REQUIREMENTS

GridION Q technical specification

FOR RESEARCH USE ONLY

Contents

Document version Q_GTS_revc_26Sep2024

Device part number

Q-GRD-MK1

Device name

GridION Q

Short description

GridION Q is a cost-effective and compact benchtop system offering on-demand sequencing with integrated real-time data processing. With the capacity to run five flow cells either concurrently or individually, GridION Q provides busy labs and service providers with cost-efficient access to the advantages of long-read, real-time nanopore sequencing.

Product overview

The Oxford Nanopore Technologies® GridION™ Q is a compact benchtop sequencing system. It allows up to five assays to be run individually. You can choose to use as much or as little of this total resource at any one time. GridION Q also allows you to offer nanopore sequencing as a service.

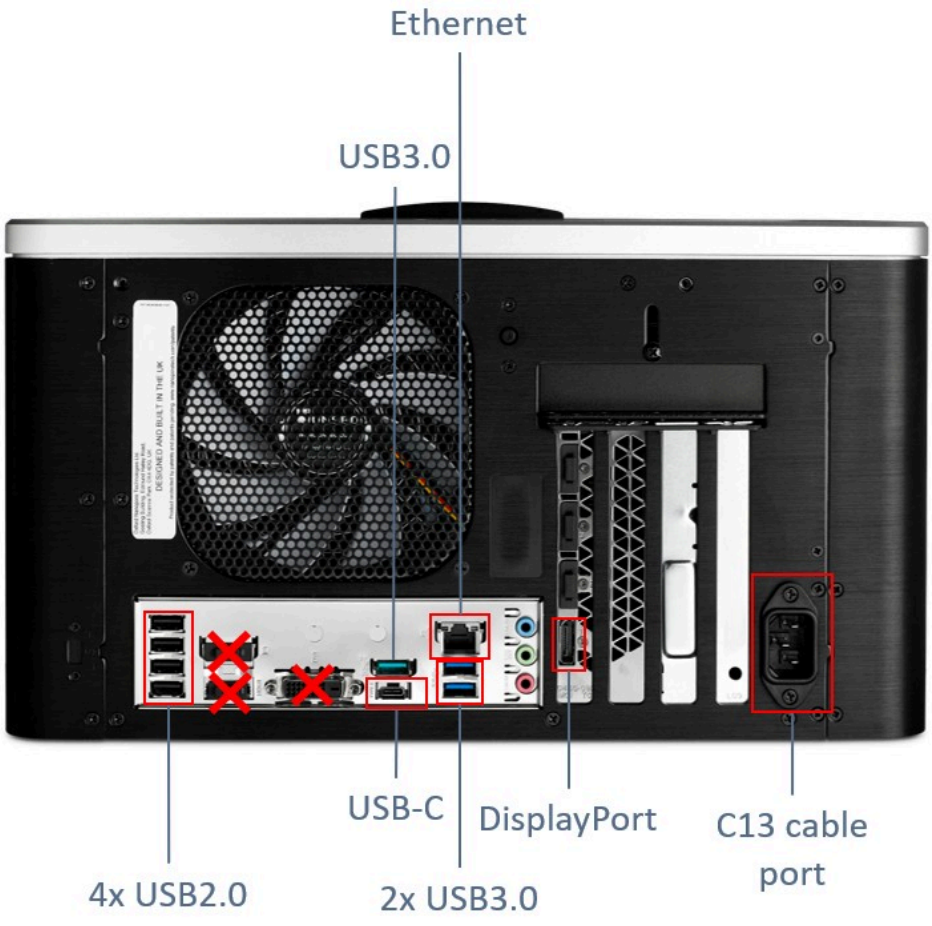
The GridION Q provides users with five sequencing ports where MinION flow cells can be connected, as well as a high-performance integrated computer and basecalling accelerator. The device can basecall, in real-time, the data generated by five flow cells.

Setting up a GridION Q requires minimal infrastructure with no need for facility upgrades. A new device requires only a power source, network connectivity via an Ethernet port, and peripherals (mouse, keyboard, monitor, optional barcode scanner).

There are three USB 3.0 ports available for peripherals, e.g. keyboard and mouse. Monitors must be connected by DisplayPort or by HDMI via the provided adapter.

The device is powered from the mains via the C13 cable and is switched on via a power button on the front.


Sliding lid
Flow cell position indicators
Flow cells
Power button


Ethernet
USB3.0
USB-C
DisplayPort
C13 cable port
4x USB2.0
2x USB3.0

Technical specifications

Component	Specification
Size and weight	H 220 x W 365 x D 370 mm, 14.4 kg
Compute spec	7 TB SSD storage, 64 GB RAM, Intel i9 CPU for OS and orchestration, basecalling accelerator
Pre-loaded software	Linux OS, GridION OS, sequencing software
Environmental conditions	System functional range +5°C to +40°C Designed to sequence at +18°C to +25°C

Shipping and logistics

The Oxford Nanopore Technologies GridION Q device is stored and shipped at ambient temperature (+15–25°C).

Please note that the GridION Q is shipped separately to the kits and flow cells.

The delivery charge of $2000 is included in the package price. Additional delivery charges for the consumables 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

GridION Q IT requirements can be found here:
https://community.nanoporetech.com/requirements_documents/gridion-q-it-req.pdf

Safety and legal info

Intended use of the GridION Q device

The Oxford Nanopore Technologies GridION Q device is a Next Generation Sequencing (NGS) device that enables short- to long-read, high-throughput DNA/RNA sequencing.

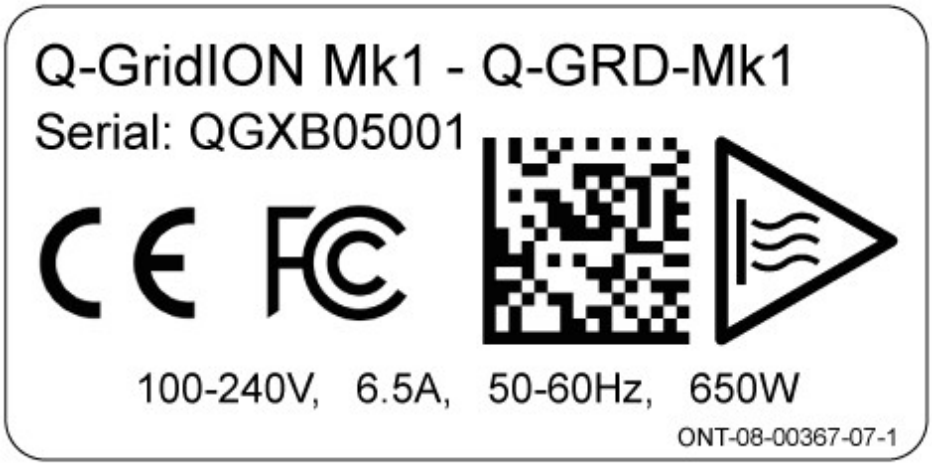
The safety information below provides the details needed to install and use the system safely.

Electrical information

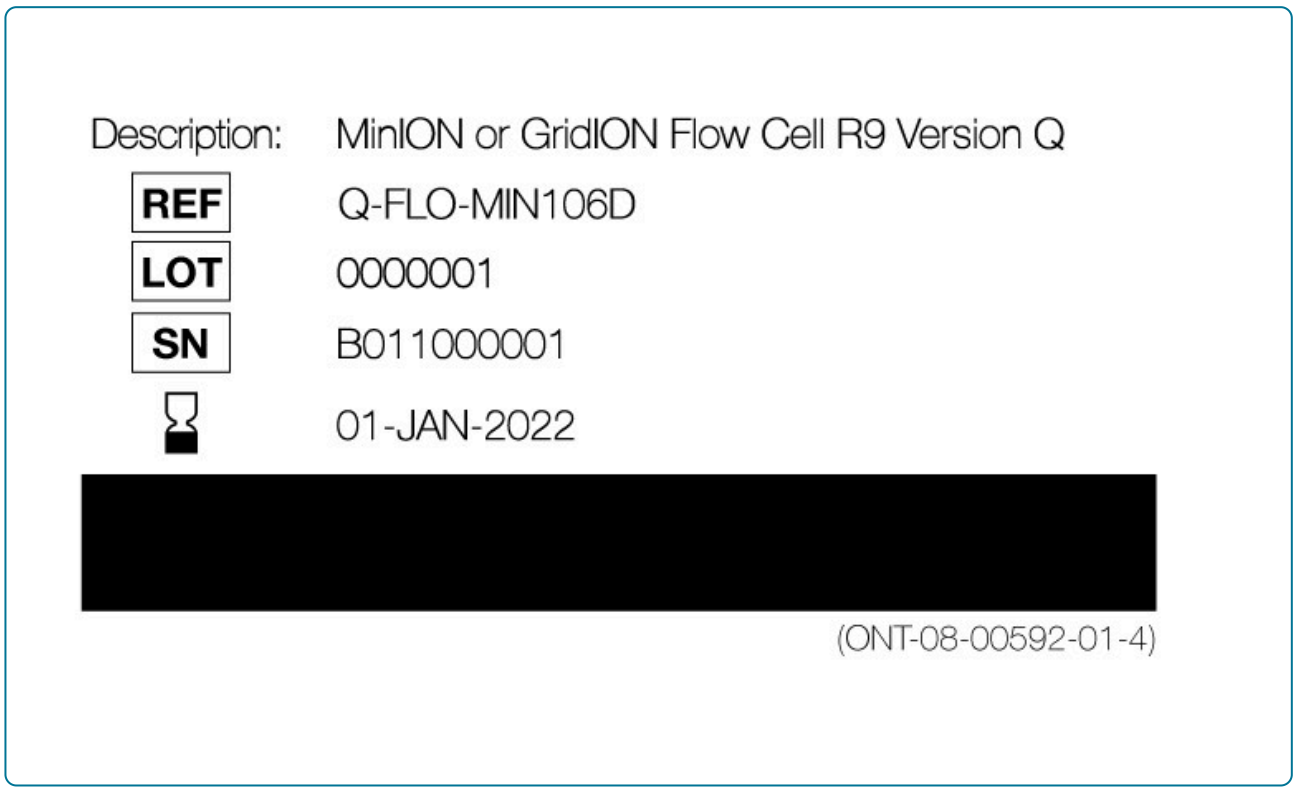
Supply voltage	100–240 V (50/60 Hz)
Operating current	6.5 A maximum
Maximum power	650 W

Labels on the instrument

Label on the GridION Q:



Label on the MinION Flow Cell packaging:

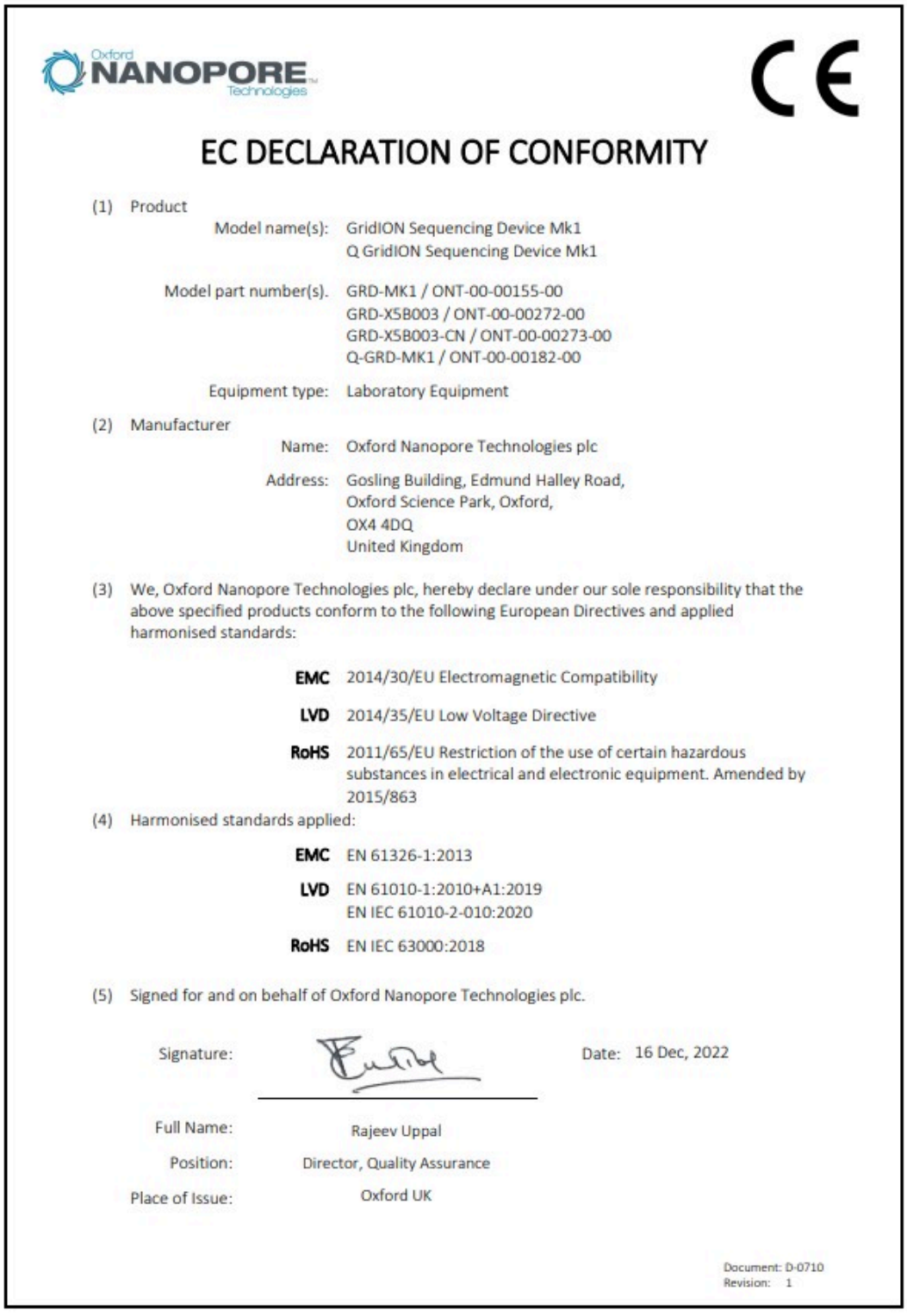


Emergency procedures

In case of emergency, switch the GridION Q off at the power switch and unplug the power cable from the back of the device.

Declaration of conformity

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



Oxford NANOPORE Technologies

CE

EC DECLARATION OF CONFORMITY

(1) Product

Model name(s): GridION Sequencing Device Mk1
Q GridION Sequencing Device Mk1

Model part number(s). GRD-MK1 / ONT-00-00155-00
GRD-X5B003 / ONT-00-00272-00
GRD-X5B003-CN / ONT-00-00273-00
Q-GRD-MK1 / ONT-00-00182-00

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

LVD 2014/35/EU Low Voltage Directive

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 61326-1:2013

LVD EN 61010-1:2010+A1:2019
EN IEC 61010-2-010:2020

RoHS EN IEC 63000:2018

(5) Signed for and on behalf of Oxford Nanopore Technologies plc.

Signature: Date: 16 Dec, 2022

Full Name: Rajeev Uppal

Position: Director, Quality Assurance

Place of Issue: Oxford UK

Document: D-0710
Revision: 1

License and Warranty

The license and 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.

For more information, see the Device Warranty page on the Oxford Nanopore Store.

What's in the box

The GridION Q is shipped together with five C13 cables for different geographic regions, five configuration test cells (CTCs), and a HDMI adapter.

Configuration is the process of testing that communication between the GridION Mk1 device and the control software is operational prior to assays being run. This is carried out in the absence of any chemistry and uses a specific flow cell known as the Configuration Test Cell (CTC).

The GridION Q is packed into a single box that contains everything needed for installing the device. The shipping weight is ~14.4 kg, meaning no special equipment is required for installing the GridION Q in your laboratory.

Product cross-compatibility

The GridION Q can be used together with:

Flow cells

- Q-FLO-MIN106D

Kits

- Q-Line Ligation Sequencing Kit (Q-SQK-LSK109)
- Q-Line Native Barcoding Expansions 1-12 and 13-24 (Q-EXP-NBD104 and Q-EXP-NBD114)
- Q-Line Cas9 Sequencing Kit (Q-SQK-CS9109)
- Q-Line Rapid Barcoding Kit 96 (Q-SQK-RBK110.96)
- Q-Line Flow Cell Wash Kit (Q-EXP-WSH004)
- Q-Line Flow Cell Priming Kit (Q-EXP-FLP002)
- Q-Line Control Expansion (Q-EXP-CTL001)
- Q-Line Sequencing Auxiliary Vials (Q-EXP-AUX002)
- Q-Line Adapter Mix II Expansion (Q-EXP-AMII001)

Software Basecalling:

- Q system sequencing software

Basecalled reads are available as FASTQ and BAM files.