# ES-2108/2208

## 8.4" Open Frame and Rugged Panel Mount Monitor

**NEW**

ES-2108    ES-2208

RoHS COMPLIANT 2002/95/EC    CE    FCC

## Features

- 8.4" LCD supports 800 x 600 pixels and wide operating temperature (-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 option
- Ultra-high brightness up to 1000 nit with LED backlight technology option
- 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" and 5.25" SBCs; Advantech DSA-2100 and DSA-3300 Digital Signage Players; DVS-350 Digital Video Platforms; 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/dsw.aspx) enables easy selection of model numbers by choosing the required options.

## Specifications

- **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 0hm, 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 / ES-2208: 3.5 kg

### 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

**NEW**    **NEW**

| Feature | Standard / (OEM) | Sunlight Readable | Ultra-high Brightness |
|---|---|---|---|
| Size | 8.4" | 8.4" | 8.4" |
| Resolution (pixels) | 800 x 600 SVGA | 800 x 600 SVGA | 800 x 600 SVGA |
| Number of Colors | 262K | 262K | 262K |
| Viewing Angle (L/R/U/D) | 60°/60°/60°/40° | 70°/70°/60°/60° | 70°/70°/60°/60° |
| Brightness (nit) | 450 | 450 | 1000 |
| Contrast Ratio | 500:1 | 500:1 | 500:1 |
| Response Time (ms) | 35 | 35 | 35 |
| Lamp Life (hrs) | 50,000 | 50,000 | 50,000 |
| Long-term Support | Yes | Yes | Yes |
| Anti-reflection | N/A | Yes | Yes |

### Touchscreen

| Type | Analog Resistive | Capacitive | SAW | Infrared |
|---|---|---|---|---|
| Thickness | 2.67 mm | 3.0 mm | 3.0 mm | N/A |
| Resolution | 4096 x 4096 | 1024 x 1024 | 4096 x 4096 | N/A |
| Light Transmission | 80% | 85% | 92% | N/A |
| Controller Interface | RS-232/USB | RS-232 | RS-232/USB | N/A |
| Power Consumption | +5 V @ 200 mA | +5 V @ 100 mA | +5 V @ 75 mA | N/A |
| Touch Lifetime | 35 million hrs | 225 million hrs | 50 million hrs | N/A |
| Driver OS Support | DOS, Linux, Mac, Windows 95/98/NT/ME/CE/2000/XP | | | |

# Dimensions

Unit: mm

**ES-2108 CUT OUT**
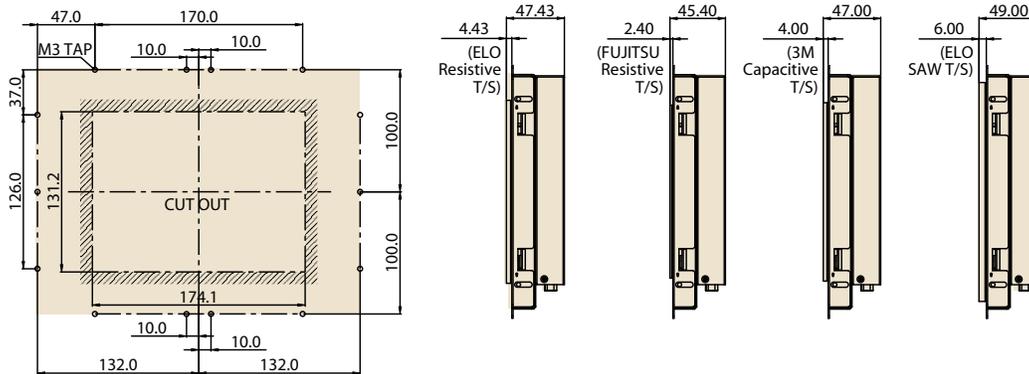


**ES-2208**
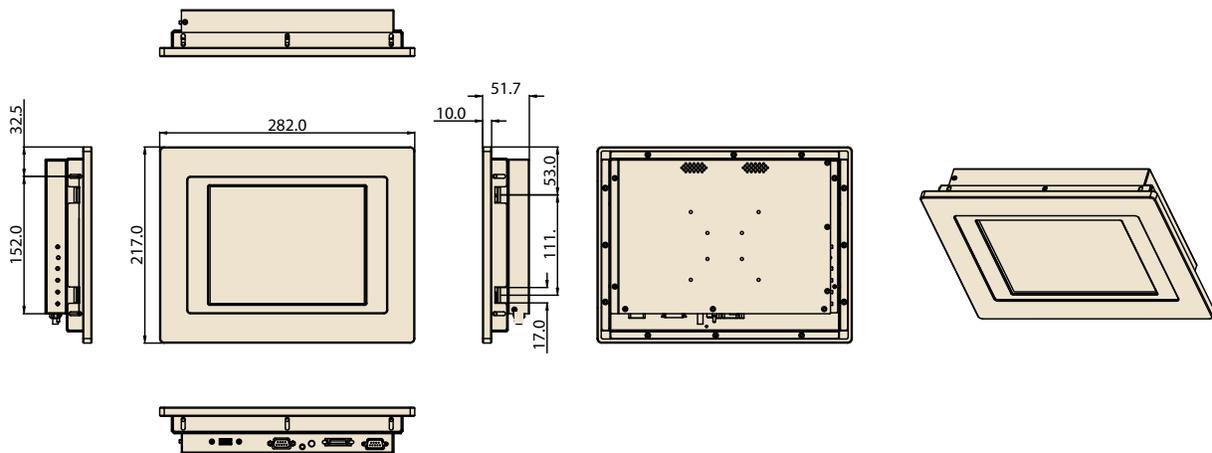


# Ordering Information

| Part No. | Type | Brightness (nit) | Interface | Touchscreen | Touch Interface | Anti-reflection |
|----------|------|------------------|-----------|-------------|-----------------|-----------------|
| ES-2108G-VSAE | Open Frame | 450 | VGA | Tempered Glass | N/A | N/A |
| ES-2108R-VSAE | Open Frame | 450 | VGA | 5 wire Resistive | RS232/USB | N/A |
| ES-2108C-VSAE | Open Frame | 450 | VGA | Capacitive | RS232 | N/A |
| ES-2108R-LSAE-05 | Open Frame | 450 | LVDS | 5 wire Resistive | RS232/USB | N/A |
| ES-2208R-VSAE | Rugged Panel Mount | 450 | VGA | 5 wire Resistive | RS232/USB | N/A |
| ES-2208C-VSA-SRE | Rugged Panel Mount | 450 | VGA | Capacitive | RS232 | Yes |
| ES-2108C-VSA-HE | Open Frame | 1000 | VGA | Capacitive | RS232 | Yes |

**Notes:**

(1) Capacitive, SAW and Infrared touch panels are recommended for use with sunlight readable outdoor solutions.

(2) The above list shows major part numbers for your reference. Please refer to the Advantech Display Solutions Selection Wizard (http://www.advantech.com.tw/ePlatform/DS/dsw.aspx) or CTOS to find part numbers and order your desired combination of LCD, touchscreen and signal interface.

(3) Please use Display Solutions DTOS for special requirements.