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## FOR IMMEDIATE RELEASE

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# Mitsubishi Electric to Expand Lineup of Color TFT-LCD Modules with Projected Capacitive Touch Panels for Industrial Applications

**TOKYO, July 25, 2013** – <u>Mitsubishi Electric Corporation</u> (TOKYO: 6503) announced today the launch of 15-inch XGA and 19-inch SXGA color TFT-LCD modules with projected capacitive touch panels that enable intuitive operation. Sales will begin on August 23 at Mitsubishi Electric offices worldwide (<u>http://www.MitsubishiElectric.com/semiconductors/</u>). Initial production has been set at 1,000 units per month for the 15-inch model and 500 units per month for the 19-inch model.

The 19-inch module with projected capacitive touch panel will be presented at IPC & Embedded Expo 2013 in Shenzhen, China from August 1–3 and International Touch Panel and Optical Film Exhibition 2013 in Taipei, Taiwan from August 28–30.

The two additions to Mitsubishi Electric's color TFT-LCD module lineup have larger screens and offer additional options for a broader range of industrial applications of high quality touch-panel screens compared to existing XGA modules ranging from 6.5 to 12.1 inches and WXGA modules ranging from 9.0 to 10.6 inches.



AA150XT11-PCAP



AA190EA01-PCAP

# Highly reliable and widely applicable touch-panel solutions

- Wide range of solutions, including TFT-LCD, PCAP touch panel, touch controller and driver software, for

diverse industrial applications.

- Factory-installed TFT-LCD, PCAP touch panel, cover glass and touch controller for excellent reliability.
- Multiple options, such as tempered cover glass and anti-reflection/anti-smudge surface treatments, for diverse operational environments.

## Excellent visual clarity combined with tactile operation via cover glass

- Proprietary detective processing for smooth, accurate response to finger movements, even gloved fingers.

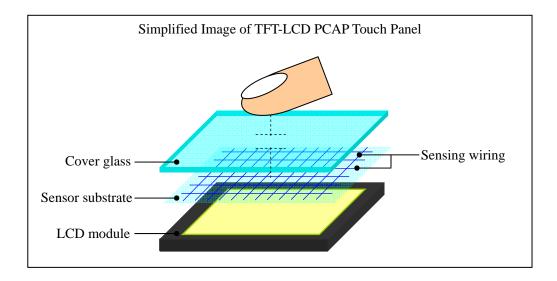
- Ultra-thin, highly conductive sensor lines with proprietary TFT array technologies for excellent clarity.

Lineup of color TFT-LCD modules with projected capacitive touch panel (new models in bold)
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Display Size		Resolution	Model
4:3	6.5-inch	VGA	AA65VE11-PCAP
	8.4-inch	SVGA	AA084SD11-PCAP
	10.4-inch	XGA	AA104XF12-PCAP
	12.1-inch	XGA	AA121XN11-PCAP
	<u>15.0-inch</u>	<u>XGA</u>	AA150XT11-PCAP
5:4	<u>19.0-inch</u>	<u>SXGA</u>	AA190EA01-PCAP
Wide	9.0-inch	WXGA	AA090TA01-PCAP
	10.6-inch	WXGA	AA106TA01-PCAP

## Projected Capacitive Touch (PCAP)

Capacitive touch is a touchscreen technology that uses two perpendicular layers of conductive material to form a grid. When a current is applied, it forms a uniform electrostatic field. The touch of a finger or other conductive object will distort the field, allowing the system to accurately track movement across the screen at multiple points. This technology is used commonly for smartphones and tablets.



#### **Specifications**

ModelAA150XT11-PCAPAA190EA01-PCAPDisplay size/resolution38.1cm (15 inch) XGA48.2cm (19 inch) SXGADisplay area (mm)304.1 (H) × 228.1 (V)376.3 (H) × 301.1 (V)Number of dots1024 (H) × 768 (V)1280 (H) × 1024 (V)Pixel pitch (mm)0.297 (H) × 0.297 (V)0.294 (H) × 0.294 (V)Contrast ratio800:1800:1Luminance (cd/m <sup>2</sup> )1,2001,200Viewing angle-80 ~ +80 (H)-80 ~ +80 (H)(CR>10)(°)-80 ~ +60 (V)-80 ~ +80 (V)Colors262k (6 bits/color),262k (6 bits/color),Colors16.7M (8 bits/color)16.7M (8 bits/color)Electrical interfaceLVDS 6/8 bitsLVDS 6/8 bitsMmmD20.4 (LCD: 326.0)434.0 (LCD: 404.2)SizeH275 (LCD: 255.0)359.0 (LCD: 330.0)(mm)D20.4 (LCD: 16.6)18.6(LCD:14.9)Operational temperatures (°C)-20 ~ +70-20 ~ +70Storage temperatures (°C)-20 ~ +70-30 ~ +80Glass thickness (mm)Up to 2.8mm (thicker specimens available upon request)Black mask printingAvailableStorage tremperaturestAvailableLow-reflection treatmentAvailableLow-reflection treatmentAvailableAnti-smudge treatmentAvailableController interfaceUART, USBOS*Windows 7 and Linux 3.0							
Display area (mm) $304.1 (H) \times 228.1 (V)$ $376.3 (H) \times 301.1 (V)$ Number of dots $1024 (H) \times 768 (V)$ $1280 (H) \times 1024 (V)$ Pixel pitch (mm) $0.297 (H) \times 0.297 (V)$ $0.294 (H) \times 0.294 (V)$ Contrast ratio $800:1$ $800:1$ Luminance (cd/m <sup>2</sup> ) $1,200$ $1,200$ Viewing angle $-80 \sim +80 (H)$ $-80 \sim +80 (H)$ (CR>10)(°) $-80 \sim +60 (V)$ $-80 \sim +80 (V)$ Colors $262k (6 bits/color),$ $262k (6 bits/color),$ Electrical interfaceLVDS 6/8 bitsLVDS 6/8 bitsW $346.5 (LCD: 326.0)$ $434.0 (LCD: 404.2)$ SizeH $275 (LCD: 255.0)$ $359.0 (LCD: 330.0)$ (mm)D $20.4 (LCD: 16.6)$ $18.6(LCD: 14.9)$ Operational temperatures (°C) $-20 \sim +70$ $-20 \sim +70$ Storage temperatures (°C) $-30 \sim +80$ $-30 \sim +80$ Glass thickness (mm)Up to 2.8mm (thicker specimens available upon request)Black mask printingAvailableAvailableAvailableLow-reflection treatmentAvailableAnti-smudge treatmentAvailableAnti-smudge treatmentAvailable	Model		AA150XT11-PCAP	AA190EA01-PCAP			
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$ \begin{array}{ c c c } \hline \label{eq:contrast ratio} & 800:1 & 800:1 \\ \hline \label{eq:contrast ratio} & 1,200 & 1,200 & 1,200 \\ \hline \label{eq:contrast ratio} & 1,200 & 1,200 & 1,200 \\ \hline \label{eq:contrast ratio} & 1,200 & 1,200 & 1,200 \\ \hline \label{eq:contrast ratio} & 1,200 & 1,200 & 1,200 \\ \hline \label{eq:contrast ratio} & 1,200 & 1,200 & 1,200 & 1,200 \\ \hline \label{eq:contrast ratio} & 1,200 & 1,200 & 1,200 & 1,200 & 1,200 \\ \hline \label{eq:contrast ratio} & 1,200 & $	Number of dots		1024 (H) × 768 (V)	1280 (H) × 1024 (V)			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Pixel pitch (mm)		0.297 (H) × 0.297 (V)	0.294 (H) × 0.294 (V)			
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	Lu	minance (cd/m <sup>2</sup> )	1,200	1,200			
$\begin{tabular}{ c c c c c c c } \hline Colors & 262k (6 bits/color), & 262k (6 bits/color), & 16.7M (8 bits/color) & 10.7M (8 bits/color) &$		Viewing angle	-80 ~ +80 (H)	-80 ~ +80 (H)			
$\begin{tabular}{ c c c c c c } \hline Colors & 16.7M (8 bits/color) & 16.7M (8 bits/color) \\ \hline Electrical interface & LVDS 6/8 bits & LVDS 6/8 bits \\ \hline Electrical interface & LVDS 6/8 bits & LVDS 6/8 bits \\ \hline W & 346.5 (LCD: 326.0) & 434.0 (LCD: 404.2) \\ \hline Size & H & 275 (LCD: 255.0) & 359.0 (LCD: 330.0) \\ \hline (mm) & D & 20.4 (LCD: 16.6) & 18.6 (LCD: 14.9) \\ \hline (1.8 mm cover glass thickness) & (1.8 mm cover glass thickness) \\ \hline Operational temperatures (°C) & -20 ~ +70 & -20 ~ +70 \\ \hline Storage temperatures (°C) & -30 ~ +80 & -30 ~ +80 \\ \hline Glass thickness (mm) & Up to 2.8mm (thicker specimens available upon request) \\ \hline Black mask printing & Available \\ \hline Strengthening treatment & Available \\ \hline Low-reflection treatment & Available \\ \hline Anti-smudge treatment & Available \\ \hline Controller interface & UART, USB \\ \hline \end{tabular}$	(CR>10)(°)		-80 ~ +60 (V)	-80 ~ +80 (V)			
$ \begin{array}{ c c c c c c } \hline \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Colors		262k (6 bits/color),	262k (6 bits/color),			
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			16.7M (8 bits/color)	16.7M (8 bits/color)			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Electrical interface		LVDS 6/8 bits	LVDS 6/8 bits			
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Storage temperatures (°C)-30 ~ +80-30 ~ +80Glass thickness (mm)Up to 2.8mm (thicker specimens available upon request)Black mask printingAvailableStrengthening treatmentAvailableLow-reflection treatmentAvailableAnti-smudge treatmentAvailableController interfaceUART, USB			(1.8 mm cover glass thickness)	(1.8 mm cover glass thickness)			
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Black mask printingAvailableStrengthening treatmentAvailableLow-reflection treatmentAvailableAnti-smudge treatmentAvailableController interfaceUART, USB	Storage temperatures (°C)		-30 ~ +80	-30 ~ +80			
Strengthening treatmentAvailableLow-reflection treatmentAvailableAnti-smudge treatmentAvailableController interfaceUART, USB	Glass thickness (mm)						
Low-reflection treatmentAvailableAnti-smudge treatmentAvailableController interfaceUART, USB	Black mask printing		Available				
Anti-smudge treatmentAvailableController interfaceUART, USB	Strengthening treatment		Available				
Controller interface UART, USB	Low-reflection treatment		Available				
	Anti-smudge treatment		Available				
OS* Windows 7 and Linux 3.0	Controller interface		UART, USB				
	OS*		Windows 7 and Linux 3.0				

\* If support for other OS is necessary, please contact Mitsubishi Electric sales representatives.

#### **Environmental awareness**

The color TFT-LCD modules are fully compliant with the European restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), and are completely mercury-free.

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#### **About Mitsubishi Electric Corporation**

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 3,567.1 billion yen (US\$ 37.9 billion\*) in the fiscal year ended March 31, 2013. For more information visit http://www.MitsubishiElectric.com

\*At an exchange rate of 94 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2013

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