

LCD Kits



LCD kits (ES-1000 series) provide the most cost effective and proven display solutions that are seamlessly compatible with all Advantech SBC/AIMB boards. They also come with inverter, cables and the assurance of long-term industrial component support.



ES-1000 Series

| Model Name | LVDS Interface Series (Wide Temperature Range) | | | | | | | | |
|---------------------------------------|--|-----------------------------------|--------------------------------------|---------------------------|---------------------------|-----------------------------|---|---------------------------|---------------------------|
| | ES-1106N-LVAE | ES-1108N-LSAE | ES-1110N-LSAWE | ES-1112N-LXCWE | ES-1112N-LSME | ES-1112N-LSAE | ES-1115N-LXAE | ES-1117N-LEAE | ES-1119N-LEAE |
| Description | 6.5" VGA TFT-LCD kit | 8.4" SVGA TFT-LCD kit | 10.4" SVGA TFT-LCD kit | 12.1" XGA TFT-LCD kit | 12.1" SVGA TFT LCD kit | 12.1" SVGA TFT-LCD kit | 15" XGA TFT-LCD kit | 17" SXGA TFT-LCD kit | 19" SXGA TFT-LCD kit |
| Display Size | 6.5" | 8.4" | 10.4" | 12.1" | 12.1" | 12.1" | 15" | 17" | 19" |
| Resolution (Pixels) | 640 x 480, 16.2 M | 800 x 600, 262 K | 800 x 600, 262 K | 1024 x 768, 262 K | 800 x 600, 262 K | 800 x 600, 262 K/16.2 (FRC) | 1024 x 768, 262 K / 16.2 M | 1280 x 1024, 16.2 K | 1280 x 1024, 16.7 M |
| View Angle (L/R/U/D) | 70°/70°/60°/60° | 60°/60°/60°/40°; 65°/65°/65°/45° | 60°/60°/35°/65° | 80°/80°/80°/80° | 65°/65°/75°/45° | 70°/70°/50°/60° | 60°/60°/40°/60°; 0°/70°/70°/50° | 70°/70°/70°/60° | 89°/89°/89°/89° |
| Brightness (cd/m²) | 400 | 450 (Standard)/220 (OEM) | 230 (Standard)/400 (OEM) | 450 | 350 | 400 | 350 (Standard)/550 (OEM) | 300 | 300 |
| Contrast Ratio | 600:1 | 500:1 | 500:1 | 700:1 | 500:1 | 500:1 | 500:1 | 500:1 | 1300:1 |
| Signal Interface | 18-bit LVDS | 18-bit LVDS | 18-bit LVDS | 18-bit LVDS | 18-bit LVDS | 18-bit LVDS | 18-bit LVDS | 24-bit LVDS | 24-bit LVDS |
| Supply Voltage (V) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 5 | 5 |
| Backlight (hrs) | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 20,000 hrs/50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs/4-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 4-tubes, 50,000 hrs |
| Operating Temperature | -20 ~ 70° C | 0 ~ 50° C (-20 ~ 70° C) | 0 ~ 50° C (-20 ~ 70° C) | -30 ~ 70° C | -20 ~ 70° C | -10 ~ 65° C (-20 ~ 70° C) | 0 ~ 50° C | 0 ~ 50° C | 0 ~ 50° C |
| Power Consumption (W) | 4.26 | 5.8 | 3.3 / 8.3 | 4 | 6 | 7.3 | 11.5 / 21 | 25.8 | 28 |
| Response Time (ms) (at 25° C) | 25 | 35 | 35 | 6 | 10 | 35 | 12 | 8 | 8 |
| Standard LCD Cable Length (mm) | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| Weight (g) | 200 | 260 / 215 | 280/485 | 720 | 720 | 640 | 1100 / 1350 | 1900 | 2500 |
| Outline Dimensions (W x H x D) | 153 x 118 x 10.7 | 203 x 142.5 x 8/203 x 142.5 x 5.7 | 236 x 174.3 x 5.6 / 243 x 184 x 10.6 | 260.5 x 204 x 12.2 | 280 x 210 x 12 | 279 x 209 x 11 | 326.5 x 253.5 x 12 | 358.5 x 296.5 x 17 | 396 x 324 x 17.5 |
| 4 Wire Res. Touch | OEM | ES-1108R-LSAWE | ES-1110R-LSAWE | OEM | OEM | ES-1112R-LSAE | ES-1115R-LXAAE | OEM | OEM |
| 5 Wire Res. Touch | OEM | OEM | OEM | OEM | OEM | OEM | OEM | | |
| Advantech Touch Control Board (Combo) | OEM | OEM | OEM | OEM | OEM | OEM | OEM | OEM | OEM |

Ordering Information

LVDS Cable Category vs. CPU Board

| LCD Series | LVDS Cable | Advantech CPU Card To Match |
|---|---------------|---|
| ES-1106N-LVA ES-1108R-LSA ES-1108N-LS ES-1110R-LSA ES-1110N-LSA ES-1112N-LXM ES-1112N-LSA ES-1112N-LSM ES-1115N-LXA ES-1117N-LEA ES-1119N-LEA | - 01E or -W1E | PCI-6872/6871, PCA-6774/6773, PCM-9371/9372/9373/9375E/9377, PCM-9579/9577/9575, PCM-3370E/3353/4153 |
| | - 03E or -W3E | PCM-9388/9387/9386/9381/9380, PCM-4390/4386/4381/4381/4373/4372, PCM-3372/3386/3380, PCM-9590/9587/9586/9584/9582/9581/9580, AIMB-641/640/350/330V/330G/340/750/554/240/556, PCI-6886/6882/6881/6880/6872/6870/6780 |
| | - 06E or -W6E | AIMB-250/251 |



- Computer On Modules 1
- Embedded Single Board Computers 2
- Industrial Motherboards 3
- Slot Single Board Computers 4
- Box IPCs 5
- Pre-Configured Systems 6
- Industrial Computer Chassis 7
- Embedded Core Services 8
- Industrial Computer Peripherals 9
- Panel PCs 10
- Display Solutions 11
- Vehicle Mounted Computers 12
- Portable Computers 13
- Mobile Data Terminal 14
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- Infotainment 16
- LCD Services 17

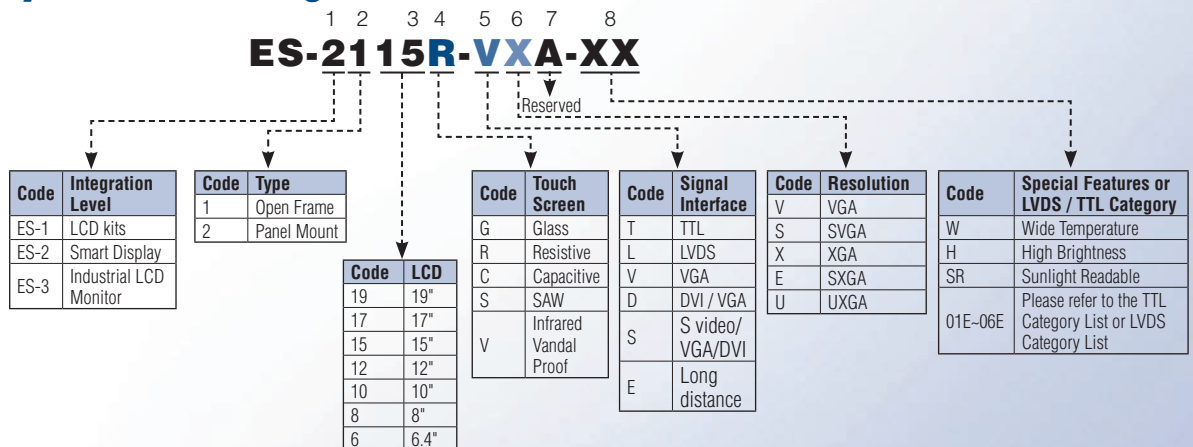
| Model Name | TTL Interface Series | | | | Outdoor Application | | | | | |
|---------------------------------|---|---|---|--|---|---|--|--|---|--|
| | ES-1106N-TVPE | ES-1108N-TVME | ES-1110N-TVME | ES-1112N-TSME | ES-1108N-TVM-SRE | ES-1110N-TVM-HE | ES-1112N-LSM-HE | ES-1112N-LXM-HE | ES-1115N-LXM-HE | |
| Description | 6.4" VGA TFT LCD | 8.4" VGA TFT LCD kit | 10.4" VGA TFT LCD kit | 12.1" SVGA TFT-LCD kit | 8.4" SVGA TFT-LCD kit | 10.4" SVGA TFT-LCD kit | 12.1" XGA TFT-LCD kit | 12.1" SVGA TFT-LCD kit | 15" XGA TFT LCD kit | |
| Display Size | 6.4" | 8.4" | 10.4" | 12.1" | 8.4" | 10.4" | 12.1" | 12.1" | 15" | |
| Resolution (Pixels) | VGA, 262 K | VGA, 262 K | 800 x 600, 260 K | 800 x 600, 260 K | 640 x 480, 262 K | 640 x 480, 262 K | 800 x 600, 262 K | 1024 x 768, 262 K | 1024 x 768, 262 K | |
| View Angle (L/R/U/D) | 60°/60°/40°/35° | 65°/65°/50°/60° | 65°/65°/65°/45° | 65°/65°/75°/45° | 65°/65°/60°/50° | 70°/70°/60°/60° | 65°/65°/75°/45° | 60°/60°/75°/45° | 75°/75°/60°/50° | |
| Brightness (cd/m ²) | 400 | 480 | 430 | 400 | 480 | 1000 | 1000 | 1000 | 1500 | |
| Contrast Ratio | 400:1 | 450:1 | 500:1 | 500:1 | 500:1 | 700:1 | 500:1 | 700:1 | 650:1 | |
| Signal Interface | 18-bit TTL | 18-bit TTL | 18-bit TTL | 18-bit TTL | 18-bit TTL | 18-bit TTL | 18-bit LVDS | 18-bit LVDS | 18-bit LVDS | |
| Supply Voltage (V) | 5 | 3.3 | 3.3/5.0 | 3.3/5.0 | 3.3 | 3.3 | 3.3 | 3.3 | 5 | |
| Backlight (hrs) | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 4-tubes, 50,000 hrs | CCFL, 4-tubes, 50,000 hrs | CCFL, 4-tubes, 50,000 hrs | CCFL, 6-tubes, 50,000 hrs | |
| Operating Temperature | -20 ~ 70° C | -20 ~ 70° C | -20 ~ 70° C | -20 ~ 70° C | -20 ~ 70° C | -20 ~ 70° C | -20 ~ 70° C | -20 ~ 70° C | -20 ~ 70° C | |
| Power Consumption (W) | 4.32 | 4 | 6.5 | 6 | 7 | 26.2 | 27 | 29.2 | 25.6 | |
| Response Time (ms)(at 25° C) | 15 | 6 | 10 | 10 | 6 | 4 | 10 | 6 | 6 | |
| Standard LCD Cable Length (mm) | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | |
| Weight (g) | 340 | 360 | 540 | 720 | 360 | 650 | 990 | 990 | 1400 | |
| Outline Dimensions (W x H x D) | 175 x 126 x 12 mm (6.89" x 4.96" x 0.47") | 199.5 x 149 x 11.5 mm (7.85" x 5.87" x 0.45") | 243 x 181.6 x 12.2 mm (9.57" x 7.15" x 0.48") | 280 x 210 x 12 mm (11.02" x 8.27" x 0.47") | 199.5 x 149 x 11.5 mm (7.85" x 5.87" x 0.45") | 241 x 181.6 x 16 mm (9.45" x 7.15" x 0.63") | 280 x 219 x 17.8 mm (11.02" x 8.62" x 0.70") | 280 x 219 x 17.8 mm (11.02" x 8.62" x 0.70") | 326 x 267 x 20.5 mm (12.83" x 10.51" x 0.81") | |

Ordering Information

TTL Cable Category vs. CPU Board

| LCD Kits | TTL Category | Advantech CPU Card To Match |
|--------------|--------------|--|
| ES-1106N-TVP | - 01E | |
| ES-1108N-TVM | - 02E | PCA-6740, PCI-6872, PCA-6775/6774/6773 |
| ES-1110N-TVM | - 03E | PCM-9375F, PCI-6871, PCM-3341/3353/3370F/3375/4141/4153, SOM-2353 w/SOM-DB2300 |
| ES-1112N-TSM | - 04E | PCM-9576/9572 |

Display Product Naming Rules



Open Frame Monitor

ES-2000 series is a new type of display designed to meet the needs of customers who want to quickly and easily integrate their solutions with Advantech Embedded Box Computers such as ARK, EPBC, DVS and DSA.



ES-2100 Series

| Model Name | ES-2106 series | ES-2108 series | ES-2110 series | ES-2112 series | ES-2115 series | ES-2117 series | ES-2119 series | |
|----------------------------------|---|--|---|--|--|--|--|---------------------------|
| Description | 6.5" Open Frame Monitor | 8.4" Open Frame Monitor | 10.4" Open Frame Monitor | 12.1" Open Frame Monitor | 15" Open Frame Monitor | 17" Open Frame Monitor | 19" Open Frame Monitor | |
| Interface | VGA/LVDS | VGA/LVDS | VGA/LVDS | VGA | VGA/LVDS | VGA/LVDS | VGA/LVDS | |
| Display (Standard) | Display Size | 6.5" | 8.4" | 10.4" | 12.1" | 15" | 19" | |
| | Panel Type | TFT LCD | TFT LCD | TFT LCD | TFT LCD | TFT LCD | TFT LCD | |
| | Resolution | 640 x 480 VGA | 800 x 600 SVGA | 800 x 600 SVGA | 800 x 600 SVGA/ 1024x768 XGA | 800 x 600 SVGA | 1280 x 1024 SVGA | 1280 x 1024 SVGA |
| | Number of Colors | 16.2 M | 262 K | 262 K | 262 K/ 260K | 262 K | 16.2 M | 16.2 M |
| | Contrast Ratio | 600:1 | 350:1 | 350:1 | 500:1 / 550:1 | 400:1 | 500:1 | 500:1 |
| | Brightness | 400 | 350 | 230 | 400 / 320 | 350 | 300 | 300 |
| | Response Time | 25 | 35 | 35 | 35 / 6 | 16 | 8 | 8 |
| | Backlight MTBF | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs |
| Viewing Angle L/R/U/D | 70°/70°/60°/60° | 60°/60°/60°/40° | 60°/60°/40°/60° | 65°/65°/75°/45° ; 65°/65°/75°/45° | 65°/65°/75°/45° | 60°/60°/70°/70° | 89°/89°/89°/89° | |
| OSD Key Function | Brightness | | | | | | | |
| | Contrast | | | | | | | |
| | Clock | | | | | | | |
| | Phase | Yes | Yes | Yes | Yes | - | Yes | Yes |
| | Horizontal | | | | | | | |
| | Vertical | | | | | | | |
| Sharpness | | | | | | | | |
| Power Input | AC 100 ~ 240 V/ 12V DC in | AC 100 ~ 240 V/ 12V DC in | AC 100 ~ 240 V/ 12V DC in | AC 100 ~ 240 V/ 12V DC in | AC 100 ~ 240 V/ 12V DC in | AC 100 ~ 240 V/ 12V DC in | AC 100 ~ 240 V/ 12V DC in | |
| Operating Temperature (Standard) | -20 ~ 70° C | 0 ~ 50° C (-20 ~ 70° C optional) | 0 ~ 50° C (-20 ~ 70° C optional) | -10 ~ 50° C (-20 ~ 70° C optional) | 0 ~ 50° C | 0 ~ 50° C | 0 ~ 50° C | |
| Dimensions (W x H x D) | 190 x 142 x 40 mm (7.48" x 5.59" x 1.57") | 256 x 193 x 47.3 mm (10.08" x 7.60" x 1.86") | 203 x 184 x 45 mm (7.99" x 7.24" x 1.77") | 352 x 251 x 49 mm (13.86" x 9.88" x 1.93") | 326.5 x 253.3 x 50 mm (12.85" x 9.97" x 1.97") | 402.1 x 320.4 x 56.24 mm (15.83" x 12.61" x 2.21") | 446 x 364 x 56.58 mm (17.56" x 14.33" x 2.23") | |
| | Weight | 1.3 kg (2.86 lb) | 2.2 kg (4.84 lb) | 2.5 kg (5.50 lb) | 3 kg (6.60 lb) | 3.4 kg (7.48 lb) | 4 kg (8.50 lb) | 5.6 kg (9.70 lb) |
| Touchscreen | Tempered Glass | Yes | Yes | Yes | Yes | Yes | Yes | |
| | 5-Wire Resistive | Yes | Yes | Yes | Yes | Yes | Yes | |
| | Capacitive | Yes | Yes | Yes | Yes | Yes | Yes | |
| | SAW | - | Yes | Yes | Yes | Yes | Yes | |
| | Infrared (Vandal Proof) | - | - | Yes | Yes | Yes | Yes | Yes |
| Interface for Touchscreen | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | |

Ordering Information

LVDS Series

| Open Frame (LVDS) Series | LVDS Cable | Advantech CPU Card To Match |
|--|------------|--|
| ES-2106R-LVA ES-2108R-LSA ES-2110R-LSA ES-2112R-LSA ES-2115R-LXA ES-2117R-LEA ES-2119R-LEA | - 01 | PCA-6774, PCM-6773, PCI-6886, PCI-6881, PCI-6880, PCI-6872, PCM-9371, PCM-9373, PCM-9375, PCM-9575, PCM-9577, PCM-9579, PCM-3370E |
| | - 02 | POS-761F, SOM-4450, SOM-4451, SOM-4475, SOM-4481, SOM-4486 w/SOM-DB4400, SOM-5780 w/SOM-DB5700 |
| | - 03 | PCM-9387, PCM-9386, PCM-9381, PCM-9380, PCM-3386, PCM-3380, PCM-9586, PCM-9582, PCM-9580, PCM-9581, AIMB-641, AIMB-640, AIMB-350, AIMB-340, AIMB-330G/V, POS-760, POS-7680 |
| | - 05 | ARK-1000 & ARK-3000 series |

Rugged Panel Mount Monitor



ES-2200 Series

| Model Name | ES-2206 Series | ES-2208 Series | ES-2210 Series | ES-2212 Series | ES-2215 Series | ES-2217 Series | ES-2219 Series |
|----------------------------------|---|--|---|--|--|--|--|
| Description | 6.5" panel mount monitor | 8.4" panel mount monitor | 10.4" panel mount monitor | 12.1" panel mount monitor | 15" panel mount monitor | 17" panel mount monitor | 19" panel mount monitor |
| Interface | VGA | VGA | VGA | VGA | VGA | VGA | VGA |
| Display Size | 6.5" | 8.4" | 10.4" | 12.1" | 15" | 17" | 19" |
| Panel Type | TFT LCD | TFT LCD | TFT LCD | TFT LCD | TFT LCD | TFT LCD | TFT LCD |
| Resolution | 640 x 480 VGA | 800 x 600 SVGA | 800 x 600 SVGA | 800 x 600 SVGA / 1024 x 768 XGA | 800 x 600 SVGA | 1280 x 1024 SVGA | 1280 x 1024 SVGA |
| Number of Colors | 16.2 M | 262 K | 262 K | 262 K / 260 K | 262 K | 16.2 M | 16.2 M |
| Contrast Ratio | 600:1 | 350:1 | 350:1 | 500:1 / 550:1 | 400:1 | 500:1 | 500:1 |
| Brightness | 400 | 350 | 230 | 400 / 320 | 350 | 300 | 300 |
| Response Time | 25 | 35 | 35 | 35 / 6 | 16 | 8 | 8 |
| Backlight MTBF | CCFL 2-tubes, 50,000 hrs | CCFL 2-tubes, 50,000 hrs | CCFL 2-tubes, 50,000 hrs | CCFL 2-tubes, 50,000 hrs | CCFL 2-tubes, 50,000 hrs | CCFL 2-tubes, 50,000 hrs | CCFL 2-tubes, 50,000 hrs |
| Viewing Angle L/R/U/D | 70°/70°/60°/60° | 60°/60°/60°/40° | 60°/60°/40°/60° | 65°/65°/75°/45° 65°/65°/75°/45° | 65°/65°/75°/45° | 60°/60°/70°/70° | 89°/89°/89°/89° |
| OSD Key Function | Brightness | | | | | | |
| | Contrast | | | | | | |
| | Clock | | | | | | |
| | Phase | Yes | Yes | Yes | Yes | - | Yes |
| | Horizontal | | | | | | |
| | Vertical | | | | | | |
| Sharpness | | | | | | | |
| Power Input | AC 100 ~ 240 V / 12V DC in | AC 100 ~ 240 V / 12V DC in | AC 100 ~ 240 V / 12V DC in | AC 100 ~ 240 V / 12V DC in | AC 100 ~ 240 V / 12V DC in | AC 100 ~ 240 V / 12V DC in | AC 100 ~ 240 V / 12V DC in |
| Operating Temperature (Standard) | -20 ~ 70° C | 0 ~ 50° C (-20 ~ 70° C optional) | 0 ~ 50° C (-20 ~ 70° C optional) | -10 ~ 50° C (-20 ~ 70° C optional) | 0 ~ 50° C | 0 ~ 50° C | 0 ~ 50° C |
| Dimensions (W x H x D) | 190 x 142 x 40 mm (7.48" x 5.59" x 1.57") | 256 x 193 x 47.3 mm (10.08" x 7.60" x 1.86") | 203 x 184 x 45 mm (7.99" x 7.24" x 1.77") | 352 x 251 x 49 mm (13.86" x 9.88" x 1.93") | 326.5 x 253.3 x 50 mm (12.85" x 9.97" x 1.97") | 402.1 x 320.4 x 56.24 mm (15.83" x 12.61" x 2.21") | 446 x 364 x 56.58 mm (17.56" x 14.33" x 2.23") |
| Weight | 1.3 kg (2.86 lb) | 2.2 kg (4.84 lb) | 2.5 kg (5.50 lb) | 3 kg (6.60 lb) | 3.4 kg (7.48 lb) | 4.0 kg (8.6 lb) | 5.6 kg (9.70 lb) |
| Touch Screen | Tempered Glass | Yes | Yes | Yes | Yes | Yes | Yes |
| | 5-Wire Resistive | Yes | Yes | Yes | Yes | Yes | Yes |
| | Capacitive | Yes | Yes | Yes | Yes | Yes | Yes |
| | SAW | - | Yes | Yes | Yes | Yes | Yes |
| Infrared (Vandal Proof) | - | - | Yes | Yes | Yes | Yes | Yes |
| Interface for Touchscreen | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB |

Power Code Options

| | |
|------------|--|
| 1702002600 | Power Cable UL/CSA (USA) 180 cm |
| 1702031801 | Power Cable (UK) 5A-Fuse 180 cm |
| 1702002605 | Power Cable 220 V EUROPEAN 250 V/6 A (FRANCE) 180 cm |

- Computer On Modules 1
- Embedded Single Board Computers 2
- Industrial Motherboards 3
- Slot Single Board Computers 4
- Box IPCs 5
- Pre-Configured Systems 6
- Industrial Computer Chassis 7
- Embedded Core Services 8
- Industrial Computer Peripherals 9
- Panel PCs 10
- Display Solutions 11
- Vehicle Mounted Computers 12
- Portable Computers 13
- Mobile Data Terminal 14
- Digital Video Surveillance 15
- Infotainment 16
- LCD Services 17

Outdoor Open Frame/ Panel Mount Monitor



| Model Name | ES-2106/2206 Series | ES-2108/2208 Series | ES-2110/2210 Series | ES-2112/2212 Series | ES-2115/2215 Series | ES-2117/2217 Series | ES-2119/2219 Series | |
|----------------------------------|--|---|--|---|---|---|---|---------------------------|
| Description | 6.5" Open Frame Monitor | 8.4" Open Frame Monitor | 10.4" Open Frame Monitor | 12.1" Open Frame Monitor | 15" Open Frame Monitor | 17" Open Frame Monitor | 19" Open Frame Monitor | |
| Interface | VGA/LVDS | VGA/LVDS | VGA/LVDS | VGA | VGA/LVDS | VGA/LVDS | VGA/LVDS | |
| Display (Standard) | Display Size | 6.5" | 8.4" | 10.4" | 12.1" | 15" | 19" | |
| | Panel Type | TFT LCD | TFT LCD | TFT LCD | TFT LCD | TFT LCD | TFT LCD | |
| | Resolution | 640 x 480 VGA | 800 x 600 SVGA | 640 x 480 VGA | 800 x 600 SVGA/ 1024x768 XGA | 1024 x 768 XGA | 1280 x 1024 SXGA | 1280 x 1024 SXGA |
| | Number of Colors | 16.2 M | 262 K | 262 K | 262 K/260 K | 262 K | 16.2 M | 16.2 M |
| | Contrast Ratio | 600:1 | 350:1 | 700:1 | 500:1/700:1 | 400:1 | 500:1 | 500:1 |
| | Response Time | 25 | 35 | 4 | 10/6 | 6 | 8 | 8 |
| | Backlight MTBF | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 4-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs | CCFL, 2-tubes, 50,000 hrs |
| Viewing Angle L/R/U/D | 70°/70°/60°/60° | 60°/60°/60°/40° | 70°/70°/60°/60° | 65°/65°/75°/45° | 75°/75°/60°/50° | 60°/60°/70°/70° | 89°/89°/89°/89° | |
| Display (Ultra High Brightness) | Brightness | - | - | 1000 | 1000 | 1500 | ODM | ODM |
| | Anti-Reflection | - | - | Yes | Yes | Yes | ODM | ODM |
| Display (Sunlight Readable + AR) | Brightness | 600 | 450 | 500 | 450 | 550 | 450 | 450* |
| | Anti-Reflection | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| OSD Key Function | Brightness | | | | | | | |
| | Contrast | | | | | | | |
| | Clock | | | | | | | |
| | Phase | Yes | Yes | Yes | Yes | - | Yes | Yes |
| | Horizontal | | | | | | | |
| | Vertical Sharpness | | | | | | | |
| Power Input | AC 100 ~ 240 V/ 12 V DC in | AC 100 ~ 240 V/ 12 V DC in | AC 100 ~ 240 V/ 12 V DC in | AC 100 ~ 240 V/ 12 V DC in | AC 100 ~ 240 V/ 12 V DC in | AC 100 ~ 240 V/ 12 V DC in | AC 100 ~ 240 V/ 12 V DC in | |
| Operating Temperature (Standard) | -20 ~ 70° C (-4 ~ 158° F) | -20 ~ 70° C (-4 ~ 158° F) | -20 ~ 70° C (-4 ~ 158° F) | -20 ~ 70° C (-4 ~ 158° F) | -20 ~ 70° C (-4 ~ 158° F) | 0 ~ 50° C (32 ~ 122° F) | 0 ~ 50° C (32 ~ 122° F) | |
| Dimensions (W x H x D) (mm) | 190 x 142 x 40 mm (7.48" x 5.59" x 1.57") | 256 x 193 x 47.3 mm (10.08" x 7.60" x 1.86") | 203 x 184 x 45 mm (7.99" x 7.24" x 1.77") | 352 x 251 x 49 mm (13.86" x 9.88" x 1.93") | 326.5 x 253.3 x 50 mm (12.85" x 9.97" x 1.97") | 402.1 x 320.4 x 56.24 mm (15.83" x 12.61" x 2.21") | 446 x 364 x 56.58 mm (17.56" x 14.33" x 2.23") | |
| | Weight | 1.3 kg (2.86 lb) | 2.2 kg (4.84 lb) | 2.5 kg (5.50 lb) | 3 kg (6.60 lb) | 3.4 kg (7.48 lb) | 4.0 kg (8.6 lb) | 5.6 kg (9.70 lb) |
| Touch Screen | Tempered Glass | Yes | Yes | Yes | Yes | Yes | Yes | |
| | 5-wire Resistive | Yes | Yes | Yes | Yes | Yes | Yes | |
| | Capacitive | Yes | Yes | Yes | Yes | Yes | Yes | |
| | SAW | - | Yes | Yes | Yes | Yes | Yes | |
| | Infrared (Vandal Proof) | - | - | Yes | Yes | Yes | Yes | Yes |
| Interface for Touchscreen | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | RS-232/USB | |
| Sunlight Readable (Semi-Outdoor) | ES-2106C-VVA-SRE | ES-2108C-VSA-SRE | ES-2110C-VSA-SRE | ES-2112C-VSA-SRE | ES-2115C-VXA-SRE | ES-2117C-VEA-SRE | ES-2119C-VEA-SRE | |
| Sunlight Readable (Pure-Outdoor) | - | ES-2108C-VSM-SRE | ES-2110C-VVM-HE | ES-2112C-VSM-HE | ES-2115C-VXM-HE | ODM | ODM | |

ES-2106/2206

6.5" Open Frame and Rugged Panel Mount Monitor



Features

- 6.5" LCD supports 640 x 480 pixels and wide range of operating temperatures (-20 ~ 70° C)
- Resistive or Capacitive touchscreen and 3 mm tempered glass options
- Versatile mounting brackets
- Modular architecture for efficient integration
- Special back cover designed for 3.5" SBCs and ARK-1000 series box computers
- Sunlight readable (optional)
- Ultra-high brightness up to 1000 cd/m2 with LED backlight technology (optional)
- Rugged aluminum front bezel design (ES-2206)
- VGA or LVDS interface (S-Video: optional)



Introduction

The Advantech ES-2106/2206 Embedded Open Frame and Rugged Panel Mount Monitor series offer flexible options for LCD, touchscreen, signal interface and chassis mounting. The back cover has mounting holes for industry standard 3.5" SBCs; or Advantech ARK-1000 embedded box computers. The series supports panel and VESA mounting, and is supplied with four versatile mounting brackets for different integration applications. The Advantech Display Solutions Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) enables easy selection of model numbers by choosing the required options.

Specifications

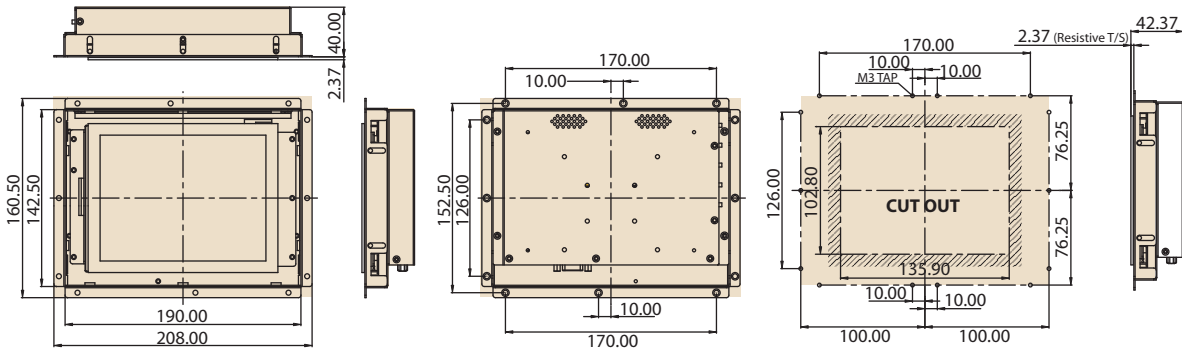
| | | | | | |
|------------------|---------------------------------|---|-------------------|-----|----------|
| Processor System | I/O Ports | 15-pin D-sub, DC power input, RS-232 port, Power Switch and OSD keys (Auto-tune, menu, decrease, increase) | | | |
| | Display Input Signal | Analog RGB, 0.7 VP-P / 75 Ohm, optional LVDS | | | |
| | Multi-Scan Mode | Multi-Scan Mode supports VGA, SVGA | | | |
| | OSD Control | Keys: Auto-tune, menu, decrease and increase Functions: Brightness, Contrast, Clock, Phase, Horizontal Position, Vertical Position and Sharpness | | | |
| | Power | External 48 W power adapter, with AC 100 ~ 230 V input and DC +12 V @ 4 A output | | | |
| | Dimensions (W x H x D) | Please refer to the product dimension diagram on next page | | | |
| | Weight | ES-2106: 1.5 kg ES-2206: 1.8 kg | | | |
| Environment | Operating Temperature | -20 ~ 70° C (-4 ~ 158° F) | | | |
| | Storage Temperature | -20 ~ 80° C (-4 ~ 176° F) for standard LCDs | | | |
| | Humidity | 5 ~ 95% @ 40° C, non-condensing | | | |
| | Shock | 10 G peak acceleration (11 ms duration) | | | |
| | EMC Approved | CE FCC | | | |
| Display | Features | Standard | Sunlight Readable | | |
| | Size | 6.5" | | | |
| | Resolution (Pixels) | 640 x 480 VGA | | | |
| | Number of Colors | 16.2 M | | | |
| | Viewing Angle (L/R/U/D) | 70°/70°/60°/60° | | | |
| | Brightness (cd/m ²) | 500 | | | |
| | Contrast Ratio | 600:1 | | | |
| | Response Time (ms) | 25 | | | |
| | Lamp Life (hrs) | 50,000 | | | |
| | Long-term Support | Yes | | | |
| | Anti-reflection | Yes | | | |
| Touchscreen | Type | Analog Resistive | Capacitive | SAW | Infrared |
| | Thickness | 1.87 mm | 3.18 mm | - | - |
| | Resolution | continuous | 1024 x 1024 | - | - |
| | Light Transmission | over 80% | 85% | - | - |
| | Controller Interface | RS-232/USB | RS-232 | - | - |
| | Power Consumption | +5 V @ 20 mA | +5 V @ 100 mA | - | - |
| | Durability (Touches) | 36 million hrs | 225 million hrs | - | - |
| | Driver OS Support | DOS, Linux, Mac, Windows 95/98/NT/ME/CE/2000/XP | | | |

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- Pre-Configured Systems 6
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- Embedded Core Services 8
- Industrial Computer Peripherals 9
- Panel PCs 10
- Display Solutions 11
- Vehicle Mounted Computers 12
- Portable Computers 13
- Mobile Data Terminal 14
- Digital Video Surveillance 15
- Infotainment 16
- LCD Services 17

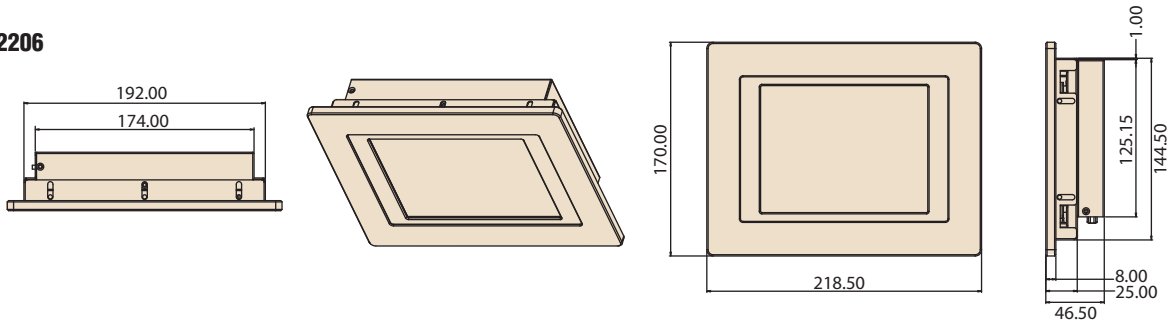
Dimensions

Unit: mm

ES-2106



ES-2206



Ordering Information

| P/N | Type | Brightness (cd/m ²) | Interface | Touchscreen | Touch Interface | Anti-Reflection |
|------------------|--------------------|---------------------------------|-----------|------------------|-----------------|-----------------|
| ES-2106G-VVAE | Open Frame | 500 | VGA | Tempered Glass | - | - |
| ES-2106R-VVAE | Open Frame | 500 | VGA | 4-Wire Resistive | RS-232 | - |
| ES-2106C-VVAE | Open Frame | 500 | VGA | Capacitive | RS-232 | - |
| ES-2106R-LVA-05E | Open Frame | 500 | LVDS | 4-Wire Resistive | RS-232 | - |
| ES-2206R-VVAE | Rugged panel mount | 500 | VGA | 4-Wire Resistive | RS-232 | - |
| ES-2206C-VVA-SRE | Rugged panel mount | 600 | VGA | Capacitive | RS-232 | Yes |

Notes:

- 1.) Capacitive, SAW and Infrared touch panels are recommended for applications requiring sunlight readable outdoor solutions.
- 2.) The list above is of major part numbers for your reference. Other combinations of LCD, touchscreen and signal interface features can be found in the Advantech Display Solutions. The Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) or CTOS services can be used to get your demand configuration and part numbers to us for ordering.
- 3.) For special requests, we welcome you to use the Display Solution DTOS service.

ES-2108/2208

8.4" Open Frame and Rugged Panel Mount Monitor



Features

- 8.4" LCD supports 800 x 600 pixels and wide range of operating temperatures (0 ~ 50° C)
- Resistive, Capacitive, SAW or IR touchscreen and 3 mm tempered glass options
- Versatile mounting brackets
- Modular architecture for efficient integration
- Special back cover designed for 3.5" / 5.25" SBCs and ARK-1000 / 3000 / 4000 series box computers
- Sunlight readable (optional)
- Ultra-high brightness up to 1000 cd/m2 with LED backlight technology (optional)
- Rugged aluminum front bezel design (ES-2208)
- VGA or LVDS interface (S-Video: optional)



Introduction

The Advantech ES-2108/2208 Embedded Open Frame and rugged panel mount monitor series offer flexible options for LCD, touchscreen, signal interface and chassis mounting. The back cover has mounting holes for industry standard 3.5" or 5.25" SBCs; or Advantech DSA-2102, DSA-3400 digital signage player, DVS-355 mobile digital video platform, and ARK-1000/ ARK-3000/ ARK-4000 series embedded box computers. The series supports panel and VESA mounting, and is supplied with four versatile mounting brackets for different integration applications. The Advantech Display Solutions Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) enables easy selection of model numbers by choosing the required options.

Specifications

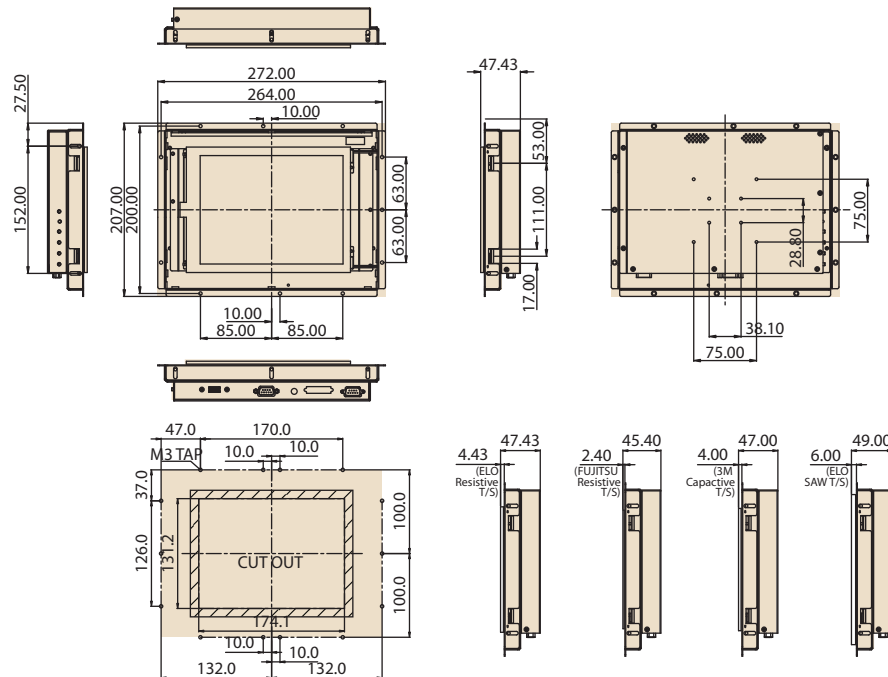
| | | | | | |
|----------------------|---------------------------------|---|-------------------|--------------------|-----|
| Processor System | I/O Ports | 15-pin D-sub, DC power input, RS-232 port, Power Switch and OSD keys (Auto-tune, menu, decrease, increase) | | | |
| | Display Input Signal | Analog RGB, 0.7 VP-P / 75 Ohm, optional LVDS | | | |
| | Multi-Scan Mode | Multi-Scan Mode supports VGA, SVGA | | | |
| | OSD Control | Keys: Auto-tune, menu, decrease and increase Functions: Brightness, Contrast, Clock, Phase, Horizontal Position, Vertical Position and Sharpness | | | |
| | Power | External 50 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 4.16 A output | | | |
| | Dimensions (W x H x D) | Please refer to the product dimension diagram on next page | | | |
| | Weight | ES-2108: 2.8 kg / 6.17 lb ES-2208: 3.5 kg / 7.72 lb | | | |
| Environment | Operating Temperature | (-20 ~ 70° C optional) (-4 ~ 158° F optional) | | | |
| | Storage Temperature | -20 ~ 60° C (-4 ~ 140° F) for standard LCDs | | | |
| | Humidity | 5 ~ 95% @ 40° C, non-condensing | | | |
| | Shock | 10 G peak acceleration (11 ms duration) | | | |
| | EMC Approved | CE FCC | | | |
| Display | Features | Standard / (OEM) | Sunlight Readable | Real Transflective | |
| | Size | 8.4" | 8.4" | 8.4" | |
| | Resolution (Pixels) | 800 x 600 SVGA | 800 x 600 SVGA | 800 x 600 SVGA | |
| | Number of Colors | 262 K | 262 K | 262 K | |
| | Viewing Angle (L/R/U/D) | 60°/60°/60°/40° | 70°/70°/60°/60° | 65°/65°/60°/50° | |
| | Brightness (cd/m ²) | 450 | 450 | 480 | |
| | Contrast Ratio | 500:1 | 500:1 | 500:1 | |
| | Response Time (ms) | 35 | 35 | 6 | |
| | Lamp Life (hrs) | 50,000 | 50,000 | 50,000 | |
| | Long-term Support | Yes | Yes | Yes | |
| | Anti-reflection | - | Yes | Yes | |
| | Touchscreen | Type | Analog Resistive | Capacitive | SAW |
| Thickness | | 2.67 mm | 3.0 mm | 3.0 mm | - |
| Resolution | | 4096 x 4096 | 1024 x 1024 | 4096 x 4096 | - |
| Light Transmission | | 80% | 85% | 92% | - |
| Controller Interface | | RS-232/USB | RS-232 | RS-232/USB | - |
| Power Consumption | | +5 V @ 200 mA | +5 V @ 100 mA | +5 V @ 75 mA | - |
| Durability (Touches) | | 35 million hrs | 225 million hrs | 50 million hrs | - |
| Driver OS Support | | DOS, Linux, Mac, Windows 95/98/NT/ME/CE/2000/XP | | | |

- Computer On Modules 1
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- Pre-Configured Systems 6
- Industrial Computer Chassis 7
- Embedded Core Services 8
- Industrial Computer Peripherals 9
- Panel PCs 10
- Display Solutions 11
- Vehicle Mounted Computers 12
- Portable Computers 13
- Mobile Data Terminal 14
- Digital Video Surveillance 15
- Infotainment 16
- LCD Services 17

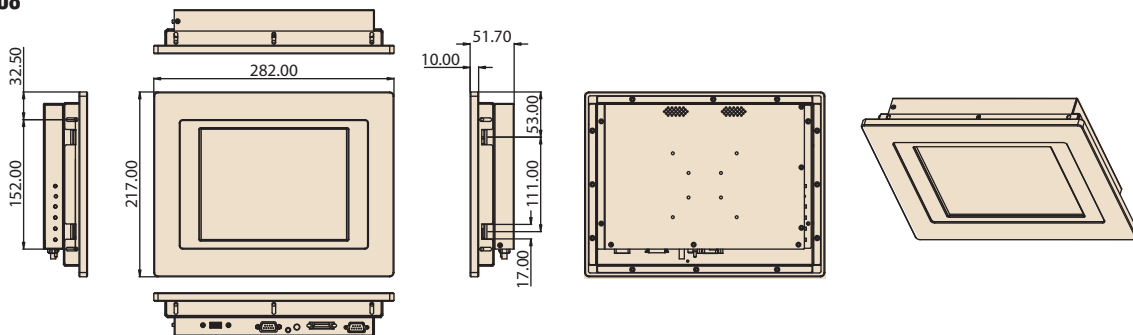
Dimensions

Unit: mm

ES-2108



ES-2208



Ordering Information

| P/N | Type | Brightness (cd/m ²) | Interface | Touchscreen | Touch Interface | Anti-Reflection |
|------------------|--------------------|---------------------------------|-----------|------------------|-----------------|-------------------|
| ES-2108G-VSAE | Open Frame | 450 | VGA | Tempered Glass | - | - |
| ES-2108R-VSAE | Open Frame | 450 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2108C-VSAE | Open Frame | 450 | VGA | Capacitive | RS-232 | - |
| ES-2108R-LSA-05E | Open Frame | 450 | LVDS | 5-Wire Resistive | RS-232/USB | - |
| ES-2208R-VSAE | Rugged panel mount | 450 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2208C-VSA-SRE | Rugged panel mount | 450 | VGA | Capacitive | RS-232 | Yes |
| ES-2108C-VVM-SRE | Open Frame | 300 | VGA | Capacitive | RS-232 | Real transfective |

Notes:

- 1.) Capacitive, SAW and Infrared touch panels are recommended for applications requiring sunlight readable outdoor solutions.
- 2.) The list above is of major part numbers for your reference. Other combinations of LCD, touchscreen and signal interface features can be found in the Advantech Display Solutions. The Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) or CTOS services can be used to get your demand configuration and part numbers to us for ordering.
- 3.) For special requests, we welcome you to use the Display Solution DTOS service.

ES-2110/2210

10.4" Open Frame and Rugged Panel Mount Monitor



Features

- 10.4" LCD supports 800 x 600 pixels and an operating temperature range of 0 ~ 50° C
- Resistive & Capacitive, SAW, IR touchscreen and 3 mm tempered glass options
- Versatile mounting brackets
- Modular architecture for efficient integration
- Special back cover designed for 3.5"/ 5.25" SBCs and ARK-1000/3000/4000 series box computer
- Sunlight readable (optional)
- Ultra-high brightness up to 1000 cd/m2 with LED backlight (optional)
- Rugged aluminum front bezel design (ES-2210)
- VGA or LVDS interface (S-Video: optional)



Introduction

The Advantech ES-2110/2210 Embedded Open Frame and rugged panel mount monitor series offer flexible options for LCD, touchscreen, signal interface and chassis mounting. The back cover has mounting holes for industry standard 3.5" or 5.25" SBCs; or Advantech DSA-2102, DSA-3400 digital signage player, DVS-355 mobile digital video platform, and ARK-1000/ ARK-3000/ ARK-4000 series embedded box computers. The series supports panel and VESA mounting, and is supplied with four versatile mounting brackets for different integration applications. The Advantech Display Solutions Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) enables easy selection of model numbers by choosing the required options.

Specifications

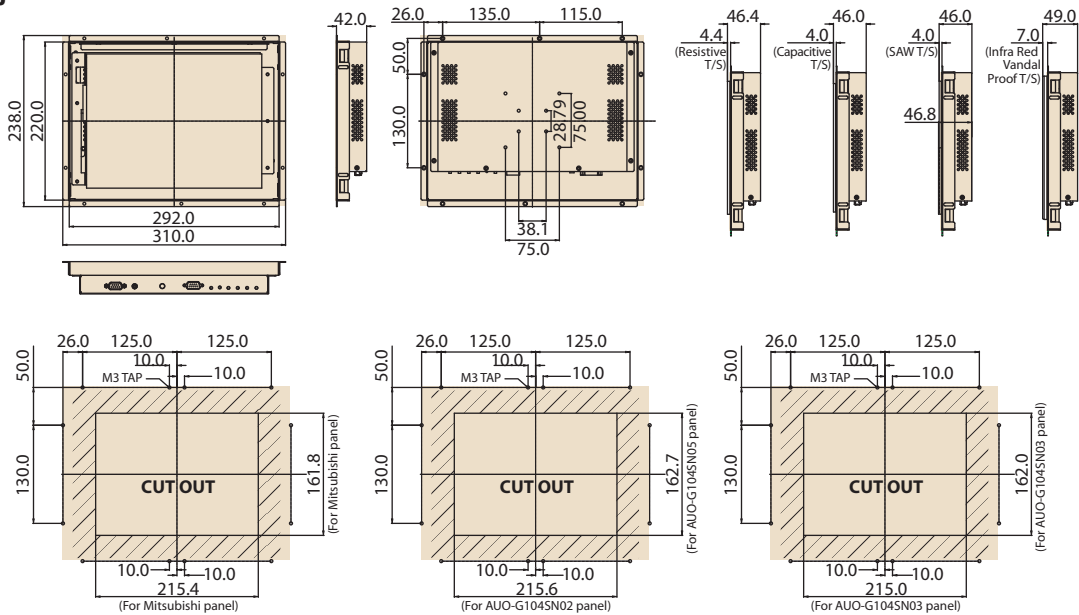
| | | | | | |
|----------------------|---------------------------------|---|-------------------|-----------------------|------------------|
| Processor System | I/O Ports | 15-pin D-sub, DC power input, RS-232 port, Power Switch and OSD keys (Auto-tune, menu, decrease, increase) | | | |
| | Display Input Signal | Analog RGB, 0.7 VP-P / 75 Ohm, optional LVDS | | | |
| | Multi-Scan Mode | Multi-Scan Mode supports VGA, SVGA | | | |
| | OSD Control | Keys: Auto-tune, menu, decrease and increase Functions: Brightness, Contrast, Clock, Phase, Horizontal Position, Vertical Position and Sharpness | | | |
| | Power | External 50 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 4.16 A output | | | |
| | Dimensions (W x H x D) | Please refer to the product dimension diagram on next page | | | |
| | Weight | ES-2110: 3.0 kg ES-2210: 3.8 kg | | | |
| Environment | Operating Temperature | (-20 ~ 70° C optional) (-4 ~ 158° F optional) | | | |
| | Storage Temperature | -20 ~ 60° C (-4 ~ 140° F) for standard LCDs | | | |
| | Humidity | 5 ~ 95% @ 40° C, non-condensing | | | |
| | Shock | 10 G peak acceleration (11 ms duration) | | | |
| | EMC Approved | CE FCC | | | |
| Display | Features | Standard / (OEM) | Sunlight Readable | Ultra-high Brightness | |
| | Size | 10.4" | 10.4" | 10.4" | |
| | Resolution (Pixels) | 800 x 600 SVGA | 800 x 600 SVGA | 800 x 600 SVGA | |
| | Number of Colors | 262 K | 262 K | 262 K | |
| | Viewing Angle (L/R/U/D) | 60°/60°/35°/65° | 60°/60°/35°/65° | 70°/70°/60°/60° | |
| | Brightness (cd/m ²) | 230 / 400 | 600 | 1000 | |
| | Contrast Ratio | 500:1 | 500:1 | 700:1 | |
| | Response Time (ms) | 35 | 25 | 4 | |
| | Lamp Life (hrs) | 20,000 / 50,000 | 50,000 | 50,000 | |
| | Long-term Support | Yes | Yes | Yes | |
| | Anti-reflection | - | Yes | Yes | |
| | Touchscreen | Type | Analog Resistive | Capacitive | SAW |
| Thickness | | 2.67 mm | 3.18 mm | 3.0 mm | 3.0 mm |
| Resolution | | 4096 x 4096 | 1024 x 1024 | 4096 x 4096 | 4096 x 4096 |
| Light Transmission | | 80% | 85% | 92% | 92% |
| Controller Interface | | RS-232/USB | RS-232 | RS-232/USB | RS-232/USB |
| Power Consumption | | +5 V @ 200 mA | +5 V @ 100 mA | +5 V @ 75 mA | +5 V @ 150 mA |
| Durability (Touches) | | 35 million hrs | 225 million hrs | 50 million hrs | MTBF 100,000 hrs |
| Driver OS Support | | DOS, Linux, Mac, Windows 95/98/NT/ME/CE/2000/XP | | | |

| | |
|---------------------------------|----|
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| Industrial Motherboards | 3 |
| Slot Single Board Computers | 4 |
| Box IPCs | 5 |
| Pre-Configured Systems | 6 |
| Industrial Computer Chassis | 7 |
| Embedded Core Services | 8 |
| Industrial Computer Peripherals | 9 |
| Panel PCs | 10 |
| Display Solutions | 11 |
| Vehicle Mounted Computers | 12 |
| Portable Computers | 13 |
| Mobile Data Terminal | 14 |
| Digital Video Surveillance | 15 |
| Infotainment | 16 |
| LCD Services | 17 |

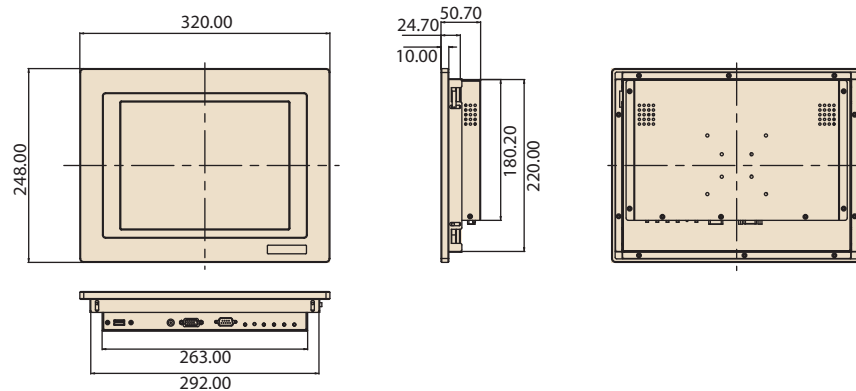
Dimensions

Unit: mm

ES-2110



ES-2210



Ordering Information

| P/N | Type | Brightness (cd/m ²) | Interface | Touchscreen | Touch Interface | Anti-Reflection |
|------------------|--------------------|---------------------------------|-----------|------------------|-----------------|-----------------|
| ES-2110G-VSAE | Open Frame | 230 / 400 | VGA | Tempered Glass | - | - |
| ES-2110R-VSAE | Open Frame | 230 / 400 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2110C-VSAE | Open Frame | 230 / 400 | VGA | Capacitive | RS-232 | - |
| ES-2110R-LSA-05E | Open Frame | 230 / 400 | LVDS | 5-Wire Resistive | RS-232/USB | - |
| ES-2210R-VSAE | Rugged panel mount | 230 / 400 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2210C-VSA-SRE | Rugged panel mount | 600 | VGA | Capacitive | RS-232 | Yes |
| ES-2110V-VVM-HE | Open Frame | 1000 | VGA | Infrared | RS-232 | Yes |

Notes:

- 1.) Capacitive, SAW and Infrared touch panels are recommended for applications requiring sunlight readable outdoor solutions.
- 2.) The list above is of major part numbers for your reference. Other combinations of LCD, touchscreen and signal interface features can be found in the Advantech Display Solutions. The Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) or CTOS services can be used to get your demand configuration and part numbers to us for ordering.
- 3.) For special requests, we welcome you to use the Display Solution DTOS service.

ES-2112/2212

12.1" Open Frame and Rugged Panel Mount Monitor



Features

- 12.1" LCD supports 800 x 600 or 1024 x 768 pixels and wide range of operating temperatures (-20 ~ 70° C)
- Resistive, Capacitive, SAW or IR touchscreen and 3 mm tempered glass options
- Versatile mounting brackets
- Modular architecture for efficient integration
- Special back cover designed for 3.5" / 5.25" SBCs and ARK-1000 / 3000 / 4000 series box computer
- Sunlight readable (optional)
- Ultra-high brightness up to 1000 cd/m2 (optional)
- Rugged aluminum front bezel design (ES-2212)
- VGA or LVDS interface (S-Video: optional)



Introduction

The Advantech ES-2112/2212 Embedded Open Frame and Rugged Panel Mount Monitor series offer flexible options for LCD, touchscreen, signal interface and chassis mounting. The back cover has mounting holes for industry standard 3.5" or 5.25" SBCs; or Advantech DSA-2102, DSA-3400 digital signage player, DVS-355 mobile digital video platform, and ARK-1000, ARK-3000 and ARK-4000 series embedded box computers. The series supports panel and VESA mounting, and is supplied with four versatile mounting brackets for different integration applications. The Advantech Display Solutions Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) enables easy selection of model numbers by choosing the required options.

Specifications

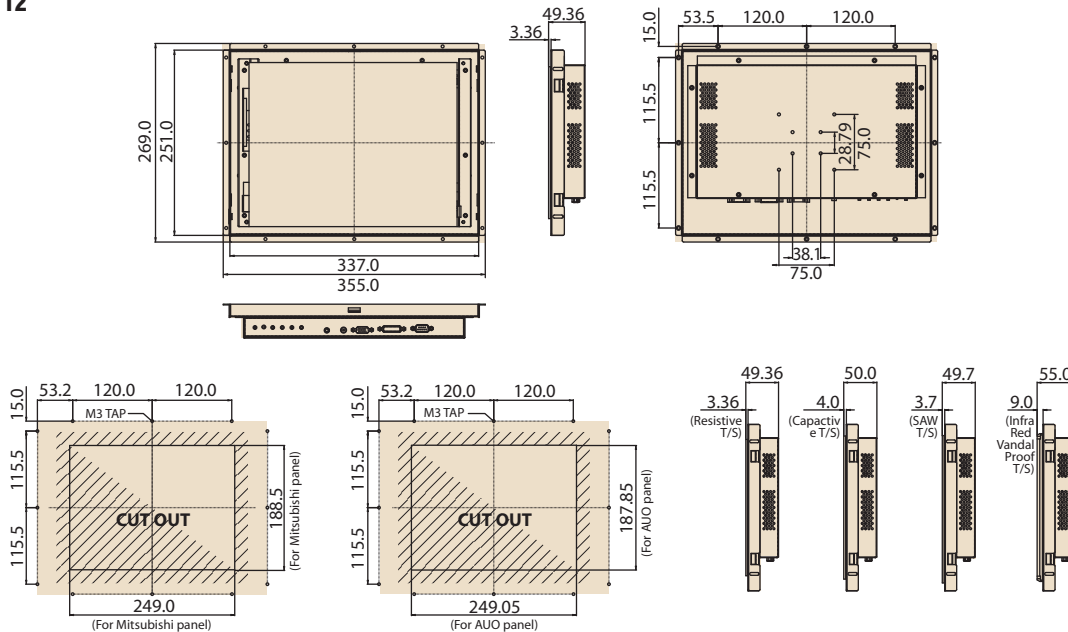
| | | | | | |
|----------------------|---------------------------------|--|-------------------|-----------------------------------|------------------|
| Processor System | I/O Ports | 15-pin D-sub, DC power input, RS-232 port, Power Switch and OSD keys (Auto-tune, menu, decrease, increase) | | | |
| | Display Input Signal | Analog RGB, 0.7 VP-P / 75 Ohm, optional LVDS | | | |
| | Multi-Scan | Mode Multi-Scan Mode supports VGA, SVGA | | | |
| | OSD Control | Keys: Auto-tune, menu, decrease and increase Functions: Brightness, Contrast, Clock, Phase, Horizontal Position, Vertical Position and Sharpness | | | |
| | Power | External 50 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 4.16 A output | | | |
| | Dimensions (W x H x D) | Please refer to the product dimension diagram on next page | | | |
| | Weight | ES-2112 : 3.2 kgs ES-2212 : 4.0 kgs | | | |
| Environment | Operating Temperature | -10 ~ 65° C (14 ~ 149° F) (-20 ~ 70° C optional) (-4 ~ 158° F optional) | | | |
| | Storage Temperature | -30 ~ 70° C (-22 ~ 158° F) for standard LCDs | | | |
| | Humidity | 5 ~ 95% @ 40° C, non-condensing | | | |
| | Shock | 10 G peak acceleration (11 ms duration) | | | |
| | EMC Approved | CE FCC | | | |
| Display | Features | Standard | Sunlight Readable | Ultra-high Brightness | |
| | Size | 12.1" | 12.1" | 12.1" | |
| | Resolution (Pixels) | 800 x 600 SVGA/ 1024 x 768 XGA | 800 x 600 SVGA | 800 x 600 SVGA/ 1024 x 768 XGA | |
| | Number of Colors | 262 K | 262 K | 262 K | |
| | Viewing Angle (L/R/U/D) | 70°/70°/50°/60° 65°/65°/75°/45° | 70°/70°/50°/60° | 65°/65°/75°/45° | |
| | Brightness (cd/m ²) | 400 / 320 | 400 | 1000 | |
| | Contrast Ratio | 500:1 / 550:1 | 500:1 | 500:1 | |
| | Response Time (ms) | 35 / 6 | 35 | 10 | |
| | Lamp Life (hrs) | 50,000 | 50,000 | 50,000 | |
| | Long-term Support | Yes | Yes | Yes | |
| | Anti-reflection | - | Yes | Yes | |
| | Touchscreen | Type | Analog Resistive | Capacitive | SAW |
| Thickness | | 2.67 mm | 3.18 mm | 2.6 mm | 3.0 mm |
| Resolution | | 4096 x 4096 | 1024 x 1024 | 4096 x 4096 | 4096 x 4096 |
| Light Transmission | | 80% | 85% | 92% | 92% |
| Controller Interface | | RS-232/USB | RS-232 | RS-232/USB | RS-232/USB |
| Power Consumption | | +5 V @ 200 mA | +5 V @ 100 mA | +5 V @ 75 mA | +5 V @ 150 mA |
| Durability (Touches) | | 35 million hrs | 225 million hrs | 50 million hrs | MTBF 100,000 hrs |
| Driver OS Support | | DOS, Linux, Mac, Windows 95/98/NT/ME/CE/2000/XP | | | |

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- LCD Services 17

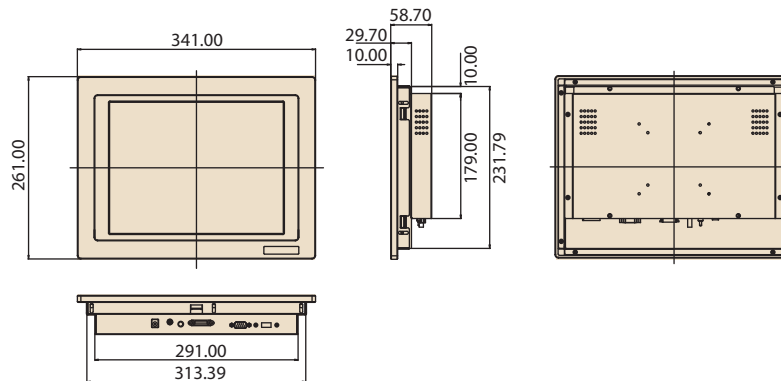
Dimensions

Unit: mm

ES-2112



ES-2212



Ordering Information

| P/N | Type | Brightness (cd/m ²) | Interface | Touchscreen | Touch Interface | Anti-Reflection |
|------------------|--------------------|---------------------------------|-----------|------------------|-----------------|-----------------|
| ES-2112G-VSAE | Open Frame | 400 | VGA | Tempered Glass | - | - |
| ES-2112R-VSAE | Open Frame | 400 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2112C-VSAE | Open Frame | 400 | VGA | Capacitive | RS-232 | - |
| ES-2112R-VXME | Open Frame | 350 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2112R-LSA-05E | Open Frame | 400 | LVDS | 5-Wire Resistive | RS-232/USB | - |
| ES-2212R-VSAE | Rugged panel mount | 400 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2212C-VSA-SRE | Rugged panel mount | 400 | VGA | Capacitive | RS-232 | Yes |
| ES-2112C-VSA-HE | Open Frame | 1000 | VGA | Capacitive | RS-232 | Yes |
| ES-2112V-VXM-HE | Open Frame | 1000 | VGA | Infrared | RS-232 | Yes |

Notes:

- 1.) Capacitive, SAW and Infrared touch panels are recommended for applications requiring sunlight readable outdoor solutions.
- 2.) The list above is of major part numbers for your reference. Other combinations of LCD, touchscreen and signal interface features can be found in the Advantech Display Solutions. The Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) or CTOS services can be used to get your demand configuration and part numbers to us for ordering.
- 3.) For special requests, we welcome you to use the Display Solution DTOS service.

ES-2115/2215

15" Open Frame and Rugged Panel Mount Monitor



Features

- 15" LCD supports 1024 x 768 pixels and wide range of operating temperatures (0 ~ 50° C)
- Resistive, Capacitive, SAW or IR touchscreen and 3 mm tempered glass options
- Versatile mounting brackets
- Modular architecture for efficient integration
- Special back cover designed for 3.5"/5.25" SBCs and ARK-1000/3000/4000 series box computers
- Sunlight readable (optional)
- Ultra-high brightness up to 1000 cd/m2 with LED backlight technology (optional)
- Rugged aluminum front bezel design (ES-2215)
- VGA or LVDS interface (S-Video: optional)



Introduction

The Advantech ES-2115/2215 Embedded Open Frame and Rugged Panel Mount Monitor series offer flexible options for LCD, touchscreen, signal interface and chassis mounting. The back cover has mounting holes for industry standard 3.5" or 5.25" SBCs; or Advantech DSA-2102, DSA-3400 digital signage player, DVS-355 mobile digital video platform, and ARK-1000, ARK-3000 and ARK-4000 series embedded box computers. The series supports panel and VESA mounting, and is supplied with four versatile mounting brackets for different integration applications. The Advantech Display Solutions Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) enables easy selection of model numbers by choosing the required options.

Specifications

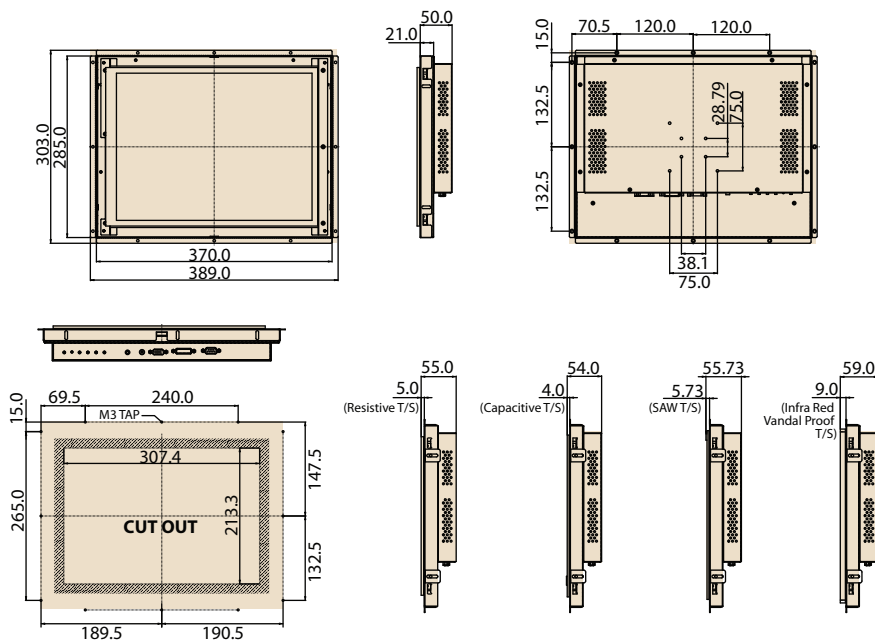
| | | | | | |
|------------------|---------------------------------|---|-------------------|-----------------------|------------------|
| Processor System | I/O Ports | 15-pin D-sub, DC power input, RS-232 port, Power Switch and OSD keys (Auto-tune, menu, decrease, increase) | | | |
| | Display Input Signal | Analog RGB, 0.7 VP-P / 75 Ohm, optional LVDS | | | |
| | Multi-Scan Mode | Multi-Scan Mode supports VGA, SVGA | | | |
| | OSD Control | Keys: Auto-tune, Menu, Decrease and Increase Functions: Brightness, Contrast, Clock, Phase, Horizontal Position, Vertical Position and Sharpness | | | |
| | Power | 50 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 4.16 A output | | | |
| | Dimensions (W x H x D) | Please refer to the product dimension diagram on next page | | | |
| | Weight | ES-2115: 3.8 kg / 8.38 lb ES-2215: 4.5 kg / 9.92 lb | | | |
| Environment | Operating Temperature | 0 ~ 50° C (32 ~ 122° F) | | | |
| | Storage Temperature | -20 ~ 60° C (-4 ~ 140° F) for standard LCDs | | | |
| | Humidity | 5 ~ 95% @ 40° C, non-condensing | | | |
| | Shock | 10 G peak acceleration (11 ms duration) | | | |
| | EMC Approved | CE FCC | | | |
| Display | Features | Standard / (OEM) | Sunlight Readable | Ultra-high Brightness | |
| | Size | 15" | 15" | 15" | |
| | Resolution (Pixels) | 1024 x 768 XGA | 1024 x 768 XGA | 1024 x 768 XGA | |
| | Number of Colors | 262 K | 262 K | 262 K | |
| | Viewing Angle (L/R/U/D) | 60°/60°/40°/60° | 70°/70°/70°/50° | 60°/60°/35°/65° | |
| | Brightness (cd/m ²) | 350 | 550 | 1500 | |
| | Contrast Ratio | 500:1 | 500:1 | 650:1 | |
| | Response Time (ms) | 12 | 12 | 6 | |
| | Lamp Life (hrs) | 50,000 | 50,000 | 50,000 | |
| | Long-term Support | Yes | Yes | Yes | |
| | Anti-reflection | - | Yes | Yes | |
| Touchscreen | Type | Analog Resistive | Capacitive | SAW | Infrared |
| | Thickness | 3.48 mm | 3.18 mm | 2.7 mm | 3.0 mm |
| | Resolution | 4096 x 4096 | 1024 x 1024 | 4096 x 4096 | 4096 x 4096 |
| | Light Transmission | 80% | 85% | 92% | 92% |
| | Controller Interface | RS-232/USB | RS-232 | RS-232/USB | RS-232/USB |
| | Power Consumption | +5 V @ 200 mA | +5 V @ 100 mA | +5 V @ 75 mA | +5 V @ 150 mA |
| | Durability (Touches) | 35 million hrs | 225 million hrs | 50 million hrs | MTBF 100,000 hrs |
| | Driver OS Support | DOS, Linux, Mac, Windows 95/98/NT/ME/CE/2000/XP | | | |

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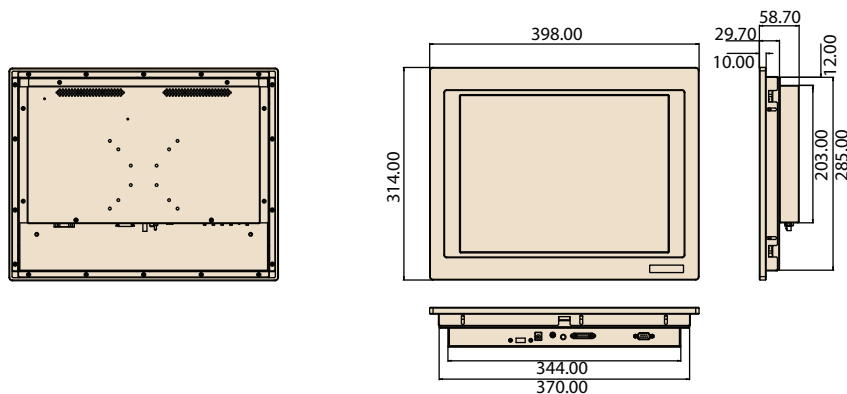
Dimensions

Unit: mm

ES-2115



ES-2215



Ordering Information

| P/N | Type | Brightness (cd/m ²) | Interface | Touchscreen | Touch Interface | Anti-Reflection |
|------------------|--------------------|---------------------------------|-----------|------------------|-----------------|-----------------|
| ES-2115G-VXAE | Open Frame | 350 | VGA | Tempered Glass | - | - |
| ES-2115R-VXAE | Open Frame | 350 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2115C-VXAE | Open Frame | 350 | VGA | Capacitive | RS-232 | - |
| ES-2115R-LXAE-05 | Open Frame | 350 | LVDS | 5-Wire Resistive | RS-232/USB | - |
| ES-2215R-VXAE | Rugged panel mount | 350 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2215C-VXA-SRE | Rugged panel mount | 550 | VGA | Capacitive | RS-232 | Yes |
| ES-2115C-VXM-HE | Open Frame | 1500 | VGA | Capacitive | RS-232 | Yes |

Notes:

- 1.) Capacitive, SAW and Infrared touch panels are recommended for applications requiring sunlight readable outdoor solutions.
- 2.) The list above is of major part numbers for your reference. Other combinations of LCD, touchscreen and signal interface features can be found in the Advantech Display Solutions. The Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) or CTOS services can be used to get your demand configuration and part numbers to us for ordering.
- 3.) For special requests, we welcome you to use the Display Solution DTOS service.

ES-2117/2217

17" Open Frame and Rugged Panel Mount Monitor



Features

- 17" LCD supports 1024 x 768 pixels and wide range of operating temperatures (0 ~ 50° C)
- Resistive, Capacitive, SAW or IR touchscreen and 3 mm tempered glass options
- Versatile mounting brackets
- Modular architecture for efficient integration
- Special back cover designed for 3.5" / 5.25" SBCs and ARK-1000 / 3000 / 4000 series box computers
- Sunlight readable (optional)
- Ultra-high brightness up to 1000 cd/m2 with LED backlight technology (optional)
- Rugged aluminum front bezel design (ES-2217)
- VGA or LVDS interface (S-Video: optional)



Introduction

The Advantech ES-2117/2217 Embedded Open Frame and Rugged Panel Mount Monitor series offer flexible options for LCD, touchscreen, signal interface and chassis mounting. The back cover has mounting holes for industry standard 3.5" or 5.25" SBCs; or Advantech DSA-2102, DSA-3400 digital signage player, DVS-355 mobile digital video platform, and ARK-1000, ARK-3000 and ARK-4000 series Embedded Box Computers. The series supports panel and VESA mounting, and is supplied with four versatile mounting brackets for different integration applications. The Advantech Display Solutions Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) enables easy selection of model numbers by choosing the required options.

Specifications

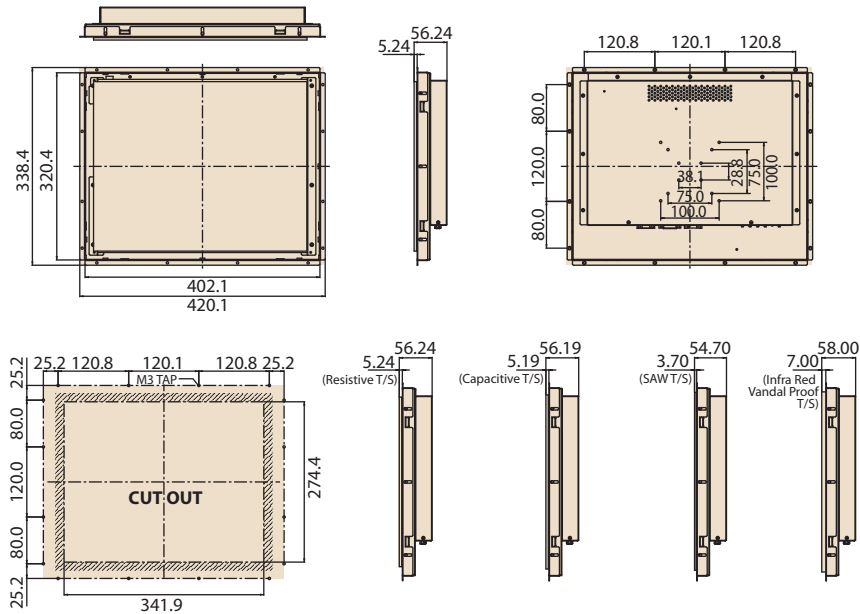
| | | | | | |
|------------------|---------------------------------|--|-------------------|----------------|------------------|
| Processor System | I/O Ports | 15-pin D-sub, DC power input, RS-232 port, Power Switch and OSD keys (Auto-tune, menu, decrease, increase) | | | |
| | Display Input Signal | Analog RGB, 0.7 VP-P / 75 Ohm, optional LVDS | | | |
| | Multi-Scan Mode | Multi-Scan Mode supports VGA, SXGA | | | |
| | OSD Control | Keys: Auto-tune, Menu, Decrease and Increase Functions: Brightness, Contrast, Clock, Phase, Horizontal Position, Vertical Position and Sharpness | | | |
| | Power | External 50 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 4.16 A output | | | |
| | Dimensions (W x H x D) | Please refer to the product dimension diagram on next page | | | |
| | Weight | ES-2115 : 3.8 kg / 8.38 lb ES-2215 : 4.5 kg / 9.92 lb | | | |
| Environment | Operating Temperature | 0 ~ 50° C (32 ~ 122° F) | | | |
| | Storage Temperature | -20 ~ 60° C (-4 ~ 140° F) for standard LCDs | | | |
| | Humidity | 5 ~ 95% @ 40° C, non-condensing | | | |
| | Shock | 10 G peak acceleration (11 ms duration) | | | |
| | EMC Approved | CE FCC | | | |
| Display | Features | Standard / (OEM) | Sunlight Readable | | |
| | Size | 17" | 17" | | |
| | Resolution (Pixels) | 1280 x 1024 SXGA | 1280 x 1024 SXGA | | |
| | Number of Colors | 16.2 M | 16.2 M | | |
| | Viewing Angle (L/R/U/D) | 70°/70°/70°/60° | 70°/70°/70°/60° | | |
| | Brightness (cd/m ²) | 300 | 450 | | |
| | Contrast Ratio | 500:1 | 500:1 | | |
| | Response Time (ms) | 8 | 8 | | |
| | Lamp Life (hrs) | 50,000 | 50,000 | | |
| | Long-term Support | Yes | Yes | | |
| | Anti-reflection | - | Yes | | |
| Touchscreen | Type | Analog Resistive | Capacitive | SAW | Infrared |
| | Thickness | 3.48 mm | 3.18 mm | 2.7 mm | 3.0 mm |
| | Resolution | 4096 x 4096 | 1024 x 1024 | 4096 x 4096 | 4096 x 4096 |
| | Light Transmission | 80% | 85% | 92% | 92% |
| | Controller Interface | RS-232/USB | RS-232 | RS-232/USB | RS-232/USB |
| | Power Consumption | +5 V @ 200 mA | +5 V @ 100 mA | +5 V @ 75 mA | +5 V @ 150 mA |
| | Durability (Touches) | 35 million hrs | 225 million hrs | 50 million hrs | MTBF 100,000 hrs |
| | Driver OS Support | DOS, Linux, Mac, Windows 95/98/NT/ME/CE/2000/XP | | | |

| | |
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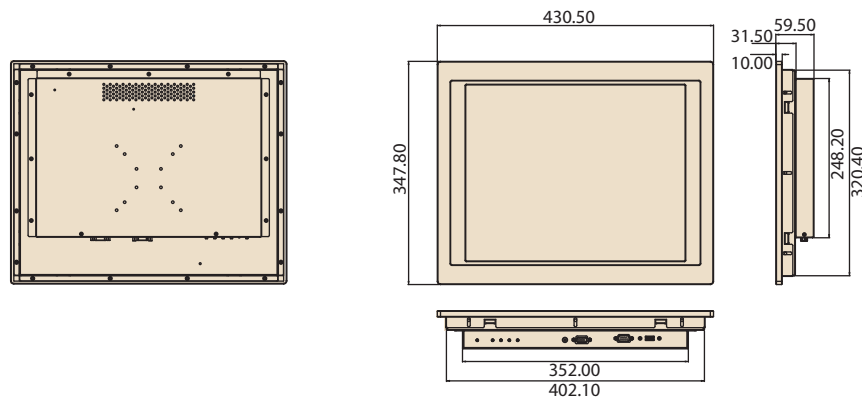
Dimensions

Unit: mm

ES-2117



ES-2217



Ordering Information

| P/N | Type | Brightness (cd/m ²) | Interface | Touchscreen | Touch Interface | Anti-Reflection |
|------------------|--------------------|---------------------------------|-----------|------------------|-----------------|-----------------|
| ES-2117G-VEAE | Open Frame | 300 | VGA | Tempered Glass | - | - |
| ES-2117R-VEAE | Open Frame | 300 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2117C-VEAE | Open Frame | 300 | VGA | Capacitive | RS-232 | - |
| ES-2117S-VEAE | Open Frame | 300 | VGA | SAW | RS-232/USB | - |
| ES-2117V-VEAE | Open Frame | 300 | VGA | IR | RS-232 | - |
| ES-2117R-LEA-05E | Open Frame | 300 | LVDS | 5-Wire Resistive | RS-232/USB | - |
| ES-2217R-VEAE | Rugged panel mount | 300 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2217C-VEA-SRE | Rugged panel mount | 450 | VGA | Capacitive | RS-232 | Yes |

Notes:

- 1.) Capacitive, SAW and Infrared touch panels are recommended for applications requiring sunlight readable outdoor solutions.
- 2.) The list above is of major part numbers for your reference. Other combinations of LCD, touchscreen and signal interface features can be found in the Advantech Display Solutions. The Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) or CTOS services can be used to get your demand configuration and part numbers to us for ordering.
- 3.) For special requests, we welcome you to use the Display Solution DTOS service.

ES-2119/2219

19" Open Frame and Rugged Panel Mount Monitor



Features

- 19" LCD supports 1024 x 768 pixels and wide range of operating temperatures (0 ~ 50° C)
- Resistive & Capacitive, SAW, IR touchscreen and 3 mm tempered glass options
- Versatile mounting brackets
- Modular architecture for efficient integration
- Special back cover designed for 3.5"/ 5.25" SBCs and ARK-1000/3000/4000 series box computer
- Sunlight readable (optional)
- Ultra-high brightness up to 1000 cd/m2 with LED backlight technology (optional)
- Rugged aluminum front bezel design (ES-2219)
- VGA or LVDS interface (S-Video: Optional)



Introduction

The Advantech ES-2119/2219 Embedded Open Frame and Rugged Panel Mount Monitor series offer flexible options for LCD, touchscreen, signal interface and chassis mounting. The back cover has mounting holes for industry standard 3.5" or 5.25" SBCs; or Advantech DSA-2102, DSA-3400 digital signage player, DVS-355 mobile digital video platform, and ARK-1000, ARK-3000 and ARK-4000 series embedded box computers. The series supports panel and VESA mounting, and is supplied with four versatile mounting brackets for different integration applications. The Advantech Display Solutions Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) enables easy selection of model numbers by choosing the required options.

Specifications

| | | | | | |
|------------------|---------------------------------|--|-------------------|----------------|------------------|
| Processor System | I/O Ports | 15-pin D-sub, DC power input, RS-232 port, Power Switch and OSD keys (Auto-tune, menu, decrease, increase) | | | |
| | Display Input Signal | Analog RGB, 0.7 VP-P / 75 Ohm, optional LVDS | | | |
| | Multi-Scan Mode | Multi-Scan Mode supports VGA, SXGA | | | |
| | OSD Control | Keys: Auto-tune, Menu, Decrease and Increase Functions: Brightness, Contrast, Clock, Phase, Horizontal Position, Vertical Position and Sharpness | | | |
| | Power | External 50 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 4.16 A output | | | |
| | Dimensions (W x H x D) | Please refer to the product dimension diagram on next page | | | |
| | Weight | ES-2119 : 5.0 kg / 11.02 lb ES-2219 : 5.8 kg / 12.79 lb | | | |
| Environment | Operating Temperature | 0 ~ 50° C (32 ~ 122° F) | | | |
| | Storage Temperature | -20 ~ 60° C (-4 ~ 140° F) for standard LCDs | | | |
| | Humidity | 5 ~ 95% @ 40° C, non-condensing | | | |
| | Shock | 10 G peak acceleration (11 ms duration) | | | |
| | EMC Approved | CE FCC | | | |
| Display | Features | Standard / (OEM) | Sunlight Readable | | |
| | Size | 19" | 19" | | |
| | Resolution (Pixels) | 1280 x 1024 SXGA | 1280 x 1024 SXGA | | |
| | Number of Colors | 16.7 M | 16.7 M | | |
| | Viewing Angle (L/R/U/D) | 89°/89°/89°/89° | 89°/89°/89°/89° | | |
| | Brightness (cd/m ²) | 300 | 550 | | |
| | Contrast Ratio | 500:1 | 500:1 | | |
| | Response Time (ms) | 8 | 8 | | |
| | Lamp Life (hrs) | 50,000 | 50,000 | | |
| | Long-term Support | Yes | Yes | | |
| | Anti-reflection | - | Yes | | |
| Touchscreen | Type | Analog Resistive | Capacitive | SAW | Infrared |
| | Thickness | 3.48 mm | 3.18 mm | 2.7 mm | 3.0 mm |
| | Resolution | 4096 x 4096 | 1024 x 1024 | 4096 x 4096 | 4096 x 4096 |
| | Light Transmission | 80% | 85% | 92% | 92% |
| | Controller Interface | RS-232/USB | RS-232 | RS-232/USB | RS-232/USB |
| | Power Consumption | +5 V @ 200 mA | +5 V @ 100 mA | +5 V @ 75 mA | +5V @ 150 mA |
| | Durability (Touches) | 35 million hrs | 225 million hrs | 50 million hrs | MTBF 100,000 hrs |
| | Driver OS Support | DOS, Linux, Mac, Windows 95/98/NT/ME/CE/2000/XP | | | |

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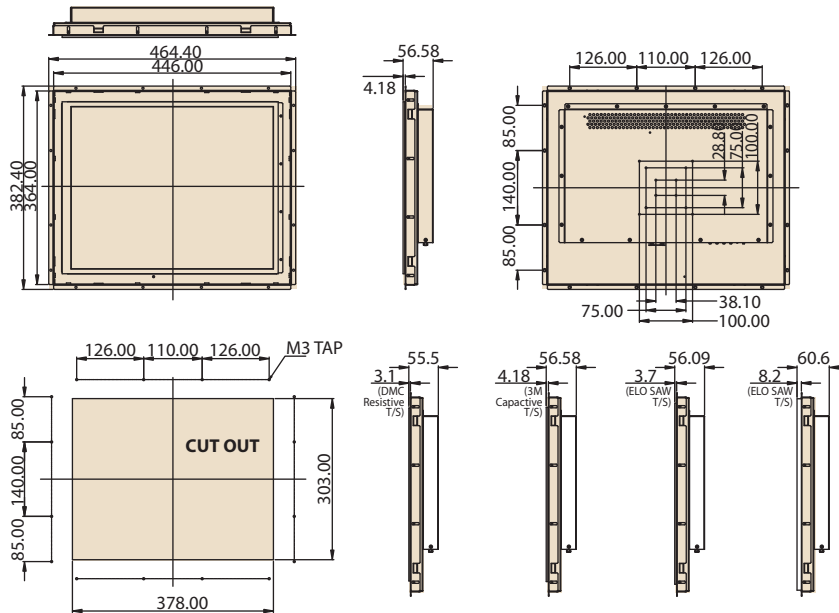
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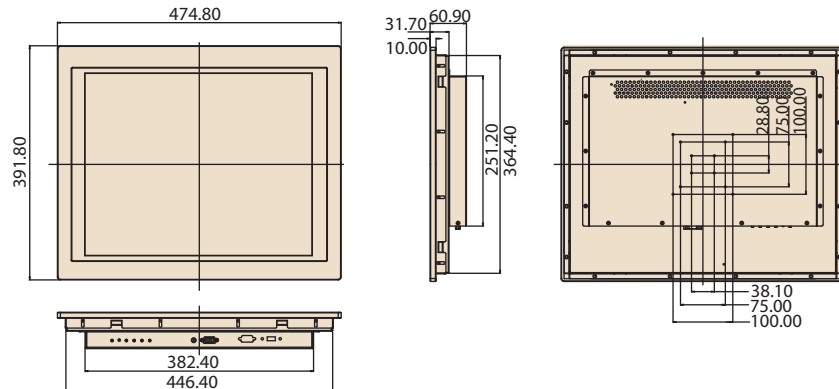
Dimensions

Unit: mm

ES-2119



ES-2219



Ordering Information

| P/N | Type | Brightness (cd/m ²) | Interface | Touchscreen | Touch Interface | Anti-Reflection |
|------------------|--------------------|---------------------------------|-----------|------------------|-----------------|-----------------|
| ES-2119G-VEAE | Open Frame | 300 | VGA | Tempered Glass | - | - |
| ES-2119R-VEAE | Open Frame | 300 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2119C-VEAE | Open Frame | 300 | VGA | Capacitive | RS-232 | - |
| ES-2119S-VEAE | Open Frame | 300 | VGA | SAW | RS-232/USB | - |
| ES-2119R-LEA-05E | Open Frame | 300 | LVDS | 5-Wire Resistive | RS-232/USB | - |
| ES-2219R-VEAE | Rugged panel mount | 300 | VGA | 5-Wire Resistive | RS-232/USB | - |
| ES-2219C-VEA-SRE | Rugged panel mount | 450 | VGA | Capacitive | RS-232 | Yes |

Notes:

- 1.) Capacitive, SAW and Infrared touch panels are recommended for applications requiring sunlight readable outdoor solutions.
- 2.) The list above is of major part numbers for your reference. Other combinations of LCD, touchscreen and signal interface features can be found in the Advantech Display Solutions. The Selection Wizard (<http://www.advantech.com.tw/ePlatform/DS/DisplaySolution.asp>) or CTOS services can be used to get your demand configuration and part numbers to us for ordering.
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