

## UML-245-90 23.8 inch FHD LED monitor



The Bosch high performance LED monitor is a high quality monitor ideal for use in a video surveillance environment.

The monitor features a color LCD flat-screen panel in full HD and a 23.8-inch viewable picture area. It features wide horizontal and vertical viewing angles, precise color reproduction and anti-image retention.

### Functions

#### Excellent image quality

The high performance LED monitor from Bosch adapts automatically to the input resolution of the incoming video signal up to 1920 x 1080 resolution (Full HD).

#### Anti-image retention

The anti-image retention capability of the monitor helps prevent image sticking or image burning that may occur in situations of displaying static scenes over a long period of time, by shifting the entire screen by one pixel distance clockwise after a set time interval. This interval can be customized in the On-screen display menu.

#### Precise color reproduction

The monitor complies with standard Delta E2000 < 2 to provide true color performance from your camera to your screen. The monitor automatically focuses on setting the correct color, temperature, and gamma curve settings to deliver the highest possible picture quality.

#### Suited for 24/7 usage

The monitor is designed and has been tested for 24/7 usage.

- ▶ Complies with standard Delta E2000 < 2 to provide true color performance
- ▶ Precise color reproduction and anti-image retention
- ▶ Complies with voltage dip immunity standard IEC61000-4-2
- ▶ LED backlight panel for higher luminance and lower power consumption
- ▶ Auto channel switching

#### USB for firmware upgrade

The firmware of the monitor can be upgraded by using the USB port.

#### HDCP

The monitor supports High-bandwidth Digital Content Protection (HDCP) to allow playback off HDCP-encrypted content.

### Certifications and approvals

Region	Safety Certification
Canada	cUL62368-1
Europe	EN62368-1, CE Declaration of Conformity, CB scheme
USA	UL62368-1

#### Electromagnetic Compatibility (EMC)

Emission	EN55032:2015 class B, FCC part 15 class B
Immunity	EN55024:2015, EN50130-4:2014

#### Display class

ISO 13406-2 Class II

Region	Regulatory compliance/quality marks	
Europe	CE	High Performance LED desktop monitor

## Installation/configuration notes

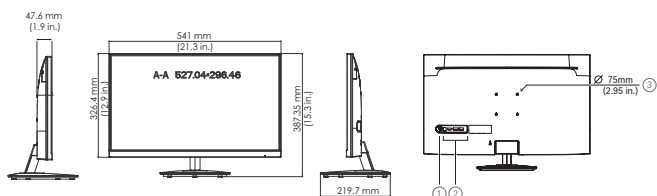


Fig. 1: Dimensions High Performance LED monitor (24 in.)

- 1 Power and OSD menu key
- 2 I/O ports (HDMI, DP, and USB (for firmware))
- 3 VESA mount screw holes (4 x M4\*16 mm)

## Parts included

Quantity	Component
1	Bosch high performance LED monitor
2	Power cords (EU plug x1 and US plug x1)
1	HDMI to HDMI cable (HDMI2.0; 1.5meter)
1	DisplayPort to DisplayPort cable
1	DisplayPort to miniDisplayPort converter
1	Quick Installation Guide
1	Safety instructions

## Technical specifications

### Audio

Audio output	Built-in loudspeaker
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### Capacity

Number of USB interfaces	
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### Electrical

Input current (A)	0,006 - 1,6 A
Input power (W)	0,5 - 35 W
Input voltage (VAC)	90 - 264 VAC
Input voltage (VDC)	18,05 - 19,95 VDC
Operating voltage (VAC)	100 - 240 VAC (90 - 264 V loadable)

Operating voltage (VDC)	18,05 - 19,95 VDC
Power consumption (On) (W)	16,5 W
Power consumption (Stand-by) (W)	0,5 W

### Functionality

Luminance (cd/m <sup>3</sup> )	200 cd/m <sup>3</sup> (default)
Contrast ratio	1000
LCD panel backlight	LED
Backlight MTBF (h)	30.000 h
Response time (ms)	14 ms

### User interface

Display color	Color
Number of display colors	16,7 M
Display resolution (pixels)	1920 x 1080 px
Display size (in)	23,80 in
Active display area (mm)	527,04 x 296,46 mm
Aspect ratio	16:9
Display type	LCD

### Environmental

Operating temperature (°C)	0 - 40°C
Operating temperature (°F)	32 - 104°F
Storage temperature (°C)	0 - 50°C
Storage temperature (°F)	32 - 122°F
Operating relative humidity, non-condensing (%)	0 - 90%
Storage relative humidity (%)	0 - 90%

### Mechanical

Dimension (H x W x D mm)	387,35 x 541,02 x 219,71 mm
Dimension (H x W x D in)	15,25 x 21,30 x 8,65 in

Weight (kg)	3,80 kg (net weight); 5,7 kg (gross weight)
Weight (lb)	8,38 lb (net weight); 12,57 lb (gross weight)

### Timing modes

UML-245-90					
Mode	Resolution (active dot)	Resolution (total dot)	Horizontal frequency (kHz)	Vertical frequency (Hz)	Nominal pixel clock (MHz)
DOS	720x400 @70Hz	900x449	31.469	70.087	28.322
VGA	640x480 @60Hz	800x529	31.469	59.940	25.175
	640x480 @67Hz	864x525	35.000	66.700	30.240
	640x480 @72Hz	832x520	37.861	72.809	31.500
	640x480 @75Hz	840x500	37.500	75.000	31.500
WVGA	720x480 @60Hz	858x525	31.469	59.940	27.000
	720x576 @50Hz	864x625	31.25	50.000	27.000
SVGA	800x600 @56Hz	1024x625	35.156	56.250	36.000
	800x600 @60Hz	1056x628	37.879	60.317	40.000
	800x600 @72Hz	1040x666	48.077	72.188	50.000
	800x600 @75Hz	1056x625	46.875	75.000	49.500
XGA	1024x768 @60Hz	1344x806	48.363	60.004	65.000
	1024x768 @70Hz	1328x806	56.476	70.069	75.000
	1024x768 @75Hz	1312x800	60.023	75.029	78.750
XGA+	1152x864 @75Hz	1600x900	67.5	75.000	108.00

UML-245-90					
Mode	Resolution (active dot)	Resolution (total dot)	Horizontal frequency (kHz)	Vertical frequency (Hz)	Nominal pixel clock (MHz)
SXGA	1280x1024@60Hz	1688x1066	63.981	60.020	108.000
	1280x1024@75Hz	1688x1066	79.976	75.025	135.00
	1280x960 @60Hz	1800x1000	60.000	60.000	108.00
WXGA	1280x720 @50Hz	1980x750	37.500	50.000	74.250
	1280x720 @60Hz	1650x750	45.000	60.000	74.250
WXGA+	1440x900 @60Hz	1904x934	55.935	59.887	106.500
UXGA	1600x1200@60Hz	2160x1250	75.000	60.000	162.000
WSXGA+	1680x1050@60Hz	2240*1089	65.290	59.954	146.250
FHD	1920x1080@50Hz	2640x1125	56.250	50.000	148.500
	1920x1080@60Hz	2200x1125	67.500	60.000	148.500

### Ordering information

**UML-245-90 23.8 inch FHD LED monitor**  
23.8 inch FHD (1920 x 1080) LED monitor  
Order number **UML-245-90 | F.01U.383.603**

### Accessories

**UMM-LW-30B Wall mount for monitor, tilt/swivel**  
Swivel/tilt wall mount for an LCD monitor up to 12 kg (26.5 lb), black.  
Order number **UMM-LW-30B | F.01U.066.208**

**UMM-LED27-SD desk stand for 27 inch monitor**  
Tilt and swivel desk stand for UML-274-90 LED monitor.  
Order number **UMM-LED27-SD | F.01U.354.300**

**Represented by:**

**Europe, Middle East, Africa:**

Bosch Security Systems B.V.  
P.O. Box 80002  
5600 JB Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
emea.securitysystems@bosch.com  
emea.boschsecurity.com

**Germany:**

Bosch Sicherheitssysteme GmbH  
Robert-Bosch-Ring 5  
85630 Grasbrunn  
Germany  
www.boschsecurity.com

**North America:**

Bosch Security Systems, LLC  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
onlinehelp@us.bosch.com  
www.boschsecurity.us

**Asia-Pacific:**

Robert Bosch (SEA) Pte Ltd, Security Systems  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2808  
Fax: +65 6571 2699  
apr.securitysystems@bosch.com  
www.boschsecurity.asia