Device part number

PRM48BasicSP

Device name

PromethION 48

Short description

PromethION devices deliver flexible, high-capacity, benchtop sequencing ideal for large-scale projects and high-throughput laboratories. PromethION 48 (P48) is designed to run up to 48 flow cells — delivering yields of up to 9,600 Gbases. Each flow cell can be run independently, providing on-demand, long-read sequencing to suit all experimental requirements. Integrated, high-performance compute allows real-time base calling and onward analysis for rapid access to results.

Product overview

PromethION 48 is a high-throughput nanopore sequencing device using the same technology found in the MinION and GridION devices, but massively paralleled. It allows up to 48 sequencing experiments to be run concurrently or individually. PromethION also allows users to offer nanopore sequencing as a service.

The PromethION 48 consists of a Sequencing Unit with 48 sequencing ports where PromethION flow cells can be inserted, as well as a Data Acquisition Unit offering a high performance integrated computer and basecalling accelerators. The device can basecall, in real-time, the data generated by 48 flow cells. The current chemistry and software enables generation of up to 200 Gbases of data from a single PromethION flow cell.

Setting up a PromethION 48 requires minimal to no facility upgrades. A new device requires a power source, network connectivity via copper or fibre, and will utilise existing storage infrastructure. There are USB ports available for peripherals, e.g. keyboard and mouse. Monitors must be connected via HDMI.

Technical specifications

Component	Specification
Size and weight	PromethION 48 Sequencer: H 190 x W 590 x D 430 mm, 25 kg PromethION 48 Data Acquisition Unit: H 440 x W 178 x D 470mm, 25 kg

Component	Specification
Compute spec	64 TB SSD Storage, 384 GB RAM, Intel CPU, 4 x GV100 basecall accelerators
Pre-loaded software	Linux OS, PromethION OS *(MinKNOW inside)*, Guppy software
Environmental conditions	Designed to sequence at room temperature (+18° C–25° C) Users should allow 30 cm clearance to the rear and sides of the device. **CAUTION:** Rear of instrument heats up during operation

Shipping and logistics

The Oxford Nanopore Technologies PromethION 48 device is stored and shipped at ambient temperature (15–25° C).

Please note that the PromethION 48 is shipped separately to the kits and flow cells.

Shipments will consist of two palletised boxes, one for each Unit.

IT requirements

PromethION IT requirements

Safety and legal info

Intended use of the PromethION 48 device

Oxford Nanopore Technologies® PromethION 48™ device is an electronic analysis system for use in scientific research. The core technology is built around a nanopore that is able to detect single molecule events including nucleic acids (DNA/RNA), proteins and small molecules.

This product is for research use only

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

Electrical information

PromethION 48 Sequencer	Supply voltage: 100 - 240 V (50/60 Hz) Maximum power: 800 W
PromethION 48 Data Acquisition Unit	Supply voltage: 100-240 V (50/60Hz) Maximum power: 2200 W Maximum current 12-11 A (220-240 V - 2200 W) Maximum current 14-11 A (100-127 V - 1200 W)

Emergency procedures

In case of emergency, switch the PromethION 48 off at the power switch and unplug the power cables from the back of the device.

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 PromethION 48 is shipped together with the necessary cables and Configuration Test Cells to confirm your hardware is functioning as expected.

Configuration is the process of testing that communication between the PromethION device and the control software 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 PromethION 48 is packed into two boxes that contain everything needed for installing the device. The shipping weight is ~30 kg, meaning no special equipment is required for installing the PromethION in your laboratory.

Product cross-compatibility

The PromethION 48 can be used together with:

Flow cells
- FLO-PRO002

Kits
FLO-PRO002 flow cells are suitable for:
- Ligation Sequencing Kit (SQK-LSK110)
- Ligation Sequencing Kit (SQK-LSK109)
- PCR-cDNA Sequencing Kit (SQK-PCS109)
- PCR-cDNA Barcoding Kit (SQK-PCB109)
- Direct cDNA Sequencing Kit (SQK-DCS109)
- Direct RNA Sequencing Kit (SQK-RNA002)

Software
Basecalling:
- MinKNOW
- Guppy

Downstream analysis:
- EPI2ME
- Oxford Nanopore-developed tools and pipelines
- Customer-developed tools and pipelines

Change log

Date	Version	Changes made
Nov 2020	V2	Updates to kit compatibilities