surface is available.**

Screeding Pole



- To attach the laser receiver for checking heights during concrete works
- Made of aluminium
- Length of square-type tube 1,5 m
- Diameter of disc 38 cm
- Weight 1,7 kg

Wall and Ceiling Mount WH 1



- Robust mount to fix laser levels on wall or ceiling
- Ideal for use indoors, e.g. to make out drop ceilings
- Cm/inch-graduation
- Precise adjustment for alignment by use of large motion wheel
- Incl. bag

Laser Intensive Glasses



Laser intensive glasses for better visibility of laser beam.

Magnetic Target LS 307



Magnetic target, with cm/inch graduation.

### Grade Mount



- To set slopes of 0 to 90° with rotating laser levels in manual mode
- Robust construction
- Graduated slow motion screw
- Fits to any tripod with 5/8" connection

### Scaffold Clamp Holder



- For quick centring over the linchpin
- To connect with rotating laser levels, automatic levels, theodolites
- Span approx. 60 mm
- Weight 1,5 kg

### Elevating Tripod FS 10



- Lightweight elevating tripod made of aluminium for use of instruments with 5/8"-thread
- Working range 53 to 163 cm (incl. 30 cm centre column)
- Rotating head
- Incorporated circular bubble
- Weight 2,0 kg
- Incl. bag

### Camera Tripod



- Lightweight elevating tripod made of aluminium for instruments with 1/4"-thread
- Working range 57 to 161 cm
- Rotating head
- Ideal as accessory for laser distancemeter
- Incl. bag

### Bipod B 18 for GPS Rods and Prism Poles



- Made of aluminium
- Working range of legs 1,10 m to 1,80 m
- Quick release clamping mechanism of legs
- Possible rod diameters 19 to 38 mm
- Rods to be clamped with thumb screw
- Weight 2 kg
- Supplied with: leg clip and nylon case

### GPS Antenna Pole G 20



- Made of carbon fibre
- Length 2 m (2 sections)
- Diameter 32 mm
- Weight only 600 gr.
- Adjustable circular bubble
- Replaceable steel point
- Supplied with bag

## Pipe Laser FKL-80

The FKL-80 emits an automatically levelled or defined inclined laser beam as reference axis. It can be set up centrally or at a constant distance above the pipe invert.

- Fully automatic
- Automatic levelling
- Banking compensation
- Inclination zeroing
- Direction centring and cut-out in case of undervoltage or jerky movement
- Robust metal housing
- Special laser beam quality
- Brightly illuminated, easily legible LCD display
- Easy handling
- Built-in rechargeable battery
- Menu
- User-friendly infrared remote control

### ALSO AVAILABLE

#### FKL-81

High-power version, max. range up to 500 m  
Special feature: laser power adjustable in five steps.  
Laser class 3R, laser power < 5 mW



### TECHNICAL DATA

Laser class	2, < 1 mW / diode
Laser	visible red, 635 nm
Beam diameter	13 mm at laser
Range depending on ambient conditions	to 200 m
Inclination range	-10 % to +40 %
Self-levelling range	-5 % to +40 %
Reading precision	0,001 %
Permissible deviation	± 0,005 %
Direction setting range	± 5,000 %
Banking compensation	± 4°
Operating time	Battery to 26 hours
External power supply	11 V DC to 14 V DC with cable 0117.00
Undervoltage cut-out	yes
Watertight	to 0.35 bar
Temperature range	-10°C to +50°C
Dimensions/Weight	Ø 130 mm, length, 265 mm/3,0 kg
Range IR remote control	to 150 m from front to 18 m from behind
Dust/waterprotection	IP 67

### SUPPLIED WITH

#### Basic version

- 1 Target frame with target DN 150 - 300
  - 2 Transport case, with lock
  - 3 Pipe laser with leg set DN 150
  - 7 Leg set DN 300
  - 8 Leg set DN 250
  - 9 Leg set DN 200
  - 12 Battery charger
- Operating instructions

#### Comfort version

- 4 IR remote control
- 5 Leg set DN 500
- 6 Leg set DN 400
- 10 Adapter for mounting with 3 legs
- 11 Target DN 400 - 500



## Laser Level FL 20

A reliable and tried and tested rotating laser for numerous applications. FL20, the cost effective manual laser for many possible uses.



- For horizontal and vertical measurements
- Visible laser beam
- Horizontal easy setting with 2 bubbles
- Scanning function (2 step)
- Laser point mode
- Multistage rotating beam
- Permanent 90° beam to zenith
- One vertical line (switchable) to project a laser cross
- Manual slope (1 axis) up to 4 %

### TECHNICAL DATA

Accuracy	± 3 mm/10m
Working range	
- with receiver Ø	≥ 120 m
- laserpoint	approx. 30 m*
- scanning	approx. 20 m*
- rotating	approx. 10 m*
Operating time / power supply	18 h/4 x 1.5V AA
Visible laser diode / laser class	635 nm/2
*depending on room illumination	

### SUPPLIED WITH

Wall / tripod mount, batteries, bag

### OPTIONAL ACCESSORIES

Receiver FR 44, remote control

## Laser Receiver FMR 600



- Attachment to levelling rod by use of clamp or attachment directly to the machine with built-in magnets
- LCD, LEDs and 3 different tones indicate heights
- Memory function of last received data
- Water resistant

### TECHNICAL DATA

Accuracy fine	± 5 mm
Accuracy coarse	± 12,5 mm
Working range	200 m
Receiving window	125 mm long
Reception angle	240°
Power supply	4 x AA Alkaline
Operating time	50 h
Operating temperature	-20 °C – +50 °C
Size	170 x 100 x 42 mm
Dust/waterprotection	IP 66
Weight	0,96 kg

### SUPPLIED WITH

Batteries and container

## Machine Control Receiver Set FMR 700-M and 700-C

Machine control receiver for use with construction machines for permanent level control. The receiver has a 360° reception range.



- Length of receiving windows 25 cm
- Connection to the machine  
FMR 700-C – with screw clamps  
FMR 700-M – with strong magnets
- Detects beam from rotating laser levels of any brand
- Water and dust protected metal housing according to IP 66
- Remote display

### TECHNICAL DATA

Accuracy fine	± 2 mm – ± 10 mm
Accuracy coarse	± 5 mm – ± 23 mm
Rechargeable batteries	7.2 V NiMh 2500 mAh
Operating time	40 h
Charging time	15 h
Operating temperature	-20 °C – +50 °C
Size	376 x 180 x 49 mm
Weight	3,1 kg

### SUPPLIED WITH

Machine control receiver, built-in rechargeable battery, charger, 12/24V-battery cable, remote display with connection cable, hard case

Also supplied separately:

- Machine control receiver FMR 706-M or 706-C, built-in battery, charger, 12/24V battery cable, hard case
- Remote display with connection cable

FET 500 FET 200



## FET 500



- Ideal for the alignment of construction elements and setting out angles
- Built-in optical plummet
- Telescopic bubble
- Circle orientation device
- Available in 400 gon or 360°

### TECHNICAL DATA

Magnification	20 x
Objective aperture	30 mm
Shortest focussing distance	1,2 m
Direct reading	0.1 gon / 5'
Estimation	10 mgon / 30''
Weight	2,0 kg

### OPTIONAL ACCESSORIES

Eye-piece prisms for steep angle sighting and tubular compass on request

## FET 200



- Robust and easy to use
- Clear and easy scale reading
- Circle orientation device
- Built-in optical plummet
- Available in 400 gon or 360°

### TECHNICAL DATA

Magnification	30 x
Objective aperture	42 mm
Shortest focussing distance	2 m
Direct reading	10 mgon / 1'
Estimation	2 mgon / 10''
Weight	3,8 kg

# FET 420K with compensator



- 2 large, easy-to-read displays
- Electronic compensator for high measurement accuracy
- Built-in illumination for display and field of view
- Hz-circle selectable clockwise or counterclockwise
- 0-set or hold of Hz-circle at any desired position
- V-circle angle (gon/degrees) or % of slope



### TECHNICAL DATA

Accuracy	20" (4 mgon)
Compensation	vertical
Telescope magnification	30 x
Clear objective aperture	45 mm
Stadia constant	100
<b>Angle measurement</b>	<b>Incremental</b>
Measuring units	400 gon oder 360°
Display	2 x LCD
<b>Optical plummet</b>	
magn.	3 x
Operating time	15 h
Power supply	4 x AA (alkaline)
Temperature range	-20 °C – + 45 °C
Tribrach	detachable
Weight	4 kg

### OPTIONAL ACCESSORIES

Diagonal eyepiece

# FET 110 and FET 120



- Easy and fast operation
- Large, easy-to-read display
- Bright and high magnification telescope
- Built-in illumination for display and field of view
- Horizontal circle selectable clockwise / counterclockwise
- 0-set hold
- V-circle angle or % of slope
- Detachable tribrach
- Optional: Diagonal eyepiece

### TECHNICAL DATA

#### Telescope

	FET 110	FET 120
Length		155 mm
Clear objective aperture		45 mm
Magnification		30 x
Resolution power		2.5"
Shortest focussing distance		1,3 m
Display(s)	2	1

#### Angle measurement

	FET 110	or	FET 120
Incremental minimum reading	5"		10"
Accuracy (DIN 18723)	10"		20"

#### Level sensitivity

Plate level	30" per 2 mm
Circular level	8' per 2 mm

#### Optical plummet

Magnification	3 x
Focussing range	0,5 m to ∞

Power supply	4 x 1.5 V AA batteries
Operating time	15 hrs
Temperature range	-20 °C to +50 °C
Weight	4,8 kg

## Level No. 10



- Nitrogen filled to prevent telescope condensation
- Bubble reading prism for convenient observation of bubble at eye level
- Optical sight for fast alignment to target
- Robust metal housing for protection against damage
- Suitable for both flat and domed head tripods

TECHNICAL DATA	No. 10-20	No. 10-22	No. 10-26	No. 10-32
Mean error for 1 km double levelling	2,5 mm	2,5 mm	2,0 mm	1,5 mm
Telescope magnification	20 x	22 x	26 x	32 x
Objective diameter	35 mm	35 mm	40 mm	40 mm
Field of view at 100 m	3,5 m	3,5 m	3,5 m	3,5 m
Shortest focussing distance	0,5 m	0,5 m	0,5 m	0,5 m
Working range of compensator	±15'	±15'	±15'	±15'
Levelling accuracy	±0,5"	±0,5"	±0,5"	±0,5"
Circular bubble	8' / 2 mm			
Horizontal circle	400 gon / 360°			
Direct reading	1 gon / 1°			
Estimation	0,1 gon / 10'			
Weight	2,0 kg	2,0 kg	2,0 kg	2,0 kg

## Automatic Level FAL 24



- Metal housing
- Mirror for easy reading of bubble
- Suitable for both flat and domed head tripods

TECHNICAL DATA	
Magnification	24 x
Clear objective aperture	38 mm
Shortest focussing distance	0,3 m
Compensator	air dampened
Compensator range	±15'
Setting accuracy	±0,5"
Sensitivity of bubble	8' / 2 mm
Deviation	2,0 mm
Circle	360° or 400 gon
Graduation of circle	1° or 1 gon
Weight	1,3 kg
Accessories	plumb bob, adjusting pins and case

## All-purpose Tripods FS 20, FS 23

Aluminium Tripod FS 23, ideal for all measuring instruments.

- Quick clamp system
- Flat head
- Shoulder carrying strap
- Diameter of tripod head 158 mm

Aluminium Tripod FS 20  
Similar to FS 23. Lighter construction.  
Ideal for levelling instruments.



## FS 20-D, FS 23-D

Aluminium Tripod FS 23-D  
Same as FS 23 tripod, however, with domed head.

Aluminium Tripod FS 20-D  
Same as FS 20 tripod, however, with domed head.



## Wooden Tripod FS 24

- Robust wooden tripod for theodolites and total stations
- Quick clamp system
- Flat head
- Shoulder carrying strap



## Aluminium Tripod FS 40

- Adjustable range of centre column 30 cm
- Operating range 0,95 – 1,56 m + 30 cm centre column
- Quick clamp system



## Elevating Tripod FS 30-M

- Operating range from 0,65 m to 2 m
- Adjustable range of centre column 39 cm
- Quick clamp system
- Chains between tripod legs
- Integrated retractable rubber pads for non-slip use on hard surfaces
- Incorporated circular bubble



## Elevating Tripod FS 30-L

- Operating range from 0,90 m to 2,85 m
- Adjustable range of centre column 40 cm
- Quick clamp system
- Chains between tripod legs
- Integrated retractable rubber pads for non-slip use on hard surfaces
- Incorporated circular bubble



## Elevating Tripod FS 30-XL

- Operating range from 1,66 m to 3,80 m
- Adjustable range of centre column 104 cm
- Can load up to 20 kgs
- Combined quick clamp and screw clamp system
- Struts between tripod legs
- Retracted length 1,79 m
- Made of aluminium (centre column) and fiber glass (tripod)
- Incorporated circular bubble



PRODUCT	TRIPOD HEAD	SIZE/CM	WEIGHT
FS 20	Flat head	105 – 165	3,5 kg
FS 20-D	Domed head	105 – 165	3,5 kg
FS 23	Flat head	105 – 170	5,1 kg
FS 23-D	Domed head	105 – 170	5,1 kg
FS 24	Flat head	105 – 170	6,5 kg

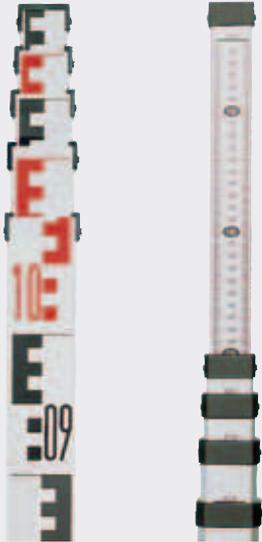
PRODUCT	TRIPOD HEAD	SIZE/CM	WEIGHT
FS 40	Column/Flat head	95 – 186	3,2 kg
FS 30-M	Column/Flat head	65 – 200	5,2 kg
FS 30-L	Column/Flat head	90 – 285	8,2 kg
FS 30-XL	Column/Flat head	166 – 380	15,6 kg



## Telescopic Levelling Rods

## Telescopic Rule

### Telescopic Levelling Rod TN 14/15



- Made of strong aluminium tubes
- Silver anodised finish
- Frontside cm-E graduation throughout total length
- Available in 4 m and 5 m
- Reverse side graduation to mm for height measurements
- Slit to fix LR 7 Rod Level

#### OPTIONAL ACCESSORIES

Nylon case with shoulder carrying strap, rod level LR 7

### Telescopic Levelling Rod TN 15-0



Same as TN 15, however, reverse side graduation in mm with "0" beginning at the bottom. Available in 5 m only

#### OPTIONAL ACCESSORIES

Nylon case with shoulder carrying strap, rod level LR 7



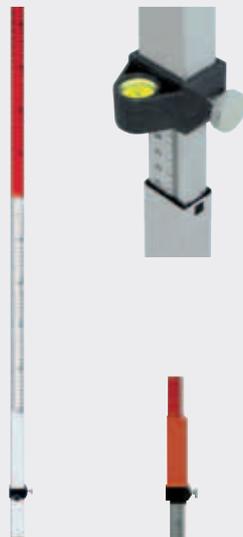
### Rod Level LR 7

- For TN 14/15 and TN 15-0
- Adjustable



### Combi Rod TN 20-K

- Made of strong aluminium tubes
- Graduation in mm
- Length 2,40 m
- Lower part adjustable in height for zero setting
- Including circular bubble and carrying case
- Including adjustable clamp for receiver
- Weight 0,9 kg
- Ideal for use with rotating laser levels



### Telescopic Rule EasyFix 5 m

- Easy reading of measuring display
- Auto-lock on each section when fully extended
- Incorporates two vials
- Cm/mm-graduation on bottom section
- Retracted length 104 cm, max. length 5 m
- Weight 2 kg



#### SUPPLIED WITH

Threaded pins for top and bottom plate for measuring to corners and edges, carrying case

## Precision Measuring Wheel M 10

- Wheel circumference 1 m
- Clamp for wheel
- Robust support allows M 10 to stand upright
- Dirt remover
- Precision counter with "0" reset
- Sturdy spokes offer low resistance to wind ensuring ease of use
- The highly visibility colour of the wheel aids operator safety during use on roads
- Weight 2,7 kg



## Precision Measuring Wheel M 10S

Same as M 10, however:

- Heavy model with double-disk-wheel made of metal
- Weight 3,4 kg



## Marking Spray

- Environmentally neutral: free of CFC, toluene, heavy metal
- Contents 500 ml
- All angle spraying
- Marking and sticking to any surface even if it is wet
- Fast drying
- Complete emptying of can
- Colour coordinated cap which is connected with the can

### AVAILABLE COLOURS

- pink
- bright orange
- warning red
- radiant blue
- gleaming yellow
- safety green
- red
- yellow
- white



## Electronic Measuring Wheel ME 100

- Wheel circumference 1 m
- Accuracy 0,1%
- Range from 0 to 999.999,99 m
- Memory function



## M 10K and M 10T



Sturdy PVC-case and padded nylon bag for M 10, M 10S and M 20

### OPTIONAL ACCESSORIES

Bag, kickstand

## Metal Ranging Pole RP 2



- Consisting of 2 sections of 1 m each to be screwed together = one pole of 2 m length
- Connection with 5/8"-thread
- White/red painting
- Metal tip
- 1 pack = 6 x RP 2 in bag

## Extension 1 m



- 1 m section for extension of the range pole as required
- White/red painting
- 5/8"-thread

## Ranging Pole Tripod RPT 1



- Extendable tripod legs 77-128 cm, with fixing clamps
- Weight 1,25 kg
- Clamp with ball-and-socket joint
- Supplied with case

## DISTO A2

The compact and handy base model was especially designed for indoor applications. Shortcut keys for addition, subtraction, area and volume calculation make measuring fast and very reliable. Such as with all Leica laser distance meters, the laser dot is clearly visible. You can always see your targeting point even if the target object is in a hard to access area.



- Precise, fast and reliable indoor measurements
- Measuring range of 0.05 til 60 m
- Typ. accuracy  $\pm 1.5$  mm
- Handy size
- Direct keys
- Ergonomic
- Illuminated display
- Stake-out function

### SUPPLIED WITH

Holster, batteries

## DISTO A3

Minimal size and simple operation are the defining characteristics of the basic model. Shortcut keys for addition, subtraction, area and volume mean that measuring could not be simpler. Minimum and maximum functions have also now been incorporated.



- Fast and accurate measurement of short and long distances (approx. 80 m) without target plate
- Measuring range of 0,05 up to 100 m
- Typ. accuracy  $\pm 1.5$  mm
- Handy size
- Shortcut keys
- Measuring of minimum and maximum distances, e.g. for measuring a room diagonal
- Integrated spirit-level function
- Illuminated display
- Targeting assistance

### SUPPLIED WITH

Holster, hand loop, batteries

## DISTO A5

The Leica DISTO™ A5 stands out thanks to both its ergonomic design and the soft rubber grip that allows it to sit well in the hand. With its unique end piece, wide range of additional functions and integrated view finder, the Leica DISTO™ A5 is fully equipped to tackle any measuring task. The most common calculating functions are of course quickly and easily accessed via the corresponding shortcut keys.



- Fast and accurate measurement of short and long distances (approx. 100 m) without target plate
- Measuring range of 0,05 up to 200 m
- Typ. accuracy ± 1,5 mm
- Very good handling
- Shortcut keys
- Maximum results with minimum effort, no more manual calculations, measurement of inaccessible locations
- Indirect height-/width measurement
- Integrated viewfinder with 2x magnification
- Illuminated display

### SUPPLIED WITH

Holster, hand loop, batteries

## DISTO A6

The measuring process on the Leica DISTO™ A6 isn't over with the display of the results: integrated BLUETOOTH® technology, combined with software designed to let you export measurement readings straight into various programs (e.g. Word® Excel®, AutoCad®) without use of cables. Take the hard work out of measuring – it is fun now!



- Fast and accurate measurement of short and long distances (approx. 100 m) without target plate
- Measuring range of 0,05 up to 200 m
- Typ. accuracy ± 1.5 mm
- Power Range Technology™
- Integrated viewfinder with 2x magnification
- Integrated BLUETOOTH® technology
- DISTO™ transfer
- Navigation keys
- Direct control of the cursor movements

### SUPPLIED WITH

Holster, hand loop, batteries, DISTO™transfer

## DISTO A8

The visionary for outdoor use



Leica DISTO™ A8 with its digital viewfinder and the integrated slope sensor is a real world novelty and opens absolute new possibilities. With the 3 x magnification viewfinder you can easily sight your target, the cross hairs displayed supports the effect. The illumination of the grey-level display can be adjusted manually: an ideal tool for sunny days! With the slope sensor not only angles are displayed but also the real horizontal distance as well as various indirect height measurements. Digital viewfinder and slope sensor – perfect for outdoor measurements!

**Digital viewfinder and slope sensor – perfect for everyday outdoor measurements!**

### PRODUCT FEATURES

### YOUR ADVANTAGES

Measuring range 0,05 to 200 m; Typ. accuracy ± 1,5 mm	Accurate, fast and precise measurement
Power Range Technology™	Measurement of long distances (approx. 100 m) without target plate
Digital viewfinder with 3 x magnification	Comfortable measurements by sunshine and for long distance targets
Slope sensor technology	Slope measurements through positioning of the instrument onto the object
Indirect slope measurement	Height measurement without laser beam being reflected over the slope sensor
Indirect height / width measurement	Measurement of inaccessible locations – more details are displayed at the touch of a button
Grey graphics display	Maximum contrast – variable nine-level illumination
IP54	Dust- / water protection – indispensable at construction sites

Two electronic inclinometers. Handy and accurate. This ensures convenient measurement even in difficult situations.

## S-Digit mini



- Small and handy
- Inclination in degrees or percent
- Working range of angle measurement 4 x 90°
- 0° and 90°-position of inclination is confirmed by a signal tone
- Automatic digit inversion for overhead measurements
- Hold-function to freeze measurement
- Magnetic base
- 1/4"-thread for connection to tripod

## S-Digit 60



- Length 60 cm
- Inclination in degrees or percent
- Working range of measurement 4 x 90°
- 0° and 90°-position of inclination is confirmed by a signal tone
- Automatic digit inversion for overhead measurements
- Visible laser beam to extend working range
- Hold-function to freeze measurement
- Built-in horizontal-, vertical- and 45°-vials
- 1/4"-thread



### TECHNICAL DATA

Working range	4 x 90°
Resolution	0,1° or 0,1 %
Accuracy	0° + 90° = ± 0,1° 1° - 89° = ± 0,2°
Power supply	3 x 1.5V AA
Operating time	600 h
Size	156 x 56 x 31 mm
Weight	0,3 kg incl. batteries

### SUPPLIED WITH

Padded bag, batteries

### TECHNICAL DATA

Working range	4 x 90°
Resolution	0,1° or 0,1%
Accuracy inclination	0° + 90° = ± 0,1° 1° - 89° = ± 0,2°
Working range laser	20 m
Accuracy laser	± 0,5 mm / 1 m
Wave length	650 nm
Laser class	2
Power supply	3 x 1.5V AA
Operating time	60 h
Weight	0,85 kg
Size	600 x 27 x 60 mm

### SUPPLIED WITH

Padded bag, batteries



## Multi-Digit pro

All-in-one. Electronic angle measurer, electronic slope measurer and laser spirit level. Easy and accurate. For measuring angles, inclinations, sloped and plane surfaces.



- Displays angle and inclination simultaneously
- Angle measurement in degrees
- Inclination in degrees or percent
- Automatic digit inversion for overhead measurements
- Working range of angle measurement 0 to 180°
- Automatic shut-off
- Hold-function to freeze measurement
- 180°-lock to prolong the unit to 1 m length
- Arm can be locked in every desired position
- Visible laser beam to extend working range
- 1/4"-thread for camera tripod



### TECHNICAL DATA

Working range angle	0° – 180°
Resolution	0,1°
Angle precision	± 0,1°
Working range inclination	0° – 90° or 0% – 100%
Resolving power	0,1° or 0,1%
Accuracy inclination	0,2°
Range of laser	20 m
Accuracy of laser	± 0,5 mm/1 m
Laser wavelength	650 nm
Laser class	2
Power supply / Operating time	3 x 1.2V AA/ 48 h
Length (unfolded)	530 mm (1.000 mm)
Weight	1,3 kg incl. batteries

### SUPPLIED WITH

Padded bag, batteries

## Prismset A2



Tilting prism holder made of plastic, yellow/black target made of metal. Including bag. Single prism Ø 62,5 mm  
Accuracy ± 2"  
Offset 0/-30 mm  
Axis height 100 mm

## Tribrachs



AJ 10 without optical plummet  
AJ 10-D with optical plummet  
Available in black and green  
DJ 100 with laser plummet  
Available in black

## Prismset A3 (Leica style)



Tilting prism holder made of plastic, yellow/black target made of metal. Including bag. Single prism Ø 62,5 mm  
Accuracy ± 2"  
Offset -34 mm  
Axis height 84 mm

## Tribrach Adapters



AL11-D  
With optical plummet, height adjustable, tubular bubble  
CRT 10  
With Leica adapter  
Available in green and black

## Prismset A4



Tilting prism holder made of metal, yellow/black target made of metal. Including bag. Single prism Ø 62,5 mm  
Accuracy ± 2"  
Offset 0/-30 mm  
Axis height 97 mm

## ADS 103 Mini Prism Pin Pole Set



The Pin Pole has 3 sections that screw together to form a height of 0,6, 1,2 or 1,8 m. The adjustable 25 mm prism can be locked anywhere along its length.  
0 mm offset

## Mini Prism Hdmini



With circular levelling vial, padded bag, 5/8" female base, hook for plumb bob  
Single prism Ø 25 mm  
Accuracy ± 2"  
Offset 0/-30 mm  
Axis height 76 mm

## Mini Prism Set GF 105



Ø 25 mm, accuracy ± 2", double yoke, 0/-30 mm offset, can be mounted from top or bottom, two circular bubbles, padded bag

## Prism Pole L 25



Length 124 cm to 250 cm, quick clamp lock, adjustable, 5/8" thread allowing prisms to be set to correct height, adjustable bubble, incl. case, weight 1,5 kg, 5/8" adapter

## Prism Pole L 23



Length 122 cm to 208 cm, adjustable bubble, incl. case, weight 0,9 kg, available adapters: 5/8", Leica, optical square Ø 10 mm

## Scale Master II

Professional digital plan measurer

- 91 architectural, engineering, map & metric blueprint scales
- Perform Instant Linear, Rectangular Area & Volume Take-Offs
- Reads your measurement in feet/inches or metric.
- Subtract, Constant & Counter

### OPTIONAL ACCESSORIES

- PC-Interface-Kit to transfer measured values directly from your Scale Master II into your PC spreadsheet (e.g., Excel, Lotus) or construction estimating program. This saves you time and reduces costly keystroke errors!
- Scale Master II PC-Combo-Kit  
(Scale Master II & PC-Interface-Kit together)

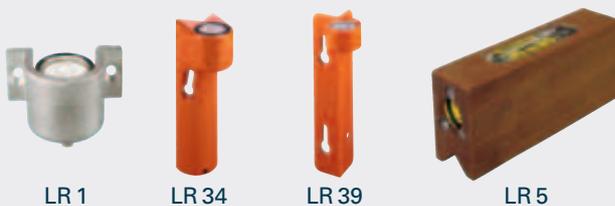
### Scale Master II PC Combo-Kit



### SUPPLIED WITH

Batteries and case

## Rod Levels



For holding, fixing or suspending to range poles and leveling rods

LR 39 Plastic	not adjustable
LR 39 Metal	not adjustable
LR 34 + LR 1 Metal	adjustable
LR 5 Wood	adjustable

## Optical Squares F1, F2, J2, F10, C1, F8



Type	Housing	Accuracy
F 1	Metal or plastic	≥ 1'
F 2	Metal or plastic	≥ 1'
J 2	Plastic	≥ 2'
F 10	Metal or plastic	≥ 2'
C 1	Metal	≥ 3'
F 8	Plastic	≥ 1'

### OPTIONAL ACCESSORIES

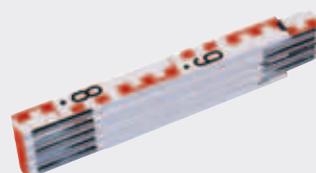
Zip case FE1A, press stud case FE1B, range pole adapter L1 to be mounted onto the top of a ranging pole Ø 28mm

## Surveyors' Field Frames



Including carrying strap  
 DIN A4 Plastic (red)  
 DIN A4 Plexiglass (transparent)  
 DIN A4 Wood  
 DIN A3 Plastic  
 DIN A3 Wood

## Surveyors' Folding Rules



Of best wood, length of joints 37,5 cm, strong springs.  
 Front: Levelling graduation  
 1 m black, 1 m red  
 Back: mm graduation in black  
 Available with length 2 m and 3 m

**FIRT 550** | **FIRT 1000** | **FHT 60** | **FHT 100**

## Infrared Thermometer

### FIRT 550

### FIRT 1000



For non-contact temperature measurements with laser dot  
Quick measurements at

- surfaces which are difficult to reach
- which are moving or rotating
- which are with electricity

Samples of application:

- Heating, ventilation and refrigeration systems
- Food industry
- Car industry
- Construction purposes

## Humidity & Temperature Meter

### FHT 60

### FHT 100



Measurement of relative humidity and temperature

Samples of application:

- Private and public houses
- Warehouses, production hall
- Greenhouse (floristics)
- Heating and ventilation works
- Building industry, building physics

With measurement of dewpoint (discovering of mildew) and wet bulb temperature (evaporation temperature).

#### TECHNICAL DATA

	<b>FIRT 550</b>	<b>FIRT 1000</b>
D(istance):S(pot)	12:1	50:1
Temperature range	-50° – +550°	-50° – +1000°
Ø measuring spot at 50 cm	41 mm	10 mm
Emissivity	fixed 0.95	adjustable 0.1-1.0
Laser pointer	yes	yes
Auto data hold	yes	yes
Auto power off	yes	yes
Illuminated display	yes	yes
Max, Min, DIF, AVG, Record	no	yes
High & low alarm	no	yes
Low battery indicator	yes	yes
Response time	less 1 sec	less 1 sec
Resolution	0,1° up to 200 °C 1° over 200°	0,1° up to 200 °C 1° over 200°
Accuracy	± 1,5 % or ± 2°	± 1,5 %

#### SUPPLIED WITH

Case, battery

#### TECHNICAL DATA

	<b>FHT 60</b>	<b>FHT 100</b>
Temperature range	-20° – +60°C	-30° – +100°C
Humidity range	0-100 % RH	0-100 % RH
Fast response time	yes	yes
Illuminated display	yes	yes
Max hold	yes	yes
Data hold	yes	yes
Dewpoint temperature	no	-30° – +100 °C
Wet bulb temperature	no	0° – + 80 °C
Accuracy humidity	± 3.5 % RH	± 2 % RH
Accuracy temperature	± 2 °C	± 0.5 °C
Accuracy dewpoint		± 0.5 °C
Accuracy wet bulb		± 0.5 °C

#### SUPPLIED WITH

Case, battery

Sound Level Meter

FSM 130 FSM 130+ Moisture Meter 590



CE mark approval  
Conforms to EN50081-1 (97) and EN50082-1 (97)

This general purpose moisture meter is an appropriate instrument for versatile use in measuring and surveying. It measures the humidity content not only on the surface but also inside the material. Thus, the type of humidity can be viewed.

Every material (wood, plaster, concrete, a.s.o.) has its own hygroscopic value and with traditional portable measuring instruments it is not possible to determine the humidity contents of a material definitively. However, with this moisture meter you can display the extension of humidity, the penetration and a superficial humidity. You can as well show the dry and the possibly humid area. The principle of the measurement is based on the determination of the electric resistance

For quick measurements of sound level sound meters with a wide dynamic range.

Samples of application:

- Measurement of noise at factory, school, airport, home, office
- Checking acoustic of studio, auditorium

According to IEC 651 Typ 2 standard.

Operation:  
Press the two pins into the material. The values measured are relative to the humidity of wood. Furthermore the display shows the condition of the material measured – whether it can be classified as dry, humid or wet.

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Press the two pins into the material. The values measured are relative to the humidity of wood. Furthermore the display shows the condition of the material measured – whether it can be classified as dry, humid or wet.

- 3 LED show the humidity of the material  
Green: LO air, dry conditions  
Yellow: MID slightly in excess of normal  
Red: HI excess moisture
- Battery indicator
- Automatic power shut off

**TECHNICAL DATA**

	FSM 130	FSM 130+
Low range (Lo)	35 – 100 dB	35 – 100 dB
High range (Hi)	65 – 130 dB	65 – 130 dB
Frequency weighting: A, C		Lo 35 – 100dB Hi 65 – 130dB
Max hold	yes	yes
Data hold	yes	yes
Analog AC/DC output for connection to analyzer or recorder	yes	yes
IEC 651 Type 2 standard	yes	yes
Built-in calibration check	no	yes
Overrange indication	no	yes
Accuracy at 94 dB	1.5 dB	1.5 dB
Operation temperature	0° – +40 °C	0° – +40 °C
Operation humidity	<80 % RH	<80 % RH

**SUPPLIED WITH**

Case, battery

**TECHNICAL DATA**

Display	3 LEDs and 3 digit LCD
Range	8 % – 28 %
Accuracy	± 2 % between 8 % and 28 %
Temperature compensation	0 – 40°C
Size	193 mm x 44 mm x 40 mm
Weight	150g with batteries (1,5 V/4 x AAA)

**SUPPLIED WITH**

Carrying case, 2 replacement electrode pins, battery

## Sales Display maxi



- Wooden with large glass door
- Large presentation area for 6 products, which can be secured underneath with a 5/8" tripod screw
- 3 shelves in the bottom cabinet
- Lockable

**Dimensions:**

- Width 85 cm, depth 50 cm, height 155 cm

## Sales Display mini



- Metal housing
- For holding 3 larger products with 5/8" tripod screw plus 4 to 6 smaller products in a glass box
- Lockable

**Dimensions:**

- Width 50 cm, depth 45 cm, height 50 cm

geo-Fennel Laser instruments are classified to laser class 2, 2M, 3R.

The laser class may be seen from technical data.



Laser radiation  
Do not stare into beam  
Laser class 2  
According to  
DIN EN 60825-1:2001-11

$p \leq 1\text{mW}$   
 $\lambda = 635 \sim 670\text{nm}$



Laser radiation  
Do not stare into beam or view  
directly with optical instruments  
Laser class 2M  
According to  
DIN EN 60825-1:2001-11

$\lambda = 635 \sim 670\text{nm}$   
 $H \leq 25\text{W/m}^2$



LASER RADIATION  
AVOID DIRECT EYE EXPOSURE TO  
THE LASER BEAM  
LASER CLASS 3R

Max. output power  
<math> < 5\text{mW}</math> @ 522-542nm  
Laser class 3R  
DIN EN 60825-1:2003-10

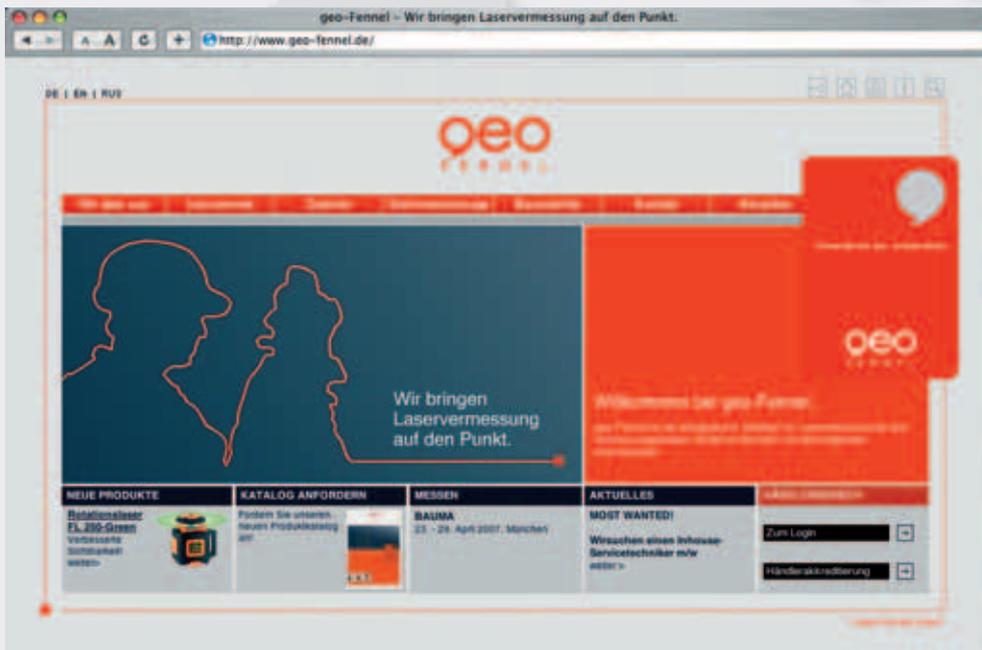
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