

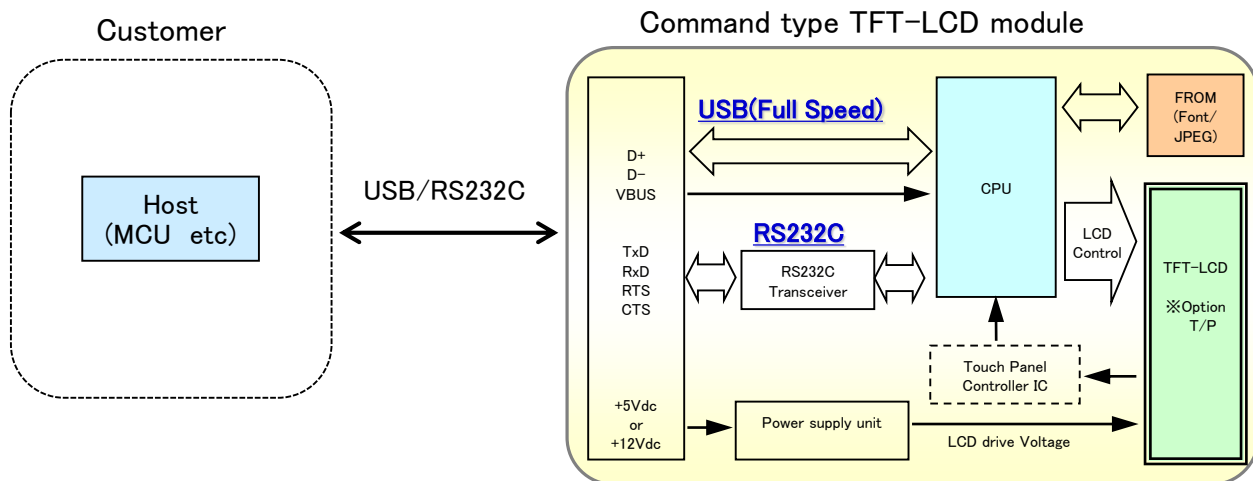
Command-type TFT-LCD Module

■ Features

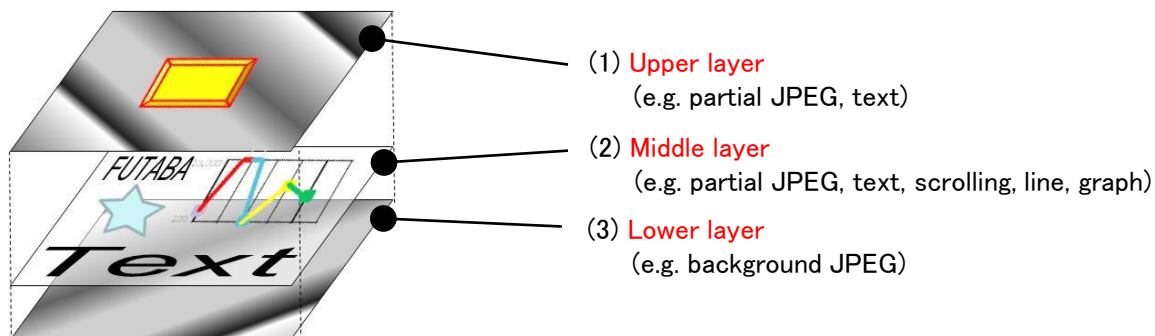
- Full color TFT module with integrated microcontroller
- Multiple sizes available: 3.5", 4.3", 5.7", 7.0", 10.1"
- On-board memory (font sets & images)
- Command type control
- Integrated power supply / single voltage
- Easy to set up and use touch function
- Simple programming reduces burden on limited R&D resources
- Uniform command set for all panel sizes
- High-speed startup (1 sec)
- Suitable for embedded use
- Proprietary OS avoids the risk of viral infection



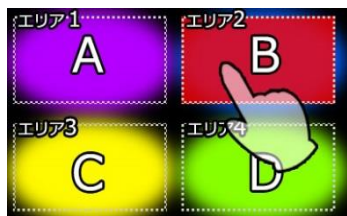
■ Block diagram



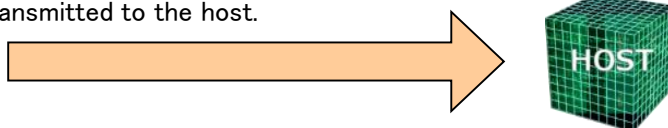
■ Multi-Layer Content Assignment



■ Touch panel control



The touch state of up to 32 user configurable touch zones are transmitted to the host.



<Contact>

Futaba Corporation Makuhari Marketing & Sales Center Makuhari Techno-Garden B6, 1-3 Nakase, Mihama-ku, Chiba, 261-8555, Japan TEL: 81-43-296-5112
 FAX: 81-43-296-5122

URL <http://www.futaba.co.jp/>

Command-type TFT-LCD Module

3.5 inch standard product

RoHS

■ Features

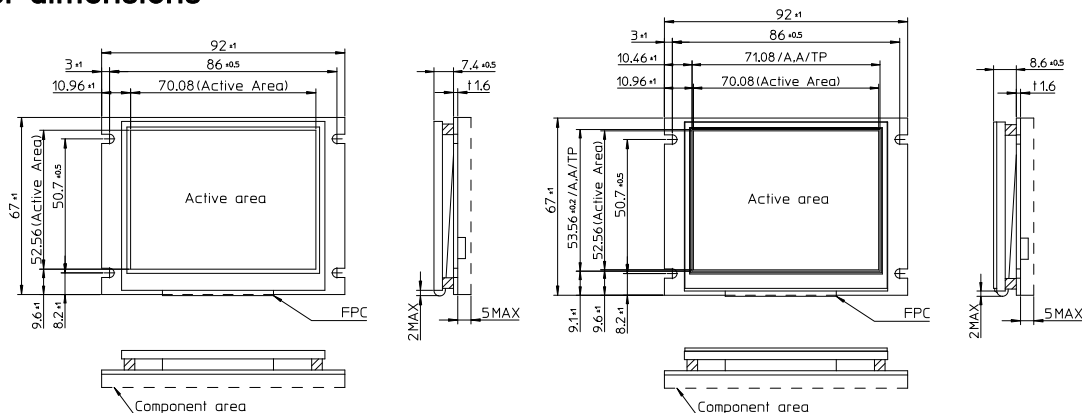
This TFT-LCD module/control board displays content, including stored JPEG images and text with internal fonts, by way of a simple command set.

■ Specifications

Item \ Series	LC011BA	LC011BD	LC011BB	LC011BE	
LCD panel	Display size class[inch]		3.5		
	Pixels [dot]		320 × 240 (QVGA)		
	Active area [W × H mm]		70.08 × 52.56		
	Luminance [c/m ²]		400	320	
	Viewing angles [deg]		Bottom = 70, Top = 50, Left = 70, Right = 70		
	Backlight type		LED		
	LED lifetime [h] ※1		min. 20,000		
Interface		USB 2.0 Full Speed	RS232C (115.2kbps max.)	USB 2.0 Full Speed RS232C (115.2kbps max.)	
Touch panel	Type	—		resistive	
	Active area [W × H mm]	—		76.5 × 62.9	
	Surface durability [touches]	—		1,000,000	
	Surface hardness	—		3H	
Character		Japanese (kanji, katakana, hiragana, alphanumeric)			
Font code		FA UD Gothic-R			
Internal memory for screen images	Full screen JPEGs	50 (256 kB / 1 JPEG)			
	Partial screen JPEGs	200 (64 kB / 1 JPEG)			
Supply voltage [V]		5.0			
Power consumption [W]		2.0			
Operating temperature [°C]		-10 ~ +60			
Storage temperature [°C]		-30 ~ +70			
Operating temperature [%RH] no condensation		10 ~ 90			
Storage temperature [%RH] no condensation		10 ~ 90			
Outer dimensions [W × H × T mm]		92 × 67 × 14.5		92 × 67 × 15.7	
Weight [g]		approx. 60			

※1: LED lifetime = hours for the module luminance to decrease to 50% of original measured brightness at Ta = 25°C.

■ Appearance, outer dimensions



LC011BA, BD (w/o touch panel)

LC011BB, BE (with touch panel)

<Contact>

Futaba Corporation Makuhari Marketing & Sales Center Makuhari Techno-Garden B6, 1-3 Nakase, Mihama-ku, Chiba, 261-8555, Japan TEL: 81-43-296-5112
 FAX: 81-43-296-5122

URL <http://www.futaba.co.jp/>

Command-type TFT-LCD Module

4.3 inch standard product

RoHS

■ Features

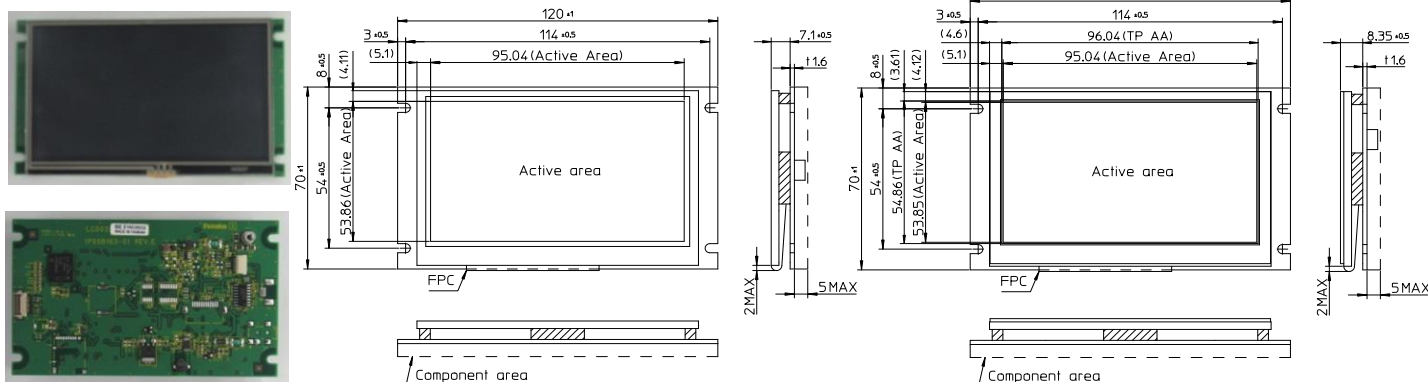
This TFT-LCD module/control board displays content, including stored JPEG images and text with internal fonts, by way of a simple command set.

■ Specifications

Item \ Series	LC013BA	LC013BD	LC013BB	LC013BE
LCD panel	Display size class [inch]			
	4.3			
	Pixels [dot]			
	480 × 272 (WQVGA)			
	Active area [W × H mm]			
	95.04 × 53.86			
LCD panel	Luminance [c/m ²]		1050	
	Viewing angles [deg]		Bottom = 70, Top = 50, Left = 70, Right = 70	
	Backlight type			
	LED			
	LED lifetime [h] ※1			
Min 20,000				
Interface		USB2.0 Full Speed	RS232C (115.2kbps max.)	USB2.0 Full Speed
				RS232C (115.2kbps max.)
Touch panel	Type	—		resistive
	Active area [W × H mm]	—		96.04 × 54.86
	Surface durability [touches]	—		1,000,000
	Surface hardness	—		3H
Character		Japanese (kanji, katakana, hiragana, alphanumeric)		
Font code		FA UD Gothic-R		
Internal memory for screen images	Full screen JPEGs	50 (256 kB / 1 JPEG)		
	Partial screen JPEGs	200 (64 kB / 1 JPEG)		
Supply voltage [V]		5.0		
Power consumption [W]		2.5		
Operating temperature [°C]		-20 ~ +70		
Storage temperature [°C]		-30 ~ +70		
Operating temperature [%RH] no condensation		10 ~ 90		
Storage temperature [%RH] no condensation		10 ~ 90		
Outer dimensions [W × H × T mm]		120 × 70 × 14.2		120 × 70 × 15.45
Weight [g]		approx. 100		

※1: LED lifetime = hours for the module luminance to decrease to 50% of original measured brightness at Ta = 25°C.

■ Appearance, outer dimensions



LC013BA, BD (w/o touch panel)

LC013BB, BE (with touch panel)

<Contact>

Futaba Corporation Makuhari Marketing & Sales Center Makuhari Techno-Garden B6, 1-3 Nakase, Mihama-ku, Chiba, 261-8555, Japan TEL: 81-43-296-5112
FAX: 81-43-296-5122

URL <http://www.futaba.co.jp/>

Command-type TFT-LCD Module

5.7 inch standard product

RoHS

■ Features

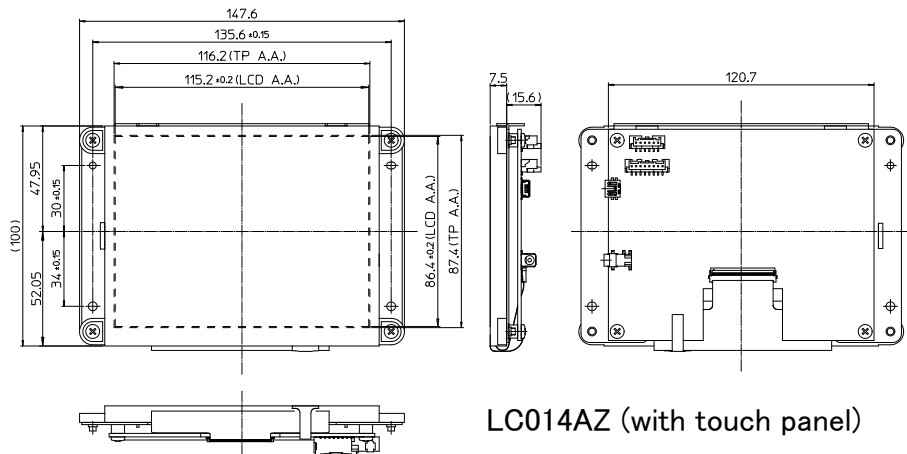
This TFT-LCD module/control board displays content, including stored JPEG images and text with internal fonts, by way of a simple command set.

■ Specifications

Item \ Series	LC014AZ	
LCD panel	Display size class [inch]	5.7
	Pixels [dot]	640 × 480 (VGA)
	Active area [W × H mm]	115.2 × 86.4
	Luminance [c/m^2]	400
	Viewing angles [deg]	Bottom = 52, Top = 55, Left = 65, Right = 65
	Backlight type	LED
	LED lifetime [h] ※1	Min 30,000
Interface	USB2.0 Full Speed & RS232C(115.2 kbps Max) & UART	
Touch panel	Type	Resistive
	Active area [W × H mm]	116.2 × 87.4
	Surface durability [touches]	1,000,000
	Surface hardness	T.B.D
Character	Japanese (kanji, katakana, hiragana, alphanumeric)	
Font code	FA UD Gothic-R	
Internal memory for screen images	Full screen JPEGs	50 (256 kB / 1 JPEG)
	Partial screen JPEGs	200 (64 kB / 1 JPEG)
Supply voltage [V]	5.0	
Power consumption [W]	3.0	
Operating temperature [°C]	-10 ~ +60	
Storage temperature [°C]	-20 ~ +70	
Operating temperature [%RH] no condensation	10 ~ 90	
Storage temperature [%RH] no condensation	10 ~ 90	
Outer dimensions [W × H × T mm]	147.6 × 100 × 24	
Weight [g]	approx. 320	

※1: LED lifetime = hours for the module luminance to decrease to 50% of original measured brightness at Ta = 25°C.

■ Appearance, outer dimensions



< Contact >

Futaba Corporation Makuhari Marketing & Sales Center Makuhari Techno-Garden B6, 1-3 Nakase, Mihama-ku, Chiba, 261-8555, Japan TEL: 81-43-296-5112
 FAX: 81-43-296-5122

URL <http://www.futaba.co.jp/>

Command-type TFT-LCD Module

7.0 inch standard product

RoHS

Features

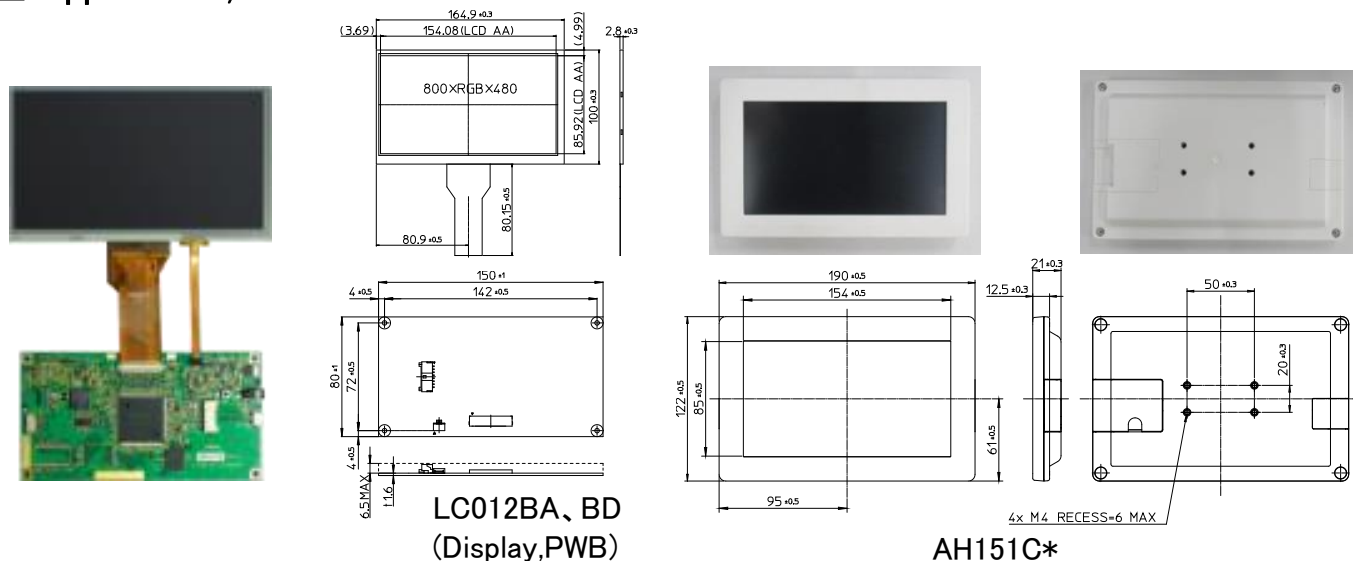
This TFT-LCD module/control board displays content, including stored JPEG images and text with internal fonts, by way of a simple command set.

Specifications

Item \ Series	LC012BA	LC012BD	LC012BB	LC012BE	AH151CA	AH151CD	AH151CB	AH151CE	
LCD panel	Display size class [inch]								7.0
	Pixels [dot]								800 × 480 (WVGA)
	Active area [W × H mm]								154.08 × 85.92
	Luminance [c/m ²]		550	430		550		430	
	Viewing angles [deg]								Bottom = 60, Top = 60, Left = 70, Right = 70
	Backlight type								LED
LED lifetime [h] ※1								min. 20,000	
		USB2.0 Full Speed	RS232C (115.2 kbps max.)	USB2.0 Full Speed	RS232C (115.2 kbps max.)	USB2.0 Full Speed	RS232C (115.2 kbps max.)	USB2.0 Full Speed	RS232C (115.2 kbps max.)
Touch panel	Type	—		resistive		—		resistive	
	Active area [W × H mm]	—		155.08 × 86.92		—		155.08 × 86.92	
	Surface durability [touches]	—		1,000,000		—		1,000,000	
	Surface hardness	—		3H		—		3H	
Character	Japanese(kanji, katakana, hiragana, alphanumeric)								
Font code	FA UD Gothic-R								
Internal memory for screen images	Full screen JPEGs	50 (256 kB / 1 JPEG)							
	Partial screen JPEGs	200 (64 kB / 1 JPEG)							
Supply voltage [V]	5.0								
Power consumption [W]	3.5								
Operating temperature [°C]	-20 ~ +70				0 ~ +40				
Storage temperature [°C]	-30 ~ +80				-30 ~ +70				
Operating temperature [%RH]	10 ~ 80 (no condensation)								
Storage temperature [%RH]	10 ~ 90 (no condensation)								
Outer dimension [W × H × T mm]	150 × 80 × 8.1				190 × 122 × 21				
Weight [g]	TFT-LCD: approx.140, Control board: approx. 50				approx. 580				
Case (with / without)	without case				with case				
Form of delivery	TFT-LCD and control board separated								
Attaching method	—				VESA (50 × 50 mm)				

※1: LED lifetime = hours for the module luminance to decrease to 50% of original measured brightness at Ta = 25°C.

Appearance, outer dimensions



<Contact>

Futaba Corporation Makuhari Marketing & Sales Center Makuhari Techno-Garden B6, 1-3 Nakase, Mihama-ku, Chiba, 261-8555, Japan TEL: 81-43-296-5112
 FAX: 81-43-296-5122

URL <http://www.futaba.co.jp/>

Command-type TFT-LCD Module

10.1 inch standard product

RoHS

■ Features

This TFT-LCD module/control board displays content, including stored JPEG images and text with internal fonts, by way of a simple command set.

■ Specifications

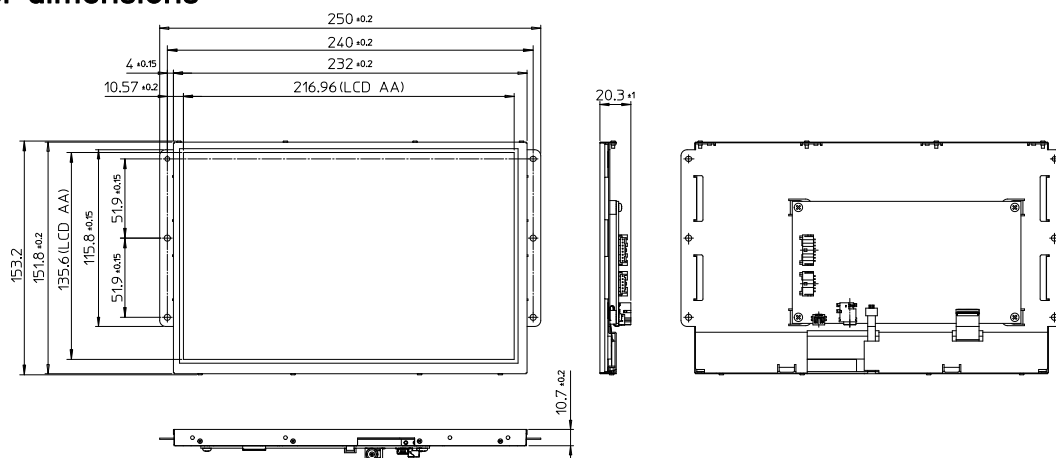
Item \ Series	LC010AZ	
LCD panel	Display size class [inch]	10.1 (IPS type)
	Pixels [dot]	1280 × 800 (WXGA)
	Active area [W × H mm]	216.96 × 135.60
	Luminance [c/m ²]	250
	Viewing angles [deg]	Bottom = 85, Top = 85, Left = 85, Right = 85
	Backlight type	LED
	LED lifetime [h] ※1	min. 20,000
Interface	USB 2.0 Full Speed & RS232C (115.2 kbps max.)	
Touch panel	Type	resistive
	Active area [W × H mm]	228.66 × 148.40
	Surface durability [touches]	1,000,000
	Surface hardness	3H
Character	Japanese	
Font code	FA UD Gothic-R	
Internal memory for screen images	Full screen JPEGs	50 Mb ※2
	Partial screen JPEGs	
Supply voltage [V]	12.0	
Power consumption [W]	6.0	
Operating temperature [°C]	-10 ~ +50	
Storage temperature [°C]	-20 ~ +60	
Operating temperature [%RH] no condensation	20 ~ 90	
Storage temperature [%RH] no condensation	5 ~ 90	
Outer dimension [W × H × T mm]	250 × 151.8 × 20.3	
Weight [g]	approx. 600	

※1: LED lifetime = hours for the module luminance to decrease to 50% of original measured brightness at Ta = 25°C.

※2: A max. of 50 Mb of JPEG images can be stored and does not depend on the number of the JPEGs.

i.e. 200 JPEGs @ 256Kb; 400 JPEGs @ 128 Kb; 800 JPEGs @ 64Kb

■ Appearance, outer dimensions



LC010AZ (with touch panel)

< Contact >

Futaba Corporation Makuhari Marketing & Sales Center Makuhari Techno-Garden B6, 1-3 Nakase, Mihama-ku, Chiba, 261-8555, Japan TEL: 81-43-296-5112
 FAX: 81-43-296-5122

URL <http://www.futaba.co.jp/>