

Engineering Specification

Model No. **EFL-4702H**

47inches wide LCD Monitor

- LGD FHD TFT LCD Panel with LED backlight
- High performance up-Scaling characteristic
- Automatic Scanning
- Wide Viewing Angle, High Speed Response
- Enhanced Video Quality
- Power Supply with enhanced Design Margin
- Test Pattern for Burn-in & Self Check
- 2 Inputs(Display Port, DVI)
- Embedded 3M DST Touch Screen or Protection Glass
- RoHS Compliance

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1. GENERAL DESCRIPTION

1-1. Overview

Effinet open frame LCD Monitor EFL-4702HLIT(G) is a high performance TFT LCD monitor providing high quality image from Display port, DVI inputs with 3M DST touch screen or protection glass. This monitor supports wide range signal input from VGA to WUXGA resolution at vertical refresh rate of 60Hz. 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 up scaling performance adequate for low-resolution application and enhanced design margin for reliability.

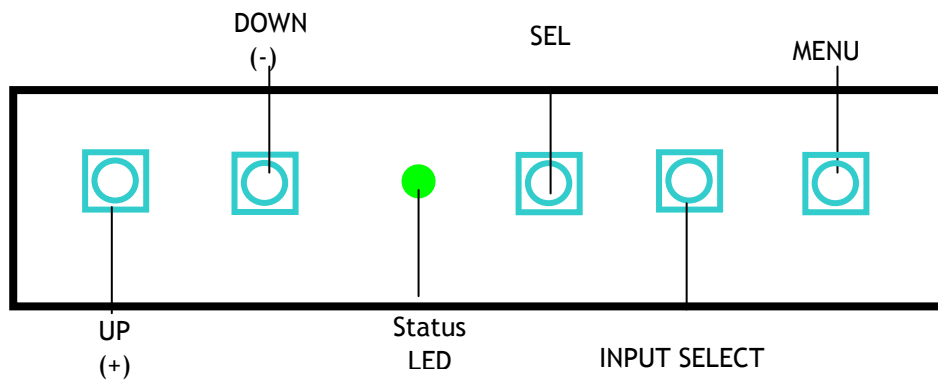
1-2. Quick reference table of Characteristics

Panel	Size	47" Diagonal
	Active Display Area	1039.68 x 584.82 mm
	Type No.	LGD, LD470DUE
	Number of Pixels	1920 (H) x 1080 (V)
	Pixel Arrangement	RGB Vertical Stripe
	Pixel Pitch	0.5415 mm x 0.5415 mm
	Color Depth	8 bit, 16.7M
	Surface Treatments	Hard Coating(3H), Anti-Glare Haze 1%
	Viewing Angle (CR $\geq$ 10)	Horizontal : θ L 89 degrees θ R 89 degrees Vertical : Φ H 89 degrees Φ L 89 degrees
	Contrast Ratio	Typ. 1200 : 1
	Response Time	12 ms(G to G)
	Average Brightness	Typ. 400 cd/m ²
	Frame Rate	Typ. 60Hz
	Panel Dimension	(WHD) 1067.6 x 617.4 x 36.5 mm
Scanning Frequency	Horizontal	50 ~ 70KHz
	Vertical	48 ~ 63Hz
Resolution	Prime	1920 x 1080 @ 60 Hz

	Standard	720x400 @70 Hz, 640x480 @60 Hz 800x600 @56/60 Hz 1024x768 @60 Hz 1280x768 @60 Hz 1360x768 @60 Hz 1280x1024 @60Hz 1440x900@60Hz 1680x1050 @ 60Hz
Input Signal	Display Port	MAIN link
	DVI	TMDs link
Input Signal Interface	Display Port	20 Pin DP Terminal
	DVI	24Pin D-Sub
Power	AC Input	AC 90 ~ 265V @60/50Hz, Universal Power
	Max. power dissipation	110 Watts
	Power Supply	Built in Power Supply (SMPS)
Regulation(Safety , Ergonomics, EMC)		TBD
Environmental Conditions	Operating	Temperature : 0 to 50°C / Humidity : 8 to 80%
	Storage	Temperature : -20 to 60°C / Humidity : 5 to 90%
White Color Temperature		10000°K : CIE x=0.281±0.015 / y=0.288±0.015
Demonstrated MTBF		More than 30,000 hours
Touch Screen → EFL-4702HLIT	Touch	DSTK9017-3470
	Controller	DST-TC-3470DC
	Interface	USB type
Protection Glass → EFL-4702HLIG		Thickness; 3mm, Finish; Glare type

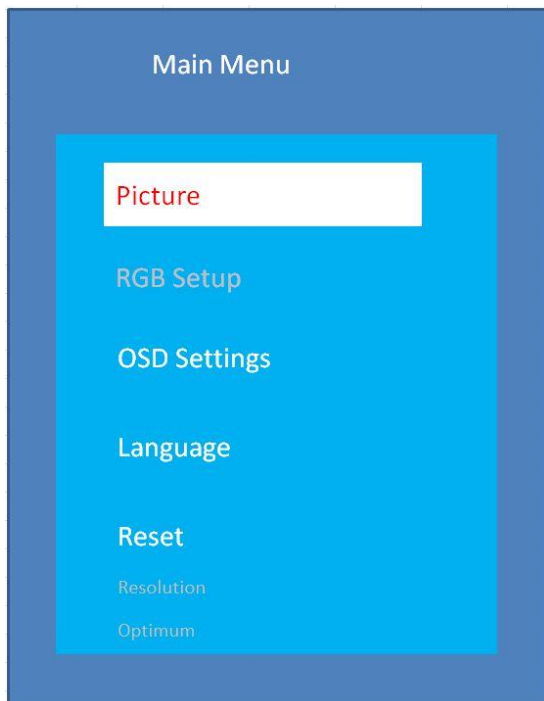
2. USER CONTROL & OSD

2-1. Key Control Board



SWITCH NAME	SWITCH FUNCTIONS
MENU	• Activate / Deactivate the OSD Menu Window. • Move cursor to Sub Menu from Main menu.
SEL	• Move cursor in the Sub-Menu(Brightness ↔ Mode)
UP(+)	• Move cursor at Main Menu(Picture / Utility) • Increase the value of the selected function
DOWN(-)	• Move cursor at Main Menu(Picture / Utility) • Decrease the value of the selected function.
INPUT SELECT	• Select the input signal (Display Port → DVI → Display Port...) • When power off / on, the last memorized input mode will be displayed.

2-2. OSD Menu Screen



2-3. OSD Control Functions

CONTROL		FUNCTION
Information	Resolution	Displayed the resolution of input signal.
	Optimum	Displayed the optimum resolution of this model.
Picture	Brightness	Adjust the brightness level of the Display
	Contrast	Adjust the contrast level of the Display.
	Color Settings	Choose different preset color temperatures. (Normal/Warm/Cool) or set your own customized color parameters by Red, Green, Blue bar.
OSD Settings	H position	Adjust the position of the display horizontally.
	V position	Adjust the position of the display vertically.
	OSD Hold Time	Adjust the Hold time of OSD Menu
Language		Select the OSD languages(English, Española, French, Deutsch)
Reset		Recall the factory setting value.

3. CONNECTOR PIN DESCRIPTIONS

3-1. Display Port Pin Configuration

Pin	Symbol	Pin	Symbol	Pin	Symbol
1	ML Lane 0+	8	ML Lane 2 Shield	15	AUX CH +
2	ML Lane 0 Shield	9	ML Lane 2-	16	GND
3	ML Lane 0-	10	ML Lane 3+	17	AUX CH -
4	ML Lane 1+	11	ML Lane 3 Shield	18	HPD
5	ML Lane 1 Shield	12	ML Lane 3-	19	RETURN
6	ML Lane 1-	13	CONFIG 1	20	DP POWER
7	ML Lane 2+	14	CONFIG 2		

3-2. DVI Connector

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 Data 0 Shield
4	No Connection	12	No Connection	20	No Connection
5	No Connection	13	No Connection	21	No Connection
6	DDC Clock	14	+5V Power	22	TDMS Clock Shield
7	DDC Data	15	Ground (H/V Sync, 5V return)	23	TDMS Clock+
8	Analog Vertical Sync	16	Hot Plug Detect	24	TDMS Clock-

4. STANDARD DISPLAY MODE

No.	Mode	Resolution	Horizontal		Vertical		Pixel clock
			Frequency	Polarity	Frequency	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	XGA	1024 X 768	48.36 KHz	N	60.0 Hz	N	65.000 MHz
6	WXGA	1280 X 768	47.7 KHz	N	60.0 Hz	P	80.152 MHz
7		1360 X 768	60.0 KHz	N	60.0 Hz	P	85.496 MHz
8		1366 X 768	60.2 KHz	N	60.0 Hz	P	85.496 MHz
9		1440 X 900	55.56 KHz	N	60.0 Hz	P	89.000 MHz
10	SXGA	1280 X 1024	63.98 KHz	P	60.0 Hz	P	108.00 MHz
11	WSXGA	1680 X 1050	64.674KHz	N/P	60.0Hz	N/P	147 MHz
12	WUXGA	1920 X 1080	67.5KHz	N/P	60.0Hz	N/P	148.5MHz