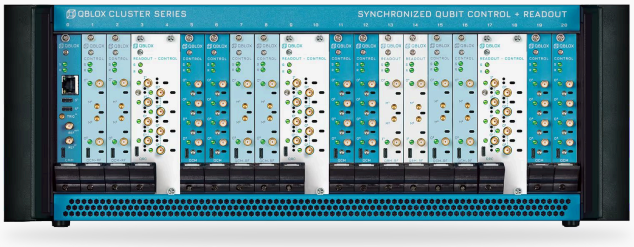
QBLOX

Cluster

Modular and scalable quantum control



Release February 2026_V1.9

QBLOX B.V. - DELFTECHPARK 22 | 2628 XH DELFT | THE NETHERLANDS | CHAMBER OF COMMERCE 72525053 | ALL RIGHTS RESERVED | SALES@QBLOX.COM

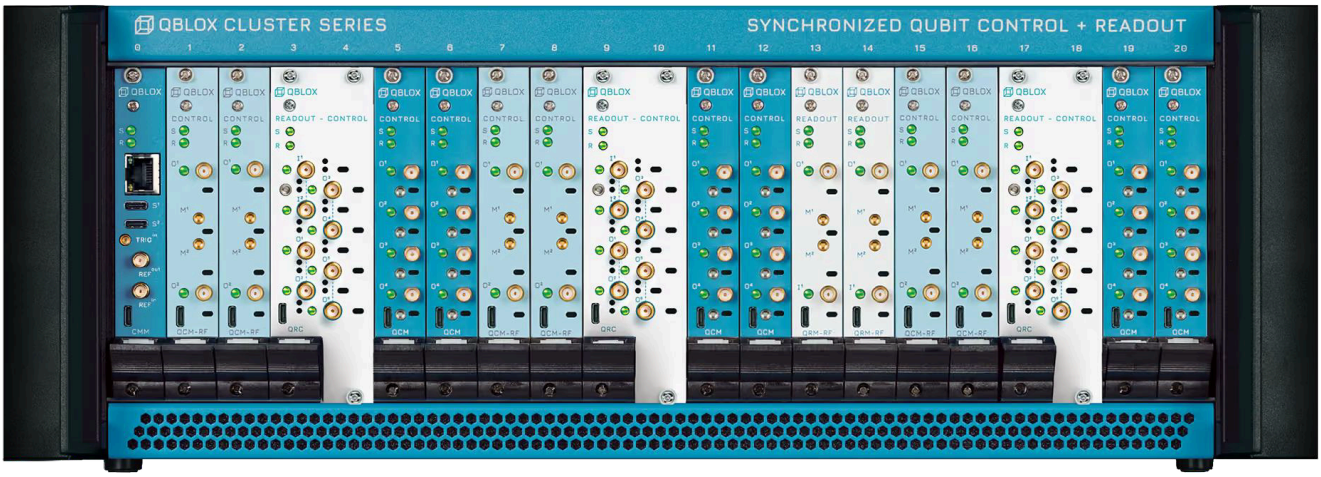
DESCRIPTION

Qblox Cluster is the scalable 19” rack system that can be configured with a combination of modules that can control and readout qubits over a wide frequency range (DC to 18.5 GHz).

All the modules in the system act as one solid system through the use of our proprietary SYNQ and LINQ backplane system protocols. Both protocols contribute to more stable and reliable qubit setups needed for quantum computing.

QBLOX CLUSTER

SYNQ + LINQ SYSTEM



SYNQ

SYNQ protocol: Ensures fully deterministic timing of all outgoing signals by creating a synchronized start and establishes fixed timing relations between all the modules in the Cluster.

LINQ

LINQ protocol: Facilitates low-latency feedback with an arbitrary control flow by distributing the measurement outcomes to all modules.

FEATURES

Hosting up to 20 modules per Cluster in a 4 U chassis.

Setup can scale and adapt along with the experimental needs.

Up to 80 baseband channels or 40 RF channels per Cluster.

SYNQ starts modules synchronously << 1 ns.

LINQ distributes measurement outcomes to all modules.

Agile scalability to 100s of qubits.

SPECIFICATIONS

Number of module slots:	**20**
Power supply:	**110-230 V / 50-60 Hz**
Max. power consumption:	**73 W**
Power supply max. load:	**1.1 kW**
Clocking reference (internal or external):	**10 MHz**
Clock reference connector (in or out):	**SMA**
Number of SYNQ ports:	**2 x USB-C**
Data connection to host pc:	**Ethernet**
Driver/API:	**SCPI / Python / QCoDeS**
Ethernet data rate:	**1 GBit/s**
Form factor:	**19" Rack mount**
Height:	**4 U**
Dimensions:	**482 x 474 x 176 mm³**
Weight (empty rack):	**9,35 kg**