

Device part number

MIN-101B

Device name

MinION Mk1B

Short description

MinION is a powerful, portable sequencing device that delivers cost-effective and real-time access to gigabases of long-read sequencing data. Small enough to fit in a pocket and powerful enough to deliver up to 30 Gb data, the USB-powered MinION allows researchers to rapidly generate actionable biological insights across a wide range of application areas.

Product overview

The Oxford Nanopore Technologies® MinION™ is an electronic device that provides the interface between the user's computer (or MinIT device) and the nanopore sensor array. The MinION powers to the application-specific integrated circuit (ASIC), performs temperature control and transfers data to the PC through a single USB 3.0 port. The MinION Mk1B can be used with MinION flow cells and Flongle adapter and flow cells. The MinION device can be used for DNA and RNA sequencing. The MinION is operated using the MinKNOW™ software, which controls the device, experimental scripts and also performs basecalling.

Technical specifications

Component	Specification
Size and weight	W 105 mm x H 23 mm x D 33 mm
Power	5 W
Ports	USB 3.0
Environmental conditions	Designed to sequence at 18°C to 24°C*. Users can adapt this for other temperature requirements

* Functional range of electronics +5°C to +40°C

Shipping and logistics

The Oxford Nanopore Technologies MinION device is stored and shipped at ambient temperature (2–25° C). MinION devices are shipped either in a padded envelope or a shipping box with flow cells and reagents.

Please note that the MinION is shipped separately to the kits and flow cells in the Starter Pack.

Products are shipped to customers within the USA and EU Monday to Thursday. Shipments to Canada, Norway, Korea and Japan are expedited Monday to Wednesday; with Australia and New Zealand leaving our warehouses on a Friday. Shipments to the rest of the world are made on Mondays to allow the full working week for packages to arrive. The delivery charges are calculated when a quote is raised or during checkout. Once an order is made, the delivery ID and delivery information can be tracked in the Store.

IT requirements

[MinION IT requirements](#)

Safety and legal info

Oxford Nanopore Technologies MinION Mk1B device is an electronic analysis system for use in scientific research.

This product is for research use only.

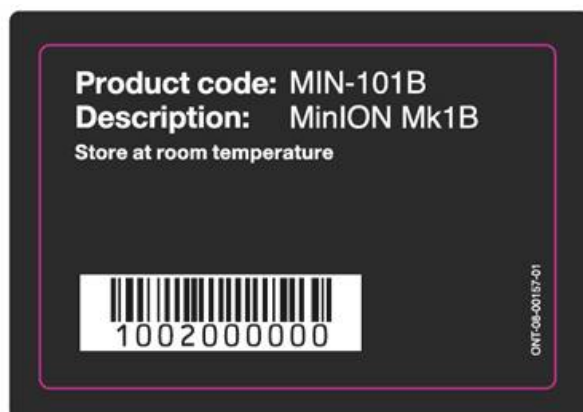
The safety information below provides you with the details needed to install and use the system safely.

MinION electrical output values:

Supply voltage	5 V
Operating current	800 mA for 10 k 900 mA for 33 k 1 A maximum
Maximum power	5 W

Labels on the instrument

Label on the MinION Mk1B:



Label on the SpotON Flow Cell:






Emergency procedures

In case of emergency, switch the computer off at the power switch (or switch off the MinIT at the power source) and unplug the USB 3.0 cable.

Declaration of conformity

The MinION Mk1B conforms to the EMC and Electrical Safety directives as outlined in the EC Declaration of Conformity.

		
EC DECLARATION OF CONFORMITY		
(1) Product	Model name(s): MinION MK1B	
	Model part number(s): MIN-101B / ONT-00-00022-00	
	Equipment type: Laboratory Equipment	
(2) Manufacturer	Name: Oxford Nanopore Technologies plc	
	Address: Gosling Building, Edmund Halley Road, Oxford Science Park, Oxford, OX4 4DQ United Kingdom	
(3)	We, Oxford Nanopore Technologies plc, hereby declare under our sole responsibility that the above specified products conform to the following European Directives and applied harmonised standards:	
	EMC 2014/30/EU Electromagnetic Compatibility	
	RoHS 2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment. Amended by 2015/863	
(4) Harmonised standards applied:		
	EMC EN 61326-2-1:2013 using the common technical requirements of EN 61326-1:2013	
	RoHS EN IEC 63000:2018	
(5) Signed for and on behalf of Oxford Nanopore Technologies plc.		
Signature:	 _____	Date: 14th March 2023
Full Name:	Rajeev Uppal	
Position:	Director Quality Assurance	
Place of Issue:	Oxford, UK	
		Document: D-0733 Revision: 2

International standards

The MinION Mk1B is certified to the following international standards:

Certification	Country
MET; UL61010/CSA-C22.2 No. 61010, third Edition: Electrical Equipment for Measurement, Control and Laboratory Use, Revision: May 11, 2012	USA and Canada
RCM compliance	Australia and New Zealand

Software license and device warranty

The software licence and device warranty contract ensures your instrument is performing optimally by providing the latest up-to-date hardware and software. The contract guarantees that Oxford Nanopore Technologies support obligations are delivered during the contract period as laid out in sections 4 and 7 of the [Nanopore Product Terms and Conditions](#).

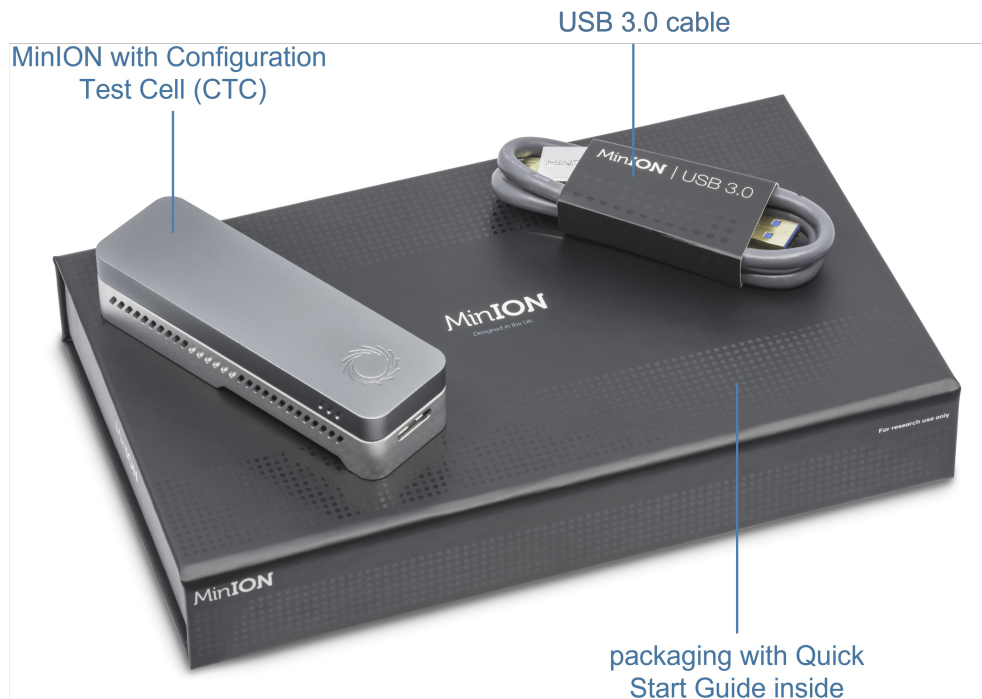
This includes:

- Software updates upon release
- Hardware updates on release
- Return and Replace policy

The service contract extends our warranty to cover the instrument after your initial purchase contract has expired.

What's in the box

The MinION is shipped together with a USB cable and a Configuration Test Cell.



Configuration is the process of testing that communication between the MinION device and the control software on the host computer is operational prior to experimental work being performed. This is carried out in the absence of any chemistry and uses a specific flow cell known as the Configuration Test Cell (CTC).



The USB 3.0 cable is used to connect the MinION device to the host computer. The crimped connector end is attached to the USB 3.0 port on the MinION and the flat end attaches to a USB 3.0 port on the host computer.



Product cross-compatibility

The MinION can be used together with:

Flow cells

- FLO-MIN106D
- FLO-MIN114
- FLO-MIN112 - *legacy*
- FLO-FLG001

Kits

FLO-MIN106D flow cells are suitable for most sequencing kits:

- Ligation Sequencing Kit (SQK-LSK110)
- Ligation Sequencing Kit (SQK-LSK109)
- Cas9 Sequencing Kit (SQK-CS9109)
- PCR-cDNA Sequencing Kit (SQK-PCS111)

- PCR-cDNA Sequencing Kit (SQK-PCS109)
- PCR-cDNA Barcoding Kit (SQK-PCB109)
- Direct cDNA Sequencing Kit (SQK-DCS109)
- Direct RNA Sequencing Kit (SQK-RNA002)
- Rapid Sequencing Kit (SQK-RAD004)
- Rapid Barcoding Kit (SQK-RBK004)
- Rapid PCR Barcoding Kit (SQK-RPB004)
- 16S Barcoding Kit (SQK-RAB204)
- PCR Sequencing Kit (SQK-PSK004)
- PCR Barcoding Kit (SQK-PBK004)
- Field Sequencing Kit (SQK-LRK001)
- Ligation Sequencing Kit (SQK-LSK112) - *legacy*
- Ligation Sequencing Kit XL (SQK-LSK112-XL) - *legacy*
- Native Barcoding Kit 24 (SQK-NBD112.24) - *legacy*
- Native Barcoding Kit 96 (SQK-NBD112.96) - *legacy*

FLO-MIN114 flow cells can only be used with the V14 Sequencing Kits:

- Ligation Sequencing Kit V14 (SQK-LSK114)
- Native Barcoding Kit 24 V14 (SQK-NBD114.24)
- Native Barcoding Kit 96 V14 (SQK-NBD114.96)
- Rapid Sequencing Kit V14 (SQK-RAD114)
- Rapid Barcoding Kit 24 V14 (SQK-RBK114.24)
- Rapid Barcoding Kit 96 V14 (SQK-RBK114.96)
- Ultra-Long DNA Sequencing Kit V14 (SQK-ULK114)

FLO-MIN112 flow cells can be used with the V12 Sequencing Kits:

- Ligation Sequencing Kit (SQK-LSK112) - *legacy*
- Ligation Sequencing Kit XL (SQK-LSK112-XL) - *legacy*
- Native Barcoding Kit 24 (SQK-NBD112.24) - *legacy*
- Native Barcoding Kit 96 (SQK-NBD112.96) - *legacy*

Software

Basecalling:

- MinKNOW
- Guppy
- Dorado

Basecalled reads are available as .fast5, .POD5 and FASTQ files.

Downstream analysis:

- EPI2ME
- Oxford Nanopore-developed tools and pipelines
- Customer-developed tools and pipelines

Change log

Date	Version	Changes made
24th March 2023	V4	<ul style="list-style-type: none">- The Declaration of Conformity document has been updated- The compatibilities list has been updated
August 2022	V3	<ul style="list-style-type: none">- The Technical Specifications table has been updated to say "Functional range of electronics +5°C to +40°C"- Cross-compatibilities have been updated to include the Ligation Sequencing Kit V14 (SQK-LSK114) and the R10.4.1 flow cells (FLO-MIN114)
Feb 2022	V2	<ul style="list-style-type: none">- "What's in the box" image has been updated to reflect the new MinION packaging- Updates to kit and flow cell compatibilities
Nov 2020	V2	Updates to kit compatibilities