

TFTs

## TFT-LCD Devices for Industrial Use

Rugged TFT-LCD Modules  
**viewing excellence**



for a greener tomorrow

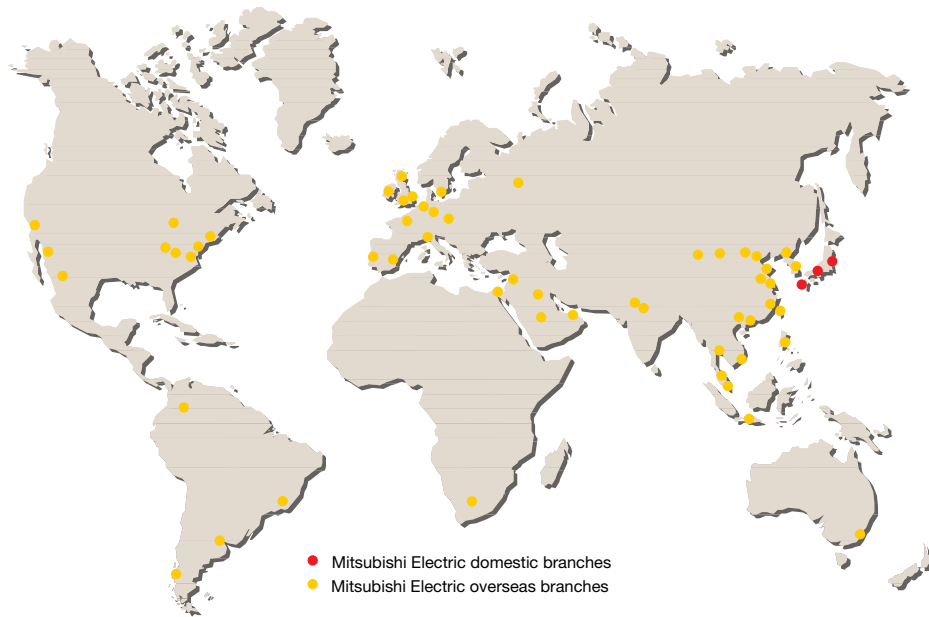


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# Corporate Overview



Starting in 1870, the Mitsubishi brand still remains one of the most recognized in the world. 139 independent companies that trace their roots to the original Mitsubishi are active in nearly every sector of business and industry.

Mitsubishi Electric was founded in 1921, headquarters being situated in Tokyo, Japan. With about 114,000 employees worldwide, 74 factories and 8 R&D offices net sales go up to more than 32 Billion EUR as of March 2011.

Mitsubishi Electric belongs to the world leading companies in Manufacturing, Marketing and Sales of electric and electronic products. The Semiconductor European Business Group is operating all sales and export activities for Western and Eastern Europe, Russia and South Africa from its headquarters in Ratingen, Germany.

### Global Leader in Semiconductor Technology

Semiconductors are indispensable components for today's increasingly high performance products, making them equally important to "resources" for a better future. Mitsubishi Electric, a global leader in the field of semiconductors, has secured its top position with continuous innovative research and development and the investment in state-of-the-art production techniques.

Our worldwide customers profit from extensive technical services as well as a broad sales and distribution network.

The success is a result of our expertise in four product areas: High Frequency, Opto and Power Semiconductors as well as TFT-LCD Modules. With regarding quality and reliability as our core values, Mitsubishi Electric Europe B.V. has achieved ISO 9001 and 14001 certification continuously.

### Color TFT-LCD Modules for Industrial Use

TFT-LCD modules by Mitsubishi Electric are built for a wide variety of industrial uses, such as transportation (train, bus, aircraft, etc), measuring instruments, automatic teller machines (ATM), vending and ticket machines, factory automation equipment, point of sale (POS), medical equipment, and much more.

Designed for high reliability, optimal visibility and enhanced view ability, Mitsubishi Electric's leading-edge TFT-LCD modules ensure optimum performance and excellent color quality in a broad range of not only indoor but also outdoor operating environments. The technologies behind them bring us one step closer to the realization of true images with realistic color and clear visibility even under strong sunlight.



**for a greener tomorrow**

Eco Changes is the Mitsubishi Electric Group's environmental statement and expresses the Group's stance on environmental management. Through a wide range of technologies and businesses for homes, offices, factories, infrastructure and even outer space, Mitsubishi Electric is striving to contribute to a sustainable society.

[www.ecochanges.eu](http://www.ecochanges.eu)

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# Key Concept of Mitsubishi TFT-LCD Modules

## Product Range:

- From 5.7" to 19.0" (4:3 format)
- From 4.3" to 17.5" (wide format)
- 19.2" (ultra wide format)

## Advanced Imaging Technology

- Super Wide Viewing Technology (U/D & L/R 170°)
- Realistic Color with Natural Color Matrix
- Motion Improvement with Feed Forward Driving
- High Color Saturation

## Application Focused Design

- Super High Brightness
- Low Reflection
- Transflective Technology
- Glass Bonding
- Touch Panel option
- Wide Format
- Reverse Scan Function
- White LED Backlight
- Integr. LED driver
- P-CAP TP Technology

## Focus on Industrial Market Long Term Support Cross-over Compatibility

- Rugged Design
- Wide Temperature Range (up to -30 to +80°C)
- Ultra Long LED lifetime
- Low EMI
- High ESD Durability

## High Reliability



U/D & L/R: Up/Down & Left/Right  
LED: Light Emitting Diode  
EMI: Electro Magnetic Interference  
ESD: Electrostatic Discharge

TFT-LCD: Thin Film Transistor Liquid Crystal Display  
P-CAP TP: Projective-Capacitive Touch Panel

Cross-over compatibility: Backwards & Sideways Compatibility

**High Quality and Excellent Performance TFT-LCD**

# Industrial Target Applications



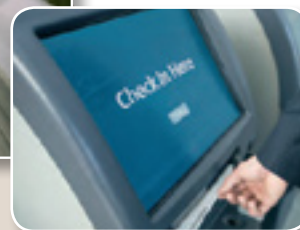
Marine



Transportation



Medical



Ticket Machine



Factory Automation

## Industrial TFT-LCD Market



Measurement equipment



Elevator



Broadcasting



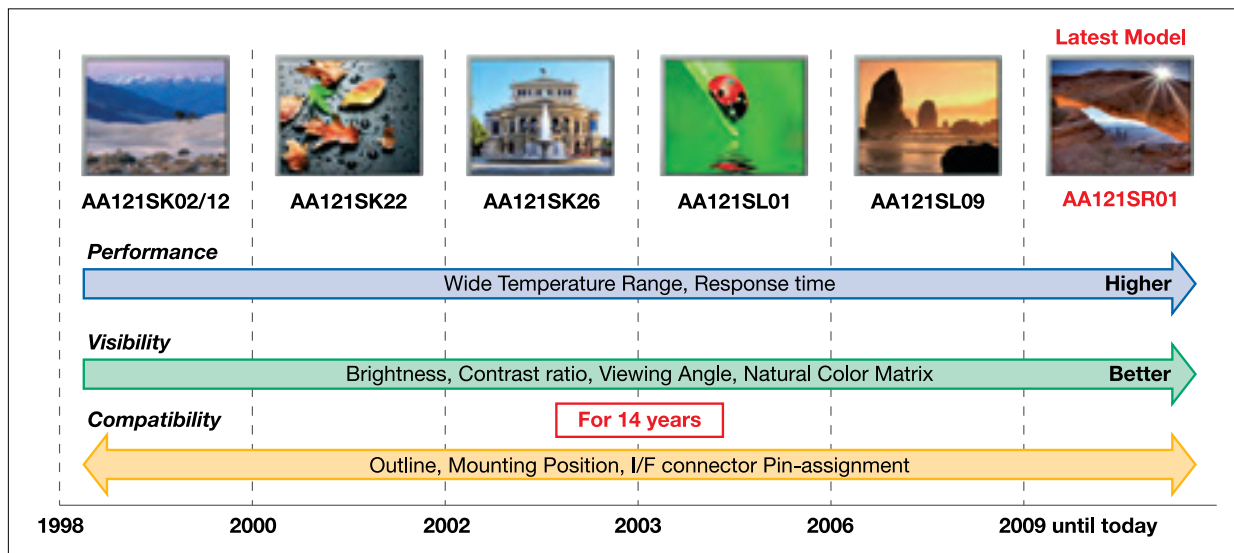
Rugged Mobile devices



ATM

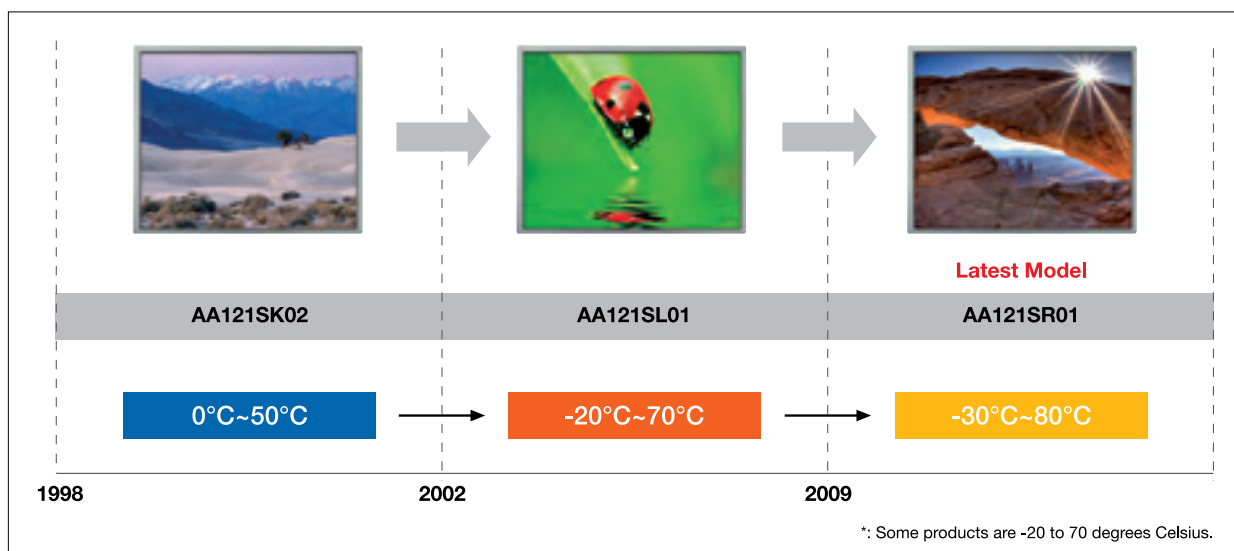
# Long Term Support & Upward Compatibility

Long term support is the key requirement for industrial applications. Mitsubishi Electric's TFT-LCD modules lead technology and performance while keeping compatibility both, electrically and mechanically.



# Wide Operation Temperature Range

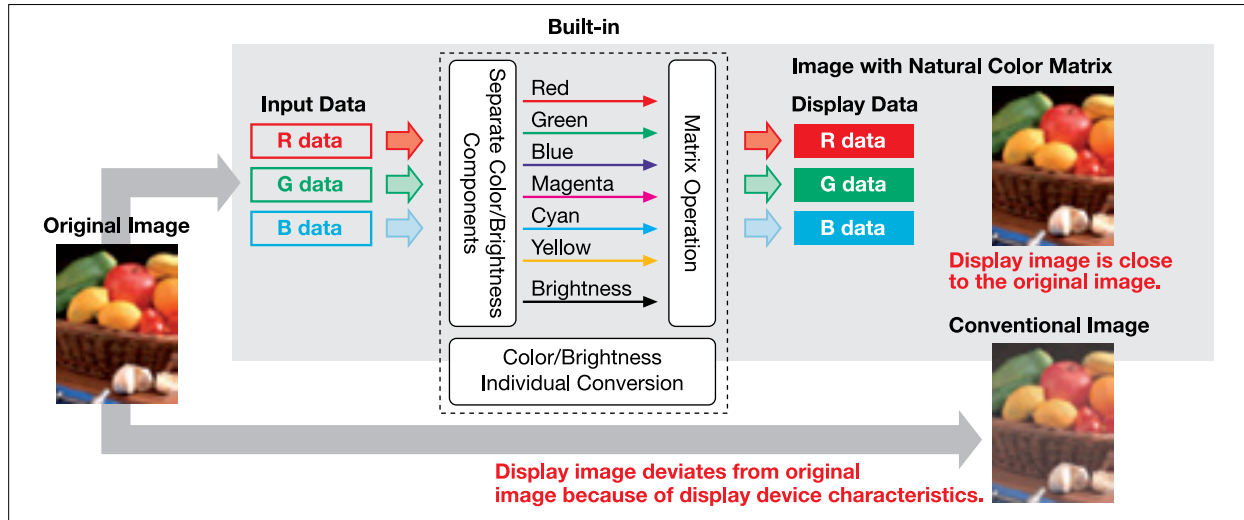
Mitsubishi Electric Rugged TFT-LCD modules offer wide temperature range from -30 to 80° degrees Celsius to operate in tough environments.



# Natural Color Matrix

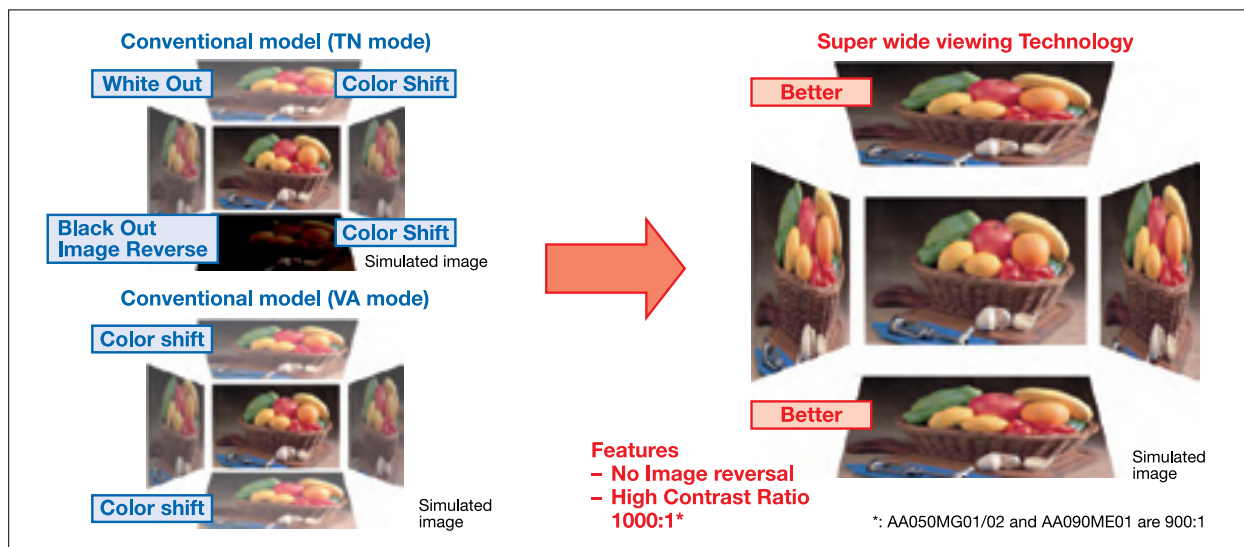
For display devices it is necessary to show realistic colors that are close to original the image. Mitsubishi Electric Industrial TFT-LCD has original color conversion technology called Natural

Color Matrix built-in. This technology provides more vivid color which is closer to original image.



# Super Wide Viewing Technology

Mitsubishi Electric's super wide viewing technology features excellent image quality, high contrast ratio (up to 1000:1) without any image reversal.

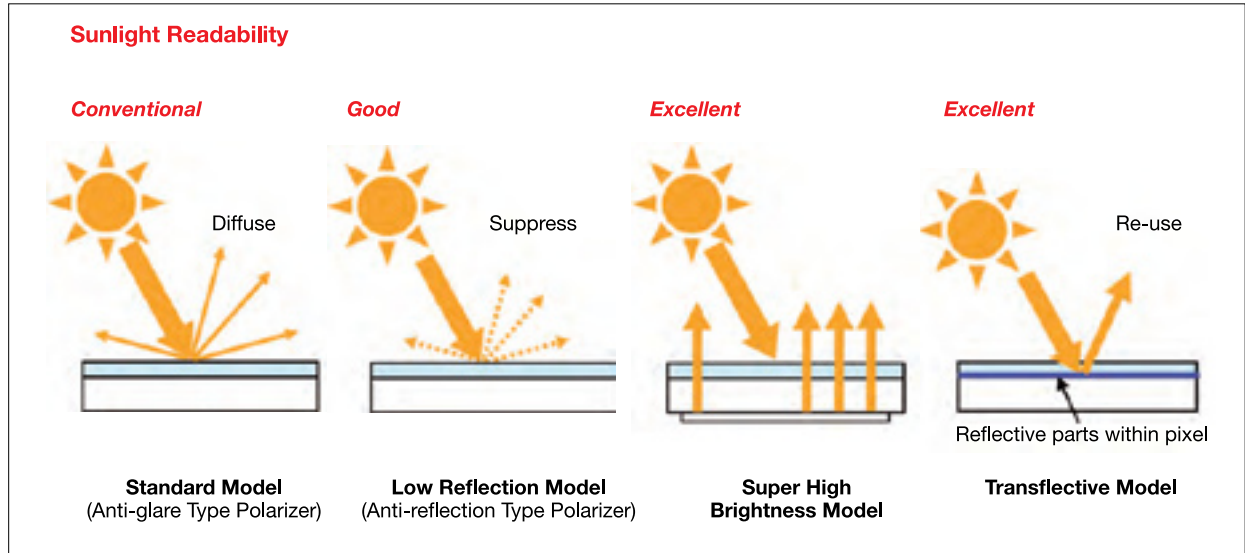


# Sunlight Readability/Outdoor Use

## Low Reflection, Super High Brightness & Transflective Technology

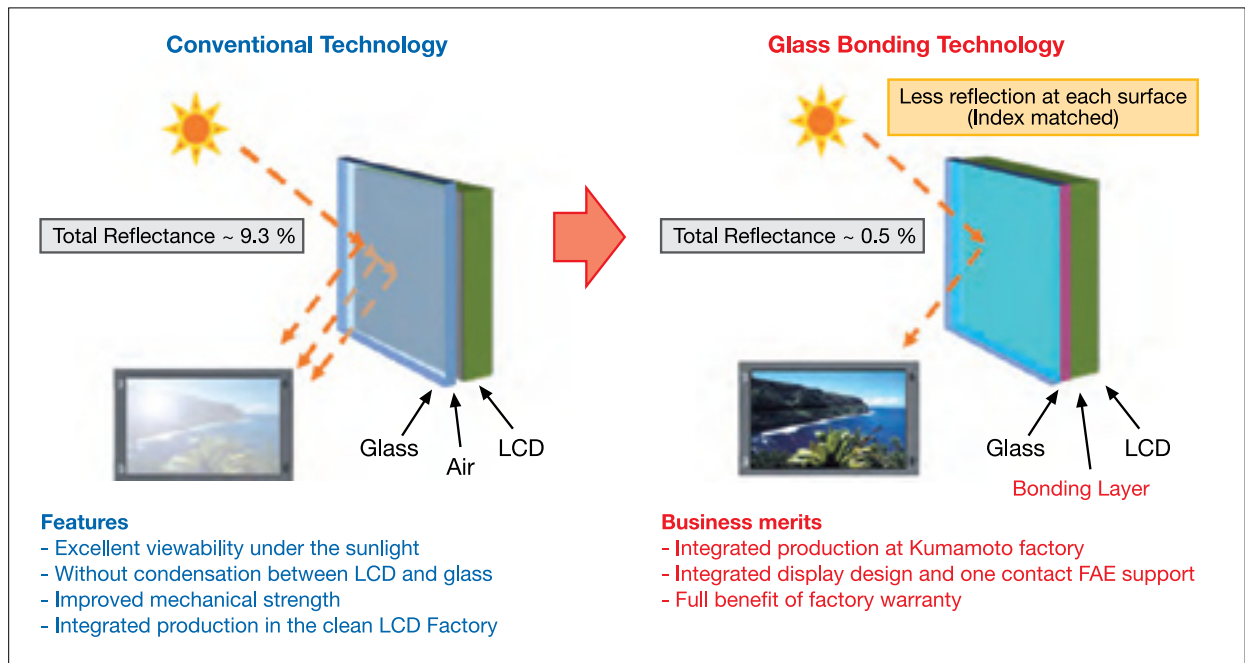
Low reflection products are designed to suppress bright reflection. Transflective products offer excellent sunlight readability

with low power consumption. Super High Brightness product guarantee good visibility at every light condition.



## Glass Bonding Technology

Our glass bonding technology, which is composed of protective glass fully bonded to display surface with resin provides high visibility under sunlight through the protective glass.



# Solution Matrix and Product Overview

Our Solution			White LED Backlight	Super High Brightness	LED Driver Implement	Anti Reflection Coating	Glass Bonding Technology <sup>1</sup>	Transflective Technology	Super Wide Viewing Angle	Mechanical Compatibility	Interface Compatibility	Your Interest			
												☀️ Readable under influence of bright Sunshine	💡 Low Power Consumption	🔧 Save development cost, time and resources (compatible outline-dimension / Interface)	😊 Convenient backlight for every condition
												<b>Color code</b> <span style="display:inline-block; width:10px; height:10px; background-color:gray; border:1px solid black;"></span> mechanical compatibility <span style="display:inline-block; width:10px; height:10px; background-color:blue; border:1px solid black;"></span> LVDS Interface <span style="display:inline-block; width:10px; height:10px; background-color:yellow; border:1px solid black;"></span> CMOS Interface (several types of CMOS available)			
Screen Size (inch)	Resolution (pixel)	Model Name										Brightness (cd/m <sup>2</sup> )	Contrast Ratio	Electric Interface	Outline Dimensions W x H x D (mm)
4.3	WVGA	AA043MA01	x									200	400:1	CMOS	103.0 x 67.5 x 5.3
		AA050MC01	x									300	600:1	CMOS	118.5 x 77.8 x 3.5
5.0	WVGA	AA050ME01	x									420	450:1	CMOS	118.5 x 77.8 x 3.5
		AA050MG01	x									800	900:1	CMOS	118.5 x 84.7 x 3.9
		AA050MG02	x			x						800	700:1	CMOS	118.5 x 84.7 x 3.9
		AA057QD01	x		x							450	600:1	CMOS	144.0 x 104.6 x 8.8
5.7	QVGA	AA057VF12	x	x	x							1100	600:1	CMOS	135.0 x 104.6 x 8.9
	VGA	AA057VG12	x		x							600	185:1	CMOS	135.0 x 104.6 x 8.9
		AA065VD11	x	x								1200	600:1	CMOS	154.0 x 121.0 x 11.0
6.5	VGA	AA065VD13	x	x		x						1200	600:1	CMOS	154.0 x 121.0 x 11.0
		AA065VE11	x	x								1200	600:1	LVDS	154.0 x 121.0 x 11.0
		AA070MC01	x	x	x							1000	1000:1	LVDS	169.8 x 109.7 x 8.9
8.4	VGA	AA084VE01										200	200:1	CMOS	199.5 x 149.0 x 11.5
		AA084VG01	x									800	600:1	CMOS	199.5 x 149.0 x 11.5
		AA084VJ01	x		x							800	600:1	LVDS	199.5 x 149.0 x 11.5
		AA084VJ11	x	x	x							800	600:1	LVDS	199.5 x 149.0 x 11.5
	SVGA	AA084SB01	x									600	600:1	LVDS	199.5 x 149.0 x 11.5
		AA084SB11	x	x								1200	600:1	LVDS	199.5 x 149.0 x 11.5
		AA084SC01	x		x							600	1200:1	LVDS	199.5 x 149.0 x 11.5
	XGA	AA084XB01	x									400	600:1	LVDS	199.5 x 149.0 x 11.5
		AA084XB11	x	x								1000	600:1	LVDS	199.5 x 149.0 x 11.5
		AA090AA01	x		x							400	1000:1	LVDS	217.0 x 130.0 x 9.5
9.0	QHD	AA090ME01	x				x <sup>1</sup>					400	900:1	LVDS	219.0 x 136.2 x 9.5
		AA090MF01	x									800	800:1	LVDS	219.0 x 136.2 x 9.5
		AA090MF11	x	x								1500	800:1	LVDS	219.0 x 136.2 x 9.5
	WXGA	AA090TA01	x									800	800:1	LVDS	219.0 x 136.2 x 9.5
		AA104VH02	x									700	700:1	CMOS	230.0 x 180.2 x 10.5
10.4	VGA	AA104VH12	x	x								1500	700:1	CMOS	230.0 x 180.2 x 10.5
		AA104VJ02	x		x							800	700:1	LVDS	230.0 x 180.2 x 10.5
		AA104VJ12	x	x								800	700:1	LVDS	230.0 x 180.2 x 10.5
		AA104SH02	x									700	700:1	LVDS	230.0 x 180.2 x 10.5
	SVGA	AA104SH12	x	x				x <sup>1</sup>				1200	700:1	LVDS	230.0 x 180.2 x 10.5
		AA104SJ02	x		x							600	1200:1	LVDS	230.0 x 180.2 x 10.5
		AA104XD02	x					x <sup>1</sup>				600	700:1	LVDS	230.0 x 180.2 x 10.5
		AA104XD12	x	x								1000	700:1	LVDS	230.0 x 180.2 x 10.5
WXGA	AA106TA01	x	x	x							1000	1000:1	LVDS	250.0 x 157.0 x 8.9	
12.1	SVGA	AA121SM02	x									400	600:1	LVDS	280.0 x 210.0 x 12.0
		AA121ST01	x		x							600	1200:1	LVDS	260.5 x 203.0 x 9.5
		AA121XK01	x									400	600:1	LVDS	280.0 x 210.0 x 12.0
	XGA	AA121XK02	x			x						400	600:1	LVDS	280.0 x 210.0 x 12.0
		AA121XL01	x	x								1000	600:1	LVDS	260.5 x 203.0 x 9.7
		AA121TD01	x		x			x <sup>1</sup>				700	700:1	LVDS	283.0 x 185.1 x 9.7
		AA121TD11	x	x	x			x <sup>1</sup>				1500	700:1	LVDS	283.0 x 185.1 x 9.7
WXGA	AA141TC01	x									800	700:1	LVDS	336.0 x 216.5 x 16.0	
15.0	XGA	AA150XS01	x									350	1000:1	LVDS	326.0 x 255.0 x 16.6
		AA150XS11	x	x								1100	1000:1	LVDS	326.0 x 255.0 x 16.6
		AA150XT01	x					x <sup>1</sup>				800	800:1	LVDS	326.0 x 255.0 x 16.6
		AA150XT11	x	x								1500	800:1	LVDS	326.0 x 255.0 x 16.6
17.0	SXGA	AA170EB01									550	800:1	LVDS	358.5 x 296.5 x 16.9	
17.5	WXGA	AA175TD01	x								700	700:1	LVDS	404.0 x 258.0 x 16.2	
19.0	SXGA	AA190EA01	x	x							1500	800:1	LVDS	404.2 x 33.0 x 20.0	
19.2	1/3 HD	AA192AA01	x		x						500	700:1	LVDS	496.0 x 109.2 x 13.9	

<sup>1</sup> Option. Please contact Mitsubishi Electric for further details.

# Industrial TFT-LCD Line-up

Screen Size and Resolution	4.3-inch WVGA		5-inch WVGA		
TYPE NAME	AA043MA01	AA050MC01	AA050MC01-T1	AA050ME01	AA050ME01-T1
Active Screen Area Size [mm]	93.0 (H) x 55.8 (V)	108.0 (H) x 64.8 (V)	108.0 (H) x 64.8 (V)	108.0 (H) x 64.8 (V)	108.0 (H) x 64.8 (V)
Pixel Number	800 (H) x 480 (V)	800 (H) x 480 (V)	800 (H) x 480 (V)	800 (H) x 480 (V)	800 (H) x 480 (V)
Pixel Pitch [mm]	0.116 (H) x 0.116 (V)	0.135 (H) x 0.135 (V)	0.135 (H) x 0.135 (V)	0.135 (H) x 0.135 (V)	0.135 (H) x 0.135 (V)
Contrast Ratio	400:1	600:1	600:1	450:1	450:1
Brightness [cd/m <sup>2</sup> ]	200	300	250	420	350
Viewing Angle (CR>10) [°]	-65~65 (H), -60~45 (V)	-85~85 (H), -85~85 (V)	-85~85 (H), -85~85 (V)	-65~65 (H), -45~65 (V)	-65~65 (H), -45~65 (V)
Colors	262k (6bit/color) / 16.7M (8bit/color)	16.7M (8bit/color)	16.7M (8bit/color)	16.7M (8bit/color)	16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50	50
Natural Color Matrix	Yes	No	No	No	No
Backlight	LED	LED	LED	LED	LED
Interface	CMOS	CMOS	CMOS	CMOS	CMOS
Power Consumption [W]	0.94	1.14	1.14	1.14	1.14
Power Supply [V]	3.3	3.3 and 5.0	3.3 and 5.0	3.3 and 5.0	3.3 and 5.0
Reverse Scan	Available	Available	Available	Available	Available
Module Outline Dimensions [mm]	W	103	118.5	118.5	118.5
	H	67.5	77.8	77.8	77.8
	D	5.3	3.5 *W/O FPC	4.7 *W/O FPC	3.5 *W/O FPC
Module Mass [g]	58	70	89	70	89
Operation Temperature Range [°C]	-20~70	-20~60	-20~60	-20~70	-20~70
Storage Temperature Range [°C]	-20~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Clear	Clear	Clear	Clear	Clear
Main Features	-	Super Wide Viewing Technology	Super Wide Viewing Technology, Resistive Touchpanel	-	Resistive Touchpanel

Screen Size and Resolution	5-inch WVGA			5.7-inch QVGA
TYPE NAME	AA050MG01	AA050MG01-T1	AA050MG02	AA057QD01
Active Screen Area Size [mm]	108 (H) x 64.8 (V)	108 (H) x 64.8 (V)	108 (H) x 64.8 (V)	115.2 (H) x 86.4 (V)
Pixel Number	800 (H) x 480 (V)	800 (H) x 480 (V)	800 (H) x 480 (V)	320 (H) x 240 (V)
Pixel Pitch [mm]	0.135 (H) x 0.135 (V)	0.135 (H) x 0.135 (V)	0.135 (H) x 0.135 (V)	0.36 (H) x 0.36 (V)
Contrast Ratio	900:1	900:1	900:1	800:1
Brightness [cd/m <sup>2</sup> ]	800	640	800	450
Viewing Angle (CR>10) [°]	-85~85 (H), -85~85 (V)	-85~85 (H), -85~85 (V)	-85~85 (H), -85~85 (V)	-80~80 (H), -60~80 (V)
Colors	16.7M (8bit/color)	16.7M (8bit/color)	16.7M (8bit/color)	262k (6bit/color)
Color Saturation vs. NTSC [%]	50	50	50	50
Natural Color Matrix	No	No	No	No
Backlight	LED	LED	LED	LED
Interface	CMOS	CMOS	CMOS	CMOS
Power Consumption [W]	1.62	1.62	1.62	1.8
Power Supply [V]	3.3	3.3	3.3	3.3
Reverse Scan	Available	Available	Available	Available
Module Outline Dimensions [mm]	W	118.5	118.5	144
	H	84.7	84.7	104.6
	D	3.9 *W/O FPC	5.1 *W/O FPC	3.9 *W/O FPC
Module Mass [g]	80	99	80	165
Operation Temperature Range [°C]	-20~70	-20~70	-20~70	-30~80
Storage Temperature Range [°C]	-20~80	-20~80	-20~80	-30~80
Surface Treatment	Clear	Clear	Anti-reflective	Clear
Main Features	Super Wide Viewing Technology High Brightness	Super Wide Viewing Technology High Brightness Resistive Touchpanel	Super Wide Viewing Technology High Brightness Anti-reflection surface	Integrated LED driver Ultra Long LED lifetime

# Industrial TFT-LCD Line-up

Screen Size and Resolution	5.7-inch VGA			6.5-inch VGA	
TYPE NAME	AA057VF12	AA057VG12	AA065VD11	AA065VD13	AA065VE11
Active Screen Area Size [mm]	115.2 (H) x 86.4 (V)	115.2 (H) x 86.4 (V)	132.5 (H) x 99.4 (V)	132.5 (H) x 99.4 (V)	132.5 (H) x 99.4 (V)
Pixel Number	640 (H) x 480 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)
Pixel Pitch [mm]	0.18 (H) x 0.18 (V)	0.18 (H) x 0.18 (V)	0.207 (H) x 0.207 (V)	0.207 (H) x 0.207 (V)	0.207 (H) x 0.207 (V)
Contrast Ratio	600:1	185:1	600:1	600:1	600:1
Brightness [cd/m <sup>2</sup> ]	1100	500	1200	1200	1200
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -65~50 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color)	262k (6bit/color)	262k (6bit/color)	262k (6bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	40	40	40	40
Natural Color Matrix	Yes	Yes	Yes	Yes	Yes
Backlight	LED	LED	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)
Lamp/LED Life [h]	Typ.100000	Typ. 100000	Typ.100000	Typ.100000	Typ.100000
Interface	CMOS	CMOS	CMOS	CMOS	LVDS
Power Consumption [W]	4.2	4.7	3.8	3.8	3.9
Power Supply [V]	3.3	3.3	3.3	3.3	3.3
Reverse Scan	Available	Available	Available	Available	Available
Module Outline Dimensions [mm]	W	135	135	154	154
	H	104.6	104.6	121	121
	D	8.85	8.85	11	11
Module Mass [g]	165	165	185	185	185
Operation Temperature Range [°C]	-20~70	-20~70	-30~80	-30~80	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Clear	Anti-reflection	Anti-glare	Anti-reflection	Anti-glare
Main Features	Super High Brightness Ultra Long LED lifetime	Transflective Technology Integrated LED driver Ultra Long LED lifetime	Super High Brightness Ultra Long LED lifetime	Super High Brightness Anti-reflection surface Ultra Long LED lifetime	Super High Brightness Ultra Long LED lifetime

Screen Size and Resolution	7-inch WVGA		8.4-inch VGA		
TYPE NAME	AA070MC01	AA084VE01	AA084VG01	AA084VJ01	AA084VJ11
Active Screen Area Size [mm]	152.4 (H) x 91.44 (V)	170.9 (H) x 128.2 (V)	170.9 (H) x 128.2 (V)	170.9 (H) x 128.2 (V)	170.9 (H) x 128.2 (V)
Pixel Number	800 (H) x 480 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)
Pixel Pitch [mm]	0.1905 (H) x 0.1905 (V)	0.267 (H) x 0.267 (V)	0.267 (H) x 0.267 (V)	0.267 (H) x 0.267 (V)	0.267 (H) x 0.267 (V)
Contrast Ratio	1000:1	200 : 1	600:1	800:1	800:1
Brightness [cd/m <sup>2</sup> ]	1000	200	800	800	1500
Viewing Angle (CR>10) [°]	-85~85 (H), -85~85 (V)	-80~80 (H), -70~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color)	262k (6bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	50	40	40	40	40
Natural Color Matrix	Yes	Yes	Yes	Yes	Yes
Backlight	LED	CCFL 2-tubes (Replaceable)	LED (Replaceable)	LED	LED
Lamp/LED Life [h]	Typ.100000	Min.50000	Typ.100000	Typ.100000	Typ.100000
Interface	LVDS	CMOS	CMOS	LVDS	LVDS
Power Consumption [W]	5.1	6.7	4.6	TBD	TBD
Power Supply [V]	3.3	3.3	3.3	3.3	3.3
Reverse Scan	Available	Available	Available	Available	Available
Module Outline Dimensions [mm]	W	169.8	199.5	199.5	199.5
	H	109.7	149	149	149
	D	8.9	11.5	11.5	9.7
Module Mass [g]	200	365	365	TBD	TBD
Operation Temperature Range [°C]	-30~80	-20~70	-30~80	-30~80	-30~80
Storage Temperature Range [°C]	-30~80	-20~80	-30~80	-30~80	-30~80
Surface Treatment	Clear	Anti-reflection	Anti-glare	Anti-glare	Anti-glare
Main Features	Super Wide Viewing Technology Super High Brightness Integrated LED driver Ultra Long LED lifetime	Transflective Technology Anti-reflection surface	High Brightness Ultra Long LED lifetime	High Brightness Integrated LED driver Ultra Long LED lifetime	Super High Brightness Ultra Long LED lifetime

# Industrial TFT-LCD Line-up

Screen Size and Resolution	8.4-inch SVGA			
TYPE NAME	AA084SB01	AA084SB01-T2	AA084SB11	AA084SC01
Active Screen Area Size [mm]	170.4 (H) x 127.8 (V)	170.4 (H) x 127.8 (V)	170.4 (H) x 127.8 (V)	170.4 (H) x 127.8 (V)
Pixel Number	800 (H) x 600 (V)	800 (H) x 600 (V)	800 (H) x 600 (V)	800 (H) x 600 (V)
Pixel Pitch [mm]	0.213 (H) x 0.213 (V)	0.213 (H) x 0.213 (V)	0.213 (H) x 0.213 (V)	0.213 (H) x 0.213 (V)
Contrast Ratio	600:1	570:1	600:1	1000:1
Brightness [cd/m <sup>2</sup> ]	600	480	1200	600
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-85~85 (H), -85~85 (V)
Colors	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	72
Natural Color Matrix	Yes	Yes	Yes	Yes
Backlight	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED
Lamp/LED Life [h]	Typ.100000	Typ.100000	Typ.100000	Typ.100000
Interface	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	4.7	4.7	6.9	TBD
Power Supply [V]	3.3	3.3	3.3	3.3
Reverse Scan	Available	Available	Available	Available
Module Outline Dimensions [mm]	W	199.5	199.5	199.5
	H	149	149	149
	D	11.5	13.8	11.5
Module Mass [g]	365	500	365	TBD
Operation Temperature Range [°C]	-30~80	-20~70	-30~80	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Anti-glare	Anti-glare	Anti-glare	Anti-glare
Main Features	Ultra Long LED lifetime	Resistive Touchpanel Ultra Long LED lifetime	Super High Brightness Ultra Long LED lifetime	Super Wide Viewing Technology Integrated LED driver Ultra Long LED lifetime

Screen Size and Resolution	8.4-inch XGA			9-inch Quarter HD
TYPE NAME	AA084XB01	AA084XB01-T2	AA084XB11	AA090AA01
Active Screen Area Size [mm]	170.5 (H) x 127.9 (V)	170.5 (H) x 127.9 (V)	170.5 (H) x 127.9 (V)	198.7 (H) x 111.8 (V)
Pixel Number	1024 (H) x 768 (V)	1024 (H) x 768 (V)	1024 (H) x 768 (V)	960 (H) x 540 (V)
Pixel Pitch [mm]	0.1665 (H) x 0.1665 (V)	0.1665 (H) x 0.1665 (V)	0.1665 (H) x 0.1665 (V)	0.207 (H) x 0.207 (V)
Contrast Ratio	600:1	570:1	600:1	1000:1
Brightness [cd/m <sup>2</sup> ]	500	400	1000	400
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-85~85 (H), -85~85 (V)
Colors	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	72
Natural Color Matrix	Yes	Yes	Yes	No
Backlight	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)
Lamp/LED Life [h]	Typ.100000	Typ.100000	Typ.100000	Typ.100000
Interface	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	4.9	4.9	7.2	5.8
Power Supply [V]	3.3	3.3	3.3	3.3
Reverse Scan	Available	Available	Available	Unavailable
Module Outline Dimensions [mm]	W	199.5	199.5	217
	H	149	149	130
	D	11.5	13.8	9.5
Module Mass [g]	370	500	370	330
Operation Temperature Range [°C]	-30~80	-20~70	-30~80	-20~60
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-20~70
Surface Treatment	Anti-glare	Anti-glare	Anti-glare	Anti-glare
Main Features	Ultra Long LED lifetime	Resistive Touchpanel Ultra Long LED lifetime	Super High Brightness Ultra Long LED lifetime	Super Wide Viewing Technology Integrated LED driver Ultra Long LED lifetime

# Industrial TFT-LCD Line-up

Screen Size and Resolution		9-inch WVGA				
TYPE NAME		AA090ME01	AA090ME01-T1	AA090MF01	AA090MF01-T1	AA090MF11
Active Screen Area Size [mm]		196.8 (H) x 118.1 (V)	196.8 (H) x 118.1 (V)	196.8(H) x 118.1(V)	196.8 (H) x 118.1 (V)	196.8 (H) x 118.08 (V)
Pixel Number		800 (H) x 480 (V)	800 (H) x 480 (V)	800(H) x 480(V)	800 (H) x 480 (V)	800 (H) x 480 (V)
Pixel Pitch [mm]		0.246 (H) x 0.246 (V)	0.246 (H) x 0.246 (V)	0.246 (H) x 0.246 (V)	0.246 (H) x 0.246 (V)	0.246 (H) x 0.246 (V)
Contrast Ratio		900:1	850:1	800:1	760:1	800:1
Brightness [cd/m <sup>2</sup> ]		400	320	800	640	1500
Viewing Angle (CR>10) [°]		-85~85 (H), -85~85 (V)	-85~85 (H), -85~85 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)
Colors		262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]		72	72	40	40	40
Natural Color Matrix		Yes	Yes	Yes	Yes	Yes
Backlight		LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)
Lamp/LED Life [h]		Typ.100000	Typ.100000	Typ.100000	Typ.100000	Typ.100000
Interface		LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]		5.1	5.1	4.9	4.9	6.402
Power Supply [V]		3.3	3.3	3.3	3.3	3.3
Reverse Scan		Available	Available	Available	Available	Available
Module Outline Dimensions [mm]		W	219	219	219	219
		H	136.2	136.2	136.2	136.2
		D	9.5	11.1	9.5	11.1
Module Mass [g]		320	410	340	420	340
Operation Temperature Range [°C]		-30~80	-20~70	-30~80	-20~70	-30~80
Storage Temperature Range [°C]		-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment		Anti-glare	Anti-glare	Anti-glare	Anti-glare	Anti-glare
Main Features		Super Wide Viewing Technology, Ultra Long LED lifetime	Super Wide Viewing Technology, Resistive Tochpanel, Ultra Long LED lifetime	High Brightness, Ultra Long LED lifetime	Resistive Tochpanel, Ultra Long LED lifetime	Super High Brightness, Ultra Long LED lifetime

Screen Size and Resolution		9-inch WXGA		10.4-inch VGA			
TYPE NAME		AA090TA01	AA104VH02	AA104VH12	AA104VJ02	AA104VJ12	
Active Screen Area Size [mm]		195.8 (H) x 117.5 (V)	211.2 (H) x 158.4 (V)	211.2 (H) x 158.4 (V)	211.2 (H) x 158.4 (V)	211.2 (H) x 158.4 (V)	
Pixel Number		1280 (H) x 768 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)	640 (H) x 480 (V)	
Pixel Pitch [mm]		0.153 (H) x 0.153 (V)	0.33 (H) x 0.33 (V)	0.33 (H) x 0.33 (V)	0.33 (H) x 0.33 (V)	0.33 (H) x 0.33 (V)	
Contrast Ratio		1000:1	700:1	700:1	800:1	800:1	
Brightness [cd/m <sup>2</sup> ]		800	800	1500	800	1500	
Viewing Angle (CR>10) [°]		-85~85 (H), -85~85 (V)	-70~70 (H), -65~65 (V)	-70~70 (H), -65~65 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	
Colors		262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color)	262k (6bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	
Color Saturation vs. NTSC [%]		50	40	40	40	40	
Natural Color Matrix		Yes	Yes	Yes	Yes	Yes	
Backlight		LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED	LED	
Lamp/LED Life [h]		Typ.100000	Typ.100000	Typ.100000	Typ.100000	Typ.100000	
Interface		LVDS	CMOS	CMOS	LVDS	LVDS	
Power Consumption [W]		(7.0)	5.1	9.5	TBD	TBD	
Power Supply [V]		3.3	3.3	3.3	3.3	3.3	
Reverse Scan		Available	Available	Available	Available	Available	
Module Outline Dimensions [mm]		W	219	230	230	230	
		H	136.2	180.2	180.2	180.2	180.2
		D	9.5	10.5	10.5	9.5	9.5
Module Mass [g]		(320)	520	520	TBD	TBD	
Operation Temperature Range [°C]		-30~80	-20~70	-20~70	-20~70	-20~70	
Storage Temperature Range [°C]		-30~80	-20~80	-20~80	-20~80	-20~80	
Surface Treatment		Anti-glare	Anti-glare	Anti-glare	Anti-glare	Anti-glare	
Main Features		Super Wide Viewing Technology, High Brightness, Ultra Long LED lifetime	High Brightness, Ultra Long LED lifetime	Super High Brightness, Ultra Long LED lifetime	High Brightness, Integrated LED driver, Ultra Long LED lifetime	Super High Brightness, Ultra Long LED lifetime	

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Screen Size and Resolution		10.4-inch SVGA				
TYPE NAME	AA104SH02	AA104SH02-T1	AA104SH12	AA104SH12-G1	AA104SJ02	
Active Screen Area Size [mm]	211.2 (H) x 158.4 (V)	211.2 (H) x 158.4 (V)	211.2 (H) x 158.4 (V)	211.2 (H) x 158.4 (V)	211.2 (H) x 158.4 (V)	
Pixel Number	800 (H) x 600 (V)	800 (H) x 600 (V)	800 (H) x 600 (V)	800 (H) x 600 (V)	800 (H) x 600 (V)	
Pixel Pitch [mm]	0.264 (H) x 0.264 (V)	0.264 (H) x 0.264 (V)	0.264 (H) x 0.264 (V)	0.264 (H) x 0.264 (V)	0.264 (H) x 0.264 (V)	
Contrast Ratio	700:1	670:1	700:1	700:1	1000:1	
Brightness [cd/m <sup>2</sup> ]	700	560	1200	1200	600	
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-85~85 (H), -85~85 (V)	
Colors	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	
Color Saturation vs. NTSC [%]	40	40	40	40	72	
Natural Color Matrix	Yes	Yes	Yes	Yes	Yes	
Backlight	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED	
Lamp/LED Life [h]	Typ.100000	Typ.100000	Typ.100000	Typ.100000	Typ.100000	
Interface	LVDS	LVDS	LVDS	LVDS	LVDS	
Power Consumption [W]	4.8	4.8195	8.6	8.6	TBD	
Power Supply [V]	3.3	3.3	3.3	3.3	3.3	
Reverse Scan	Available	Available	Available	Available	Available	
Module Outline Dimensions [mm]	W	230	230	230	230	
	H	180.2	180.2	180.2	180.2	
	D	10.5	12.1	10.5	13.8	
Module Mass [g]	520	640	520	830	TBD	
Operation Temperature Range [°C]	-30~80	-20~70	-30~80	-30~70	-30~80	
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80	
Surface Treatment	Anti-glare	Anti-glare	Anti-glare	Anti-reflection	Anti-glare	
Main Features	High Brightness, Ultra Long LED lifetime	High Brightness, Ultra Long LED lifetime, Resistive Touchpanel	Super High Brightness, Ultra Long LED lifetime	Glass Bonding, Super High Brightness, Ultra Long LED lifetime	Super Wide Viewing Technology, Integrated LED driver, Ultra Long LED lifetime	

Screen Size and Resolution		10.4-inch XGA			10.6-inch WXGA
TYPE NAME	AA104XD02	AA104XD02-T1	AA104XD12	AA104XD12-G1	AA106TA01
Active Screen Area Size [mm]	210.4 (H) x 157.8 (V)	210.4 (H) x 157.8 (V)	210.4 (H) x 157.8 (V)	210.4 (H) x 157.8 (V)	231.4 (H) x 138.8 (V)
Pixel Number	1024 (H) x 768 (V)	1024 (H) x 768 (V)	1024 (H) x 768 (V)	1024 (H) x 768 (V)	1280 (H) x 768 (V)
Pixel Pitch [mm]	0.2055 (H) x 0.2055 (V)	0.2055 (H) x 0.2055 (V)	0.2055 (H) x 0.2055 (V)	0.2055 (H) x 0.2055 (V)	0.18075 (H) x 0.18075 (V)
Contrast Ratio	700:1	670:1	700:1	700:1	1000:1
Brightness [cd/m <sup>2</sup> ]	600	480	1000	1000	1000
Viewing Angle (CR>10) [°]	-80~80 (H), -65~65 (V)	-80~80 (H), -65~65 (V)	-80~80 (H), -65~65 (V)	-80~80 (H), -65~65 (V)	-85~85(H), -85~85(V)
Colors	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	40	50
Natural Color Matrix	Yes	Yes	Yes	Yes	Yes
Backlight	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED
Lamp/LED Life [h]	Typ.100000	Typ.100000	Typ.100000	Typ.100000	Typ.100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	5.2	5.2	9	9	TBD
Power Supply [V]	3.3	3.3	3.3	3.3	3.3
Reverse Scan	Available	Available	Available	Available	Available
Module Outline Dimensions [mm]	W	230	230	230	250
	H	180.2	180.2	180.2	157
	D	10.5	12.1	10.5	13.8
Module Mass [g]	520	650	520	830	420
Operation Temperature Range [°C]	-30~80	-20~70	-30~80	-30~70	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Anti-glare	Anti-glare	Anti-glare	Anti-reflection	Clear
Main Features	Ultra Long LED lifetime	Resistive Touchpanel Ultra Long LED lifetime	Super High Brightness Ultra Long LED lifetime	Glass Bonding Super High Brightness Ultra Long LED lifetime	Super Wide Viewing Technology Super High Brightness Integrated LED driver Ultra Long LED lifetime

# Industrial TFT-LCD Line-up

Screen Size and Resolution	12.1-inch SVGA			12.1-inch XGA	
TYPE NAME	AA121SM02	AA121ST01	AC121SA01	AA121XK01	AA121XK02
Active Screen Area Size [mm]	246.0 (H) x 184.5 (V)	246.0 (H) x 184.5 (V)	246.0 (H) x 184.5 (V)	245.8 (H) x 184.3 (V)	245.8 (H) x 184.3 (V)
Pixel Number	800 (H) x 600 (V)	800 (H) x 600 (V)	800 (H) x 600 (V)	1024 (H) x 768 (V)	1024 (H) x 768 (V)
Pixel Pitch [mm]	0.3075 (H) x 0.3075 (V)	0.3075 (H) x 0.3075 (V)	0.3075 (H) x 0.3075 (V)	0.240 (H) x 0.240 (V)	0.240 (H) x 0.240 (V)
Contrast Ratio	600:1	1000:1	800:1	600:1	600:1
Brightness [cd/m <sup>2</sup> ]	550	600	450	500	500
Viewing Angle (CR>10) [°]	-80~80 (H), -60~80 (V)	-85~85 (H), -85~85 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -75~55 (V)
Colors	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	72	72	40	40
Natural Color Matrix	Yes	Yes	Yes	Yes	Yes
Backlight	LED (Replaceable)	LED	LED	LED (Replaceable)	LED (Replaceable)
Lamp/LED Life [h]	Typ.100000	Typ.100000	Typ.100000	Typ.100000	Typ.100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	7	TBD	6.7	6.9	6.9
Power Supply [V]	3.3	3.3	3.3	3.3	3.3
Reverse Scan	Available	Available	Available	Available	Available
Module Outline Dimensions [mm]	W 280 H 210 D 12	260.5 203 9.5	260.5 203 9.5	280 210 12	280 210 12
Module Mass [g]	750	TBD	580	750	750
Operation Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-30~80	-30~80
Surface Treatment	Anti-glare	Anti-glare	Anti-glare	Anti-glare	Anti-reflection
Main Features	Ultra Long LED lifetime	Super Wide Viewing Technology, Integrated LED driver, Ultra Long LED lifetime	Integrated LED driver, Ultra Long LED lifetime, For Volume Projects	Ultra Long LED lifetime	Ultra Long LED lifetime, Anti-reflection surface

Screen Size and Resolution	12.1-inch XGA	12.1-inch WXGA		14.1-inch WXGA	15-inch XGA
TYPE NAME	AA121XL01	AA121TD01	AA121TD11	AA141TC01	AA150XS01
Active Screen Area Size [mm]	245.8 (H) x 184.3 (V)	261.1 (H) x 163.2 (V)	261.12 (H) x 163.2 (V)	303.3 (H) x 189.6 (V)	304.1 (H) x 228.1 (V)
Pixel Number	1024 (H) x 768 (V)	1280 (H) x 800 (V)	1280 (H) x 800 (V)	1280 (H) x 800 (V)	1024 (H) x 768 (V)
Pixel Pitch [mm]	0.240 (H) x 0.240 (V)	0.204 (H) x 0.204 (V)	0.204 (H) x 0.204 (V)	0.237 (H) x 0.237 (V)	0.297 (H) x 0.297 (V)
Contrast Ratio	600:1	700:1	700:1	700:1	1000:1
Brightness [cd/m <sup>2</sup> ]	1000	700	1500	800	350
Viewing Angle (CR>10) [°]	-80~80 (H), -80~60 (V)	-80~80(H), -60~80(V)	-80~80 (H), -60~80 (V)	-80~80(H), -60~80(V)	-85~85 (H), -85~85 (V)
Colors	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]	40	40	40	45	72
Natural Color Matrix	Yes	Yes	Yes	Yes	Yes
Backlight	LED	LED	LED	LED	LED (Replaceable)
Lamp/LED Life [h]	Typ.100000	Typ.100000	Typ.100000	Typ.100000	Typ.100000
Interface	LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]	9.7	9.4	11.151	13.9	13.3
Power Supply [V]	3.3	3.3	3.3	3.3	3.3
Reverse Scan	Available	Available	Available	Unavailable	Available
Module Outline Dimensions [mm]	W 260.5 H 203 D 9.7	283 185.1 9.7	283 185.1 9.7	326 216.5 16	326 255 16.6
Module Mass [g]	610	620	580	1130	1260
Operation Temperature Range [°C]	-30~80	-30~80	-30~80	-20~70	-20~70
Storage Temperature Range [°C]	-30~80	-30~80	-30~80	-20~80	-20~80
Surface Treatment	Anti-glare	Anti-glare	Anti-glare	Anti-glare	Anti-glare
Main Features	Super High Brightness, Ultra Long LED lifetime, Slim outline	Integrated LED driver, Ultra Long LED lifetime	Super High Brightness, Ultra Long LED lifetime	High Brightness, Ultra Long LED lifetime	Super Wide Viewing Technology, Ultra Long LED lifetime

# Industrial TFT-LCD Line-up

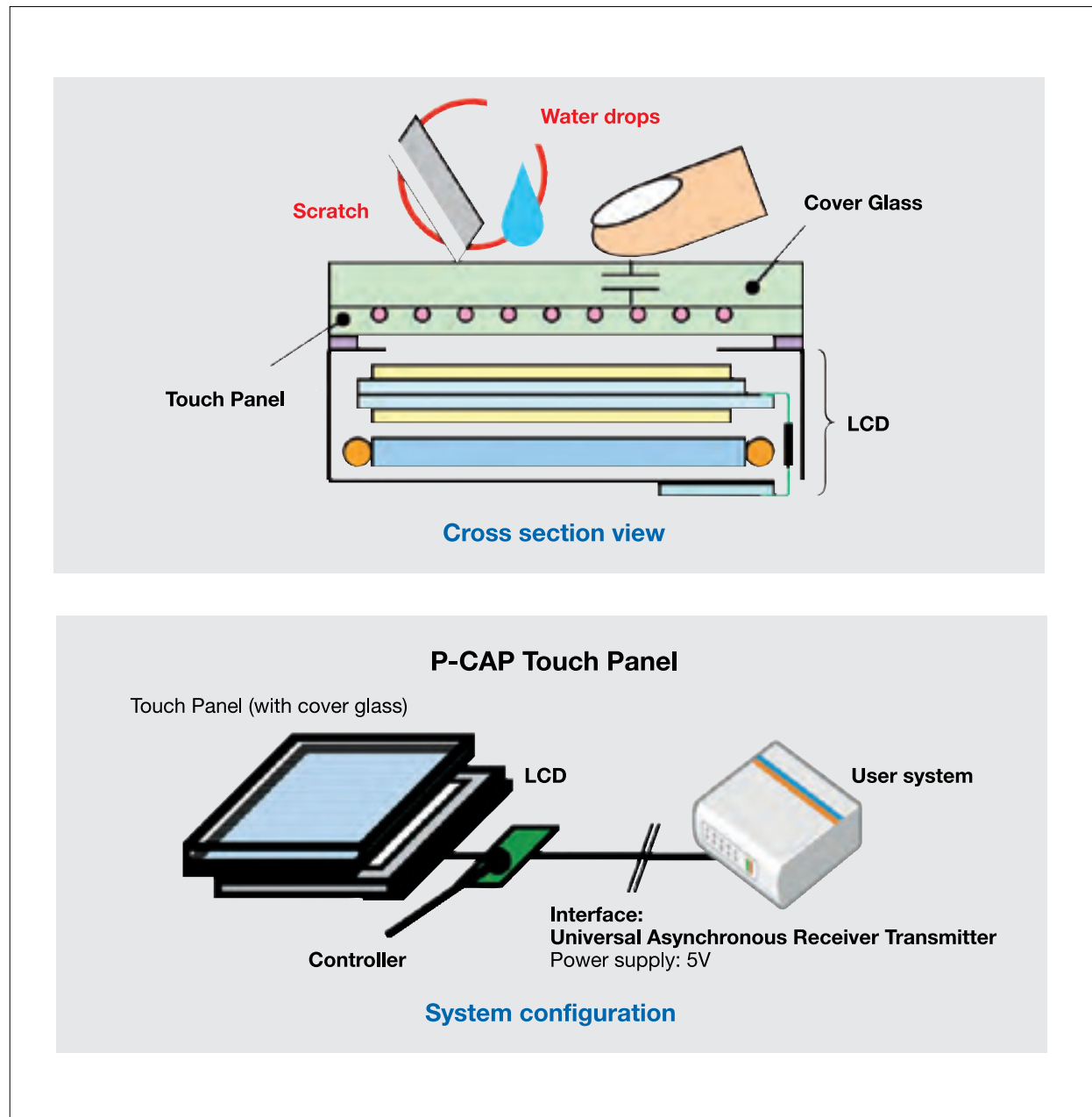
Screen Size and Resolution		15-inch XGA				
TYPE NAME		AA150XS02	AA150XS11	AA150XT01	AA150XT11	AC150XA01
Active Screen Area Size [mm]		304.1 (H) x 228.1 (V)	304.1 (H) x 228.1 (V)	304.1 (H) x 228.1 (V)	304.1 (H) x 228.1 (V)	304.1 (H) x 228.1 (V)
Pixel Number		1024 (H) x 768 (V)	1024 (H) x 768 (V)	1024 (H) x 768 (V)	1024 (H) x 768 (V)	1024 (H) x 768 (V)
Pixel Pitch [mm]		0.297 (H) x 0.297 (V)	0.297 (H) x 0.297 (V)	0.297 (H) x 0.297 (V)	0.297 (H) x 0.297 (V)	0.297 (H) x 0.297 (V)
Contrast Ratio		1000:1	1000:1	800:1	800:1	700:1
Brightness [cd/m <sup>2</sup> ]		350	1100	800	1500	450
Viewing Angle (CR>10) [°]		-85~85 (H), -85~85 (V)	-85~85 (H), -85~85 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -80~60 (V)	-80~80 (H), -70~70 (V)
Colors		262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]		72	72	50	50	60
Natural Color Matrix		No	Yes	Yes	Yes	Yes
Backlight		LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED (Replaceable)	LED
Lamp/LED Life [h]		Typ.100000	Typ.100000	Typ.100000	Typ.100000	Typ.100000
Interface		LVDS	LVDS	LVDS	LVDS	LVDS
Power Consumption [W]		13	33	12	20.6	10
Power Supply [V]		3.3	3.3	3.3	3.3	3.3
Reverse Scan		Available	Available	Available	Available	Unavailable
Module Outline Dimensions [mm]		W	326	326	326	326.5
		H	255	255	255	253.5
		D	16.6	16.6	16.6	12
Module Mass [g]		1260	1280	1270	1290	1050
Operation Temperature Range [°C]		-20~70	-20~70	-20~70	-20~70	0~65
Storage Temperature Range [°C]		-20~80	-20~80	-20~80	-20~80	-20~65
Surface Treatment		Anti-glare + Anti-reflection	Clear	Anti-glare	Anti-glare	Anti-glare
Main Features		Super Wide Viewing Technology, Ultra Long LED lifetime, For Medical Application	Super Wide Viewing Technology, Super High Brightness, Ultra Long LED lifetime	High Brightness, Ultra Long LED lifetime,	Super High Brightness, Ultra Long LED lifetime,	Integrated LED driver, Ultra Long LED lifetime, For Volume Projects

Screen Size and Resolution		17-inch SXGA	17.5-inch WXGA	19-inch SXGA	19.2-inch 1/3 HD
TYPE NAME		AA170EB01	AA175TD01	AA190EA01	AA192AA01
Active Screen Area Size [mm]		337.9 (H) x 270.3 (V)	380.2 (H) x 228.1 (V)	376.32 (H) x 301.056 (V)	478.1 (H) x 89.6 (V)
Pixel Number		1280 (H) x 1024 (V)	1280 (H) x 768 (V)	1280 (H) x 1024 (V)	1920 (H) x 360 (V)
Pixel Pitch [mm]		0.264 (H) x 0.264 (V)	0.297 (H) x 0.297 (V)	0.294 (H) x 0.294 (V)	0.249 (H) x 0.249 (V)
Contrast Ratio		800:1	700:1	800:1	700:1
Brightness [cd/m <sup>2</sup> ]		550	700	1500	500
Viewing Angle (CR>10) [°]		-80~80 (H), -60~80 (V)	-80~80 (H), -60~80 (V)	-80~80 (H), -80~80 (V)	-80~80 (H), -60~80 (V)
Colors		262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)	262k (6bit/color) / 16.7M (8bit/color)
Color Saturation vs. NTSC [%]		72	50	50	50
Natural Color Matrix		Yes	Yes	Yes	Yes
Backlight		CCFL 4-tubes (Replaceable)	LED (Replaceable)	LED	LED
Lamp/LED Life [h]		Min.50000	Typ.100000	Typ.100000	Typ.100000
Interface		LVDS	LVDS	LVDS	LVDS
Power Consumption [W]		18.7	19.3	33.1	11.5
Power Supply [V]		3.3/5.0	3.3	5	3.3
Reverse Scan		Available	Available	Available	Available
Module Outline Dimensions [mm]		W	358.5	404	496
		H	296.5	258	330
		D	16.9	16.2	14.9
Module Mass [g]		1840	1700	1870	780
Operation Temperature Range [°C]		-20~70	-20~70	-20~70	-30~80
Storage Temperature Range [°C]		-20~80	-20~80	-30~80	-30~80
Surface Treatment		Anti-glare	Anti-glare	Anti-glare	Anti-glare
Main Features		-	Ultra Long LED lifetime	Super High Brightness Ultra Long LED lifetime	Ultra Wide Format Integrated LED driver Ultra Long LED lifetime

# Technology Outlook: Projective Capacitive Touch Panel Technology

## Features of Mitsubishi Electric's unique Projective Capacitive Touch Panel

- High durability (Water proof & Hard surface)
- Good visibility (High transmittance)
- Usability with glove
- Multi touch function
- Optical bonding available



## TFTs

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