



# Hope Industrial Systems, Inc.

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## Data Sheet: Panel Mount Monitors and Touch Screens

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

### Features

- ▶ IP65/IP66 Rated
- ▶ Bright, high contrast, and ultra-wide viewing angle displays
- ▶ Long-life backlights – up to 60,000 hours brightness half-life
- ▶ Field-proven MTBF of more than 250,000 hours
- ▶ Touch Screen, Glass, Acrylic, and Food Protection window options
- ▶ Stainless steel, carbon steel, and edge-to-edge bezel options
- ▶ Only 46 mm to 56 mm deep
- ▶ Panel mount without drilling stud holes
- ▶ Cable lengths from 1.5 m to 300 m
- ▶ Industrial Certifications: CE, UKCA, IEC 60721-3, UL 508A, UL 50E, UL/EN/IEC62368-1, UL Recognised 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 56 mm 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/IP66 rated)
- ▶ Screen Protectors (all sizes)
- ▶ Extended cable options up to 300 m
- ▶ KVM Extenders

RoHS CE cUL US



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, return shipping included
- ▶ 24-48-hour repair turnaround (most models)
- ▶ Same day dispatch lead time (most models)
- ▶ 30-day money-back guarantee



Optional KVM Extender allows monitor to be placed up to 300 m 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. F)                                                                                                                                                                                  | HIS-ML15 (Rev. I)                                                      | HIS-ML17 (Rev. I)                                                      | HIS-ML19 (Rev. I)      |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------|
| Display                                 |                                                                                                                                                                                                    |                                                                        |                                                                        |                        |
| Type                                    | Thin-film transistor (TFT) Active Matrix Liquid Crystal, LED Backlit                                                                                                                               |                                                                        |                                                                        |                        |
| Size                                    | 307 mm (12.1") diagonal                                                                                                                                                                            | 381 mm (15") diagonal                                                  | 432 mm (17") diagonal                                                  | 483 mm (19") diagonal  |
| Image Size (WxH)                        | 246 x 184.5 mm                                                                                                                                                                                     | 304 x 228 mm                                                           | 338 x 270 mm                                                           | 375 x 300 mm           |
| 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 Colours                       | 16.7 million                                                                                                                                                                                       |                                                                        |                                                                        |                        |
| Brightness (white)                      | 450 nits (cd/m²)                                                                                                                                                                                   | 400 nits (cd/m²)                                                       | 250 nits (cd/m²)                                                       |                        |
| Viewing Angle (Hori/Vert)               | 178° / 178°                                                                                                                                                                                        | 170° / 170°                                                            | 178° / 178°                                                            |                        |
| Contrast Ratio                          | 1000:1                                                                                                                                                                                             | 1500:1                                                                 | 1000:1                                                                 |                        |
| Backlight Brightness half-life          | 60,000 hours                                                                                                                                                                                       |                                                                        | 50,000 hours                                                           | 40,000 hours           |
| Video                                   |                                                                                                                                                                                                    |                                                                        |                                                                        |                        |
| Input Connectors                        | DVI-I, DisplayPort                                                                                                                                                                                 |                                                                        |                                                                        |                        |
| Inputs using Adapter                    | HDMI, HDMI Mini, HDMI Micro, DisplayPort Mini, VGA, BNC                                                                                                                                            |                                                                        |                                                                        |                        |
| Input Signal Formats                    | RGB Analogue, Sync Types: Separate, Composite, Sync-on-Green; DVI; DisplayPort                                                                                                                     |                                                                        |                                                                        |                        |
| Horizontal Scan                         | 31-60 kHz                                                                                                                                                                                          | 31-80 kHz                                                              |                                                                        |                        |
| Vertical Scan                           | 50-75 Hz                                                                                                                                                                                           |                                                                        | 49-76 Hz                                                               | 50-75 Hz               |
| Response Rate                           | 12 ms                                                                                                                                                                                              | 35 ms                                                                  | 14 ms                                                                  |                        |
| Electrical                              |                                                                                                                                                                                                    |                                                                        |                                                                        |                        |
| 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 | 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                       | ~10.3 W                                                                                                                                                                                            | ~13.5 W                                                                | ~12 W                                                                  | ~13.3 W                |
| Power (Standby mode)                    | < 1.2 W                                                                                                                                                                                            |                                                                        | < 2 W                                                                  | < 1.5 W                |
| Environmental                           |                                                                                                                                                                                                    |                                                                        |                                                                        |                        |
| Operating Temperature                   | 0° to 50°C                                                                                                                                                                                         |                                                                        |                                                                        |                        |
| Storage Temperature                     | -20° to 60°C                                                                                                                                                                                       |                                                                        |                                                                        |                        |
| 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)            | 0.1g² Hz, 10-200 Hz; 0.03g² / Hz, 200-2000 Hz                                                                                                                                                      |                                                                        |                                                                        |                        |
| Altitude                                | Operating: up to 3.05 km; Non-operating: up to 12.2 km                                                                                                                                             |                                                                        |                                                                        |                        |
| Functional                              |                                                                                                                                                                                                    |                                                                        |                                                                        |                        |
| 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)                                                                                                                  |                                                                        |                                                                        |                        |
| Physical                                |                                                                                                                                                                                                    |                                                                        |                                                                        |                        |
| Enclosure Type                          | Panel mount; rear collar compresses gasket against panel (7.9 mm maximum panel thickness); held by M5 studs                                                                                        |                                                                        |                                                                        |                        |
| Bezel Material                          | Black powder-coated carbon steel or stainless steel faceplate                                                                                                                                      |                                                                        |                                                                        |                        |
| Panel Rating (with proper installation) | Black powder-coated carbon steel: IP65/IP66; NEMA/UL Type 12/4<br>Stainless steel: IP65/IP66; NEMA/UL Type 12/4/4X                                                                                 |                                                                        |                                                                        |                        |
| Depth behind Front Edge of Panel        | 50.3 mm                                                                                                                                                                                            | 49.6 mm                                                                | 49.7 mm                                                                | 55.6 mm                |
| Bezel Dimensions (WxHxD)                | 338 mm x 296 mm x 7 mm                                                                                                                                                                             | 438 mm x 354 mm x 7 mm                                                 |                                                                        | 483 mm x 399 mm x 7 mm |
| Cutout Dimensions (WxH)                 | 308 mm x 263 mm                                                                                                                                                                                    | 406.9 mm x 323.1 mm                                                    |                                                                        | 453.4 mm x 366.8 mm    |
| Net / Shipping Weight                   | 3.86 kg / 5.17 kg                                                                                                                                                                                  | 6.35 kg / 8.16 kg                                                      |                                                                        | 8.16 kg / 9.98 kg      |
| Window Options                          | Single-Touch Resistive Touch Screen, Tempered Glass window (non-touch), or Acrylic window (non-touch)<br>Glass-armoured touch screen with sulphur gas protection also available (call for details) |                                                                        |                                                                        |                        |
| Compliances and Certifications          |                                                                                                                                                                                                    |                                                                        |                                                                        |                        |
| Electrical                              | CE, UKCA, UL/EN/IEC62368-1, UL/EN/IEC60950-1, UL Recognized Component for US and Canada, UL 508A, CAN ICES-3A/NMB-3A, FCC Class A, NOM                                                             |                                                                        |                                                                        |                        |
| Enclosure, Environmental                | UL 50E, IEC 60721-3 (Reliability), WEEE                                                                                                                                                            |                                                                        |                                                                        |                        |

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

| Model No. (Revision):                   | HIS-ML19.5 (Rev. C)                                                                                                                    | HIS-ML22 (Rev. D)                                                                                                | HIS-ML23.8 (Rev. B)                                                                                                                 |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Display                                 |                                                                                                                                        |                                                                                                                  |                                                                                                                                     |
| Type                                    | Thin-film transistor (TFT) Active Matrix Liquid Crystal, LED Backlit                                                                   |                                                                                                                  |                                                                                                                                     |
| Size                                    | 495 mm (19.5") diagonal                                                                                                                | 559 mm (22") diagonal                                                                                            | 605 mm (23.8") diagonal                                                                                                             |
| Image Size (WxH)                        | 435 mm x 239 mm                                                                                                                        | 474 mm x 296 mm                                                                                                  | 527 mm x 296 mm                                                                                                                     |
| Native Resolution                       | HD 1080p (1920 x 1080 @ 60 Hz)                                                                                                         | 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 Colours                       | 16.7 million                                                                                                                           |                                                                                                                  |                                                                                                                                     |
| Brightness (white)                      | 350 nits (cd/m²)                                                                                                                       | 250 nits (cd/m²)                                                                                                 | 350 nits (cd/m²)                                                                                                                    |
| Viewing Angle (Hori/Vert)               | 170° / 170°                                                                                                                            | 170° / 160°                                                                                                      | 178° / 178°                                                                                                                         |
| Contrast Ratio                          | 3000:1                                                                                                                                 | 1000:1                                                                                                           |                                                                                                                                     |
| Backlight Brightness half-life          | 50,000 hours                                                                                                                           |                                                                                                                  | 40,000 hours                                                                                                                        |
| Video                                   |                                                                                                                                        |                                                                                                                  |                                                                                                                                     |
| Input Connectors                        | DVI-I, DisplayPort                                                                                                                     |                                                                                                                  |                                                                                                                                     |
| Inputs using Adapter                    | HDMI, HDMI Mini, HDMI Micro, DisplayPort Mini, VGA, BNC                                                                                |                                                                                                                  |                                                                                                                                     |
| Input Signal Formats                    | RGB Analogue, Sync Types: Separate, Composite, Sync-on-Green; DVI; DisplayPort                                                         |                                                                                                                  |                                                                                                                                     |
| Horizontal Scan                         | 31-80 kHz                                                                                                                              |                                                                                                                  |                                                                                                                                     |
| Vertical Scan                           | 50-73 Hz                                                                                                                               | 48-78 Hz                                                                                                         | 50-75 Hz                                                                                                                            |
| Response Rate                           | 20 ms                                                                                                                                  | 5 ms                                                                                                             | 13 ms                                                                                                                               |
| Electrical                              |                                                                                                                                        |                                                                                                                  |                                                                                                                                     |
| 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                                                                                                                                  | ~13 W                                                                                                            | ~21 W                                                                                                                               |
| Power (Standby mode)                    | < 2 W                                                                                                                                  |                                                                                                                  |                                                                                                                                     |
| Environmental                           |                                                                                                                                        |                                                                                                                  |                                                                                                                                     |
| Operating Temperature*                  | 0° to 50°C                                                                                                                             |                                                                                                                  |                                                                                                                                     |
| Storage Temperature                     | -20° to 60°C                                                                                                                           |                                                                                                                  |                                                                                                                                     |
| 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)            | 0.1g² Hz, 10-200 Hz; 0.03g² / Hz, 200-2000 Hz                                                                                          |                                                                                                                  |                                                                                                                                     |
| Altitude                                | Operating: up to 3.05 km; Non-operating: up to 12.2 km                                                                                 |                                                                                                                  |                                                                                                                                     |
| Functional                              |                                                                                                                                        |                                                                                                                  |                                                                                                                                     |
| 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)                                                      |                                                                                                                  |                                                                                                                                     |
| Physical                                |                                                                                                                                        |                                                                                                                  |                                                                                                                                     |
| Enclosure Type                          | Panel mount; rear collar compresses gasket against panel (7.9 mm maximum panel thickness); held by M5 studs                            |                                                                                                                  |                                                                                                                                     |
| 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: IP65/IP66/IP69/IP69K; NEMA/UL Type 12/4/4X<br>Stainless steel: IP65/IP66; NEMA/UL Type 12/4/4X                           | Black powder-coated carbon steel: IP65/66; NEMA/UL Type 12/4<br>Stainless steel: IP65/IP66; NEMA/UL Type 12/4/4X | Edge-to-edge: IP65/IP66/IP69/IP69K; NEMA/UL Type 12/4/4X<br>Stainless steel: IP65/IP66; NEMA/UL Type 12/4/4X                        |
| Depth behind Front Edge of Panel        | Edge-to-edge: 46.3 mm<br>Stainless: 47.5 mm                                                                                            | 50.1 mm                                                                                                          | Edge-to-edge: 46.1 mm<br>Stainless: 47.9 mm                                                                                         |
| Bezel Dimensions (WxHxD)                | 530 mm x 332.5 mm x 9 mm                                                                                                               | 559 mm x 375 mm x 7 mm                                                                                           | 597 mm x 377 mm x 9 mm                                                                                                              |
| Cutout Dimensions (WxH)                 | 497.8 mm x 298.5 mm                                                                                                                    | 528.7 mm x 342.3 mm                                                                                              | 566.7 mm x 342.4 mm                                                                                                                 |
| Net / Shipping Weight                   | 5.83 kg / 8.16 kg                                                                                                                      | 8.62 kg / 10.43 kg                                                                                               | 7.71 kg / 13.61 kg                                                                                                                  |
| 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) |
| Compliances and Certifications          |                                                                                                                                        |                                                                                                                  |                                                                                                                                     |
| Electrical                              | CE, UKCA, UL/EN/IEC62368-1, UL/EN/IEC60950-1, UL Recognized Component for US and Canada, UL 508A, CAN ICES-3A/NMB-3A, FCC Class A, NOM |                                                                                                                  |                                                                                                                                     |
| Enclosure, Environmental                | UL 50E, IEC 60721-3 (Reliability), WEEE                                                                                                |                                                                                                                  |                                                                                                                                     |

\* Consult factory for the 23.8" resistive touch screen if the operating environment exceeds 70% humidity at maximum temperature spec of 50°C or exceeds 40°C at the maximum humidity spec of 90% humidity.