

BDL220S

www.BlackandDecker.com

This manual is applicable for -A9 & -XD only.
Black & Decker Copyright 2006 (JAN-06)

488209-01

Laser Level BDL220

Technical Data

		BDL220S
Voltage	V	3 (alkaline batteries)
Battery Size		LP6
Laser Power	mW	<3.5
Laser Class		2
Wave Length	nm	633-670
Accuracy (at 3m)	mm	±3
Operating Temperature	°C	0-40
Weight	g	140

Intended Use

This Black & Decker tool has been designed to project laser lines to aid in DIY applications. This tool is intended for consumer use only.

Safety Instructions

Warning! When using battery-powered tools, basic safety precautions, including the following, should always be followed to reduce the risk of fire, leaking batteries, personal injury and material damage.

- Read this entire manual carefully before operating the tool.
 - Retain this manual for future reference.
- The following symbols are used throughout this manual:
- ⚠ Denotes risk of personal injury, loss of life or damage to the tool in case of non-observance of the instructions in this manual.
 - ⚡ Denotes risk of electric shock.
 - ☹ Fire hazard.
1. **Keep work area clean.** Cluttered areas and benches can cause accidents.
 2. **Consider work area environment.** Do not expose the tool to rain. Do not use the tool in damp or wet conditions. Keep the work area well lit. Do not use the tool where there is a risk of causing fire or explosion, e.g. in the presence of flammable liquids and gases.
 3. **Keep children away.** Do not allow children, visitors or animals to come near the work area or to touch the tool.
 4. **Do not overreach.** Keep proper footing and balance at all times.
 5. **Stay alert. Watch what you are doing.** Use common sense. Do not operate the tool when you are tired.
 6. **Use appropriate tool.** The intended use is described in this instruction manual.
 - ⚠ **Warning!** The use of any accessory or attachment or performance of any operation with this tool other than those recommended in this instruction manual may present a risk of personal injury.
 7. **Check for damaged parts.** Before use, carefully check the tool for damage. Ensure that the tool will operate properly and perform its intended function. Do not use the tool if any part is damaged or defective.
 8. **Store idle tools.** When not in use, tools and batteries should be stored in a dry, locked up or high place, out of reach of children.
 9. Do not operate in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
 10. **Repairs.** This tool complies with relevant safety requirements. Repairs should only be carried out by qualified persons using original spare parts; otherwise this may result in considerable danger to the user.

Additional Safety Instructions for Non-rechargeable Batteries

1. Never attempt to open for any reason.
2. Do not store in locations where the temperature may exceed 40°C.
3. When disposing of batteries, follow the instructions given in the section "Protecting the Environment". Do not incinerate the batteries.
4. Do not charge batteries.
5. Do not mix old and new batteries. Replace all of them at the same time with new batteries of the same brand or type.
6. Remove dead batteries immediately and dispose of per local codes.
7. Remove batteries if the device will not be used for several months.
8. Under extreme conditions, battery leakage may occur. When you notice liquid on the batteries, proceed as follows:
 - Carefully wipe the liquid off using a cloth. Avoid skin contact.

Additional Safety Instructions for Lasers

- ⓘ Read this entire manual carefully.
 - ⚠ This product is not to be used by children under 16.
 - ⚠ Warning! Laser radiation.
 - ⚠ Do not look into the laser beam directly and intentionally. Serious eye injury can result.
 - ⚠ Do not view the laser beam directly with optical instruments.
 - ⓘ Refer to the laser product characteristics.
 - 🏠 For indoors use only.
1. This laser complies with class 2 according to IEC60825-1+A1+A2:2001. Do not replace a laser diode with a different type. If damaged, have the laser repaired by an authorized repair agent.
 2. Do not use the laser for any purpose other than projecting laser lines.
 3. Never look into the laser beam directly and intentionally. Serious eye injury can result.
 4. Do not use optical tools to view the laser beam.
 5. Do not set up the tool at a position where the laser beam can cross any person at head height.
 6. Do not let children come near the laser.
 7. Do not disassemble. Modifying the product in any way can increase the risk of laser radiation.
 8. Turn the laser off when it is not in use. Leaving the laser on increases the risk of staring into the laser beam.
 9. Position the laser securely. Damage to the laser or injury could result if the laser falls.

First Aid Measures for Bubble Vial Content

In case of skin contact, flush with soap and water. In case of eye contact, flush with flowing water. If swallowed, get medical help.

Features (Fig. A)

1. Laser on/off switch
2. Level
3. Level
4. Laser aperture
5. Battery cover

Assembly

Warning! Make sure that the laser on/off switch (1) is in the full off position by moving laser button to "O" position.

Fitting The Battery (Fig. B)

- Remove the battery cover (5) from the tool.
- Insert 2 fresh 1.5 volt AA alkaline batteries making sure to match (+) and (-) terminals correctly.
- Refit the cover and let it click into place.

Wall Mounting (Fig. C)

- The tool can be mounted to walls using one of the wall mounts (6 or 8). The wall pin (6) is used

to hang the tool to drywalls. The keyhole mount (8) is used to hang the tool on other types of wall using a screw or nail.

Warning! Keep the wall mounts in a safe place when not in use.

Wall Pins (Fig. D-E)

CAUTION: Pins are sharp and should be handled with care. The drywall pin should always be pushed in by hand and never driven by a hammer.

NOTE: The pin is only for use on drywall NOT other surfaces including plaster.

- Fold out the spacer pin (7).
- Hold the wall pin in front of a suitable location and press the pin straight into the wall.
- Install the tool by aligning the magnet (3) to the wall pin (6).

Keyhole Mount (Fig. F-G)

For surfaces other than drywall, the keyhole mount (8) can be used with a standard nail or screw in a predrilled hole.

- Drive a screw or nail into the wall. Place the tool over the nail or screw on a vertical surface with the narrow portion of the opening pointing upward.
- Hang the wall mount (8) onto the fasteners.
- Install the tool by aligning the magnet (3) to the keyhole mount (8).
- To remove the laser, lift it slightly and pull it straight off.
- The unit can also be used with the hanging cone attached to the back and then hanging the unit on the nail or screw.

Notes on Usage

- Brightness of area may affect line visibility.
- When attaching to a mounting bracket, mount the laser securely.
- Be aware that extreme temperature changes can cause movement or shifting of building structures, tripods, equipment, etc. This may affect accuracy. Verify your set-up before each use as the laser may have moved.
- Extreme temperature changes may affect the adjustment of the unit.

Use (Fig. H)

- Place the tool flat against the wall as shown.
- Push the on/off switch (1) up to switch the tool on.
- Move the tool as necessary to position the laser line.
- Hang the tool on the wall using the appropriate wall mount.

Adjusting the Laser Line (Fig. I)

- In order to project a vertical line, adjust the tool until the vial (2) is level.
- In order to project a horizontal line, adjust the tool until the vial (3) is level.

Using the Scale

- The scale (10) on the wall mount can be used for angular adjustment.
- Align the pin position on the scale with the pointer (11) on the tool by turning the wall pin.
- To check an angle, adjust the scale as necessary.

Helpful Hints

- If the laser light becomes dim or is no longer visible when the switch is in the on position check or change the battery.
- The laser lines are only level on the wall against which the unit is held or hung. The short line visible on any adjacent wall is not level. The same is true for straight line projection on a floor or wall, the short line on any adjacent wall is not level.
- The laser unit should never be used as a spirit (bubble) level. The levels are only calibrated to the laser line when held or hung against a vertical surface.
- The laser unit only generates level lines when held or hung against a vertical surface.
- Make sure laser is as square as possible to flat surface to ensure proper line projection.
- Brightness of area may affect line visibility.
- Avoid materials which have inconsistent density such as:
 - Carpeting and padding
 - Ceramic floor tile
 - Wallpaper containing metallic foils or fibers. Generally, surfaces covered with regular wallpaper or fabric will show no difference in function.
 - Walls that are freshly painted and are still damp.
 - Excessively thick plaster and lath.
- This product is not recommended for outdoor use.

WARNING! Always turn off the power when working near electrical wires.

Cleaning And Maintenance

Storage

Always store the laser indoors in its protective case with the switch in the "O" position. Remove the battery before storing for extended periods of time.

Cleaning

Your tool has been designed to operate over a long period of time with a minimum of maintenance. Continuous satisfactory operation depends upon proper tool care and regular cleaning.

- To clean the tool, use only mild soap and a damp cloth. Never let any liquid get inside the tool and never immerse any part of the tool into liquid.

Important

To ensure product SAFETY and RELIABILITY, repairs, maintenance and adjustment (other than those listed in this manual) should be performed by authorized service centers or other qualified organizations, always using identical replacement parts. Unit contains no user serviceable parts inside.

Protecting The Environment

Separate collection. This product must not be disposed of with normal household waste. Should you find one day that your Black & Decker product needs replacement, or if it is of no further use to you, do not dispose of it with household waste. Make this product available for separate collection. Separate collection of used products and packaging allows materials to be recycled and used again.

Re-use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.

If necessary, contact your local municipality for proper disposal instructions in your city/town.

Battery

At the end of their useful life, discard batteries with due care for our environment.

- Remove the battery as described above.
- Place the battery in a suitable packaging to ensure that the terminals cannot be short-circuited.
- Take the battery to a local recycling station.

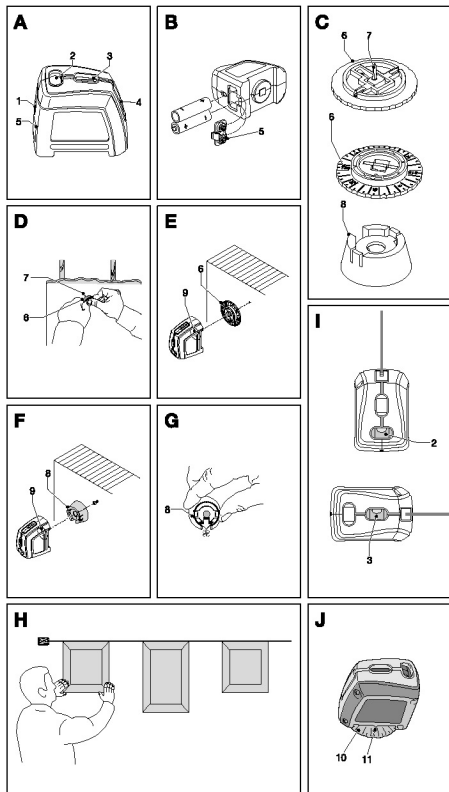
Service Information

Black & Decker offers a full network of company-owned and authorized service locations throughout Asia. All Black & Decker Service Centers are staffed with trained personnel to provide customers with efficient and reliable power tool service.

Whether you need technical advice, repair, or genuine factory replacement parts, contact the Black & Decker location nearest to you.

Notes

- Black & Decker's policy is one of continuous improvement to our products and, as such, we reserve the right to change product specifications without prior notice.
- Standard equipment and accessories may vary by country.
- Product specifications may differ by country.
- Complete product range may not be available in all countries. Contact your local Black & Decker dealers for range availability.



Bullseye™ 360°激光水平仪 BDL220S

技术数据

BDL220S		
电压	伏	3 (碱性电池)
电源		LR6
能量	毫瓦 (mW)	<3.5
激光级别		2
波长	纳米 (nm)	633-670
准确度 (在3米)	毫米	±3
使用温度	摄氏 (°C)	0-40
重量	克	140

设计用途

本百得工具是设计来投射激光光束作水平面垂直面之用。此乃一非专业用途工具并只可在室内使用。

安全指引

当使用电动工具时，必须遵循当地安全规则以减少导致火灾、触电和人身伤害的危险。请在操作本产品前阅读并理解本说明书；并把本说明书妥善保存！

下列标志会在本说明书内使用：

- ▲ 表示如不依本说明书指示操作，会有人身伤亡、工具损坏的危险。
- ⚡ 表示会有电击的危险。
- 🔥 表示会有火灾危险。

一般安全规则

警告： 阅读说明。没有按照以下列表的说明而使用或操作将导致触电、着火/ 或严重伤害。在所有以下列表的警告中术语“电动工具”指使电动机（有线）电动工具或电池驱动（无线）电动工具。

保存这些说明。

a) 工作场地

- 保持工作场地清洁和明亮。混乱和黑暗的场所会引发事故。
- 不要在易燃环境，如有易燃液体、气体或粉尘的环境下操作电动工具。电动工具产生的火花会点燃粉尘或气体。
- 让孩子和旁观者离开后操纵电动工具。分心会使你失控。

b) 电气安全

- 电动工具插头必须与插座匹配。不能以任何方式改装插头。而接地的电动工具不能使用任何转换插头。未经改装的插头和相配的插座将减少触电危险。
- 避免人体接触接地表面，如管道、散热器和冰箱。如果你身体接地会增加触电危险。
- 不得将电动工具暴露在雨中或潮湿环境中。水进入电动工具将增加触电危险。
- 不得滥用电线。绝不能用电线搬运、拉动电动工具或拔出其插头。让电动工具远离热、油、锐边或运动部件。受损或缠绕的电线会增加触电危险。
- 当在户外使用电动工具时，使用适合户外使用的外接电线。适合户外使用的电线将减少触电危险。

c) 人身安全

- 保持警觉，当操作电动工具时关注所从事的操作并保持清醒。切勿在有疲倦、药物、酒精或治疗反应下操作电动工具。在操作电动工具期间精力分散会导致严重人身伤害。
- 使用安全装置。始终佩戴护目镜。安全装置，诸如适当条件下的防尘面具、防滑安全鞋、安全帽、听力防护等装置能减少人身伤害。
- 避免突然启动。确保开关在插入插头时处于关闭位置。手指放在已接通电源的开关上或开关处于接通时插入插头可能会导致危险。
- 在电动工具接通之前，拿掉所有调节螺栓或扳手。滞留在电动工具旋转零件上的扳手或螺栓会导致人身伤害。
- 手不要伸得太长。时刻注意脚下和身体平衡。这样在意外情况下能很好地控制电动工具。
- 着装适当。不要穿宽松衣服或领带饰品。让你的头发、衣服和袖子远离运动部件。宽松衣服、帽饰或长发可能会卷入运动部件。
- 如果提供了与排屑装置、集尘设备连接用的装置，则确保他们连接良好且使用得当。使用这些装置可减少飞溅引起的危险。

d) 电动工具使用和注意事项

- 不要滥用电动工具，根据用途使用适当的电动工具。选用适当的设计载值的电动工具会使你工作有效、更安全。
- 如果开关不能接通或关闭工具电源，则不能使用该电动工具。不能用开关来控制的电动工具是危险的且必须进行修理。
- 在进行任何调节、更换附件或贮存电动工具之前，必须从电源上拔掉插头和/ 或将电池盒断开电源。这种防护性措施将减少电动工具突然启动的危险。
- 将闲置电动工具存放在儿童所及范围之外，并且不要让不熟悉电动工具或对这些人说明不了解的人操作电动工具。电动工具在未经训练的用户手中是危险的。
- 保养电动工具。检查运动部件的安装紧固或卡住、零件磨损情况和影响电动工具运行的其他条件。如有损坏，电动工具必须在使用前修理好。许多事故由维护不良的电动工具引发。
- 保持刃具锋利和清洁。保养良好的有锋利刃削刃的刀具不易卡住且容易控制。
- 按照使用说明书以及打算使用的电动工具的特殊类型要求的方式，考虑作业条件和进行的作业来使用电动工具、附件和工具的刀头等。电动工具用件那些与要求不符的操作可能会导致危险情况。

e) 维修

- 将你的电动工具送交专业维修人员，必须使用同样的备件进行更换。这样确保所维修的电动工具的安全性。

非充电电池的附加安全守则

- 无论任何情况下，切勿打开电池。
- 切勿把电池贮藏在温度40°C以上的地方。
- 如要废弃充电电池，请参阅下文“环境保护”。切勿焚烧电池。

- 切勿为非充电电池充电。
- 切勿把新旧电池混在一起使用。
- 卸下耗尽的电池并按当地条例废弃。
- 若工具不会在数日内使用，请先把电池卸下才贮藏工具。
- 在极端的情况下，电池可能会有少量液体流出。若发现电池外部密封破裂：小心以免手持液体，避免液体沾到皮肤上。

使用激光工具的附加安全守则

- 小心阅读并理解本说明书。

此工具只可由16岁或以上人士使用。

- 警告！激光照射。

切勿直视激光光束以免严重伤害眼睛。

切勿透过光学仪器望向激光光束。

参考激光产品的特性。

只可在室内使用。

- 本激光工具采用二级激光源，合乎国际安全标准IEC 60825-1+A1+A2:2001。切勿更改以不同类型的激光二级体；若有损坏，应由专业的维修人员修理。
- 切勿以本工具进行设计用途外的工作。
- 切勿放笛及直望向激光光束，这会严重损害眼睛。
- 切勿透过光学仪器望向激光光束。
- 切勿将激光工具架设在眼睛等高。
- 切勿让孩童靠近激光工具。
- 切勿拆开工具。为工具作任何修改会增加照射的危险。
- 工具在不使用时应把它关掉，以免有机会无意间向激光光束而损害眼睛。
- 稳固地放置或安装工具，若它从高处掉下来，除了工具可能会损坏外，还可能导致人身伤害。

部件 (图A)

- 激光工具
- 水平尺
- 水平尺
- 激光光束孔
- 电池盖

组装

警告！ 确保工具激光开关(1)已推至“O”的位置关掉。

装上电池 (图B)

- 打开电池盖(6)。
- 插入两节新的五号(AA)碱性电池，确定正(+)/负(-)极的方向正确。
- 把电池盖再盖回原位，确保它到位。

挂墙 (图C)

本工具可利用挂墙架(6)或安装在墙上。挂墙柱(7)可把工具挂在胶合夹板墙上，钥匙孔挂钩(8)可把利用钉子或螺丝把工具挂在其他种墙上。

警告： 请把挂墙架配件贮存在安全的地方。

挂墙柱 (图D-E)

警告： 挂墙钉很尖锐，请避免刺伤。使用时应用手把钉推进墙内，切勿使用锤子。

警告： 本挂墙柱只可用于胶合夹板，切勿用于其他表面，灰泥包层在内。

- 把挂墙柱(7)向外侧出来。
- 把挂墙柱推进胶合夹板，请确保推入时没有偏移，并且已推到尽头。
- 利用工具上的磁石(8)把工具挂在挂墙柱(7)上，确保它位置固定。
- 请养成习惯在每次使用后把挂墙柱(7)向内侧回原位。

利用钥匙孔挂柱挂墙 (图F-G)

除了胶合夹板外，可利用钥匙孔挂柱(9)放在标准钉子或螺丝上，再把工具挂起来。

- 在墙上打一个钉子或螺丝，把匙孔挂柱挂上，钥匙孔的位置应上窄下宽。
- 利用工具上的磁石(8)把工具挂在钥匙孔挂柱(9)上，确保它位置固定。
- 卸下工具的时候，把它轻轻直接拉出来。
- 您亦可先把钥匙孔挂柱架插入工具，然后才挂在钉子或螺丝上。
- 请确保工具没有偏移，并且位置固定。

使用要点

- 室内的光线可能影响激光光束的能见度。
- 当使用挂墙钩把工具挂起来，要确定它位置稳固才可启用。
- 留心极端的温度可能导致建筑结构、三脚架、仪器等轻微改变位置，这会影响到工具的准确性，所以使用前请先检查设定。
- 在极端的温度下可能影响到工具的调节的准确性。

使用 (图H)

- 把工具(1)水平放在墙上。
- 把开关(1)向上推至“1”位置以启动它。
- 依所需移动工具以设定激光位置。
- 利用挂墙钩把工具挂在墙上。

调整激光光束 (图I)

- 要按垂直激光光束，调整工具直至水平尺(2)呈水平状态。
- 要投射水平激光光束，调整工具直至水平尺(3)呈水平状态。

使用量角器 (图J)

- 挂墙上的量角器(10)可用来测量角度。
- 把工具上的指针(11)与量角器(10)的0°对齐。
- 要改变工具的角度，把工具旋转直至指针与所需角度对齐。

便利提示

- 当启动工具后，发现光束变暗或看不清楚，请检查开关是否在“1”的位置或更新电池。
- 激光光束只会在工作抵住墙壁（拿著或挂著）时水平。任何在相邻墙上或地上出现的短激光线都不是水平的。
- 本工具的水平尺不应长期使用，水平尺只在工具抵住墙壁（拿著或挂著）时与激光光束校准。

- 本工具只可在垂直的墙上使用。
- 尽量把工具与平面成直角，这才投射出水平的激光光束。
- 工地的光度会影响激光光束的能见度。
- 避免在密度不均的物料上使用本工具，如：
 - 地毯及硬装物
 - 树脂地坪
 - 含金属薄片或纤维的墙纸，通常贴上普通墙纸或构造物在感测时是无分别的。
 - 新胶或潮湿的墙壁。
 - 过厚灰泥及胶条的墙缝。
- 本工具只可于室内使用。

警告： 在接近电缆的地方工作时，请关掉工具的电源。

清洁及维护

贮存

工具应放在贮存包并贮存于室内，贮存前请保开关在“O”（关）的位置。当要长期贮存工具，请先将电池卸下。

清洗

本百得工具的设计使其可长时间使用而只需最少的维护，要使工具有满意的性能，需要长久正确的对工具维护及清洁。请勿尝试自行维修本工具，请把它送到百得的指定维修服务中去。

- 定期用湿布清洁工具外壳，但切勿使用溶剂。切勿让水渗入机件，切勿把工具浸入水中。

重要说明

为了确保工具**安全可靠**，只能由授权的维修服务中心或其他专业维修组织进行维修、保养及调整。同时亦必须使用相同的更换部件。本工具内并无用户可自行更换的零件。

环境保护

本工具必须与家居垃圾分类处理。

若您某天想更新工具或工具对您已无用处，切勿把它丢在家居垃圾中。

分开处理的废物可令废料有循环再造的机会。

将物循环再造可避免环境污染及减少对原料的需求。

需要时，与当地的地方政府，索取有关处置废物的资料。

电池

请小心处置已耗尽的电池以免污染环境。

- 如上文卸下电池。
- 把电池经妥善包装以免其短路
- 把电池送到当地的回收中心。

维修服务

百得在亚洲各地均设有直属或授权的维修服务中心网络。所有百得维修服务中心的专业人员均训练有素，可以给顾客提供高效、可靠的维修服务。

无论您需要技术支持、维修还是更换原厂配件，请与就近的百得维修服务中心联系。

注意事项

- 由于百得对产品不断作出改良，所以我们保留更改产品规格的权利，而无须作出任何事先通知。
- 标准设备和备用配件在各国可能有所不同。
- 产品规格在各国可能有所不同。
- 百得并不一定对所有的国家都供应经核实系列的产品。关于供货范围情况请与当地经销商洽谈。

制造商

百得（苏州）科技有限公司
苏州工业园区出口加工区苏虹中路200号
电话：0512-62581618