

Engineering Specification

Model No. **EFL-0843SUIT**

8.4inches Wide High resolution LCD Monitor

- AUO TFT LCD Panel with LED backlight
- High performance up-Scaling characteristic
- Automatic Scanning
- High Speed Response
- Enhanced Video Quality
- Test Pattern for Burn-in & Self Check
- Built in 3M Capacitive Touch Screen
- 2 Inputs(VGA, DVI)
- 12V DC Input
- RoHS Compliance

| | | |
|---------------------------|---------------------------|---------------------------|
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1. GENERAL DESCRIPTION

1-1. Overview

Effinet open frame LCD Monitor EFL-0843SUIT is a high performance TFT LCD monitor providing high quality image from the analog RGB and DVI inputs with 3M capacitive touch screen. This monitor supports wide range signal input from VGA to SVGA resolution at vertical refresh rate of 60 to 75Hz. It includes integrated signal processing unit, named LSP(LCD Signal Processor), which had all electronic function for user application. It is designed for industrial use with Auto power on, up scaling performance adequate for low-resolution application and enhanced design margin for reliability

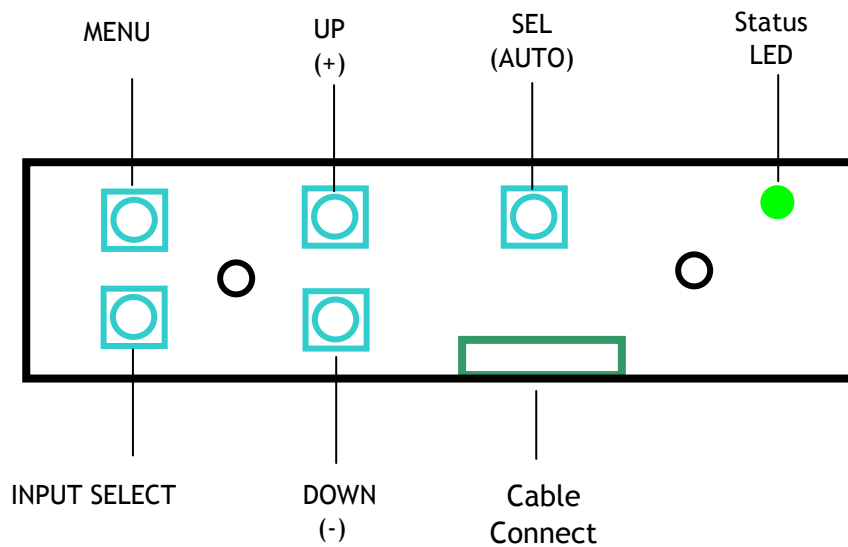
1-2. Quick reference table of Characteristics

| | | |
|-------|--------------------------|--|
| Panel | Size | 8.4" Diagonal |
| | Active Display Area | 170.4 x 127.8 mm |
| | Type No. | AUO , G084SN05 |
| | Number of Pixels | 800 (H) x 600 (V) |
| | Pixel Arrangement | RGB Vertical Stripe |
| | Pixel Pitch | 0.213 mm x 0.213 mm |
| | Color Depth | 16.2M True Color |
| | Surface Treatments | Anti-glare Hard Coating (3H) |
| | Viewing Angle (CR≥10) | Horizontal : ΘL 80 ΘR 80 Vertical : Φ H 80 Φ L 60 |
| | Contrast Ratio | Typ. 600 : 1 |
| | Response Time(Typ.) | Tr+Tf : 30ms |
| | Average Brightness | Typ. 450 cd/ m ² |
| | Frame Rate | Typ. 60Hz |
| | Panel Dimension(WHD) | 203.0 x 142.5 x 8 mm |
| | Backlight | LEDs |

| | | |
|--------------------------------------|------------------------|--|
| Scanning Frequency | Horizontal | 30 ~ 56KHz |
| | Vertical | 60 Hz |
| Resolution | Prime | 800x600@60Hz |
| | Standard | 720x400 @70 Hz 640x480 @60 Hz 800x600 @56 Hz |
| Input Signal | RGB (Video / Sync) | RGB Analog (0.7Vp-p, 75ohms) / H/V Separate(TTL) |
| | DVI | TMDS Link |
| Sync | Type | Separate H/V sync, Composite, SOG(Sync-On-Green) |
| | Level | TTL level (V high \geq 2.0V, V low \leq 0.8V) |
| | Polarity | Positive or Negative |
| Input Signal Interface | RGB | 15pin D-SUB |
| | DVI | 24Pin (DVI-D) |
| Power | DC input | 12V |
| | Max. power dissipation | 10W |
| | Input Type | DC Plug(I.D;2.5mm, O.D;5.5mm) |
| Regulation(Safety , Ergonomics, EMC) | | TBD |
| Environmental Conditions | Operating | Temperature : -30 to 85°C Humidity : 5 to 90% |
| | Storage | Temperature : -30 to 85°C Humidity : 5 to 90 |
| White Color Temperature | | 6500°K : CIE $x=0.313\pm0.02$ / $y=0.329\pm0.02$ |
| Demonstrated MTBF | | More than 50,000 hours |
| Touch Screen | Panel | 17-8921-221 |
| | Controller | EXII-7760UC |
| | Interface | USB |
| | Maker | 3M |

2. USER CONTROL & OSD

2-1. Key Control Board



| SWITCH NAME | SWITCH FUNCTIONS |
|--------------|--|
| MENU | <ul style="list-style-type: none"> • Activate / Deactivate the OSD Menu Window. • Move cursor to Sub Menu from Main menu. |
| SEL (AUTO) | <ul style="list-style-type: none"> • Move cursor in the Sub-Menu(Brightness ↔ Mode) • Auto Tracking (Pressing “SEL” key) |
| UP(+) | <ul style="list-style-type: none"> • Move cursor at Main Menu(Picture / Utility) • Increase the value of the selected function |
| DOWN(-) | <ul style="list-style-type: none"> • Move cursor at Main Menu(Picture / Utility) • Decrease the value of the selected function. |
| INPUT SELECT | <ul style="list-style-type: none"> • Select the input signal (VGA→ DVI → VGA...) • When power off / on, the last memorized input mode will be displayed. |

2-2. OSD Menu Screen

- Picture OSD

| PICTURE | 800 X 600 | 60Hz |
|-------------|-----------|------|
| Brightness | ⇓ 50 ⇓ | |
| Contrast | ⇓ 80 ⇓ | |
| H Position | ⇓ 52 ⇓ | |
| V Position | ⇓ 32 ⇓ | |
| Phase | ⇓ 9 ⇓ | |
| Frequency | ⇓ 51 ⇓ | |
| Auto Adjust | | |

- Utility OSD

| UTILITIES | 800 X 600 | 60Hz |
|------------|-----------|---------|
| Color Temp | | 6500 |
| Language | | ENGLISH |
| Factory | | |

2-3. OSD Control Functions

| CONTROL | FUNCTION |
|-------------------|---|
| Auto Tracking | Automatic screen adjustment process. If there is any noise on the screen or screen shift, just press “SEL” button. Since this monitor is equipped with “Auto Tracking” function, it will automatically configure the monitor setting. |
| Brightness | Adjust the brightness level of the Display |
| Contrast | Adjust the contrast level of the Display. |
| H position | Adjust the position of the display horizontally. |
| V position | Adjust the position of the display vertically. |
| Phase | Adjust the clock phase of the display. |
| Frequency | Adjust the clock frequency of the display |
| Color Temp | Change color temperatures Adjust the Red/ Green / Blue Gain |
| Language | Select the OSD language |
| Self Test Pattern | To enter auto burn-in mode, press “Up” key first and then “Sel” key simultaneously for 3 seconds. On this mode, Red - Green - Blue - White - Black test pattern will be displayed. Press Menu key for returning normal display mode. |

3. CONNECTOR PIN DESCRIPTIONS

3-1. 15 Pin D-SUB Connector

| Shape and pin number | Pin | Description | Pin | Description |
|---|-----|----------------|-----|-----------------|
|  | 1 | Red | 9 | No Connection |
| | 2 | Green | 10 | Ground - Sync |
| | 3 | Blue | 11 | No Connection |
| | 4 | Ground | 12 | DDC-SDA |
| | 5 | Ground | 13 | Horizontal Sync |
| | 6 | Ground - Red | 14 | Vertical Sync |
| | 7 | Ground - Green | 15 | DDC-SCL |
| | 8 | Ground - Blue | | |

3-2. DVI PIN Configuration

| Pin | Symbol | Pin | Symbol | Pin | Symbol |
|-----|-------------------|-----|------------------------------|-----|-------------------|
| 1 | T.M.D.S. Data2- | 9 | T.M.D.S. Data1- | 17 | T.M.D.S. Data0- |
| 2 | T.M.D.S. Data2+ | 10 | T.M.D.S. Data1+ | 18 | T.M.D.S. Data0+ |
| 3 | TDMS Data2 Shield | 11 | TDMS Data1 Shield | 19 | TDMS Data0 Shield |
| 4 | No Connection | 12 | No Connection | 20 | No Connection |
| 5 | No Connection | 13 | No Connection | 21 | No Connection |
| 6 | DDC Clock(SCL) | 14 | +5V Power | 22 | TDMS Clock Shield |
| 7 | DDC Data(SDA) | 15 | Ground (H/V Sync, 5V return) | 23 | TDMS Clock+ |
| 8 | No Connection | 16 | Hot Plug Detect | 24 | TDMS Clock- |

4. STANDARD DISPLAY MODE

| No. | Mode | Resolution | Horizontal | | Vertical | | Pixel clock |
|-----|------|------------|---------------|----------|---------------|----------|-------------|
| | | | Frequenc y | Polarity | Frequenc y | Polarity | |
| 1 | VGA | 720 x 400 | 31.47 KHz | N | 70.0 Hz | P | 28.322 MHz |
| 2 | | 640 x 480 | 31.47 KHz | N | 60.0 Hz | N | 25.175 MHz |
| 3 | SVGA | 800 X 600 | 35.16 KHz | N / P | 56.3 Hz | N / P | 36.000 MHz |
| 4 | | 800 X 600 | 37.88 KHz | P | 60.3 Hz | P | 40.000 MHz |

5. MECHANICAL STRUCTURE

