

# Hope Industrial Systems, Inc.

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### **Data Sheet:** Panel Mount Monitors and Touch Screens

NEMA 12/4/4X, IP65/IP66 12"/15"/17"/19"/19.5"/22"/23.8"

#### **Features**

- ▶ NEMA 4/12 or NEMA 4/4X/12, sealed to IP65/66 standards
- ▶ UL Rated for Hazardous Locations: Class I, II, III, Division 2
- ▶ Bright, high contrast, and ultra-wide viewing angle displays
- ▶ Field-proven MTBF of more than 250,000 hours
- Touch Screen, Glass, Acrylic, and Food Protection window options
- ▶ Only 46 mm to 54 mm (1.81" to 2.12") deep
- ► Stainless steel, carbon steel, and edge-to-edge bezel options
- ▶ Panel mount without drilling stud holes
- ► Industrial Certifications: UL 508A, UL 50E, FCC Class A, CE, UL/EN/IEC62368-1, UL Recognized Component

#### **Product Description**

Hope Industrial Systems' Panel Mount Industrial Monitors are designed to provide the industrial user with excellent picture quality and rugged design for reliable continuous operation.

A unique single-cutout, stud-free design and depths of only 46 mm to 54 mm (1.81" to 2.12") make them a snap to install. Options like touch screens and KVM Extenders make these displays highly versatile.

These monitors are backed by industrial certifications (including 3rd-party environmental testing) and an industry-leading 5-year warranty.

#### **Optional Accessories**

- ► Industrial Keyboards (IP65/66, NEMA 4X rated)
- Screen Protectors
- Extended cable options up to 300 m (1000')
- ► KVM Extenders



RoHS

CE





Rear view of 19" Panel Mount Monitor.



Panel Mount workstation configuration with monitor and industrial keyboard.



#### **About Hope Industrial Systems**

Hope Industrial provides industrial flat panel monitors and touch screens with superior quality and up-to-date features that are relevant to industrial applications.

We house this advanced technology in a variety of rugged enclosures that allow the user to put their displays wherever they are needed in the factory. We assure our customers of high reliability over time and back it up with an industry-leading warranty.

We provide all of these benefits at a price that is significantly less than comparable industrial offerings. And finally, we offer the best sales, support and service in the industry:

- ▶ 5-year limited warranty on all monitors
- ► 24-48-hour repair turnaround (most models)
- ► Same day shipment lead time (most models)
- ▶ 30-day money-back guarantee



Optional KVM Extender allows monitor to be placed up to 1000' away from computer.



Optional Screen Protector guards touch screens from scratches and wear.

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## Panel Mount Industrial Monitors and Touch Screens: Specifications

Display   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This-film Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This Parisistor (TFT) Active Matrix Liquid Crystel, LED Backlit   This Parisistor (TFT) Active Matrix Liquid Crystel, LeD Backlit   This Parisistor (TFT) Active Matrix Liquid Crystel, LeD Backlit   This Parisistor (TFT) Active Matrix Liquid Crystel, LeD Backlit   This Parisistor (TFT) Active Matrix Liquid Crystel, LeD Backlit   This Parisistor (TFT) Active Matrix Liquid Crystell   This Parisistor (TFT) Active Ma	Model No. (Revision)	HIS-ML12 (Rev. E)	HIS-ML15 (Rev. H)	HIS-ML17 (Rev. H)	HIS-ML19 (Rev. H)	HIS-ML19.5 (Rev. B)	HIS-ML22 (Rev. C)	HIS-ML23.8 (Rev. A)	
Size / Appec Ratio   12.11 ciagonal / 4.3   15° diagonal / 4.3   15° diagonal / 4.3   15° diagonal / 4.3   15° diagonal / 4.3   16° diagonal / 4.4   16° d	Display								
Image Size (WMH)   246 x 184.5 mm   304 x 228 mm   338 x 270 mm   375 x 300 mm   435 x 239 mm   474 x 296 mm   527 x 256 mm	Туре	Thin-film transistor (TFT) Active Matrix Liquid Crystal, LED Backlit							
(8.7* x 1.3*)   (12.0* x 10.6*)   (13.0* x 10.6*)   (14.6* x 11.8*)   (17.1* x 8.4*)   (17.1* x 8.4*)   (17.1* x 8.4*)   (17.1* x 8.4*)   (17.0* x 10.1*)	Size / Aspect Ratio	12.1" diagonal / 4:3	15" diagonal / 4:3	17" diagonal / 5:4	19" diagonal / 5:4	19.5" diagonal / 16:9	22" diagonal / 16:10	23.8" diagonal / 16:9	
Past   Pitch	Image Size (WxH)	I I							
Pixel Pikith   0.308 mm x 0.308 mm   0.287 mm x 0.2287 mm   0.284 mm   0.283 mm x 0.231 mm   0.2825 mm x 0.221 mm   0.282 x 0.282 mm   0.2274 mm   0.282 x 0.282 mm	Native Resolution	- I							
Number of Colors   Highlightness (white)   450 mls (cd/m²)   450 mls (cd/m²)   170° / 180° / 180°   170° / 180°   170° / 180°   170° / 180° / 180°   170°	Pixel Pitch		0.297 mm x 0.297 mm						
Vewing Angle (Hort/Vert)   178"   170"   1	Number of Colors				16.7 million				
Earlight Enginess half-life   E0.000 hours		450 nits (cd/m²)					its (cd/m²) 350 nits (cd/m²)		
Backlight Brightness half-life   60,000 hours   40,000 hours   50,000 hours   40,000 hours   4	Viewing Angle (Hori/Vert)			170° / 160°	178°		170° / 160°		
Input Sunercions									
Inputs using Adapter	Backlight Brightness half-life	60,000 hours			40,000 hours	50,000	) hours	40,000 hours	
Inputs using Adapter	Video								
DisplayPort Min, VGA, BNC   Micro, DP, DP Mini, BNC   DisplayPort Min, VGA, BNC   RGB Analog, Symc Types: Separate (Sep.), Composite (Comp.), Symc-on-Green (SoG);   RGB Analog, Symc Types: Separate; DVI	Input Connectors					DVI-I, DisplayPort	HD-15, DVI-I	DVI-I, DisplayPort	
Purizontal / Vertical Scan   30-60 kHz / 50-75 Hz   31-73 kHz / 50-75 Hz   31-73 kHz / 50-75 Hz   31-73 kHz / 50-75 Hz   24-82 kHz / 50	Inputs using Adapter								
Response Time	Input Signal Formats	DVI							
Compilation		30-60 kHz / 50-75 Hz				24-82 kHz / 50-75 Hz			
Monitor Input	Response Time	12 ms	35 ms	5 ms	14 ms	25 ms	5 ms	14 ms	
60/50 Hz or 9.6-36.6 VDC, 2.5 to 0.65 A   C.5 to 0.65 A   C.	Electrical								
Environmental	Monitor Input	60/50 Hz or 9.6-36.6 VDC, 9.6 to 36.6 VDC, 2.5 to 0.65				60/50 Hz and 10.8 to 26.4	A, 60/50 Hz or 9.6 to 36.6	60/50 Hz and 10.8 to 26.4	
Departing Femperature: 0° to 50°C (32° to 122°F); Storage Temperature: -20° to 60°C (-4" to 140°F)   Humidity: 20% to 90% non-condensing	Power Consumption	~14.9 W	~16.8 W	~20 W	~16 W	~27 W	~26 W	~27 W	
Departing Shock / Vibration   15 g, 6 msec, half-sine / Operating Vibration (sine): 1.0 g, swept sine 9-900 Hz, Transport Vibration (random): 0.1g²/Hz, 10-200Hz; 0.03g²/Hz, 200-2000 Hz	Environmental								
Departing Shock / Vibration   15 g, 6 msec, half-sine / Operating Vibration (sine): 1.0 g, swept sine 9-900 Hz, Transport Vibration (random): 0.1g²/Hz, 10-200Hz; 0.03g²/Hz, 200-2000 Hz	Temperature / Humidity	perature / Humidity Operating Temperature: 0° to 50°C (32° to 122°F); Storage Temperature: -20° to 60°C (-4° to 140°F) / Humidity: 20% to 90% non-condensing							
Physical   Panel mount; rear collar compresses gasket against panel (5/16" maximum panel thickness); held by M5 studs within single cutout   Edge-to-edge window stainless steel faceplate   Panel Rating (with proper installation)   Black powder-coated carbon steel or stainless steel faceplate   Edge-to-edge window stainless steel faceplate   Edge-to-edge window stainless steel faceplate   Edge-to-edge window stainless steel faceplate   Panel Rating (with proper installation)   Black powder-coated carbon steel (CS): NEMA/UL Type 12/4; IP65/IP66   NEMA/UL Type 12/4/4X; I	Operating Shock / Vibration								
Panel mount; rear collar compresses gasket against panel (5/16" maximum panel thickness); held by M5 studs within single cutout   Back powder-coated carbon steel or stainless steel faceplate   Edge-to-edge window	Altitude	Operating: up to 10,000 ft; Non-operating: up to 40,000 ft							
Black powder-coated carbon steel or stainless steel faceplate   Edge-to-edge window   Black carbon steel or stainless steel faceplate   Edge-to-edge window   Stainless steel faceplate   Edge-to-edge window   Stainless steel faceplate   Edge-to-edge window   Stainless steel faceplate   Panel Rating (with proper installation)   Stainless steel (CS): NEMA/UL Type 12/4/4X; IP65/IP66   Nema/UL Type 12/4/4X; IP65/I									
Panel Rating (with proper installation)	Enclosure Type	Panel mount; rear collar compresses gasket against panel (5/16" maximum panel thickness); held by M5 studs within single cutout							
Installation   Stainless steel (SS): NEMA/UL Type 12/4/4X; IP65/IP66   IP65/66/69/69K   SS: NEMA/UL 12/4/4X; IP65/66   IP65/66/69/69K   Depth behind Front Edge of Panel   50.3 mm (1.98")   49.6 mm (1.95")   49.9 mm (1.97")   53.8 mm (2.12")   46.3 mm (1.82")   50.0 mm (1.97")   46.1 mm (1.81")   49.9 mm (1.97")   4	Bezel Material							Edge-to-edge window	
Front Bezel Outside								1 1 1	
Dimensions (WxHxD)   (13.31" x 11.64" x 0.28")   (17.24" x 13.92" x 0.28")   (19.0" x 15.7" x 0.28")   (20.87" x 13.1" x 0.35")   (22.0" x 14.75" x 0.28")   (23.5" x 14.83" x 0.35")	Depth behind Front Edge of Panel	50.3 mm (1.98")	49.6 mm (1.95")	49.9 mm (1.97")	53.8 mm (2.12")	46.3 mm (1.82")	50.0 mm (1.97")	46.1 mm (1.81")	
(12.12" x 10.35")   (16.02" x 12.72")   (17.85" x 14.44")   (19.60" x 11.75")   (20.81" x 13.48")   (22.31" x 13.48")									
Net / Shipping Weight 8.5 lbs. / 11.4 lbs. 14 lbs. / 18 lbs. / 18 lbs. / 22 lbs. 12.9 lbs. / 18 lbs. / 19 lbs. / 23 lbs. 17 lbs. / 30 lbs. Window Options  All Models:  Single-Touch Resistive Touch Screen Tempered Glass window (non-touch) Acrylic window (non-touch) (n/a 19.5, 23.8)  Compliances and Certifications  Electrical  UL/EN/IEC62368-1, UL/EN/IEC60950-1, UL Recognized Component for US and Canada, UL 508A, CAN ICES-3A/NMB-3A, CE, UKCA, FCC Class A, NOM  Enclosure, Environmental  Hazardous Location  UL Listed for Class I, II, III, Division 2, Groups A, B, C, D, F, G; Temp Code T4A  Net / Shipping Weight 8.5 lbs. / 11.4 lbs. 19 lbs. / 28 lbs. 17 lbs. / 30 lbs. 18 lbs. / 28 lbs. / 18 lbs. / 28 lbs. / 18		308 mm x 263 mm	406.9 mm	x 323.1 mm	453.4 mm x 366.8 mm	497.8 mm x 298.5 mm	528.7 mm x 342.3 mm	566.7 mm x 342.4 mm	
Window Options  All Models:  Single-Touch Resistive Touch Screen Tempered Glass window (non-touch) Acrylic window (non-touch) (n/a 19.5, 23.8)  Compliances and Certifications  Electrical  UL/EN/IEC62368-1, UL/EN/IEC60950-1, UL Recognized Component for US and Canada, UL 508A, CAN ICES-3A/NMB-3A, CE, UKCA, FCC Class A, NOM  Enclosure, Environmental  HIS-ML19.5 and HIS-ML23.8 Models only:  Multi-Touch PCAP Touch Screen Food Protection window (non-touch)  UL 508A, CAN ICES-3A/NMB-3A, CE, UKCA, FCC Class A, NOM  UL 50E, IEC 60721-3 (Reliability), WEEE  Hazardous Location  UL Listed for Class I, II, III, Div. UL Listed for Class I, II, III, UL Listed for Class I, II,	Net / Shipping Weight								
Compliances and Certifications  Electrical UL/EN/IEC62368-1, UL/EN/IEC60950-1, UL Recognized Component for US and Canada, UL 508A, CAN ICES-3A/NMB-3A, CE, UKCA, FCC Class A, NOM  UL 50E, IEC 60721-3 (Reliability), WEEE  Hazardous Location UL Listed for Class I, II, III, Division 2, Groups A, B, C, D, F, G; Temp Code T4A  UL Steed for Class I, II, III, UL Listed for Class I, III,	Window Options	<ul> <li>Single-Touch Resistive Touch Screen</li> <li>Tempered Glass window (non-touch)</li> <li>Glass-armored touch screen with sulfur gas protection</li> <li>Multi-Touch PCAP Touch Screen</li> <li>Food Protection window (non-touch)</li> </ul>							
Electrical UL/EN/IEC62368-1, UL/EN/IEC60950-1, UL Recognized Component for US and Canada, UL 508A, CAN ICES-3A/NMB-3A, CE, UKCA, FCC Class A, NOM  UL 50E, IEC 60721-3 (Reliability), WEEE  Hazardous Location UL Listed for Class I, II, III, Division 2, Groups A, B, C, D, F, G; Temp Code T4A Division 2, Groups A, B, C, D, F, G; T-Code Division 2, Groups A, B, C, D, F, G; T-C	Compliances and Certif	· · · · · · · · · · · · · · · · · · ·	, , , , , , , , , , , , , , , , , , , ,						
Enclosure, Environmental  UL 50E, IEC 60721-3 (Reliability), WEEE  Hazardous Location  UL Listed for Class I, II, III, Division 2, Groups A, B, C, D, F, G; Temp Code T4A  UL Listed for Class I, II, III, UL Listed for Class I, III, III, UL Listed for			TEC62368-1 LII /EN/IEC600	150-1 III Recognized Comp	onent for US and Canada III	L 508A CAN ICES-34/NMR-	3A CE UKCA FCC Class A	NOM	
Hazardous Location  UL Listed for Class I, II, III, Division 2, Groups A, B, C, D, F, G; Temp Code T4A  UL Listed for Class I, II, III, UL Listed for Class I, III, III, UL Listed for Class I, II, III, UL Listed for Class I, III, III, UL Listed for Class I, II, III, UL Listed for Class I, III, III, UL Listed f		OL/EIN/	1L002000-1, UL/LIN/IL0009				or 1, o∟, ontort, i oo olass r	1, 110101	
	,		Groups A, B, C, D, F, G; Temp Code T4A  Division 2, Groups A, B, C,   2, Grps A,B,C,D,F,G; T-Code   Division 2, Groups A, B, C						