



DS M-Series, Rev C

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# M-Series

Industrial Flat Panel Monitors, 12.1"-22" High Performance LCDs



NEW! 22"  
WIDESCREEN



NEW! M2200W



## Overview

Offering unparalleled value and superb quality, the M-Series are high performance 12.1", 15", 17", 19" and 22" widescreen color TFT flat panel monitors specifically designed for harsh industrial environments including Class I & II, Division 2 Hazardous Locations when mounted in a NEMA enclosure.

M-Series monitors accept standard analog VGA inputs and can display VESA video modes up to 1680 x 1050 with 16 million colors. An optional 5-wire analog touchscreen is available that offers RS-232 or USB interface capability.

M-Series monitors are housed in heavy duty steel chassis with powder coated machined aluminum bezels. The monitors are certified to NEMA 4/4X/12 standards, are UL/CUL listed, meet CE requirements and are RoHS compliant.

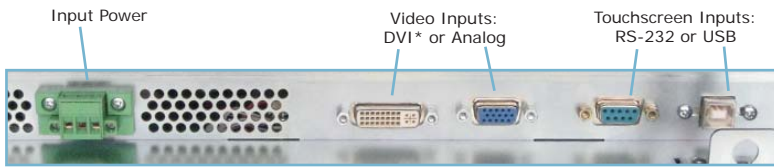
All M-Series monitors are shipped with a power input wiring receptacle, VGA cable, touchscreen cables, mounting hardware, manual and driver software.

## Standard Features

- 12.1" SVGA to 22" WSXGA+ Color TFT LCD Display
- 5-wire Analog Resistive Touchscreen
  - Optional clear Lexan window
- Ultra-Thin panel mounting depth, less than 2.7" behind bezel
- UL and cUL Ordinary Locations Listed
- UL and cUL Hazardous Locations Listed
  - Class I Division 2, Groups A, B, C, & D; Class II Division 2, Groups F & G; Class III when mounted in a NEMA enclosure
- NEMA 4/4X/12 front bezel
- 2-Year warranty
- CE & RoHS Compliant
- Integral 100-240 VAC power supply
- Simplified installation with no studs
- Accepts analog 15-pin video input or DVI input
- VESA compliant - modes up to WSXGA+, 16 million colors (depends on size chosen)
- Optional 5-wire resistive touch screen with RS-232 or USB interface
- Optional 304 stainless steel front bezel (N/A on M2200W)
- Optional 24 VDC input power

# Features & Benefits

## Power & VGA Input Panel



\*DVI cable sold separately. Consult factory for details.

Ultra-thin,  
extremely  
compact  
design



Optional  
5-wire Analog  
Resistive  
Touchscreen

Made with  
Pride in  
the USA

UL, cUL 508,  
Class I, Div 2,  
CE, & RoHS  
Approvals

Integral  
100-240  
VAC or  
24 VDC  
Power  
Supply



Powder Coated  
Aluminum or  
Stainless Steel  
Front Panels



### VESA Mounting

- M1200/M1500/M1700:  
75x75mm
- M1900/M2200W:  
100x100mm  
(M4 Threads)



NEMA Panel  
Mounting via  
Clips



USB Touchscreen  
Retention Cable

- Required when installed  
in Hazardous Locations



Meet all RoHS Hazardous  
Safety Standards.



Standard 2-year warranty

- Covers parts and service



# Technical Specifications

NEW! 22"  
WIDESCREEN

## DISPLAY



	<b>M1200</b>	<b>M1500</b>	<b>M1700</b>	<b>M1900</b>	<b>M2200W</b>
<b>Display Diagonal</b>	12.1" (307.34mm)	15.0" (381.0mm)	17.0" (431.8mm)	19.0" (482.6mm)	22" (558.8mm)
<b>Display Sizes</b> (Active Area H x V)	9.69" x 7.26" (246.0mm x 184.5mm)	11.97" x 8.98" (304.0mm x 228.1mm)	13.30" x 10.64" (337.9mm x 270.3mm)	14.82" x 11.85" (376.4mm x 301.0mm)	18.65" x 11.65" (473.8mm x 296.1mm)
<b>Native Resolution</b>	SVGA, 800 x 600	XGA, 1024 x 768	SXGA, 1280 x 1024	SXGA, 1280 x 1024	WSXGA+, 1680 x 1050
<b>Displayable Colors</b>	262K	16M	16M	16M	16M
<b>Brightness, Typical</b>	400 Nit	300 Nit	380 Nit	300 Nit	300 Nit
<b>Contrast Ratio, Typical</b>	500:1	800:1	1000:1	2000:1	1000:1
<b>Horizon/Vertical View Angle, CR&gt;5, Typical</b>	130°/110°	150°/145°	170°/170°	178°/178°	178°/178°
<b>Backlight Life, Typical</b>	50,000 hrs	50,000 hrs	50,000 hrs	50,000 hrs	50,000 hrs

## TOUCH SCREEN (all models)

<b>Touch Screen Technology</b>	5-wire Analog Resistive
<b>Positional Accuracy</b> (Maximum Error)	0.18" (0.19" M1900T / 0.28" M2200WT) 4.57mm (4.83mm M1900T / 7.11mm M2200WT)
<b>Positional Accuracy</b> (Standard Deviation of Error)	< 0.08" (< 2.0 mm)
<b>Expected Life</b>	>35,000,000 Activations (10,000,000 M2200WT)

## ELECTRICAL

<b>AC Input Voltage</b>	100-240 VAC, 50/60 Hz
<b>AC Input Current</b>	M1200/1500 - 0.5 A Max M1700/1900/2200W - 1.0 A Max
<b>DC Input Voltage (optional)</b>	18-36 VDC
<b>DC Input Current (optional)</b>	M1200/1500/1700/1900 - 2.0 A Max M2200W - 4.5 A Max
<b>Input Power</b>	M1200/1500 - 25 W Typical M1700 - 30 W Typical M1900 - 35 W Typical M2200W - 60 W Typical

## ENVIRONMENTAL

	<b>Operating</b> 0°C to 50°C	<b>Non-operating</b> -20°C to 60°C
<b>Temp.</b>		
<b>Humidity</b>	20% to 80% RH, noncondensing	
<b>Shock</b>	15g peak acceleration, 11msec	30g peak acceleration, 11msec
<b>Vibration</b>	.006" peak to peak displacement (5-2000 Hz) 1.0g maximum acceleration	.015" peak to peak displacement 2.5g maximum acceleration
<b>Altitude<sup>a</sup></b>	Sea level to 10,000 feet	Sea level to 40,000 feet

<sup>a</sup> Altitude specification is established by using all internal component specifications.

## AGENCY

<b>Front Panel NEMA Rating</b>	NEMA 4/4X/12, IP65
<b>FCC</b>	47 CFR, Part 15, Class A
<b>EU CE Marking Compliance</b>	CE, EN 55022: Class A, EN 61000-3-3, EN 61000-6-2, IEC 60950-1, RoHS compliant
<b>Safety Agency Approvals</b>	UL 508 Listed, UL 1604 Listed *, cUL Listed CSA 22.2, #142, cUL Listed CSA 22.2, #213 *

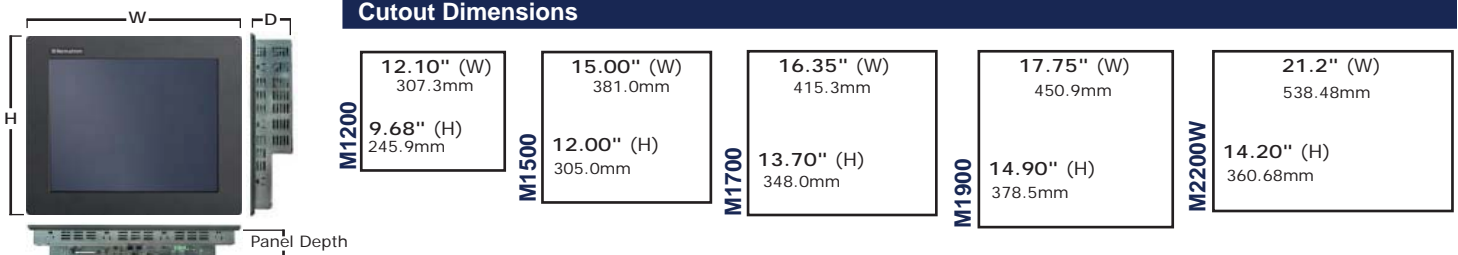
\* Class I Division 2, Groups A, B, C, D; Class II Division 2, Groups F & G; Class III; Temp. Code T5, when installed on a flat surface of a Type 1, 4, 4X, or 12 enclosure (Temp. Code T4 for M2200W only)

## PHYSICAL

	<b>M1200</b>	<b>M1500</b>	<b>M1700</b>	<b>M1900</b>	<b>M2200W</b>
<b>Overall Dimensions</b> (H x W x D)	10.475" x 12.9" x 2.65" (266.1mm x 327.7mm x 67.3mm)	12.80" x 15.80" x 2.65" (325.1mm x 401.3mm x 67.3mm)	14.48" x 17.14" x 2.85" (367.8mm x 442.0mm x 72.4mm)	15.70" x 18.66" x 2.95" (398.8mm x 474.0mm x 75.0mm)	15.0" x 22.0" x 2.95" (381.0mm x 558.8mm x 75.0mm)
<b>Panel Mounting Depth</b>	2.4" (61.0mm)	2.4" (61.0mm)	2.6" (66.0mm)	2.7" (68.6mm)	2.7" (68.6mm)
<b>Cutout Dimensions</b> (H x W)	9.68" x 12.10" (245.9mm x 307.3mm)	12.00" x 15.00" (305.0mm x 381.0mm)	13.70" x 16.35" (348.0mm x 415.3mm)	14.90" x 17.75" (378.5mm x 450.9mm)	14.2" x 21.2" (360.68mm x 538.48mm)
<b>VESA Mount Pattern</b> (M4 Threads)	75x75mm	75x75mm	75x75mm	100x100mm	100x100mm
<b>Weight</b>	9.5 lbs. (4.31kg)	14.0 lbs (6.35kg)	18.5 lbs (8.39kg)	22.5 lbs (10.21kg)	23.0 lbs. (10.43kg)
<b>Shipping Weight</b>	13.0 lbs. (5.89kg)	19.0 lbs (8.62kg)	23.5 lbs (10.66kg)	27.5 lbs (12.47kg)	30.0 lbs. (13.60kg)
<b>Option Weight (SS)*</b>	+2.5 lbs. (1.13 kg)*	+3.5 lbs (1.58kg)*	+3.75 lbs (1.70kg)*	+4.0 lbs (1.81kg)*	N/A

\* Additional weight for Stainless Steel option.

## Cutout Dimensions



## Order Number Generation

**Base Unit Configuration: Mxx00(T or WT)**, where x = 12, 15, 17, 19, or 22 (for display size) NEMA 4/4X/12 panel mount, TFT flat panel monitor with 5-wire analog resistive touch screen, built in AC power supply, and powder coated aluminum front panel. Units ship with AC wiring receptacle, 10' VGA cable, 10' RS-232 cable (touchscreen equipped units only), 3m USB cable (touchscreen equipped units only), mounting hardware, and operator's guide (DVI cable sold separately).

M		-		
<b>Display Size:</b>				
1200	12.1" SVGA LCD			
1500	15.0" XGA LCD			
1700	17.0" SXGA LCD			
1900	19.0" SXGA LCD			
2200W	22.0" WSXGA+ LCD			
<b>Input Options:</b>				
T	Touchscreen			
blank	None			
<b>Power Supply:</b>				
blank	100-240 VAC			
-24	24 Volt DC (N/A on M2200W)			
-DC	Isolated 24 Volt DC (M2200W only)			
<b>Front Panel:</b>				
blank	Powder Coated Aluminum			
-NL	Powder Coated Aluminum w/o Logo			
-SS	Machined 304 Stainless Steel (N/A on M2200W)			
-RM	Rackmount Powder Coated Aluminum (M1900 only) <sup>1</sup>			

<sup>1</sup> Rackmount front panel is not NEMA 4/4x/12 and is required to be installed on a rack in a Type 1 enclosure.

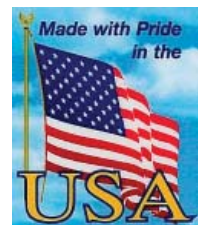
## Accessories

<b>CBL-10-VGA</b>	15-Pin analog VGA cable, 10' length	<b>MTG-RM-1500</b>	Rackmount adapter plate for M1500/M1500T
<b>CBL-25-VGA</b>	15-Pin analog VGA cable, 25' length	<b>MTG-RM-1700</b>	Rackmount adapter plate for M1700/M1700T
<b>CBL-50-VGA</b>	15-Pin analog VGA cable, 50' length	<b>MTG-CAP-5015</b>	Cutout adapter plate for mounting an M1500 in a Xycom 5015T or 5015T/R2 cutout. Requires drilling 16 mounting holes around the present cutout.
<b>CBL-10-RS232</b>	Serial RS-232 touch screen cable, 10' length	<b>MTG-CAP-5017</b>	Cutout adapter plate for mounting an M1700 in a Xycom 5017 cutout. Requires drilling 16 mounting holes around the present cutout.
<b>CBL-25-RS232</b>	Serial RS-232 touch screen cable, 25' length	<b>PWR-AC</b>	Plug for field wiring AC power
<b>CBL-50-RS232</b>	Serial RS-232 touch screen cable, 50' length	<b>PWR-DC</b>	Plug for field wiring DC power
<b>CBL-10-USB</b>	USB touch screen cable, 10' length	<b>MISC-CLIP</b>	Mounting clip kit, includes 16 clips and screws
<b>CBL-15-USB</b>	USB touch screen cable, 15' length	<b>CBL-PWR-AC</b>	6' AC wiring cable with standard 3-prong US end on one side and Phoenix Power Wiring connector with cover on other end.
<b>CBL-2M-DVI</b>	DVI (type D) video cable, 2 m length		<b>NOTE: NOT allowed for use in Hazardous Conditions.</b>
<b>CBL-3M-DVI</b>	DVI (type D) video cable, 3 m length		

## Additional Models

Nematron offers additional models which are cut out compatible with units from other suppliers. These are for replacement installations only and are not recommended for new applications. Consult info@nematron.com for more details. Some examples are:

- Nematron M1900 replaces the Viewtronix SXT1811 and Xycom 5019
- Nematron M1502 replaces the Viewtronix/Xycom XT1502



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