



REAL-TIME PCR CFX Opus 384 Real-Time PCR System

Integrated Workflow for the Modern Lab



The CFX Opus 384 Real-Time PCR System puts you on the road to an efficient workflow. Quickly set up runs and easily monitor run progress and analyze data using the comprehensive data management and analysis tools of CFX Maestro Software.

From your BR.io account, set up a run and access your results at any time and anywhere you have internet access.

Benefits

Flexible connectivity and data management options for access and transfer of runs and experiment protocols.

- Operate in stand-alone mode through flexible connectivity options of wireless network (WiFi), Ethernet, and USB
- Access BR.io cloud platform for experimental setup and data management at any convenient location with internet access
- Enjoy continued support for and control of up to 4 CFX instruments with CFX Maestro Software for Windows 7 (64-bit), Windows 10 (64-bit), and Security Edition
- Email your completed run
- Save protocols and completed runs in a network folder

Intuitive touch-screen user interface for both experienced and new real-time PCR users.

- Create new real-time PCR protocols or easily modify existing protocols
- Set up unique User Names, with optional passwords, to easily organize and find your protocols and experiments

Specifications

System

Licensed for real-time PCR	Yes
Sample block type	384 wells
Sample size	1–30 μ l (5–30 μ l recommended)
Dimensions (W x D x H)	33 x 56 x 36 cm (13 x 22 x 14 in.)
Weight	22 kg (48 lb)
Touch-screen user interface	Adjustable, with angle of rotation 12–55°
Communications	USB 2.0 or above, Ethernet, WiFi
Electrical approvals	IEC, CE
Operating system	Windows 10 IoT

Optical Detection System

Excitation	5 filtered LEDs
Detection	5 filtered photodiodes
Range of excitation/ emission wavelengths	450–690 nm
Scan time	
All channels	<20 sec
Single channel	8 sec
Dynamic range	10 orders of magnitude
Sensitivity	Detects 1 copy of target sequence in human genomic DNA

Multiplex analysis

Up to 4 targets per well

384-Well Reaction Block

Sample block type	Fixed 384-well sample block
Heating and cooling method	Peltier
Lid heating	30–110°C
Temperature range	4–100°C
Maximum ramp rate	2.5°C/sec
Average ramp rate	2.0°C/sec
Thermal accuracy	\pm 0.2°C
Thermal uniformity	\pm 0.3°C (max -min) 0.6°C, measured 10 sec after the block reaches the target temperature

Gradient

Operational range	30–100°C
Programmable span	1–24°C

continues



Specifications

CFX Maestro Data Management and Analysis Software

Operating system	Windows 7 (64-bit), Windows 10 (64-bit), macOS (10.14, for analysis only)
Memory	Minimum of 1 GB
Data analysis modes	PCR quantification with standard curve Melt curve analysis Gene expression analysis by relative quantity (ΔCq) or normalized expression ($\Delta\Delta Cq$) Multiple-file gene expression analysis for comparison of an unlimited number of Cq values Allelic discrimination End-point analysis Data analysis options include bar charts, box-and-whisker plots, dot plots, clustergrams, scatter plots, and volcano plots Statistics include <i>t</i> -test and analysis of variance (ANOVA)
Data export	Save, copy, and print all graphs and spreadsheets from right-click menu Export specified data in multiple formats Copy and paste into a Microsoft Excel, Word, or PowerPoint file Print directly or save as PDFs customizable reports containing run settings, data graphs, and spreadsheets Export to RDML
Image export	Export images at any pixel size and at a resolution up to 600 dpi Save images as .bmp, .jpg, or .png files

Catalog #	Description
1845099	CFX Qualification Plate , 384-well
1814000	PX1 PCR Plate Sealer , includes heat sealing instrument
1814030	PCR Plate Heat Seal , pkg of 100, optically clear seals for use with the PX1 PCR Plate Sealer
MSB1001	Microseal 'B' PCR Plate Sealing Film , pkg of 100, optically clear seals for PCR plates
HSP3805	Hard-Shell 384-Well PCR Plates , pkg of 50, thin wall, skirted, clear shell/white wells
HSP3905	Hard-Shell 384-Well PCR Plates , pkg of 50, thin wall, skirted, clear shell/white wells, barcoded
1708840	iScript Reverse Transcription Supermix for RT-qPCR , 25 x 20 μ l reactions
1725037	iScript Advanced cDNA Synthesis Kit for RT-qPCR , 25 x 20 μ l reactions
1725270	SsoAdvanced Universal SYBR[®] Green Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725280	SsoAdvanced Universal Probes Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725120	iTaq Universal SYBR[®] Green Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725130	iTaq Universal Probes Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725200	SSoFast EvaGreen[®] Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725210	SsoFast EvaGreen[®] Supermix with Low ROX , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
12010176	Reliance One-Step Multiplex RT-qPCR Supermix , 1 ml (1 x 1 ml), 200 x 20 μ l reactions
1725150	iTaq Universal SYBR[®] Green One-Step Kit , 100 x 20 μ l reactions
1725140	iTaq Universal Probes One-Step Kit , 100 x 20 μ l reactions
1725848	iQ Multiplex Powermix , 50 x 50 μ l reactions
1725095	SingleShot SYBR[®] Green One-Step Kit for Cell Lysis and RT-qPCR , 100 x 50 μ l reactions
1725160	SsoAdvanced PreAmp Supermix , 1.25 ml (1 x 1.25 ml), 50 x 50 μ l reactions
17005726	SEQuoia Complete Stranded RNA Library Prep Kit , 24 reactions
17005710	SEQuoia Complete Stranded RNA Library Prep Kit , 96 reactions
12011928	SEQuoia Dual Indexed Primers Set , 12 vials of unique dual indexes, 96 reactions
12011930	SEQuoia Dual Indexed Primers Plate

Ordering Information

All software for Windows unless otherwise noted.

Catalog #	Description
12011452	CFX Opus 384 Real-Time PCR System , includes power cord, USB cable, and Ethernet cable; does not include CFX Maestro Software 2.0 or WiFi adaptor
17005939	CFX Opus 384 Real-Time PCR System with Starter Pack , includes CFX Opus 384 System, CFX Maestro Software 2.0, license for qbase+ Software, power cable, USB cable, Ethernet cable, reagents, consumables
12013758	CFX Maestro Software 2.0
12004128	CFX Maestro Software for Mac
12012832	CFX Maestro Software 2.0, Security Edition , 1 license
12013028	CFX Maestro Software 2.0, Security Edition , 5 licenses
12012833	CFX Maestro Software 2.0, Russian Edition
12012834	CFX Maestro Software 2.0, Chinese Edition
1845025	Precision Melt Analysis Software , includes 2 user licenses, installation CD, 2 HASP HL keys, melt calibration kit

Visit bio-rad.com/CFXOpus for more information.

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