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Product Inquiries LCD Marketing Dept. Sect. A Mitsubishi Electric Corporation Tel +81-3-3218-3289 Takizawa.Tomoki@dh.MitsubishiElectric.co.jp http://www.MitsubishiElectric.com/semiconductors/ No. 2685

Media Contact Public Relations Division Mitsubishi Electric Corporation Tel: +81-3-3218-2835 prd.gnews@nk.MitsubishiElectric.co.jp http://www.MitsubishiElectric.com/news/

# Mitsubishi Electric Launches Color TFT-LCD Modules with Projected Capacitive Touch Panels for Industrial Applications

Tokyo, July 4, 2012 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today the launch of its 6.5-inch VGA, 10.4-inch XGA & 12.1-inch XGA color TFT-LCD modules. These industrial-use modules come installed with touch panels that feature high brightness and wide viewing angles, expanding the options for touch panel solutions in new products and ensuring sophisticated user interfaces for industrial equipment. Sales will begin on July 18 at Mitsubishi Electric offices worldwide (www.MitsubishiElectric.com/semiconductors/). Initial production has been set at 2,000 units per month for each model.





Mitsubishi Electric color TFT-LCD modules equipped with industrial touch panels (model AA121XN11-PCAP)

The modules meet the increasing market demand for projected capacitive touch panels for industrial use. Their intuitive operability, expansive temperature range, excellent color quality and wide viewing angles allow for diverse applications and installations. Initial production has been set at 2,000 units per month for each model.

# Highly reliable and comprehensive touch panel solutions

- All-round solutions including TFT-LCD, PCAP touch panel and driver software allow highly capable and convenient industrial products.
- TFT-LCD, PCAP touch panel, cover glass, touch controller and software are all factory-installed and provide excellent reliability.

# Clear image quality and smooth operations even through 2.8mm glass

- High sensitivity and true-color display even through a 2.8mm glass cover and enabled by ultra-thin and highly conductive sensor lines made from proprietary TFT array technologies.
- Proprietary detective processing technologies enable a smooth response to finger movements even when wearing gloves.

## Multiple options increase suitability for various applications and environments

- Glass bonding of TFT-LCD module, touch panel sensor glass and cover glass provides clear image quality even in bright outdoor environments.
- A variety of options like strengthened cover glass and anti-reflection/anti-smudge surface treatments are also available to tailor products to any operational environment.

Model		AA065VE11-PCAP	AA104XF12-PCAP	AA121XN11-PCAP
Display size/resolution		16.6cm(6.5inch)VGA	26cm(10.4inch)XGA	31cm(12.1inch)XGA
Display area (mm)		132.5(H)×99.4(V)	210.4(H)×157.8(V)	245.8(H)×184.3(V)
Number of dots		640(H)×480(V)	1024(H)×768(V)	1024(H)×768(V)
Pixel pitch (mm)		0.207(H)×0.207(V)	0.205(H)×0.205(V)	0.240(H)×0.240(V)
Contrast ratio		600:1	700:1	600:1
Luminance (cd/m <sup>2</sup> )		1,100	900	1,100
Viewing angle		-80~+80(H)	-80~+80(H)	-80~+80(H)
(CR>10)(°)		-60~+80(V)	-65~+65(V)	-80~+60(V)
Colors		262k(6 bit/color),	262k(6 bit/color),	262k(6 bit/color),
		16.7M(8 bit/color)	16.7M(8 bit/color)	16.7M(8 bit/color)
Electrical	l interface	LVDS 6/8bit	LVDS 6/8bit	LVDS 6/8bit
Size (mm)	W	170.2 (LCD:154.0)	240.6 (LCD:230.0)	281.8 (LCD:260.5)
	Н	132.6 (LCD:121.0)	190.8 (LCD:180.2)	220.8 (LCD:203.0)
	D	$13.4 (LCD:11.0)^{*1}$	14.4 (LCD:9.5) <sup>*2</sup>	14.4 (LCD:9.5) <sup>*2</sup>
Operational temperatures (°C)		-20~+70	-20~+70	-20~+70
Storage temperatures (°C)		-30~+80	-30~+80	-30~+80
Glass thickness (mm)		Up to 2.8mm		
Black mask printing		Available		
Strengthen treatment		Available		
Low reflection		Available		
treatment				
Anti smudge treatment		Available		
Optical bonding		Available		
Controller interface		UART, USB		
OS		Windows7, Linux		

#### **Specifications**

\*1 Depends on cover glass thickness. (1.1 mm thickness in this case)

\*2 Depends on cover glass thickness. (1.8 mm thickness in this case)

## About 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 commonly adopted in smartphones and tablet devices.

#### **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

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 3,639.4 billion yen (US\$ 44.4 billion\*) in the fiscal year ended March 31, 2012. For more information visit <u>http://www.MitsubishiElectric.com</u>

\*At an exchange rate of 82 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2012