



# CFX Opus 384 Dx Real-Time PCR System

## Integrated Workflow for the Modern Laboratory



The CFX Opus 384 Dx 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 Dx SE Software.

### Productivity and Performance

- Create new protocols or quickly upload existing protocols through the instrument's USB port or through your laboratory network via Ethernet cable
- Organize and easily find protocols, projects, and experiments through the intuitive user setup and file management structure
- Optimize assay development using the temperature gradient functionality
- Achieve workflow efficiency with its thermal accuracy and uniformity across the 384-well sample block
- Multiplex up to 4 targets per well
- Connect and control up to 4 CFX Opus Dx Systems with CFX Maestro Dx SE Software for Windows 10 (64-bit)
- Is compatible with laboratory information management systems
- Has application programming interface for automation readiness
- Has Ethernet connectivity to email completed runs

### CFX Maestro Dx SE Software for the Regulated Laboratory

- Includes integrated security edition feature, removing the need for separate HASP key
- Controls user access by assigning roles and rights
- Assists with U.S. FDA 21 CFR Part 11 guidelines by providing audit-ready reports with run traceability and electronic signature capability
- Provides data analysis for multiple experiment types, including allelic discrimination, endpoint, and gene expression
- Exports data in multiple formats: CSV, Excel, RDML, text, XML

## Specifications

<b>System</b>		Thermal uniformity	±0.3°C, measured 10 sec after the block reaches the target temperature
Licensed for real-time PCR	Yes	Gradient	
Sample capacity	384 wells	Operational range	30–100°C
Sample size	1–30 µl (5–30 µl recommended)	Programmable span	1–24°C
Dimensions (W x D x H)	33 x 56 x 36 cm (13 x 22 x 14 in.)	<b>CFX Maestro Dx SE Data Management and Analysis Software</b>	
Weight	22 kg (48 lb)	Operating system	Windows 10 (64-bit)
Touch-screen user interface	Adjustable, with angle of rotation 12–55°	Memory	Minimum of 1 GB
Communications	USB 2.0 or above, Ethernet	Data analysis modes	PCR quantification with standard curve Melt curve analysis Gene expression analysis by relative quantity ( $\Delta Cq$ ) or normalized expression ( $\Delta\Delta Cq$ ) Multiple-file gene expression analysis for comparison of an unlimited number of Cq values Allelic discrimination Endpoint analysis
Electrical approvals	IEC, CE		Data analysis options include bar charts, box-and-whisker plots, dot plots, clustergrams, and scatter plots
Operating system	Windows 10 IoT		Data export
<b>Optical Detection System</b>			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
Excitation	5 filtered LEDs		Image export
Detection	5 filtered photodiodes		Export images at any pixel size and at a resolution up to 600 dpi Save images as .bmp, .jpg, or .png files
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		
<b>384-Well Reaction Block</b>			
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	±0.2°C		

## Ordering Information

Catalog #	Description
12014335*	<b>CFX Opus 384 Dx Real-Time PCR System</b> , for use in countries other than China
12014348*	<b>CFX Opus 384 Dx Real-Time PCR System</b> , for use in China
12014349	<b>CFX Maestro Dx SE Software</b> , English version
12014350	<b>CFX Maestro Dx SE Software</b> , Chinese version
12014351	<b>CFX Maestro Dx SE Software</b> , Russian version
1845099	<b>CFX Qualification Plate</b> , 384-well
1814000	<b>PX1 PCR Plate Sealer</b> , includes heat sealing instrument
1814030	<b>PCR Plate Heat Seal</b> , pkg of 100, optically clear seals for use with the PX1 PCR Plate Sealer
MSB1001	<b>Microseal 'B' PCR Plate Sealing Film</b> , pkg of 100, optically clear seals for PCR plates
HSP3805	<b>Hard-Shell 384-Well PCR Plates</b> , pkg of 50, thin wall, skirted, clear shell/white wells
HSP3905	<b>Hard-Shell 384-Well PCR Plates</b> , pkg of 50, thin wall, skirted, clear shell/white wells, barcoded

\* The CFX Opus 384 Dx System ships with power cord, USB cable, Ethernet cable, and CFX Maestro Dx SE Software, English version.

Visit [bio-rad.com/CFXOpusDx](http://bio-rad.com/CFXOpusDx) for more information.

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