



# 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



### 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



Rear view of 19" Panel Mount Monitor.



Panel Mount workstation configuration with monitor and industrial keyboard.



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



Optional Screen Protector guards touch screens from scratches and wear.

## Panel Mount Industrial Monitors and Touch Screens Specifications: 12-19"

Model No. (Revision):	HIS-ML12 (Rev. E)	HIS-ML15 (Rev. H)	HIS-ML17 (Rev. H)	HIS-ML19 (Rev. H)
<b>Display</b>				
Type	Thin-film transistor (TFT) Active Matrix Liquid Crystal, LED Backlit			
Size	12.1" diagonal	15" diagonal	17" diagonal	19" diagonal
Image Size (W x H)	246 mm x 184.5 mm (9.7" x 7.3")	304 mm x 228 mm (12.0" x 9.0")	338 mm x 270 mm (13.3" x 10.6")	375 mm x 300 mm (14.8" x 11.8")
Native Resolution	SVGA (800 x 600 @ 60 Hz)	XGA (1024 x 768 @ 60 Hz)	SXGA (1280 x 1024 @ 60 Hz)	
Aspect Ratio	4:3		5:4	
Pixel Pitch	0.308 mm x 0.308 mm	0.297 mm x 0.297 mm	0.264 mm x 0.264 mm	0.293 mm x 0.293 mm
Number of Colors	16.7 million			
Brightness (white)	450 nits (cd/m <sup>2</sup> )	400 nits (cd/m <sup>2</sup> )	250 nits (cd/m <sup>2</sup> )	
Viewing Angle (Hori/Vert)	178° / 178°	170° / 170°	170° / 160°	178° / 178°
Contrast Ratio	1500:1		1000:1	1000:1 (typical); 20M:1 (dyn.)
Backlight Brightness half-life	60,000 hours			40,000 hours
<b>Video</b>				
Input Connectors	HD-15, DVI-I			HD-15, DVI-D
Inputs using Adapter	HDMI, HDMI Mini, HDMI Micro, DisplayPort, DisplayPort Mini, BNC			
Input Signal Formats	RGB Analog, Sync Types: Separate, Composite, Sync-on-Green; DVI			RGB Analog, Sync Type: Separate; DVI
Horizontal Scan	30-60 kHz	31-73 kHz		24-82 kHz
Vertical Scan	50-75 Hz			
Response Rate	12 ms	35 ms	5 ms	14 ms
<b>Electrical</b>				
Monitor Input	100 to 240 VAC, 0.4/0.2A, 60/50 Hz or 9.6-36.6 VDC, 2.5 to 0.65 A	100 to 240 VAC, 1.5/0.75 A, 60/50 Hz or 9.6 to 36.6 VDC, 2.5 to 0.65 A		
Power Consumption	~14.9 W	~16.8 W	~20 W	~16 W
Power (Standby mode)	< 4 W			< 0.5 W
<b>Environmental</b>				
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			
Operating Shock	15 g, 6 msec, half-sine			
Operating Vibration (sine)	1.0 g, swept sine 9-500 Hz			
Transport Vibration (random)	0.1g <sup>2</sup> Hz, 10-200 Hz; 0.03g <sup>2</sup> / Hz, 200-2000 Hz			
Altitude	Operating: up to 10,000 ft; Non-operating: up to 40,000 ft			
<b>Functional</b>				
Control Panel Buttons	Power On/Off button, Control Function buttons			
On-Screen Display Menus	Picture, Color, Image, OSD, Setup, Information (other options depending on model)			
<b>Physical</b>				
Enclosure Type	Panel mount; rear collar compresses gasket against panel (5/16" maximum panel thickness); held by M5 studs within single cutout			
Bezel Material	Black powder-coated carbon steel or stainless steel faceplate			
Panel Rating (with proper installation)	Black powder-coated carbon steel: NEMA/UL Type 12/4; IP65/IP66 Stainless steel: NEMA/UL Type 12/4/4X; IP65/IP66			
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")
Front Bezel Outside Dimensions (WxHxD)	338 mm x 296 mm x 7 mm (13.31" x 11.64" x 0.28")	437.8 mm x 353.6 mm x 7 mm (17.24" x 13.92" x 0.28")		483 mm x 399 mm x 7 mm (19.0" x 15.7" x 0.28")
Cutout Dimensions (WxH)	308 mm x 263 mm (12.12" x 10.35")	406.9 mm x 323.1 mm (16.02" x 12.72")		453.4 mm x 366.8 mm (17.85" x 14.44")
Net / Shipping Weight	8.5 lbs. / 11.4 lbs.	14 lbs. / 18 lbs.		18 lbs. / 22 lbs.
Window Options	Single-Touch Resistive Touch Screen, Tempered Glass window (non-touch), or Acrylic window (non-touch) Glass-armored touch screen with sulfur gas protection also available (call for details)			
<b>Compliances and Certifications</b>				
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	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, Division 2, Groups A, B, C, D, F, G; Temp Code T4	
			UL Listed for Class I, II, III, Division 2, Groups A, B, C, D, F, G; Temp Code T5 (AC); Temp Code T4A (DC)	

## Panel Mount Industrial Monitors and Touch Screens Specifications: 19.5"-23.8"

Model No. (Revision):	HIS-ML19.5 (Rev. B)	HIS-ML22 (Rev. C)	HIS-ML23.8 (Rev. A)
<b>Display</b>			
Type	Thin-film transistor (TFT) Active Matrix Liquid Crystal, LED Backlit		
Size	19.5" diagonal	22" diagonal	23.8" diagonal
Image Size (W x H)	435 mm x 239 mm (17.1" x 9.4")	474 mm x 296 mm (18.7" x 11.7")	527 mm x 296 mm (20.75" x 11.67")
Native Resolution	HD 1080p (1920 x 1080 @ 60Hz)	WSXGA+ (1680 x 1050 @ 60Hz)	HD 1080p (1920 x 1080 @ 60Hz)
Aspect Ratio	16:9	16:10	16:9
Pixel Pitch	0.2265 mm x 0.221 mm	0.282 mm x 0.282 mm	0.2745 mm x 0.2745 mm
Number of Colors	16.7 million		
Brightness (white)	250 nits (cd/m <sup>2</sup> )		350 nits (cd/m <sup>2</sup> )
Viewing Angle (Hori/Vert)	178° / 178°	170° / 160°	178° / 178°
Contrast Ratio	3000:1	1000:1 (typ); 10M:1 (dyn)	1000:1
Backlight Brightness half-life	50,000 hours		40,000 hours
<b>Video</b>			
Input Connectors	DVI-I, DisplayPort	HD-15, DVI-I	DVI-I, DisplayPort
Inputs using Adapter	HDMI, HDMI Mini, HDMI Micro, DisplayPort Mini, VGA, BNC	HDMI, HDMI Mini, HDMI Micro, DP, DP Mini, BNC	HDMI, HDMI Mini, HDMI Micro, DisplayPort Mini, VGA, BNC
Input Signal Formats	RGB: Sep., Comp., SoG; DVI; DisplayPort	RGB: Sep., Comp., SoG; DVI	RGB: Sep., Comp., SoG; DVI; DisplayPort
Horizontal Scan	24-82 kHz		
Vertical Scan	50-75 Hz		
Response Rate	25 ms	5 ms	14 ms
<b>Electrical</b>			
Monitor Input	100 to 240 VAC, 0.6/0.3 A, 60/50 Hz and 10.8 to 26.4 VDC, 2.3 to 0.9 A	100 to 240 VAC, 1.5/0.75 A, 60/50 Hz or 9.6 to 36.6 VDC, 2.5 to 0.65 A	100 to 240 VAC, 0.6/0.3 A, 60/50 Hz and 10.8 to 26.4 VDC, 2.3 to 0.9 A
Power Consumption	~27 W	~26 W	~27 W
Power (Standby mode)	< 2 W	< 0.5 W	< 2 W
<b>Environmental</b>			
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		
Operating Shock	15 g, 6 msec, half-sine		
Operating Vibration (sine)	1.0 g, swept sine 9-500 Hz		
Transport Vibration (random)	0.1g <sup>2</sup> Hz, 10-200 Hz; 0.03g <sup>2</sup> / Hz, 200-2000 Hz		
Altitude	Operating: up to 10,000 ft; Non-operating: up to 40,000 ft		
<b>Functional</b>			
Control Panel Buttons	Power On/Off button, Control Function buttons		
On-Screen Display Menus	Picture, Color, Image, OSD, Setup, Information (other options depending on model)		
<b>Physical</b>			
Enclosure Type	Panel mount; rear collar compresses gasket against panel (5/16" maximum panel thickness); held by M5 studs within single cutout		
Bezel Material	Edge-to-edge window or stainless steel faceplate	Black powder-coated carbon steel or stainless steel faceplate	Edge-to-edge window or stainless steel faceplate
Panel Rating (with proper installation)	Edge-to-edge window: NEMA/UL Type 12/4/4X; IP65/66/69/69K Stainless steel: NEMA/UL Type 12/4/4X; IP65/IP66	Black powder-coated carbon steel: NEMA/UL Type 12/4; IP65/IP66 Stainless steel: NEMA/UL Type 12/4/4X; IP65/IP66	Edge-to-edge window: NEMA/UL Type 12/4/4X; IP65/66/69/69K Stainless steel: NEMA/UL Type 12/4/4X; IP65/IP66
Depth behind Front Edge of Panel	Edge-to-edge: 46.3 mm (1.82") Stainless: 47.5 mm (1.87")	50.0 mm (1.97")	Edge-to-edge: 46.1 mm (1.81") Stainless: 47.9 mm (1.88")
Front Bezel Outside Dimensions (WxHxD)	Edge-to-edge: 530 mm x 333 mm x 9 mm (20.87" x 13.1" x 0.35") Stainless: 528 mm x 328.5 mm x 9 mm (20.80" x 12.93" x 0.35")	559 mm x 375 mm x 7 mm (22.0" x 14.75" x 0.28")	Edge-to-edge: 597 mm x 377 mm x 9 mm (23.5" x 14.83" x 0.35") Stainless: 595.5 mm x 373 mm x 9.8 mm (23.44" x 14.69" x 0.39")
Cutout Dimensions (WxH)	497.8 mm x 298.5 mm (19.60" x 11.75")	528.7 mm x 342.3 mm (20.81" x 13.48")	566.7 mm x 342.4 mm (22.31" x 13.48")
Net / Shipping Weight	12.9 lbs. / 18 lbs.	19 lbs. / 23 lbs.	17 lbs. / 30 lbs.
Window Options	Single-Touch Resistive Touch Screen, Multi-Touch PCAP Touch Screen, Glass window (non-touch), or Food Protection window (non-touch)	Single-Touch Resistive Touch Screen, Tempered Glass window (non-touch), or Acrylic window (non-touch)	Single-Touch Resistive Touch Screen, Multi-Touch PCAP Touch Screen, Glass window (non-touch), or Food Protection window (non-touch)
<b>Compliances and Certifications</b>			
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	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 T5	UL Listed for Class I, II, III, Division 2, Groups A, B, C, D, F, G; Temp Code T5 (AC); Temp Code T4A (DC)	UL Listed for Class I, II, III, Division 2, Groups A, B, C, D, F, G; Temp Code T5