POWERED BY

Aptella
AUTOMATION + POSITIONING TECH

THE LITTLE LASER BOOK

Your guide to 4/4 Painfree laser level selection

TOPCON iMEX

This selling manual belongs

To: _____

From: _____

Your Aptella rep is _____

Rep Ph# is _____

Aptella 1300 965 273 _____

Q1 What is your trade?

Options for Builder

Q2

So you are a builder/ chippy. What is the main application you want to use a laser for?

HOT TIP

If you get a left field question... remember your Aptella rep is only a phone call away

- General levels/site layout
- Bit of everything, from site layout to fix-out
- Mainly partioning, squaring of frames, door, jambs etc reno work
- Construction site set-out
- Mainly small jobs, like pergolas, squaring up posts etc. a bit of reno work

Q3

Recommendation is a rotating laser. Do you think you would ever do a grade or slope?

Go to next page

Q3

I would recommend a green beam unit. Do you do mostly indoors or outdoors more?

Go to next page

Q3

A line laser should be all you require. Would you ever use a 90° set-out?

Go to next page

Q3

Do you have up to 500 points to set out and or multiple floors?

Go to next page

LX3DG or LX3DGD with detector

NO

i66R

or RL-H5B

Yes or maybe

Outdoors with some indoors

i88G

Indoors with some outdoors

LX3DGD with detector

NO

Q4

Commercial over larger distances or residential only?

YES

Q4

Commercial over larger distances or residential only?

NO

or Topcon DT-300

YES

Topcon LN-150

Tip 1 for #builder

Because of the diversity of tasks performed by the average builder it is a good idea to look at investing in both a rotating and a line/dot laser

RL-H5A or i77R/ i88R

Commercial or both

LX3DGD
LX25GP
or
LX3DG

Residential only

LX22G

Commercial or both

LX3DG

Residential only

LX3DGD
LX25GP

Tip 2 for #builder

If you work mainly outdoors invest in a rotating laser then a line laser later, If mainly indoors invest in a line laser and a rotating laser later.

Options for Concretor

Q2

Would you ever need to set a slope or grade?

NO

i66R

or RL-H5B

YES

Manual Slope or Dial-in grade

Q3

Will you be using a laser in conjunction with a machine?

MR-360

LS-B200 or LS-B200W

MR240

LS-B20 or LS-B20W

Manual
Single grade

RL-H5A

i77R

Manual
Dual grade

i88R

Dial-in Single
grade

RL-HV1S

Dial-in
Dual grade

RL-HV2S

RL-2002S

Slope Grade

You may get asked what slope or grade is. It is when the laser is set on a slope for a gradient into pits, or a fall is needed on concrete. Manual setting takes longer to set up.

Single grade

Dual Grade

Options for Earthmovers

Q3

House and Shed Pads
Would you need a slope or grade?

Q2

What's your main type of earth moving?

Bit of everything - allrounder

Would you need a slope or grade?

NO

i66R

or RL-H5B

Single grade

Dual Grade

Compatible Machine Control Receivers

MR-360

LS-B200 or LS-B200W

MR240

LS-B20 or LS-B20W

i66R or RL-H5B

NO

YES

Manual or dial-in grade

Manual Single grade

RL-H5A

i88R or i77R
Dual Slope Single Slope

Dial-in Single grade

RL-HV1S

Q4

YES

Manual or dial-in grade

Manual grade

RL-H5A

i88R or i77R
Dual Slope Single Slope

Dial-in Dual grade

RL-HV2S

RL-2002S

Q4

Options for Electricians

Q2

Often use or seldom

Seldom use

LX22G Green Beam

Often use

LX25GP Green Beam

Alternative product

LX3DG

HOT TIP

Both LX22 and LX25P models have dots and lines for ceiling light set-up

Options for Glaziers

Easy Choice

LX25GP Green Beam

Associated Products

Bullseye Laser Measurers

Angle Guage

HOT TIP

The LX25P has 4 dots and 2 lines, with the dots @90° horizontal it's the best laser for shop fronts

Options for Kitchen Fitout/Shopfitter

Q2

What would be the main application that you require a laser for?

Setting up kickboards and bench tops

Mainly partioning and wall framing

Q3

Do you need reference point dots or only lines?

Accessories

EV18 Tripod

Laser Pole

HOT TIP

Where an LX25P or LX3D is nominated either will do the task.
The main difference is:
LX25P - has dots at 90° for pinpoint reference points + horizontal and vertical lines that only cover 200°
LX3D - has 3 full 360° uninterrupted lines for full up and over full 360° horizontal line and 2 full 360° vertical lines at 90°

Accessory LD100 Detector

works with any red or green beam line laser up to 50m

10m and under

LX22G

Over 10m longer distance

LX22G

or

LX3DG

Reference point dots

LX25GP

Only lines

LX3DG

HOT TIP

Green beam lasers are visible over larger distances. For all commercial work a green beam model will be best

Options for Plasterer/Ceiling fixer

Q2

General plastering or mostly ceiling fixing?

General Plastering

LX3DG

Plastering + Ceiling fixing

i88G or LX3DG

Basic Set out

LX22G

Accessories

EV18 Tripod

Laser Pole

Options for Brick layer

Q2

2 man or one man operation

Compliment with a Storm Professional Spirit level 30yr via guarantee

2 man

LAR28 Set
LAR32 Set
Dumpy level
or
AT-B3A/B4A

Seldom use

E60K

1 man

i66R
or
RL-H5B

Options for a Tiler

Q2

Would you be using a laser mainly for wall or floor tiling?

- Wall
- Floor → **Q3** → Floor levelling or tile set-out
- Both → Commercial/ Residential or only on Residential?

Laser Support Pole

EV18 Tripod

Laser Pole

LX22G Green Beam

Both

LX3DG

Floor tile set-out only

LX11GP Green Beam

Commercial/ Residential

LX3DG

Floor tile set-out only

LX25GP Green Beam

LX3DG

Options for a Plumber

Q2

General plumbing or primarily civil and drainage?

General Plumbing

Q3

Plumbers usually require a grade laser, manual or dial-in grade?

Mainly Sprinkler or Bathroom set-out

Q3

Drainage and pipe laying

Compatible Machine Control Receivers

MR-360

LS-B200 or LS-B200W

MR240

LS-B20 or LS-B20W

HOT TIP

Commerial drainage would benefit from both grade and pipe laser

10m and under

LX22G

Over 10m longer distance

LX22G

or

LX3DG

LX25GP Green Beam

HOT TIP

Grade Slope

Go to concetors page to see Hot Tip re Slope modes.

RL-HV2S

TP-L6

RL-2002S

IPL3TR Red Beam Pipe Laser
IPL3TG Green Beam Pipe Laser

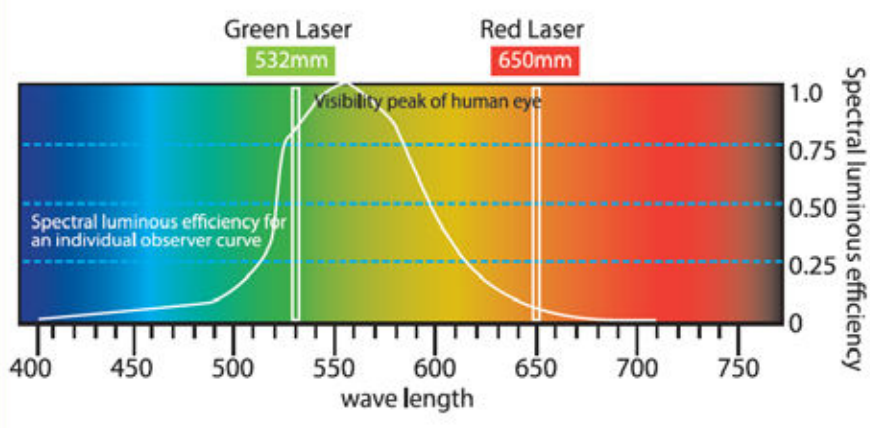
Intelligent Safety

Red Beam V Green Beam

A question asked frequently by customers is what is the difference between a red beam and a green beam laser, and which should I choose.

The answer is that the human eye responds to green light four times better than red so the light from a green beam seems brighter and can be seen over a longer distance. This is especially beneficial in larger interior work and where the surrounding light is brighter.

The green beam is not usually any advantage outdoors unless working very close to the laser and most lasers outdoors will still need a detector for a frequency pick-up.



Warranty

Topcon and iMEX have long warranties which reflect the quality and workmanship of the instruments.

Immediately after purchase the instrument should be registered for warranty on topconlaser.com.au or imexlasers.com.

A laser that is dropped, bumped or knocked off a tripod is not covered by warranty and a calibration and repair charge will apply.

Rotating Lasers

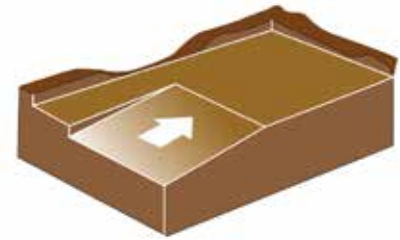
Line and Dot Lasers

Grade Slopes

Some rotating lasers have the ability to set the light beam on a slope or gradient so that the whole laser plane is set to a predetermined slope. This is great for falls on driveways, slopes to pits and anywhere that water needs to be shed. There are models that slope in one direction, single grade or models that slope in X or Y directions.

Mostly grade lasers have a manual set-up which involves measuring a fixed amount out from the laser - usually 10m for ease of calculation and set at that point to fall % or angle of degree.

Higher end grade lasers have automatic dial-in grade for fast grade set-up.



Single Grade

Dual Grade

Grade Slope Table

Degrees °	% grade
0.1	0.17
0.2	0.35
0.3	0.52
0.4	0.70
0.5	0.87
0.57	**1**
0.6	1.05
0.7	1.22
0.8	1.40
0.9	1.57
1	1.75
2	3.49
3	5.24
4	6.99
5	8.75
5.74	**10**

Laser Light Beam Classes

Care must be taken with laser levels on construction sites due to potential eye damage from laser levels.

Most Topcon and Imex lasers are Class 1 or 2, 3R and are able to be used unrestricted on any work site. The table below sets out the classification system

AS 2397:1993 - Safe use of lasers in the building and construction industry

Laser Class	Description	For use in building and construction industry
Class 1	Safe for use under all conditions of exposure.	✓
Class 2	Low-powered lasers that may require some administrative controls but present little hazard (for example, eye protection is usually provided by normal blink and aversion responses).	✓
Class 3A	These lasers emit higher levels of light and their use requires more stringent engineering and administrative precautions in order to ensure they are not used with optical instruments (for example, a builder's level or theodolite) which would concentrate the beam so that it would all enter the eye.	✓
Class 3B (Restricted)	These lasers operate at the same power levels as Class 3A but have higher levels of irradiance (power density). These lasers can be used for building or construction applications but should **not** be used in dimly lit building or construction applications (that is less than approximately 100 lux).	✓
Class 3B	These lasers emit either invisible or visible radiation potentially hazardous to the eye and skin. These lasers must not be used for building or construction tasks.	x
Class 4	These lasers are high-power devices capable of producing diffuse reflections hazardous to the eye. Skin exposure to the direct beam of a Class 4 laser is also hazardous. These lasers must **not** be used for building or construction tasks.	x

IP Code - Ingress Protection

For all tools including laser levels there is an industry standard classification for dust proofing, shock proofing and water proofing. The higher the score, the better the unit is able to withstand the elements. Most line and dot lasers are IP54, most rotating lasers are IP66 and pipe lasers fully submersible at IP68.

Calibration and Service

All Aptella lasers are calibrated and control checked prior to final despatch and issued with a calibration certificate.

All Topcon and iMEX lasers that are registered for warranty are elegible for the first service and calibration free of charge, if done within 12 months of purchase. Subsequent calibrations are valued at around $90-$100 for a line and dot laser and $120-$14075 for a rotating laser based on whether any extra work is required.

All lasers should be re-calibrated once every 12 months or if used on a daily basis at 6 months intervals

Loan Tool Program - A loan tool is available under some circumstances; contact Aptella for details.

Aptella has calibrations and service centres in most capital cities or a pick-up service back to head office.

Phone 1300 965 273 for details

Local Service Agents

For warranty repairs, calibration or service contact your local agent listed above or Aptella.

1300 965 273

What's the Difference between a dot laser and a rotating laser?

Dot Laser

A dot laser emits only a dot, usually a dot laser has a plumb down, plumb up, and a horizontal dot at 90° to plumb up and down. Sometimes they have 3 horizontal dots at 90°, usually used indoors for partition fit-out, electrical light placement, sprinkler system layout, kitchen & cabinetry set-out and equipment set-up.

Line Laser

Typically used indoors, a line laser emits a line beam, usually one horizontal and a minimum of one vertical – sometimes four at 90°. With a beam of light transmitted to a surface (i.e. a wall) these are highly visible over distances to approximately 10 metres. With a line laser that has a pulse setting to pick up a line detector, these lasers can be used outdoors to 50 metres in some instances. Used for tiling, kitchen or cabinet set-out, electrical drywall setup, partitioning etc. Some indoor lasers can be a combination of a line and dot laser.

Rotating Laser

A laser with a diode prism that spins at faster speeds, these are typically used indoors or outdoors over longer distances up to 1000 metres diameter, dependant on the size of the laser diode. a detector picks up the beam and is usually mounted on a measuring staff. The rotating laser units mounts on a standard tripod. Some models can be turned on their side and emit a vertical rotating line. Some models allow either manually or automatically, a gradient or slope and some do this in two directions. This allows for an even slope over the entire workplace within the laser working diameter. Used for concreting, excavation, suspended ceiling set-up, landscaping, general building, levelling, earthworks etc. Generally the higher the unit cost, the more added features like gradient, scan, vertical etc. the unit will have.

Notes

For Individual Laser model specifications:

www.topconlaser.com.au

www.imexlasers.com.au

2024 Details correct at time of printing. Due to ongoing product development Aptella reserves the right to change or modify the products and their operational functions at any time

Imex Models Quick Reference

Line and Dot Lasers

LX3D

Multi-line laser

- Self levelling
- 3 -360° lines,
- 1 horizontal lines
- Uninterrupted lines
- Green Beam
- Magnetic wall and ceiling bracket
- 5.4Ah lithium - longest run time
- 1m Drop test winner

LX22G

Crossliner

- Self levelling
- Horizontal, Vertical Line
- Plumb spot
- Magnetic bracket
- Green beam - 5.4Ah lithium

LD 100 Detector

- Optional extra for LX22G & LX25GP & LX3DG
- Up to 80m range outdoors
- Picks up red or green beam

LX11GP

- Green Beam Laser square
- 2 -90° lines

LX25GP

- Crossliner/Dot Laser
- Self levelling
- Horizontal, vertical line
- Plumb up, plumb down plus 2 dots at 90°
- Magnetic bracket - heavy duty
- Lines bisect dots
- Green beam - 5.4Ah lithium

3 YEARS WARRANTY All line or dot lasers

Rotating Lasers

i66R

- Self levelling
- Horizontal only
- 400m dia range
- 1 button function
- Battery indicator
- LRX6 Detector

i77R

- Self levelling
- Horizontal only
- 600m dia range
- Manual Slope mode to 8° 8%, one direction
- 4 speeds
- LRX10 Detector

i88R / i88G

- Red or green beam
- Self levelling
- Horizontal/Vertical
- 600m dia range
- Manual dual slope mode to 8°
- 8% - both directions
- 4 speeds
- Scan modes
- LRX10 Detector

LRX6 Detector

- 1mm accuracy/ reading
- 60mm pick up
- Double sided
- Fine, medium coarse setting
- Standard on i66R

LRX10 Detector

- 5mm accuracy/ reading
- 90mm pick up
- Double sided
- 5 settings
- Standard on i77R,i88R/G and i99G

Machine Control Receivers

Fits skid steers, excavators, graders

MR360

- 360° pick up range
- In cab display
- Picks up all red beam lasers
- Clamp or magnet
- mounting to machine

MR240

- 240° pick-up
- Picks up all red beam lasers
- Magnetic mount
- Use as standard detector on staff

Pipe Lasers

IPL 300 Red and Green Beam

- 300m range
- Pipes from 100-500mm
- 20% to 40% gradient, auto set
- Fully submersible in water

Topcon Models Quick Reference

Line and Dot Lasers

RL-H5A

- Self levelling
- 800m range
- Horizontal only
- Manual slope mode
- 100 hrs with “D” cell alkaline
- 60hrs with Ni-MH batteries option
- LS-80X or LS-100D option

RL-H5B

- Self levelling
- 400m range
- Horizontal only
- 100 hrs run with
- “D”cell alkaline
- LS-80X receiver

RL-2002S

- Self levelling
- 1100m range
- Dual grade dial-in (RL-2002S)
- Grade to 25%
- 90 hrs with Ni-MH option
- 3 rotation speeds
- LS-100D and LS-80X receiver

RL-HV1S

- Self levelling
- 800m range
- Dual grade dial-in Slope mode
- Grade to 15%
- 120 hrs with “D” cell batteries
- 65 hrs with Ni-MH batteries option
- 2 rotation speeds
- L5-80X receiver or LS-100D option

RL-HV2S

- Self levelling
- 800m range
- Single grade dial-in slope mode to 15%
- 120 hrs with “D” cell alkaline
- 65 hrs with Ni-MH batteries option
- 2 rotation speeds
- LS-80L receiver or LS-100D option

Rotary Laser Detectors

LS-80X

- Standard hand held detector for all red beam lasers
- Long range detection
- 5 levels of LCD display precision
- Auto shut down after 30 mins

LS-100D

- mm reading digital detector
- 800m dia working range
- 90mm vertical detecting range
- Magnet mount option
- Large LCD front and back

Machine Control Receivers

LS-B200

- Range 800m (diameter)
- Adjustable “on grade”accuracy
- Power save/auto cut-off

LS-B200W

- Includes slope and plumb indicator
- Compatible with Topcon’s Control Boxes for “automatic” mode applications
- One-touch “On Grade” matching
- Offset the “On Grade” position

LS-B20W

- Versatile receiver for mini excavator, skid steer
- Heavy duty magnet
- 270° pick-up
- 120mm pick-up band
- Wireless in cab option

Theodolites

DT-300 Series

- •30x magnification
- Available in 3 models
- Up to 300hrs run time from Li-ion battery
- Absolute circle reading
- IP66 waterproof and dust proof

Pipe Lasers

TP-L6

- Red beam or green beam models
- Compact design
- 5m-150m range
- -15% to +40% slope range
- Remote control

3D Laser Construction

LN-150

- Full construction total station
- Single operator for precise 3D layout
- Seamless cloud connected to Autodesk, Bentley and MAGNET
- Easy to use with MAGNET or Pocket 3D software
- Easy one-button, self-levelling
- Wireless controller

Real Time Grade Control

2D iDig

The advanced excavator grade system works with all the models of machines

- Get live update on slope, distance and distance to grade
- Quick install with solar powered sensors
- Large in cab easy read display
- Quick swap between machines

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