BOSCH

Invented for life

UML Series 8.4- and 10.4-inch High Performance LED Monitors

▸ **High-resolution 8.4-in. and 10.4-in. LED monitors**

▸ **Maximum brightness of 400 to 450 cd/m^2**

▸ **Excellent color accuracy and consistency with 600:1 to 700:1 maximum contrast ratio**

▸ **Auto-ranging internal power supply offering 100/240 VAC, 50/60 Hz**

▸ **Two (2) composite BNC inputs and loop-through outputs**

▸ **Y/C (S-video) and loop-through video and audio inputs**

▸ **VGA input for DVR or PC applications**

▸ **Trigger and auto switch features allow the monitors to change input sources**

▸ **Multi-language On-screen Display (OSD)**

Bosch LED flat panel monitors are high-resolution, color monitors ideal for use with analog video, digital video recorder (DVR), and with PC applications. The monitors feature a color LED flat-screen panel and are available with 8.4-in or 10.4-in. viewable picture areas. Each monitor features a wide range of horizontal and vertical viewing angles that provide comfortable, clear viewing – whether you place it on a desktop or mount it to a wall or in a rack.

Functions

Excellent image quality

Bosch LED monitors automatically adapt to the input resolution of the incoming video signal. The monitors' analog VGA input easily accommodates the widespread use of PCs in today's security surveillance systems. Their high contrast ratio (600:1 to 700:1) and high brightness rating (400 to 450 cd/m^2) offer excellent color accuracy and imaging for easier viewing and interpretation of images. The panel refreshes every 10 to 20 milliseconds, so you get crisp, clear images with less smearing - and less image "ghosting" in fast-motion video.

Key benefits of LED monitors

LED backlights help avoid luminance degradation on the monitor – so it easily maintains its brightness level over time. The consistent brightness also provides a sharp display image, with a longer MTBF and lamp life than LCD monitors. This allows you to use the LED monitor longer without eyestrain or excessive fatigue.

LED backlit monitors weigh less, are thinner and use 15-50% less power than an LCD monitor of comparable size.

Additional advantages

The Bosch family of standard-performance LED monitors also features:

* Low power consumption
* Automatic adaptation to fluctuating electricity loads while protecting your circuitry
* Environmentally friendly–no Mercury contained within the monitors
* Standard 75 mm (2.95 in.) mounting holes to easily accommodate a range of VESA wall mounts
* User-friendly, on-screen menus and front panel controls for adjusting monitor display parameters to your specific preferences

Certifications and Approvals

Region	Certification	
Europe	CE	2004/108/EC, 2006/95/EC
Electromagnetic Compatibility (EMC)		Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety		Complies with CE regulations, UL, CSA, EN, and IEC standards

Parts Included

Quant.	Component
1	Bosch High Performance Color LED Flat Panel Monitor
1	VGA to VGA cable 1.8 m (5.9 ft)
1	Trigger Cable
2	3-wire power cords with a grounded plug 1.8 m (6 ft): one (1) with a European/Continental plug type and one (1) with a U.S. plug type
1	User's Manual

Technical Specifications

Electrical

	UML-082-90	UML-102-90
Rated Voltage	120/230 VAC, 50/60 Hz	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240 V	100 to 240 V
Power at Rated Voltage	8 W	8 W
Sync Format	PAL/NTSC	PAL/NTSC
LCD Panel	TFT LCD	TFT LCD
Active Display Area (H x V)	170.4 x 127.8 mm (6.7 x 5.0 in.)	211.2 x 158.4 mm (8.3 x 6.2 in.)
Viewable Picture Area	8.4 in. (213.4 mm) measured diagonally	10.4 in. (264.2 mm) measured diagonally
Pixel Pitch: (H x V)	0.213 x 0.213 mm (0.01 x 0.01 in.)	0.264 x 0.264 mm (0.01 x 0.01 in.)
Resolution	800 x 600 pixels	800 x 600 pixels
Frequency	Horizontal: 31–48 KHz Vertical: 56–75 Hz	Horizontal: 31–48 KHz Vertical: 56–75 Hz
Aspect Ratio	4:3	4:3
Display Colors	16.2 million	16.2 million
Response Time	10 ms (typical)	20 ms (typical)
Backlight	LED, rated life 50,000 hours	LED, rated life 50,000 hours

LCD Panel Optical Characteristics	UML-082-90	UML-102-90
Luminance	450 cd/m^2 (typical)	400 cd/m^2 (typical)
Contrast Ratio	600:1 (typical)	700:1 (typical)
Viewing Angle (H x V)	160° x 140°	160° x 140°

Video Input	All Models
BNC	1.0 Vp-p , 75 Ω termination loop-through output
Y/C (S-video)	0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal), 75 Ω termination

PC Input	UML-082-90	UML-102-90
VGA	XGA supported	XGA supported
PC Timing Modes		
640 x 480	60/72/75 Hz	60/72/75 Hz
800 x 600	60/72/75 Hz	60/72/75 Hz
1024 x 768	60/70/75 Hz	60/72/75 Hz

Controls

Video Input	All Models
Front Panel	Push-buttons
Input	Selects: Video1, Video2, S-video, VGA
Menu	Selects on-screen display (OSD), up cursor, down cursor/auto adjust, left cursor, right cursor
Power	On/Off

Indicators	All Models
LED	Power On (green) Power Off, Standby (red)
On-screen	VGA: Check input signal Video: Flashes "AV1" or "AV2" when there is a black screen

Connectors	All Models
Video 1 (AV1)	Composite video: two (2) BNC (1 in, 1 out)
Video 2 (AV2)	Composite video: two (2) BNC (1 in, 1 out)
VGA	One (1) RGB 15-pin D-sub in
Y/C (S-video)	Mini-DIN, 4-pin one (1) channel input
Audio In	Two (2) RCA (1 left, 1 right)t
Trigger Input	One (1) 1/8 in. mini phono plug
RS-232	Port used for firmware updates
Power Input	5.5 mm DC input jack
Power Adapter (included)	Input: 100–240 VAC, 50/60 Hz Output: 12 VDC, 2.5 A

Mechanical

	UML-082-90	UML-102-90
Cabinet Material	Front: Plastic Rear: Metal	
Finish	Textured	
Mount	Wall mounting compatible with standard bracket, 75 mm (2.95 in.) centers, M4 thread	
Packing Dimensions (W x H x D)	503 x 349 x 343 mm (19.8 x 13.7 x 13.5 in.)	
Monitors	219 x 184 x 32.5 mm 8.6 x 7.2 x 1.3 in.	256 x 225 x 32.5 mm 10.1 x 8.9 x 1.3 in.
Weight	1.20 kg (2.65 lb)	1.59 kg (3.51 lb)

Environmental

	All Models
Operating Temperature	0℃ to 45℃ (32℉ to 113℉)
Storage Temperature	−20 to 60℃ (−4℉ to 140℉)
Humidity	93%

Ordering Information

UML-082-90 8.4-inch High Performance LED Monitor
8.4-inch (213.4 mm) LCD monitor, 500 TVL, 800 X 600 resolution, VGA, DVI, HDMI, CBVS, audio, 120/230 VAC, 50/60 HZ

UML-082-90

UML-102-90 10.4-inch High Performance LED Monitor
10.4-inch (264.2 mm) LCD monitor, 500 TVL, 800 X 600 resolution, VGA, DVI, HDMI, CBVS, audio, 120/230 VAC, 50/60 HZ

UML-102-90

Accessories

UMM-LCDUB-RM Rack Mount Bracket for LCD Monitors
Supports dual 8.4-in. and single 8.4- to 19-in. LCD monitors in a standard VESA rack cabinet

UMM-LCDUB-RM