

Safety & legal information



XK20 alignment laser

English

简体中文



Terms and Conditions and warranty

Unless you and Renishaw have agreed and signed a separate written agreement, the equipment and/or software are sold subject to the Renishaw Standard Terms and Conditions supplied with such equipment and/or software, or available on request from your local Renishaw office

Renishaw warrants its equipment and software for a limited period (as set out in the Standard Terms and Conditions), provided that they are installed and used exactly as defined in associated Renishaw documentation. You should consult these Standard Terms and Conditions to find out the full details of your warranty.

Equipment and/or software purchased by you from a third-party supplier is subject to separate terms and conditions supplied with such equipment and/or software. You should contact your third-party supplier for details.

EC and UKCA compliance

Renishaw plc declares that the XK20 system complies with the applicable directives, standard and regulations. A copy of the full EC Declaration of Conformity is available upon request.

In compliance with BS EN 61010-1:2010 the product is safe to use in the following minimum environmental conditions:

- Indoor use only
- Altitude up to 2000 m
- Maximum relative humidity (non-condensing) of 80% for temperatures up to 31 °C decreasing linearly to 50% relative humidity at 40 °C
- Pollution Degree 2





USA and Canadian regulations

FCC notice

47 CFR section 15.19

This device complies with Part 15 of the FCC rules. Operation is subject to the following conditions:

- 1. This device may not cause harmful interference.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

47 CFR section 15.21

The user is cautioned that any changes or modifications, not expressly approved by Renishaw plc or authorised representative, could void the user's authority to operate the equipment.

47 CFR section 15.105

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not used in accordance with this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

47 CFR section 15.27

This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.

Canada - Innovation, Science and Economic Development Canada (ISED)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux ISDE applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

REACH regulation

Information required by Article 33(1) of Regulation (EC) No. 1907/2006 ("REACH") relating to products containing substances of very high concern (SVHCs) is available at: www.renishaw.com/REACH

RoHS compliance

Compliant with EC directive 2011/65/EU (RoHS)

China RoHS

For more information, on China RoHS visit: www.renishaw.com/calchinarohs

Packaging

Packaging components	Material	Material abbreviation	Material numerical code
Outer box	Cardboard	PAP	20
Inserts	Cardboard	PAP	20
Bag	Low density polyethylene	LDPE	4



Disposal of waste electrical and electronic equipment.

The use of this symbol on Renishaw products and/or accompanying documentation indicates that the product should not be mixed with general household waste upon disposal. It is the responsibility of the end user to dispose of this product at a designated collection point for waste electrical and electronic equipment (WEEE) to enable reuse or recycling.



Correct disposal of this product will help to save valuable resources and prevent potential negative effects on the environment. For more information, please contact your local waste disposal service or Renishaw distributor.

Disposal of batteries

The use of this symbol on the batteries, packaging or accompanying documents indicates that used batteries should not be mixed with general household waste. Dispose of the used batteries at a designated collection point. This will prevent potential negative effects on the environment and human health which could otherwise arise from inappropriate waste handling. Contact your local authority or waste disposal service concerning the separate collection and disposal of batteries. All lithium and rechargeable batteries must be fully discharged or protected from short circuiting prior to disposal.



For more information, see the relevant battery manufacturer's website. See also 'Transportation'.

Radio communications

The wireless communication module used within the XK20 alignment laser system is preapproved in a number of regions including the EU, EFTA countries, USA and Canada.

Display unit	Launch unit	M / S units	
WiFi (2.4Ghz and 5GHz) & Bluetooth Low Energy 4.1	Bluetooth Low Energy 5.2 (2.4 GHz)	Bluetooth Low Energy 4.2 (2.4 GHz)	
(2.4GHz)	Module manufacturer:	Module: Silicon Labs	
Module: Mediatek	Silicon Labs	Part no.: BGM111	
Part no.: MT6631N	Part no.: BGM220P	FCC ID: QOQBGM111	
FCC ID: KQG-XK20DU	FCC ID: QOQ-GM220P	IC: 5123A-BGM111	
IC: 3928A-XK20DU	IC: 5123A-GM220P		
Bluetooth Low Energy 5.2 (2.4GHz)			
Module: Silicon Labs			
Part no.: BGM220P			
FCC ID: QOQ-GM220P			
IC: 5123A-GM220P			

Further radio approval country-specific statements can be found below:



Radio communications

China

Display unit	本设备包含型号核准代码为CMIIT ID: 25J99M1MK059的无线电发射模块
Launch unit	本设备包含型号核准代码为CMIIT ID: 25J99M1MK058的无线电发射模块
M unit	本设备包含型号核准代码为CMIIT ID: 25J99M1MK057的无线电发射模块
S unit	本设备包含型号核准代码为CMIIT ID: 25J99M1MK056的无线电发射模块

Taiwan

取得審驗證明之低功率射頻器材,非經核准,公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。前述合法通信,指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫用電波輻射性電機設備之干擾。

Safety information



WARNING: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Ensure that you read and understand the XK20 system user guide before using any XK20 system.

The XK20 alignment laser system can be used in a variety of environments and applications. To ensure the safety of the user and other personnel in the vicinity it is therefore paramount that a comprehensive risk assessment is carried out for the machine under test before using the XK20 alignment laser system.

This should be carried out by qualified users (requiring machine competency, applicable technical knowledge and a trained risk assessor) with consideration for the safety of all personnel. The risks identified must be mitigated prior to using the product. The risk assessment should pay particular attention to machine, manual handling, mechanical, laser, electrical and power safety.

Based on current research, the wireless devices used in this product would not seem to pose a significant health problem for the vast majority of pacemaker wearers. However, people with pacemakers may want to ensure a minimum distance of 3 cm between the product and pacemaker.

Mechanical safety

- When setting up and mounting Renishaw XK20 systems beware of pinch and/or crush hazards that may be created e.g. due to magnetic mounting bases.
- Beware of trip hazards that may be created when using the XK20 system.
 e.g. due to trailing cables.
- Exercise caution if components are to be mounted to moving or rotating machinery. Beware of cables becoming entangled.
- Exercise extreme caution if XK20 system components are to be mounted to machinery that may accelerate rapidly or move at high speed, which could lead to items colliding or being ejected.
- If it is necessary to operate the machine with the guards or any safety
 feature removed or disabled, it is the responsibility of the operator to
 ensure that alternative safety measures are taken in line with the machine
 manufacturer's operating instructions or relevant codes of practice.
- The entire XK20 system weighs approximately 24 kg in the case (including the fixturing kit). Users should exercise caution and follow local manual handling guidelines.

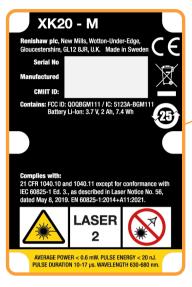






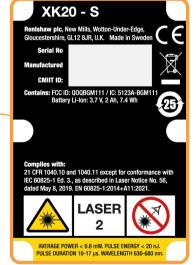


Safety labelling - M unit and S unit









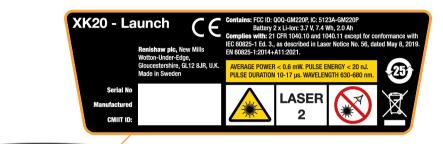


There are no user-serviceable parts inside the XK20 system. Do not remove any part of the housing.



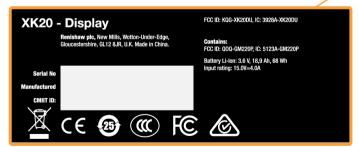
Ensure that you read and understand the XK20 user guides before using any XK20 system.

Safety labelling - Launch unit and display unit











There are no user-serviceable parts inside the XK20 system. Do not remove any part of the housing.



Ensure that you read and understand the XK20 user guides before using any XK20 system.



Laser optical safety

- In accordance with (IEC) EN60825-1, XK20 systems are Class 2 lasers and safety goggles are not required (under normal circumstances the eye will blink and look away before damage can occur).
- Do not stare directly into the laser beams or view them with optical equipment such as
 telescopes, convergent mirrors or binoculars as permanent retinal damage could occur. Do
 not direct the beam at other people or into areas where people unconnected with laser work
 might be present. It is safe to view a diffuse-reflected beam during system alignment.
- FDA compliance (USA) complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019. EN 60825-1:2014+A11:2021
- Switch device off when not in use to ensure no beam is emitted.

Electrical and power safety

- The XK20 system power supply must not come into contact with fluids.
- The power supply unit must not be positioned inside the machine volume.



- The XK20 system has been qualified for use with the power supply supplied with the system. A specification for this power supply unit can be found in the XK20 system user guide.
- In the event of damage to the single phase mains cabling section of the power supply (power lead), all power must be isolated from the equipment before any other action is taken.
- Never connect the system to devices not intended to be used with the XK20 system.





Battery safety

Rechargeable

All Renishaw XK20 system components contain built in rechargeable batteries. Once depleted, recharge the battery using the cables provided: do not attempt to charge the battery by other means. For information on charging procedures please see the battery safety section of the XK20 user guide.

For specific battery operating, safety and disposal guidelines, please refer to the battery manufacturers' literature.

- · Do not store batteries in direct sunlight.
- · Do not heat or dispose of batteries in a fire.
- Do not short-circuit or force discharge the batteries.
- Do not disassemble, pierce, deform or apply excessive pressure to the batteries.
- · Do not swallow the batteries.
- · Keep the batteries out of the reach of children.
- Do not get batteries wet.
- If a battery is damaged, exercise caution when handling it.



Battery safety

Transportation

Ensure that you comply with international and national battery transport regulations when transporting batteries or XK20 system kits.

Lithium-ion batteries are contained within the product. Lithium batteries are classified as dangerous goods and strict controls apply on their shipment by air. To reduce the risk of shipment delays, should you need to return the XK20 system to Renishaw for any reason, please ensure the device has been correctly declared.



In order to ship XK20 systems by airfreight in line with IATA regulations, lithium batteries used throughout the system need to be suitably declared. The table below gives full details of the batteries used for shipping declarations.

Due to the non-removable nature of the batteries within this product, care must be taken to ensure that the product does not become activated during transportation. This can be achieved by protecting the on/off switches from being contacted by any packaging material or other items within the product box. Shipping the XK20 product in the supplied product case will prevent any accidental activation of the product during transportation.

Battery	Weight	Quantity	Purpose/description	Link to manufacturer's data sheet
Launch unit Celltech 365-7043 Rechargeable Li-ion, 3.7 V, 7.4 Wh, 2000 mAh	39 g	2	Rechargeable internal lithium-ion battery pack for the alignment laser launch unit	Available on request
Display unit APP00361 Rechargeable Li-ion, 3.6 V, 68.04 Wh, 18900 mAh	310 g	1	Rechargeable internal lithium-ion battery for the display unit	Available on request
M & S units Celltech 365-7043 Rechargeable Li-ion, 3.7 V, 7.4 Wh, 2000 mAh	39 g	1	Rechargeable internal lithium-ion battery for the M or S unit	Available on request

条款、条件和保修

除非您和Renishaw达成并签署单独的书面协议, 否则此等设备和/或软件应根据其随附的《Renishaw标准条款和条件》出售, 或者您也可以向当地的Renishaw分支机构索取前述的《Renishaw标准条款和条件》。

Renishaw为其设备和软件提供有限保修(如《Renishaw标准条款和条件》所载),前提是此等设备和软件完全按照Renishaw相关文档中的规定进行安装和使用。如需详细了解保修信息,请参阅《Renishaw标准条款和条件》。

您从第三方供应商处购买的设备和/或软件应受限于其随附的相应条款和条件。详情请 联系第三方供应商。

EC标准符合性

雷尼绍公司特此声明, XK20系统符合适用指令、标准和法规的规定。 欢迎联系我们获取EC标准符合性声明全文副本。



本产品符合标准BS EN 61010-1:2010的规定, 在下列最低环境条件下可安全使用:

- 仅限室内使用
- 海拔高度在2,000 m以下
- 当温度在31°C以下时,最大相对湿度(非冷凝)为80%;当温度上升到40°C时,相对湿度线性下降到50%
- 抗污染等级为二级



美国和加拿大法规

美国联邦通信委员会 (FCC) 公告

《美国联邦法规》(CFR) 第47章第15.19条

本设备符合FCC规则第15部分的规定。操作设备时须满足以下条件:

- 1. 本设备不得造成有害干扰。
- 2. 本设备必须能够承受其所受到的任何干扰,包括可能导致设备意外操作的干扰。

《美国联邦法规》(CFR) 第47章第15.21条

用户须注意,任何未经雷尼绍公司或授权代表明确许可的变更或修改,均会导致用户 失去操作设备的权利。

《美国联邦法规》(CFR) 第47章第15.105条

本设备经测试符合FCC规则第15部分关于A类数字设备的限值规定。这些限值规定旨在确保,在商业环境中使用此类设备时,针对有害干扰提供合理的防护。本设备产生、使用并能够放射射频能量,如果不遵照本手册的说明进行操作,可能会对无线电通信造成有害干扰。在居民区使用本设备可能会产生有害干扰,用户需自费解决干扰问题。

《美国联邦法规》(CFR) 第47章第15.27条

本设备在测试时使用了屏蔽电缆连接外围设备。本设备必须使用屏蔽电缆以确保合规。

加拿大创新、科学和经济发展部 (ISED)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux ISDE applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

REACH法规

如需获取第1907/2006 (EC) 号法规 ("REACH") 之第33(1) 条针对含有高度关注物质 (SVHC) 的产品要求提供的信息, 请访问 www.renishaw.com.cn/REACH

欧盟RoHS符合性

符合欧盟指令2011/65/EU (RoHS)

《电器电子产品有害物质限制使用管理办法》(中国RoHS)

有关中国RoHS的更多信息,请访问 www.renishaw.com.cn/calchinarohs

包装

包装组件	材料	材料缩写	材料数字代码
外包装箱	硬纸板	PAP	20
包装内衬	硬纸板	PAP	20
包装袋	低密度聚乙烯	LDPE	4



废弃电子电气设备 (WEEE) 处置

在雷尼绍产品及/或随附文件中使用此符号,表示本产品不可与普通生活垃圾混合处置。最终用户有责任在指定的废弃电子电气设备 (WEEE) 收集点处置本产品。以实现重新利用或循环使用。



正确处置本产品有助于节省宝贵的资源,并防止对环境造成负面影响。如需了解详细信息,请联系当地的废品处置服务商或雷尼绍经销商。

电池处置

在电池、包装或随附文件中使用此符号,表示废旧电池不可与普通生活垃圾混合。请在指定的收集点处置废旧电池。这样可以防止因废品处理不当而对环境和人类健康造成潜在不良影响。请联系当地的相关政府部门或废品处置服务商,了解电池的单独回收与处置规定。在处置前,必须使所有的锂电池和充电电池完全放电或采取防短路措施。



详情请查阅相关电池制造商的网站。另可参见"运输"章节。

无线电通信

XK20激光校准仪使用的无线通信模块已预先通过多个国家或地区的核准,包括欧盟、欧洲自由贸易联盟(EFTA)国家、美国和加拿大。

显示装置	发射器	M装置和S装置	
WiFi (2.4Ghz和5GHz) 及	低功耗蓝牙5.2 (2.4GHz)	低功耗蓝牙4.2 (2.4GHz)	
低功耗蓝牙4.1 (Bluetooth Low Energy 4.1, 2.4GHz)	模块制造商: Silicon Labs	模块: Silicon Labs	
模块: Mediatek	部件号: BGM220P	部件号: BGM111	
部件号: MT6631N	FCC ID: QOQ-GM220P	FCC ID: QOQBGM111	
FCC ID: KQG-XK20DU	IC: 5123A-GM220P	IC: 5123A-BGM111	
IC: 3928A-XK20DU			
低功耗蓝牙5.2 (2.4GHz)			
模块: Silicon Labs			
部件号: BGM220P			
FCC ID: QOQ-GM220P			
IC: 5123A-GM220P			

如需了解特定国家的无线电核准声明, 请参见下文:



无线电通信

中国大陆

显示装置	本设备包含型号核准代码为CMIIT ID: 25J99M1MK059的无线电发射模块
发射器	本设备包含型号核准代码为CMIIT ID: 25J99M1MK058的无线电发射模块
M装置	本设备包含型号核准代码为CMIIT ID: 25J99M1MK057的无线电发射模块
S装置	本设备包含型号核准代码为CMIIT ID: 25J99M1MK056的无线电发射模块

中国台湾

取得審驗證明之低功率射頻器材,非經核准,公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及 干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。 前述合法通信,指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫用電波輻射性電機設備之干擾。

安全须知



警告: 如果使用非本手册指定的控制、调整或操作程序,将可能会导致接触有害辐射。

在使用任何XK20系统之前,请确保您已阅读并理解《XK20系统使用指南》的内容。

XK20激光校准仪可用于多种环境和应用场合。为确保使用者及周围人员的安全,在使用XK20激光校准仪之前,必须对将要测量的机器进行一次全面的风险评估。

出于保障所有人员安全的考虑,应由具备机器操作能力、相关的技术知识并接受过风险评估培训的专业使用者进行这项评估。在使用产品前必须有效规避通过评估确定的风险。在进行风险评估时应尤其关注机器、手动搬运、机械、激光、电气及电源安全性。

目前的研究表明,本产品中使用的无线装置不会对大部分心脏起搏器佩戴者的身体健康造成严重危害。然而,为安全起见,我们仍建议佩戴者在心脏起搏器与本产品之间保持至少3 cm的距离。

机械安全性

- 在设定和安装雷尼绍XK20系统时,请提防被磁性固定底座等夹伤和/或压伤的危险。
- 在使用XK20系统时,请提防被拖曳的电缆线等绊倒的危险。
- 将设备组件安装在运动或旋转的机械结构上时, 应谨慎操作, 避免电缆线 缠绕在一起。
- 将XK20系统组件安装在可能快速加速或高速运动的机器部件上时, 应十分谨慎操作,因为高速机械运动可能会导致物体碰撞或弹出。
- 如果需要在防护罩移除或任何安全功能停用的情况下操作机器,操作人员有责任确保根据机器制造商的操作说明或相关操作规定来采取其他安全措施。
- XK20系统的装箱重量约为24 kg (包含夹具组件)。使用者应小心操作并遵守所在国家/地区的手动搬运指导规程。

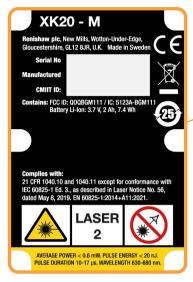






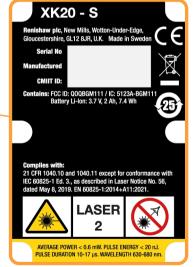


安全标签 — M装置和S装置









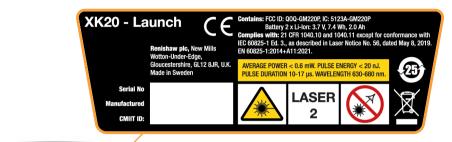


XK20系统不含可由用户自行维修更换的部件。请勿拆卸外壳的任何部分。



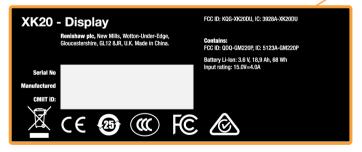
在使用任何XK20系统之前,请确保您已阅读并理解《XK20系统使用指南》的内容。

安全标签 — 发射器和显示装置











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激光光学安全性

- 根据 (IEC) EN60825-1标准, XK20系统属于二类激光器, 因此不需要佩戴护目镜 (在正常环境下, 人会自然眨动眼睛并转移目光以避免伤害)。
- 请勿直视激光光束或佩戴光学设备观察激光光束,例如望远镜、聚光镜或双筒镜,否则可能会造成永久性视网膜损伤。请勿将光束射向他人或射向激光作业无关人员可能在场的区域。在系统准直过程中,注视漫射光束不会对眼睛造成伤害。
- 美国食品与药品管理局 (FDA) 合规性 一本设备符合《美国联邦法规》第21章第1040.10节和第1040.11节的规定;或者,依据2019年5月8日发布的《第56号激光通告》的规定,符合IEC 60825-1标准第3版的要求。EN 60825-1:2014+A11:2021
- 在不使用时请关闭设备,以确保不会发射激光光束。

电气和电源安全性

- XK20系统的电源适配器不可接触液体。
- 电源适配器不可置于机器的工作空间内。
- 经验证, XK20系统可使用系统随附的电源适配器。电源适配器的规格 请参阅《XK20系统使用指南》。



- 一旦电源装置的单相电源接线区域 (电源线) 发生故障, 在进行任何其他操作前, 必须先断开设备的所有电源。
- 切勿将XK20系统连接到不与其配用的设备上。





电池安全性

可充电型电池

所有XK20系统部件均内含可充电型电池。电池电量耗尽时,请使用随附的电缆给电池充电:请勿尝试用其他方法给电池充电。有关充电步骤的信息,请参阅《XK20使用指南》的"电池安全性"章节。

有关具体的电池工作、安全性和处置指导原则,请参阅电池制造商提供的资料。

- 请勿将电池存放在阳光直射的地方。
- 请勿将电池加热或弃入火中。
- 请勿使电池短路或强制放电。
- 请勿拆解, 刺穿电池或使其变形, 或对其施加过度压力。
- 请勿吞咽电池。
- 请将电池放在儿童无法接触的地方。
- 请勿使电池受潮。
- 如果电池损坏,请小心处理。



电池安全性

运输

在运输电池或XK20系统组件时,请确保符合国际和国家电池运输 法规。



产品内含锂离子电池。锂电池被归类为危险品,在航空运输时须遵守严格的管控规定。为了减少运输延期的风险,无论您出于任何原因需要将XK20系统返回雷尼绍,请确保正确申报设备。

按照国际航空运输协会 (IATA) 的规定, 在航空运输XK20系统时需要正确申报系统中使用的所有锂电池。下表列出了用于运输申报的详细电池信息。

由于产品中的电池不可拆卸,因此必须十分小心处理,确保产品不会在运输途中被激活。通过保护电源开关不与产品包装箱内任何包装材料或其他物品接触,可确保这一点。将XK20系统装在配套的便携箱中运输,可以防止产品在运输途中被意外激活。

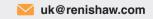
电池	重量	数量	用途/描述	制造商规格手册链接
发射器				
Celltech 365-7043 可充电型锂离子 电池, 3.7 V, 7.4 Wh, 2,000 mAh	39 g	2	可充电型内置锂离子电池组, 用于激光校准仪的发射器	可按客户要求提供
显示装置 APP00361 可充电型锂离子 电池, 3.6V, 68.04 Wh, 18,900 mAh	310 g	1	可充电型内置锂离子电池, 用于显示装置	可按客户要求提供
M装置和S装置 Celltech 365-7043 可充电型锂离子 电池, 3.7 V, 7.4 Wh, 2,000 mAh	39 g	1	可充电型内置锂离子电池, 用于M装置或S装置	可按客户要求提供



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