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TO CREATE COLORFUL LIFE

PRODUCT CATALOG INDUSTRIAL

January 2019

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INTRODUCTION

Tianma Microelectronics Co., Ltd. (Tianma) specializes in providing display solutions and efficient support services worldwide. We were originally established in 1983 and publicly listed on the Shenzhen Stock Exchange in 1995.

Tianma is committed to continuous innovation, better customer service and supports different requirements for applications in the field.

We provide optimum solutions that meet diverse customer requirements.



KEY TECHNOLOGIES

SFT- Super Fine TFT

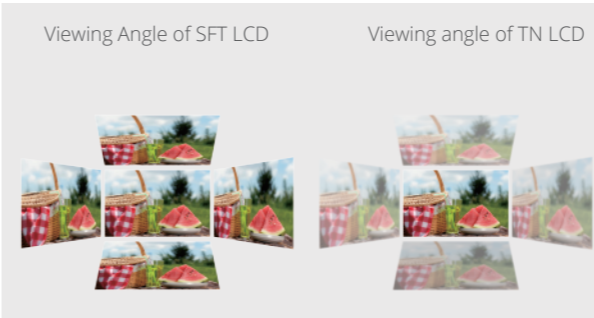
Wide viewing angle technology

SFT technology displays are characterized by outstanding display performance with wide viewing angles, high contrast, wide color gamut, quick response times and smooth video and image transitions.

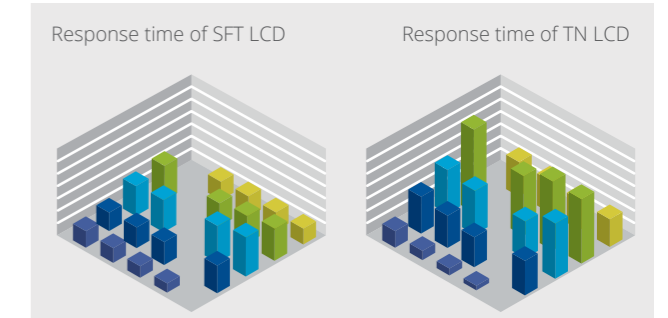


Features:

- Excellent wide viewing angle specifications
- Smooth video and image transitions



The above images are samples



Gray scale before change Gray scale after change Gray scale before change Gray scale after change

Reflective Mode

Outdoor application

With metal reflection layer embedded into pixel open area, Reflective Mode displays can reflect sunlight for displaying images. So it has good readability under both dark and bright ambience.

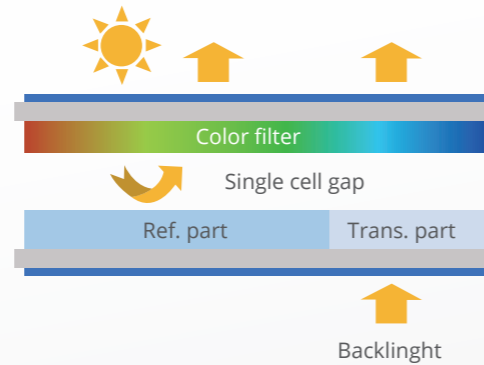


Transmissive Reflective

Under bright Environment

Features:

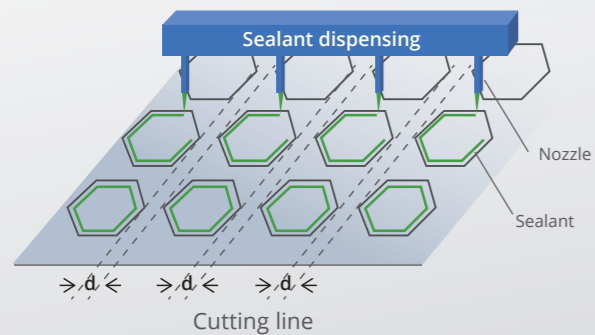
- Good outdoor readability
- Low power consumption



Free Form

Customized solution

Flexible design according to customers' requirements. Outlines could be round, polygon, annulus or even trapezoid, instead of the traditional rectangle.



Annulus



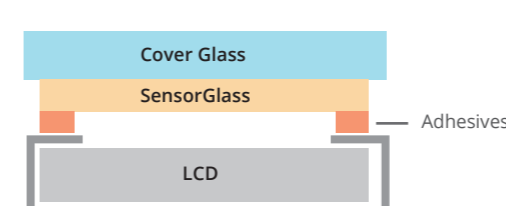
Polygon

Features:

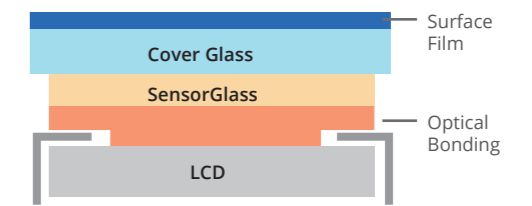
- Customized outline
- Flexible design

Touch-One-stop Solution

Tianma provides factory installed touch panels with the touch panel controller included. Due to our inhouse design and manufacturing capabilities, we are able to offer high quality, integrated PCAP products direct from the factory.



Standard Component



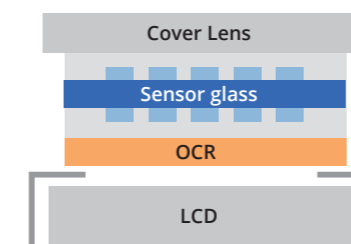
Optional Components

DITO & SITO

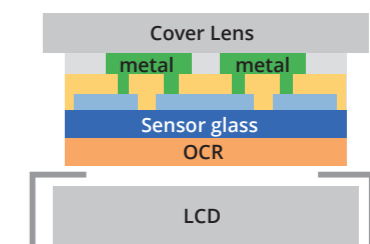
An add-on CTP solution, which has a touch sensor structure usually made through bridging metal or double layer ITO.

Features:

- CTP and LCM are separated
- Good touch performances



DITO



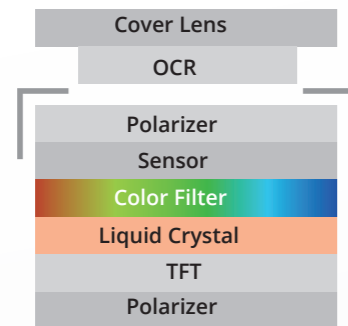
SITO

On-Cell & TED

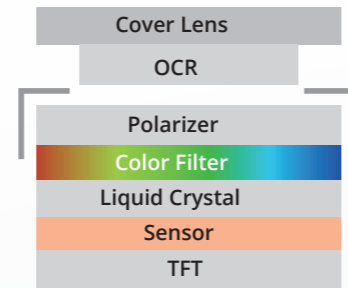
On-cell puts touch sensors between the back side of CF substrate and front POL.
TED has touch sensors embedded inside the array layer.

Features:

- Integrated touch solution
- One less sensor glass than add-on solution



On-Cell

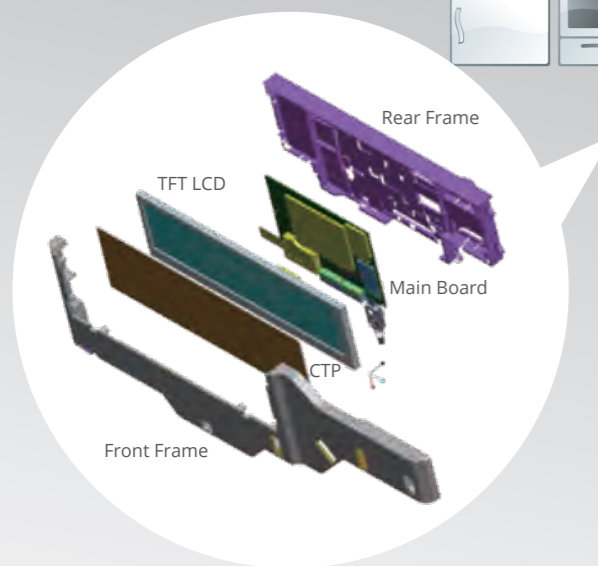


TED

Smart Module

Product form

TFT-LCD + CTP + Main Board + Software + Mechanical Components



Main Function

- WIFI/BT
- Video: H.263/H.264
- Camera: 5Megapixel or higher
- Speaker: Stereo 3W,4Ω
- Microphone Arrays
- Speech recognition
- Display: up to 1920*1080
- OS: Android 6.0 or higher

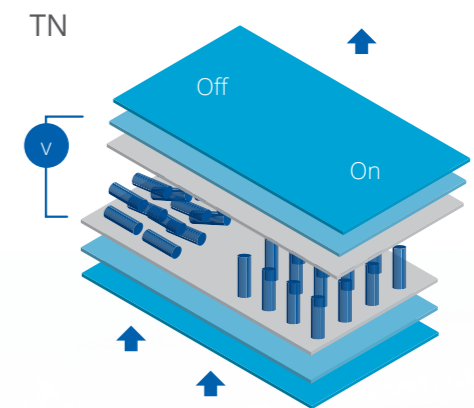
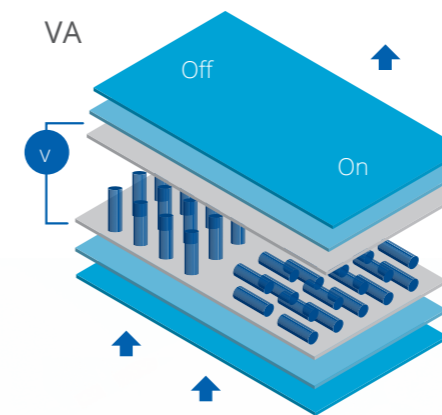
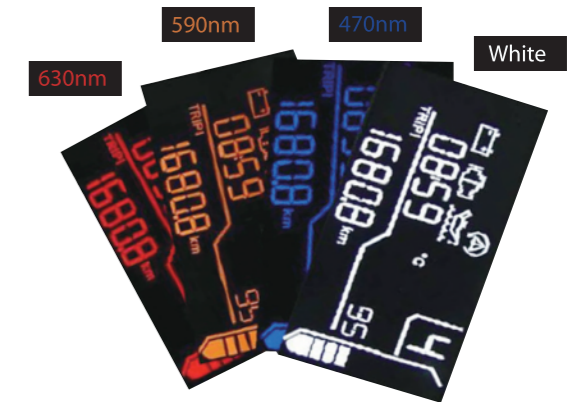
EBN

Enhanced Black Nematic

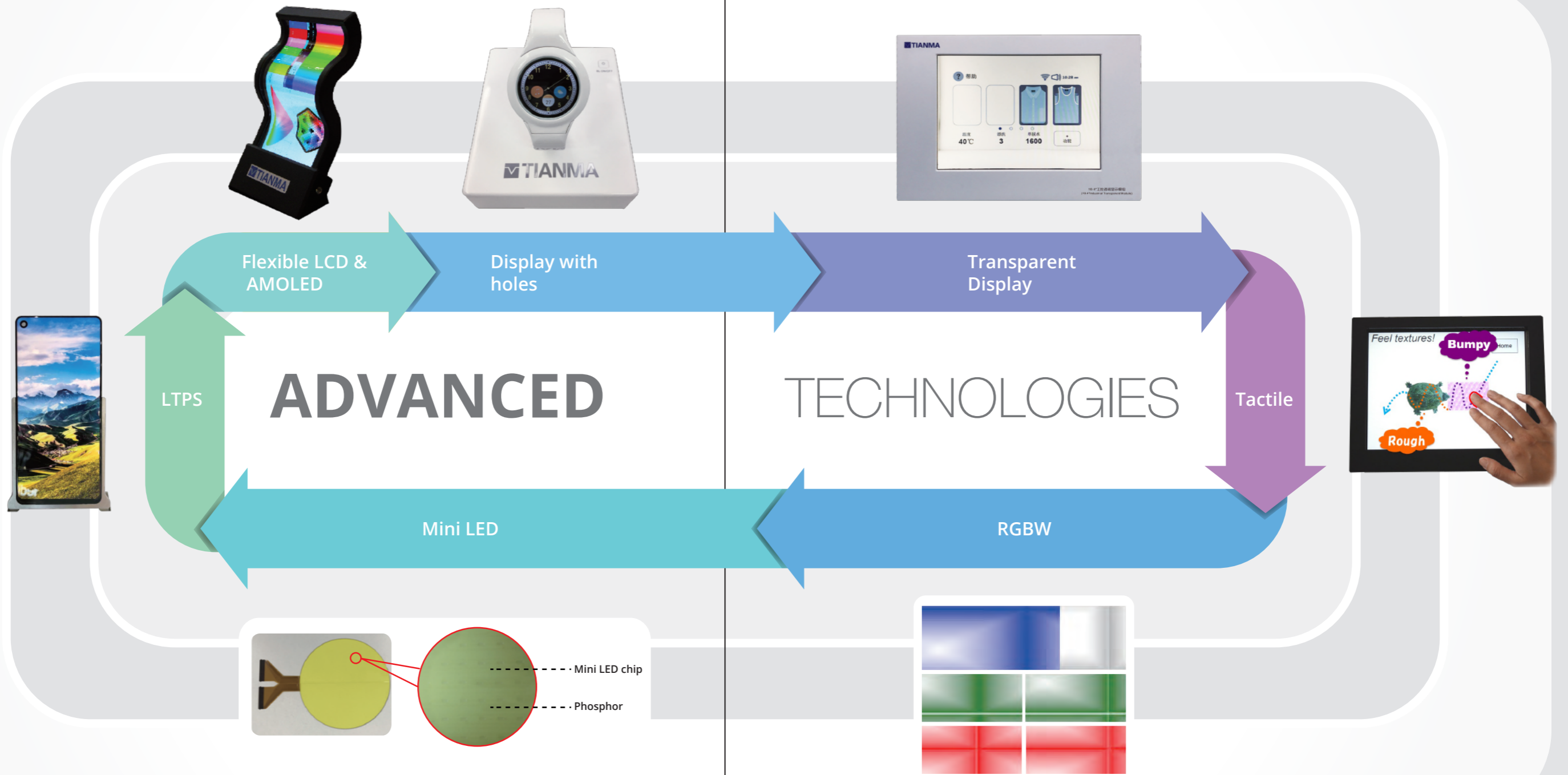
A black improved technology based on PMVA mode.

Features:

- Super black background
- Super high contrast ratio
- Wide viewing angle
- Wide Operation & Storage temperature range
- Suit for any color backlight
- Widely used in automotive and industrial



EBN
Enhanced Black Nematic





TO CREATE COLORFUL LIFE



INDUSTRIAL PRODUCTS TM SERIES



Screen Size	1.6 inch	2.0 inch	2.13 inch	2.2 inch	2.3 inch	2.4 inch
Mode	SFT	TN	Transflective	Trasnflective	TN	TN
Resolution(pixel)	256 x 320	176 x 220	240 x 122	240 x 320	320 x 240	240 x 320
Active Area(mm)	25.34 x 31.68	31.68 x 39.60	23.79 x 48.50	33.84 x 45.12	35.06 x 46.75	36.72 x 48.96
Luminance(cd/m ²)	450	220	-	90	320	200
Contrast Ratio	800:1	500:1	10:1	120:1	350:1	500:1
Viewing Angle(U/D/L/R)(Typ.)	80/80/80/80	70/60/70/70	55/55/55/55	-	45/55/55/60	70/60/70/70
NTSC	50%	60%	-	50%	50%	53%
Interface	SPI	CPU 8/16 bits	4-wire SPI	RGB 18 bits	CPU 16bits	CPU 8 bits
Operating Temperature	-30°C~+85°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-40°C~+125°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	38.04x27.75x1.23	38.03x51.65x2.50	26.71x55.75x0.55	40.60x56.60x2.70	53.30x46.90x2.25	42.72x60.26x2.55
Lifetime	20000H	20000H	40000H	20000H	20000H	20000H
Application	Wearable	Industrial Mobile	ESL	Industrial Mobile	F-POS/Automotive After Market/Industrial Mobile	Home Healthcare /POS

Screen Size	2.4 inch	2.83 inch	3.0 inch	3.5 inch	3.5 inch	3.5 inch
Mode	SFT	TN	Trasnflective	Trasnflective	TN	TN
Resolution(pixel)	240 x 320	240 x 320	240 x 400	240 x 320	320 x 480	320 x 240
Active Area(mm)	36.72 x 48.96	43.20 x 57.60	38.88 x 64.80	53.64 x 71.52	48.96 x 73.44	70.08 x 52.56
Luminance(cd/m ²)	300	300	150	100	300	300
Contrast Ratio	800:1	500:1	10:1	150:1	500:1	500:1
Viewing Angle(U/D/L/R)(Typ.)	80/80/80/80	70/60/70/70	45/40/45/40	50/40/40/45	70/60/70/70	60/70/70/70
NTSC	70%	65%	33%	30%	60%	50%
Interface	CPU 8 bits/SPI	RGB interface /3-wire SPI	CPU 16 bits	RGB 6 bit+SPI	MCU+RGB+SPI	RGB 24 bits
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+60°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+85°C	-30°C~+70°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	42.72x60.26x2.55	49.90x66.10x2.70	76.65x46.48x2.97	64.00x85.00x2.93	55.26x84.69x2.20	76.90x63.90x3.15
Lifetime	20000H	30000H	20000H	20000H	20000H	20000H
Application	Home Healthcare /POS/MFP	Financial POS	Outdoor Navigation /Industrial Mobile	Industrial Mobile	Financial POS	POS



Screen Size	3.5 inch	3.5 inch	3.7 inch	4.3 inch	4.3 inch	4.3 inch
Mode	SFT	TN	Trasflective	TN	TN	TN
Resolution(pixel)	320 x 480	320 x 240	480 x 640	480 x 272	480 x 272	480 x 272
Active Area(mm)	48.96 x 73.44	70.08 x 52.56	56.16 x 74.88	95.04 x 53.85	95.04 x 53.86	95.04 x 53.86
Luminance(cd/m ²)	350	350	200	800	400	250
Contrast Ratio	1200:1	500:1	150:1	800:1	900:1	900:1
Viewing Angle(U/D/L/R)(Typ.)	80/80/80/80	60/70/70/70	45/55/50/55	70/60/70/70	80/60/80/80	80/60/80/80
NTSC	70%	50%	35%	50%	50%	50%
Interface	MIPI	RGB 24 bits	RGB 18 bits	RGB 24 bits	RGB 24 bits	RGB 24 bits
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+80°C
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	103.45x103.45x4.8	76.90x63.90x4.00	65.0x89.00x3.00	105.50x67.20x4.10	105.50x67.20x2.90	105.50x67.20x2.90
Lifetime	20000H	20000H	50000H	20000H	30000H	50000H
Application	Smart Home/Medical /Industry Mobile /White Goods/VOIP	HA/Medical/ Industry Mobile/ White Goods/VOIP	Industrial Mobile	GPS	MFP/ HMI	White Goods/ Outdoor Navigation

Screen Size	4.3 inch	4.3 inch	4.3 inch	4.3 inch	4.6 inch	5.0 inch
Mode	TN	SFT	TN	TN	SFT	TN
Resolution(pixel)	480 x 272	480 x 800	480 x 272	480 x 272	720 x 1280	800 x 480
Active Area(mm)	95.04 x 53.86	57.96 x 95.40	95.04 x 53.85	95.04 x 53.85 97.04 x 55.86	58.10 x 103.30	108.00 x 64.80
Luminance(cd/m ²)	280	300	885	350	400	250
Contrast Ratio	450:1	800:1	800:1	900:1	800:1	800:1
Viewing Angle(U/D/L/R)(Typ.)	70/50/70/70	85/85/85/85	70/60/70/70	80/60/80/80	85/85/85/85	75/75/75/70
NTSC	50%	65%	50%	50%	70%	50%
Interface	RGB 24 bits	RGB24 bit+SPI	RGB 24 bits	RGB 24bits	MIPI	RGB
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	105.50x67.20x4.10	67.50x117.70x4.77	105.50x67.20x2.9	105.50x67.20x2.90 113.44x71.46x4.65	61.06x113.18x1.43	120.70x75.80x3.10
Lifetime	20000H	20000H	20000H	20000H	20000H	20000H
Application	HMI/HA/ Medical /White Goods	HMI/HA/ Medical /White Goods	HMI/HA/ Medical /White Goods	HMI/HA/ Medical /White Goods	Industrial Mobile	VOIP Phone

Screen Size	5.0 inch	5.0 inch	5.0 inch	5.5 inch	5.7 inch	5.7 inch
Mode	TN	SFT	SFT	HD SFT	TN	TN
Resolution(pixel)	800 x 480	800 x 480	720 x 1280	720 x 1280	320 x 240	320 x 240
Active Area(mm)	108.00 x 64.80	108.60 x 65.16	62.10 x 110.40	68.04 x 120.96	115.20 x 86.40	115.20 x 86.40
Luminance(cd/m ²)	250	850	600	350	500	400
Contrast Ratio	800:1	800:1	800:1	1000:1	500:1	500:1
Viewing Angle(U/D/L/R)(Typ.)	75/75/75/70	80/80/80/80	88/88/88/88	80/80/80/80	70/60/70/70	60/70/70/70
NTSC	50%	70%	70%	70%	50%	50%
Interface	RGB	RGB 24bits	MIPI 4 lanes	MIPI 4-Lane	RGB 18bits	RGB 18bits
Operating Temperature	-20°C~+70°C	-30°C~+85°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-30°C~+80°C	-40°C~+90°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	120.70x75.80x3.10	124.0x80.46x6.6	65.40x118.90x1.72	76.00x143.40x3.72	144.00x104.60x12.30	144.00x104.60x12.30
Lifetime	20000H	50000H	20000H	20000H	50000H	50000H
Application	VOIP Phone	Motorbike	F-POS	POS	HMI	HMI

Screen Size	5.7 inch	5.7 inch	5.7 inch	5.7 inch	5.7 inch	6.0 inch
Mode	TN	TN	TN	HD SFT	TN	SFT
Resolution(pixel)	320 x 240	640 x 480	320 x 240	720 x 1280	640 x 480	800 x 1280
Active Area(mm)	115.20 x 86.40	115.20 x 86.40	115.20 x 86.40	71.28 x 126.72	115.20 x 86.40	80.76 x 129.22
Luminance(cd/m ²)	400	400	320	450	400	400
Contrast Ratio	500:1	500:1	500:1	900:1	500:1	600:1
Viewing Angle(U/D/L/R)(Typ.)	60/70/70/70	60/70/70/70	70/60/70/70	85/85/85/85	70/60/70/70	85/85/85/85
NTSC	50%	50%	50%	70%	50%	68%
Interface	RGB 18bits	RGB 18bits	RGB 18bits	MIPI	RGB 18 bits	MIPI
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-30°C~+80°C	-30°C~+85°C	-30°C~+80°C	-30°C~+80°C	-30°C~+85°C	-30°C~+80°C
Module Size(WxHxD)(mm)	144.00x104.60x12.30	144.00x104.60x12.30	144.00x104.60x13.50	74.98x137.00x1.57	144.00x104.60x12.30	140.57x 87.76x2.70
Lifetime	50000H	50000H	50000H	20000H	50000H	30000H
Application	Gas Station	Construction Machine	POS	Industrial Mobile	Measurement& Test/HMI	VOIP/IP Phone



Screen Size	6.0 inch	6.2 inch	7.0 inch	7.0 inch	7.0 inch	7.0 inch
Mode	SFT	TN	TN RTP	TN	TN	TN
Resolution(pixel)	800 x 1280	800 x 80	800 x 480	1024 x 600	800 x 480	800 x 480
Active Area(mm)	80.76 x 129.22	137.40 x 77.28	154.08 x 85.92	153.60 x 90.00	154.08 x 85.92	154.08 x 85.92
Luminance(cd/m ²)	400	400	350	270	450	400
Contrast Ratio	800:1	500:1	1000:1	500:1	800:1	800:1
Viewing Angle(U/D/L/R)(Typ.)	85/85/85/85	60/70/75/75	60/80/80/80	70/75/75/75	70/80/80/80	60/80/80/80
NTSC	70%	50%	50%	50%	50%	50%
Interface	MIPI	TTL 24 bits	RGB 24 bits	LVDS	RGB 24 bits	RGB 24 bits
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-30°C~+85°C
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-40°C~+90°C
Module Size(WxHxD)(mm)	143.02x90.06x2.87	155.20x88.20x4.90	164.90x100.00x6.80	171.50x110.30x5.00	164.90x100.00x5.70	164.90x100.00x5.70
Lifetime	20000H	20000H	20000H	20000H	20000H	50000H
Application	VOIP	Automotive After Market	Measurement Tester	HMI	HMI	White Goods/Navi

Screen Size	7.0 inch	7.0 inch	7.0 inch	7.0 inch	7.0 inch	8.0 inch
Mode	SFT	TN	SFT	TN	SFT	TN
Resolution(pixel)	800 x 480	800 x 480	800 x 480	1024 x 600	1280 x 800	1024 x 768
Active Area(mm)	154.08 x 85.92	154.08 x 85.92	152.40 x 91.44	153.60 x 90.00	149.76 x 93.60	162.05 x 121.54
Luminance(cd/m ²)	520	1400	400	320	400	400
Contrast Ratio	800:1	1000:1	1000:1	1000:1	800:1	1000:1
Viewing Angle(U/D/L/R)(Typ.)	85/85/85/85	60/80/80/80	85/85/85/85	70/75/75/75	88/88/88/88	80/80/80/80
NTSC	70%	50%	70%	50%	50%	50%
Interface	RGB 24bits	RGB 24 bits	LVDS	6 bits LVDS	LVDS 40 Pin	6 bits LVDS
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	164.90x100.00x5.70	165.00x100.00x5.70	167.00x106.30x6.80	165.75x105.39x3.40	161.00x107.00x3.35 (Typ)	183.00x141.00x3.40
Lifetime	20000H	40000	50000H	20000H	30000H	30000H
Application	HMI	HMI	HMI	White Goods/HMI	VOIP	MFP/HMI

Screen Size	8.0 inch	8.0 inch	8.0 SVGA	8.4 inch	8.4 inch	9.0 inch
Mode	SFT	TN	TN	TN	TN	TN
Resolution(pixel)	1024 x 768	800 x 600	800 x 600	800 x 600	800 x 600	800 x 480
Active Area(mm)	-	162.00 x 121.50	162.00 x 121.50	170.40 x 127.80	170.40 x 127.80	198.00 x 111.69
Luminance(cd/m ²)	-	700	250	350	330	350
Contrast Ratio	1000:1	500:1	800:1	500:1	500:1	500:1
Viewing Angle(U/D/L/R)(Typ.)	-	50/70/70/70	60/70/70/70	60/70/70/70	60/70/70/70	60/70/70/70
NTSC	-	50%	50%	50%	50%	50%
Interface	-	RGB 24 bits	RGB 24 bits	LVDS	TTL(RGB 24bit)	TTL
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	-	183.00x141.00x5.60	183.00x141.00x5.60	203.00x12.50x5.70	189.75x149.40x4.80	211.10x126.50x5.60
Lifetime	-	40000H	25000H	50000H	30000H	20000H
Application	MFP/HMI	White Goods	HMI	HMI	HMI	MFP

Screen Size	9.0 inch	9.2 inch	9.7 inch	9.7 inch	10.1 inch	10.1 inch
Mode	TN	TN	TN	TN	TN	SFT
Resolution(pixel)	1024 x 600	1920 x 480	1024 x 768	1024 x 768	1024 x 600	1280 x 800
Active Area(mm)	196.60 x 114.15	226.99 x 56.73	196.61 x 147.46	196.61 x 147.46	222.72 x 125.28	216.96 x 135.60
Luminance(cd/m ²)	500	500	350	250	360	400
Contrast Ratio	800:1	600:1	500:1	500:1	800:1	800:1
Viewing Angle(U/D/L/R)(Typ.)	60/70/70/70	80/80/60/70	60/70/70/70	70/70/70/60	75/80/80/80	85/85/85/85
NTSC	50%	75%	50%	50%	47%	50%
Interface	LVDS	LVDS	LVDS 6-bit	RGB 24bit	6/8 bit LVDS	LVDS 8-bit
Operating Temperature	-20°C~+70°C	-30°C~+85°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-10°C~+50°C
Storage Temperature	-30°C~+80°C	-40°C~+95°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-20°C~+60°C
Module Size(WxHxD)(mm)	211.10x126.50x5.70	237.00x72.30x5.80	210.20x166.30x3.28	210.20x166.30x3.66	236.40x147.89x7.25	229.46x149.10x2.50
Lifetime	20000H	50000H	30000H	30000H	30000H	30000H
Application	Automotive After Market	Automotive After Market/White Goods	POS	POS	Industrial/Tablet/MFP/HMI/ Automotive After Market	IPC/POS

Screen Size	10.1 inch	10.4 inch	10.4 inch	12.1 inch	12.1 inch
Mode	SFT	TN	TN	TN	TN
Resolution(pixel)	1280 x 800	800 x 600	800 x 600	800 x 600	1024 x 768
Active Area(mm)	216.96 x 135.60	211.20 x 158.40	211.20 x 158.40	246.00 x 184.50	245.76 x 184.32
Luminance(cd/m ²)	430	300	400	350	450
Contrast Ratio	800:1	500:1	500:1	700:1	700:1
Viewing Angle(U/D/L/R)(Typ.)	85/85/85/85	60/70/70/70	60/70/70/70	65/75/80/80	80/80/80/80
NTSC	50%	50%	50%	55%	55%
Interface	1port LVDS, 6/8bit	TTL	LVDS	LVDS 1 port	LVDS
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	233.93x156.00x6.73	228.40x175.40x6.20	243.00x184.00x6.50	279.00x209.00x9.00	279.00x209.00x9.00
Lifetime	50000H LED	30000H	50000H LED	30000H LED	50000H LED
Application	IP Phone/HMI /Medical/ POS	HMI/ POS	HMI/ POS	POS	Medical/ HMI

Screen Size	12.1inch	15.0 inch	15.0 inch	15.0 inch
Mode	SFT	TN	TN	TN
Resolution(pixel)	1280 x 800	1024 x 768	1024 x 768	1024 x 768
Active Area(mm)	261.10 x 163.20	304.12 x 228.09	304.12 x 228.09	304.12 x 228.09
Luminance(cd/m ²)	450	450	300	300
Contrast Ratio	1000:1	800:1	800:1	800:1
Viewing Angle(U/D/L/R)(Typ.)	85/85/85/85/85	80/80/80/80	80/80/80/80	80/80/80/80
NTSC	40%	60%	60%	60%
Interface	1port LVDS, 8bit	LVDS 1 port	LVDS 1 port	eDP1.2(1Lane)
Operating Temperature	-30°C~+80°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C
Module Size(WxHxD)(mm)	278.00x184.00x9.90	326.50x253.50x11.80	326.50x253.50x11.80	326.50x253.50x11.80
Lifetime	50000H LED	50000H LED	30000H	30000H
Application	Medical/HMI /Marine	POS ATM	POS	POS



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Screen Size	5.7 inch	5.7 inch	5.7 inch	5.7 inch	5.7 inch	5.7 inch
Part Number	NL3224AC36-01F	NL3224AC36-01D	NL6448AC18-12F	NL6448AC18-11D	NL6448AC18-08F	NL6448AC18-08D
Display Mode	TN	TN	TN	TN	TN	TN
Resolution	320 × 240	320 × 240	640 × 480	640 × 480	640 × 480	640 × 480
Display Area (mm)	115.2 × 86.4	115.2 × 86.4	115.2 × 86.4	115.2 × 86.4	115.2 × 86.4	115.2 × 86.4
Display Color	262K	262K	262K	16.19M	262K	262K
Luminance	800cd/m ²	500cd/m ²	800cd/m ²	550cd/m ²	800cd/m ²	550cd/m ²
Contrast ratio	900:1	900:1	900:1	900:1	900:1	900:1
Viewing Angle (U/D/L/R)	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°
Response Time	18ms	18ms	18ms	18ms	18ms	18ms
Interface	CMOS RGB 6bits	CMOS RGB 6bits	CMOS RGB 6bits	CMOS RGB 8bits	CMOS RGB 6bits	CMOS RGB 6bits
Power Consumption	2.7W	1.6W	3.6W	2.4W	3.6W	2.3W
Operating Temperature	-30°C ~ +85°C	-30°C ~ +85°C	-30°C ~ +85°C	-30°C ~ +85°C	-30°C ~ +85°C	-30°C ~ +85°C
Polarizer Surface	AG	AG	AG	AG	AG	AG
Module Size WxHxD(mm) (D : max)	144.0 × 104.6 × 12.8	144.0 × 104.6 × 12.8	144.0 × 104.6 × 12.8	144.0 × 104.6 × 12.8	144.0 × 104.6 × 12.8	144.0 × 104.6 × 12.8
Weight	150g	150g	150g	150g	150g	150g
Remarks						

Screen Size	5.7 inch	6.5 inch	6.5 inch	6.5 inch	6.5 inch	6.5 inch
Part Number	NL6448BC18-07	NL6448BC20-35C/35F	NL6448BC20-35/35D	NL6448BC20-30C/30F	NL6448BC20-30/30D	NL10276BC13-01C
Display Mode	TN	TN	TN	TN	TN	TN
Resolution	640 × 480	640 × 480	640 × 480	640 × 480	640 × 480	1024 × 768
Display Area (mm)	115.2 × 86.4	132.48 × 99.36	132.48 × 99.36	132.48 × 99.36	132.48 × 99.36	132.096 × 99.072
Display Color	262K	262K	262K	16.77M / 262K	16.77M / 262K	16.77M / 262K
Luminance	300cd/m ²	1000cd/m ²	600cd/m ²	1000cd/m ²	600cd/m ²	650cd/m ²
Contrast ratio	900:1	800:1	800:1	800:1	800:1	500:1
Viewing Angle (U/D/L/R)	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/60°/80°/80°
Response Time	18ms	18ms	18ms	18ms	18ms	25ms
Interface	CMOS RGB 6bits	CMOS RGB 6bits	CMOS RGB 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits
Power Consumption	1.4W	3.9W	2.7W	3.8W	2.6W	3.9W
Operating Temperature	-20°C ~ +70°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-20°C ~ +70°C
Polarizer Surface	Clear	-35C: Clear + AR -35F: Clear	-35: Clear -35D: AG	-30C: Clear + AR -30F: Clear	-30: Clear -30D: AG	Clear + AR
Module Size WxHxD(mm) (D : max)	127.2 × 100.4 × 6.1	153.0 × 118.0 × 8.7	153.0 × 118.0 × 8.7	153.0 × 118.0 × 8.7	153.0 × 118.0 × 8.7	153.0 × 118.0 × 9.5
Weight	110g	-35C: 155g /-35F: 150g	150g	-35C: 155g /-35F: 150g	150g	170g
Remarks	-					

Screen Size	6.5 inch	8.4 inch	8.4 inch	8.4 inch	8.4 inch	8.4 inch
Part Number	NL10276BC13-01	NL6448BC26-27C/27F	NL6448BC26-27/27D	NL6448BC26-26C/26F	NL6448BC26-26/26D	NL6448AC26-47D
Display Mode	TN	TN	TN	TN	TN	TN
Resolution	1024 × 768	640 × 480	640 × 480	640 × 480	640 × 480	640 × 480
Display Area (mm)	132.096 × 99.072	170.88 × 128.16	170.88 × 128.16	170.88 × 128.16	170.88 × 128.16	170.88 × 128.16
Display Color	16.77M / 262K	16.77M / 262K	16.77M / 262K	262K	262K	262K
Luminance	500cd/m ²	900cd/m ²	500cd/m ²	900cd/m ²	500cd/m ²	380cd/m ²
Contrast ratio	500:1	1000:1	1000:1	1000:1	1000:1	1000:1
Viewing Angle (U/D/L/R)	80°/60°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/65°
Response Time	25ms	18ms	18ms	18ms	18ms	8ms
Interface	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	CMOS RGB 6bits	CMOS RGB 6bits	CMOS RGB 6bits
Power Consumption	3.9W	5.0W	3.1W	5.1W	3.2W	3.3W
Operating Temperature	-20°C ~ +70°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C
Polarizer Surface	Clear	-27C: Clear + AR -27F: Clear	-27: Clear -27D: AG	-26C: Clear + AR -26F: Clear	-26: Clear -26D: AG	AG
Module Size WxHxD(mm) (D : max)	153.0 × 118.0 × 9.5	200.0 × 152.0 × 8.7	200.0 × 152.0 × 8.7	200.0 × 152.0 × 8.7	200.0 × 152.0 × 8.7	221.0 × 152.4 × 9.0
Weight	165g	260g	260g	260g	260g	285g
Remarks	-					

Screen Size	8.4 inch	8.4 inch	8.4 inch	8.4 inch	10.4 inch	10.4 inch
Part Number	NL8060BC21-21D	NL8060BC21-11C/11F	NL8060BC21-11/11D	NL10276BC16-06/06D	NL6448AC33-A1D	NL6448AC33-A0D
Display Mode	TN	TN	TN	SFT	TN	TN
Resolution	800 × 600	800 × 600	800 × 600	1024 × 768	640 × 480	640 × 480
Display Area (mm)	170.4 × 127.8	170.4 × 127.8	170.4 × 127.8	170.496 × 127.872	211.2 × 158.4	211.2 × 158.4
Display Color	16.77M / 262K	16.77M / 262K	16.77M / 262K	16.77M / 262K	262K	262K
Luminance	400cd/m ²	800cd/m ²	400cd/m ²	600cd/m ²	370cd/m ²	500cd/m ²
Contrast ratio	800:1	800:1	800:1	1000:1	900:1	900:1
Viewing Angle (U/D/L/R)	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	88°/88°/88°/88°	80°/80°/80°/80°	80°/80°/80°/80°
Response Time	18ms	18ms	18ms	25ms	18ms	18ms
Interface	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	CMOS RGB 6bits	CMOS RGB 6bits
Power Consumption	3.3W	5.0W	3.0W	5.6W	3.3W	5.0W
Operating Temperature	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +70°C	-30°C ~ +80°C	-30°C ~ +80°C
Polarizer Surface	AG	-11C: Clear + AR -11F: Clear	-11: Clear -11D: AG	-06 : Clear -06D : AG	AG	AG
Module Size WxHxD(mm) (D : max)	200.0 × 152.0 × 8.7	200.0 × 152.0 × 8.7	200.0 × 152.0 × 8.7	200.0 × 152.0 × 8.7	227.3 × 177.5 × 9.8	246.5 × 179.4 × 10.0
Weight	260g	260g	260g	260g	380g	390g
Remarks						



Screen Size	10.4 inch	10.4 inch	10.4 inch	10.4 inch	10.4 inch	10.4 inch
Part Number	NL6448BC33-71C/71F	NL6448BC33-71/71D	NL6448BC33-70C/70F	NL6448BC33-70/70D	NL8060AC26-54D	NL8060AC26-52D
Display Mode	TN	TN	TN	TN	TN	TN
Resolution	1024 × 768	640 × 480	640 × 480	640 × 480	800 × 600	800 × 600
Display Area (mm)	132.096 × 99.072	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4
Display Color	16.77M / 262K	16.77M / 262K	262K	262K	16.77M / 262K	16.77M / 262K
Luminance	900cd/m ²	450cd/m ²	900cd/m ²	450cd/m ²	450cd/m ²	400cd/m ²
Contrast ratio	500:1	900:1	900:1	900:1	900:1	900:1
Viewing Angle (U/D/L/R)	80°/60°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°
Response Time	18ms	18ms	18ms	18ms	18ms	18ms
Interface	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	CMOS RGB 6bits	CMOS RGB 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits
Power Consumption	6.2W	3.5W	6.4W	3.7W	5.1W	4.7W
Operating Temperature	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C
Polarizer Surface	-71C: Clear+AR -71F: Clear	-71: Clear -71D: AG	-70C: Clear+AR -70F: Clear	-70: Clear -70D: AG	AG	AG
Module Size WxHxD(mm) (D : max)	243.0 × 185.1 × 11.0	243.0 × 185.1 × 11.0	243.0 × 185.1 × 11.0	243.0 × 185.1 × 11.0	227.3 × 177.5 × 9.8	243.0 × 185.1 × 11.0
Weight	475g	475g	475g	475g	375g	430g
Remarks						

Screen Size	10.4 inch	10.4 inch	10.4 inch	10.4 inch	10.4 inch	10.4 inch
Part Number	NL8060BC26-35C/35F	NL8060BC26-35/35D	NL8060BC26-35E	NL10276BC20-47	NL10276BC20-18C/18F	NL10276BC20-18/18D
Display Mode	TN	TN	TN	SFT	TN	TN
Resolution	800 × 600	800 × 600	800 × 600	1024×768	1024×768	1024 × 768
Display Area (mm)	211.2 × 158.4	211.2 × 158.4	211.2 × 158.4	210.432×157.824	210.432×157.824	210.432 × 157.824
Display Color	16.77M / 262K	16.77M / 262K	16.77M / 262K	262K	16.77M / 262K	16.77M / 262K
Luminance	800cd/m ²	400cd/m ²	400cd/m ²	300cd/m ²	800cd/m ²	400cd/m ²
Contrast ratio	900:1	900:1	900:1	700:1	900:1	900:1
Viewing Angle (U/D/L/R)	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	88°/88°/88°/88°	80°, 80°, 80°, 80°	80°/80°/80°/80°
Response Time	18ms	18ms	18ms	25ms	18ms	18ms
Interface	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 6 bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits
Power Consumption	6.3W	3.6W	3.6W	3.9W	7.5W	4.8W
Operating Temperature	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	0°C ~ +55°C	-30°C ~ +80°C	-30°C ~ +80°C
Polarizer Surface	-35C: Clear+AR -35F: Clear	-35: Clear -35D: AG	Clear	Clear	-18C: Clear+AR -18F: Clear	-18 : Clear -18D : AG
Module Size WxHxD(mm) (D : max)	243.0 × 185.1 × 11.0	243.0 × 185.1 × 11.0	243.0 × 185.1 × 11.0	227.0×175.4×9.2	228.0×178.5×9.2	228.0 × 178.5 × 9.2
Weight	475g	475g	475g	360g	380g	380g
Remarks						

Screen Size	12.1 inch	12.1 inch	12.1 inch	12.1 inch	12.1 inch	12.1 inch
Part Number	NL8060BC31-51C	NL8060BC31-50F	NL8060BC31-47/47D	NL10276BC24-21L	NL10276BC24-21F	NL10276BC24-21
Display Mode	TN	TN	TN	TN	TN	TN
Resolution	800 × 600	800 × 600	800 × 600	1024 × 768	1024 × 768	1024 × 768
Display Area (mm)	246.0 × 184.5	246.0 × 184.5	246.0 × 184.5	245.76 × 184.32	245.76 × 184.32	245.76 × 184.32
Display Color	16.77M / 262K	262K	16.77M / 262K	16.77M / 262K	16.77M / 262K	16.77M / 262K
Luminance	900cd/m ²	900cd/m ²	450cd/m ²	450cd/m ²	800cd/m ²	450cd/m ²
Contrast ratio	1000:1	1000:1	900:1	900:1	900:1	900:1
Viewing Angle (U/D/L/R)	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°
Response Time	18ms	18ms	18ms	18ms	18ms	18ms
Interface	LVDS RGB 8bits / 6bits	LVDS RGB 6 bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits
Power Consumption	7.0W	7.1W	4.9W	5.2W	7.5W	5.2W
Operating Temperature	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C
Polarizer Surface	Clear + AR	Clear	-47: Clear -47D: AG	Clear	Clear	Clear
Module Size WxHxD(mm) (D : max)	260.5 × 203.0 × 9.2	260.5 × 203.0 × 9.2	280.0 × 210.0 × 9.6	260.5 × 203.0 × 9.2	260.5 × 203.0 × 9.2	260.5 × 203.0 × 9.2
Weight	490g	490g	580g	490g	490g	490g
Remarks						

Screen Size	15.0 inch	15.0 inch	15.0 inch	15.0 inch	15.0 inch	15.0 inch
Part Number	NL10276AC30-52C	NL10276AC30-58F	NL10276AC30-48D	NL10276AC30-45D	NL10276AC30-42D	NL10276AC30-42C
Display Mode	TN	TN	SFT	TN	TN	TN
Resolution	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1024 × 768
Display Area (mm)	304.128 × 228.096	304.128 × 228.096	304.128 × 228.096	304.128 × 228.096	304.128 × 228.096	304.128 × 228.096
Display Color	16.77M / 262K	16.77M / 262K	16.77M / 262K	16.77M / 262K	16.77M / 262K	16.77M / 262K
Luminance	1600cd/m ²	1600cd/m ²	350cd/m ²	400cd/m ²	600cd/m ²	600cd/m ²
Contrast ratio	1000:1	1000:1	900:1	600:1	600:1	600:1
Viewing Angle (U/D/L/R)	80°/80°/80°/80°	80°/80°/80°/80°	88°/88°/88°/88°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°
Response Time	8ms	8ms	25ms	8ms	8ms	8ms
Interface	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits
Power Consumption	24.1W	24.1W	9.5W	7.8W	11.9W	11.9W
Operating Temperature	-30°C ~ +70°C	-30°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C
Polarizer Surface	Clear + AR	AG	AG	AG	AG	Clear + AR
Module Size WxHxD(mm) (D : max)	326.5 × 253.5 × 13.5	326.5 × 253.5 × 13.5	326.5 × 253.5 × 12.3	326.5 × 253.5 × 12.1	326.5 × 253.5 × 12.1	326.5 × 253.5 × 12.1
Weight	1150g	1150g	870g	1050g	1050g	1050g
Remarks						



Screen Size	15.0 inch	15.0 inch	7.0 inch Wide	7.0 inch Wide	7.0 inch Wide	7.0 inch Wide
Part Number	NL10276BC30-34R	NL10276BC30-34D	NL8048AC19-21	NL8048AC19-14F	NL8048AC19-13	NL8048BC19-03
Display Mode	TN	TN	TN	TN	TN	TN
Resolution	1024 x 768	1024 x 768	800 x 480	800 x 480	800 x 480	800 x 480
Display Area (mm)	304.128 x 228.096	304.128 x 228.096	152.4 x 91.44	152.4 x 91.44	152.4 x 91.44	152.4 x 91.44
Display Color	262K	16.77M	16.19M	262K	262K	16.77M / 262K
Luminance	400cd/m ²	500cd/m ²	500cd/m ²	1000cd/m ²	500cd/m ²	400cd/m ²
Contrast ratio	600:1	600:1	800:1	800:1	800:1	1000:1
Viewing Angle (U/D/L/R)	80°, 80°, 80°, 80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°	80°/80°/80°/80°
Response Time	18 ms	18ms	8ms	8ms	8ms	18ms
Interface	LVDS RGB 6 bits	LVDS RGB 8 bits	LVDS RGB 8 bits	LVDS RGB 6 bits	LVDS RGB 6 bits	LVDS RGB 8bits / 6bits
Power Consumption	9.8 W	9.8W	3.0W	5.4W	3.0W	3.4W
Operating Temperature	-20 ~ +70 °C	-20°C ~ +70°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-20°C ~ +70°C
Polarizer Surface	AG	AG	Clear	AG	Clear	Clear
Module Size WxHxD(mm) (D : max)	326.5 x 253.5 x 12.0	326.5 x 253.5 x 12.0	170.0 x 111.0 x 9.0	170.0 x 111.0 x 9.0	170.0 x 111.0 x 9.0	170.0 x 111.0 x 9.0
Weight	970g	970g	185g	185g	185g	165g
Remarks						

Screen Size	7.0 inch Wide	7.0 inch Wide	8.0 inch Wide	9.0 inch Wide	9.0 inch Wide	9.0 inch Wide
Part Number	NL8048BC19-02C	NL8048BC19-02	NL8048BC21-03F	NL8048BC24-12/12D	NL8048BC24-09/09D	NL192108AC10-01D
Display Mode	TN	TN	SFT	TN	SFT	SFT
Resolution	800 x 480	800 x 480	800 x 480	800 x 480	800 x 480	1920 x 1080
Display Area (mm)	152.4 x 91.44	152.4 x 91.44	174.0 x 104.4	196.8 x 118.08	196.8 x 118.08	198.72 x 111.78
Display Color	16.77M / 262K	16.77M / 262K	16.77M / 262K	16.77M / 262K	16.77M / 262K	16.77M / 262K
Luminance	550cd/m ²	400cd/m ²	1000cd/m ²	450cd/m ²	400cd/m ²	400cd/m ²
Contrast ratio	800:1	1000:1	1000:1	900:1	800:1	700:1
Viewing Angle (U/D/L/R)	80°/80°/80°/80°	80°/80°/80°/80°	88°/88°/88°/88°	80°/80°/80°/80°	88°/88°/88°/88°	88°/88°/88°/88°
Response Time	18ms	18ms	20ms	18ms	25ms	25ms
Interface	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	2port LVDS RGB 8 bits / 6 bits
Power Consumption	3.4W	3.4W	5.6W	4.1W	4.4W	11.4W
Operating Temperature	-20°C ~ +70°C	-20°C ~ +70°C	-40°C ~ +80°C	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C
Polarizer Surface	Clear + AR	Clear	AG	-12: Clear / -12D: AG	-09: Clear -09D: AG	AG
Module Size WxHxD(mm) (D : max)	170.0 x 111.0 x 9.0	170.0 x 111.0 x 9.0	192.0 x 122.0 x 7.9	220.5x136.5x8.7	220.5x136.5x8.7	214.6 x 130.0 x 9.6
Weight	170g	165g	225g	275g	275g	270g
Remarks		-				

Screen Size	10.1 inch Wide	11.6 inch Wide	12.1 inch Wide	12.1 inch Wide	12.1 inch Wide	12.1 inch Wide
Part Number	NL12880BC16-02F	NL192108AC13-02D	NL12880AC20-20D	NL12880AC20-14D	NL12880BC20-07F	NL12880BC20-05/05D
Display Mode	SFT	SFT	SFT	TN	TN	SFT
Resolution	1280 x 800	1920 x 1080	1280 x 800	1280 x 800	1280x800	1280x800
Display Area (mm)	216.96 x 135.6	256.32 x 144.18	261.12 x 163.2	261.12 x 163.2	261.12 x 163.2	261.12 x 163.2
Display Color	16.77M / 262K	16.77M	16.77M	16.77M / 262K	16.77M / 262K	16.77M / 262K
Luminance	1000cd/m ²	450cd/m ²	400cd/m ²	450cd/m ²	1800cd/m ²	450cd/m ²
Contrast ratio	800:1	1000:1	1000:1	800:1	800:1	1000:1
Viewing Angle (U/D/L/R)	88°/88°/88°/88°	88°/88°/88°/88°	88°/88°/88°/88°	80°/80°/80°/80°	80°/80°/80°/80°	88°/88°/88°/88°
Response Time	25ms	20ms	25ms	15ms	15ms	25ms
Interface	LVDS RGB 8bits / 6bits	2lanes eDP 8bit	LVDS RGB 8 bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits
Power Consumption	6.7W	8.5W	7.1W	5.6W	16.7W	6.5W
Operating Temperature	-40°C ~ +85°C	-20°C ~ +70°C	-20°C ~ +70°C	-30°C ~ +80°C	-20°C ~ +70°C	-20°C ~ +70°C
Polarizer Surface	AG	AG	AG	AG	AG	-05: Clear 05D: AG
Module Size WxHxD(mm) (D : max)	235.4 x 153.8 x 12.1	276.5 x 165.6 x 6.0	277.7 x 180.6 x 9.2	277.7 x 180.6 x 9.2	277.7x180.6x9.2	277.7x180.6x9.2
Weight	400g	355g	470g	470g	470g	460g
Remarks						

Screen Size	15.6 inch Wide	15.6 inch Wide	15.6 inch Wide	15.6 inch Wide	15.6 inch Wide	18.5 inch Wide	18.5 inch Wide
Part Number	NL13676BC25-07F	NL13676AC25-05D	NL192108BC18-06F	NL192108AC18-02D	NL192108AC18-01D	NL192108AC21-04	NL192108AC21-01
Display Mode	TN	TN	SFT	SFT	SFT	SFT	SFT
Resolution	1366 x 768	1366 x 768	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
Display Area (mm)	344.232 x 193.536	344.232 x 193.536	344.16 x 193.59	344.16 x 193.59	344.16 x 193.59	408.96 x 230.4	408.96 x 230.4
Display Color	16.19M / 262K	16.77M / 262K	16.77M	16.77M	16.77M	16.77M	16.77M
Luminance	(1250)cd/m ²	400cd/m ²	1500cd/m ²	400cd/m ²	400cd/m ²	400cd/m ²	400cd/m ²
Contrast ratio	900:1	900:1	750:1	1000:1	1000:1	1000:1	1000:1
Viewing Angle (U/D/L/R)	80°/80°/80°/80°	80°/80°/80°/80°	88°/88°/88°/88°	88°/88°/88°/88°	88°/88°/88°/88°	88°/88°/88°/88°	88°/88°/88°/88°
Response Time	18ms	18ms	25ms	25ms	25ms	25ms	25ms
Interface	LVDS RGB 8bits / 6bits	LVDS RGB 8bits / 6bits	2lanes eDP RGB 8 bits	2port LVDS RGB 8 bits	2lanes eDP RGB 8 bits	2port LVDS RGB 8 bits	2lanes eDP RGB 8 bits
Power Consumption	16.2W	8.5W	23.3W	13.9 W	13.9 W	15.3W	15.3W
Operating Temperature	-30°C ~ +80°C	-20°C ~ +70°C	-30°C ~ +85°C	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C
Polarizer Surface	AG	AG	AG	AG	AG	AG	AG
Module Size WxHxD(mm) (D : max)	363.8 x 215.9 x 13.1	363.8 x 215.9 x 10.8	363.8 x 215.9 x 16.2	363.8 x 215.9 x 6.8	363.8 x 215.9 x 6.8	430.4 x 254.6 x 14.0	430.4 x 254.6 x 14.0
Weight	1070g	800g	1050g	610g	610g	1550g	1550g
Remarks							



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MEDICAL PRODUCTS



Screen Size	21.3 inch	21.3 inch	21.3 inch	21.3 inch
Part Number	NL160120AM27-33A	NL160120AC27-32	NL204153AC21-25	NL204153AM21-18A
Display Mode	SFT	SFT	SFT	SFT
Resolution	1600 x 1200	1600 x 1200	2048 x 1536	2048 x 1536
Display Area (mm)	432.0 x 324.0	432.0 x 324.0	433.152 x 324.864	433.152 x 324.864
Display Color	766 gray scales/pixel 256 gray scales/sub-pixel	16.77M	16.77M	3072 gray scales/pixel 1024 gray scales/sub-pixel
Luminance	1900cd/m2	900cd/m2	800cd/m2	1700cd/m2
Contrast ratio	1400:1	1400:1	1400:1	1400:1
Viewing Angle (U/D/L/R)	88°/88°/88°/88°	88°/88°/88°/88°	88°/88°/88°/88°	88°/88°/88°/88°
Response Time	40ms	40ms	40ms	40ms
Interface	2port LVDS LCR 8 bits	2port LVDS RGB 8 bits	4port LVDS RGB 8 bits	4port LVDS LCR 10 bits
Power Consumption	36.0W	52.8W	58.2W	37.0W
Operating Temperature	0°C ~ +60°C	0°C ~ +60°C	0°C ~ +60°C	0°C ~ +60°C
Polarizer Surface	AG	AG	AG	AG
Module Size WxHxD(mm) (D : max)	457.0 x 350.0 x 23.0	457.0 x 350.0 x 23.0	457.0 x 350.0 x 23.0	457.0 x 350.0 x 23.0
Weight	2700g	2800g	2700g	2700g
Remarks				

Screen Size	21.3 inch	21.3 inch	21.3 inch	30 inch
Part Number	NL204153AC21-17	NL256204AM16-02A	NL256204AC16-01	NL328204AC19-01
Display Mode	SFT	SFT	SFT	SFT
Resolution	2048 x 1536	2560 x 2048	2560 x 2048	3280 x 2048
Display Area (mm)	433.152 x 324.864	422.4 x 337.92	422.4 x 337.92	645.504 x 403.046
Display Color	1073M	3072 gray scales/pixel 1024 gray scales/sub-pixel	1073M	1073M
Luminance	800cd/m2	2000cd/m2	1000cd/m2	1000cd/m2
Contrast ratio	1400:1	1400:1	1300:1	1500:1
Viewing Angle (U/D/L/R)	88°/88°/88°/88°	88°/88°/88°/88°	88°/88°/88°/88°	88°/88°/88°/88°
Response Time	40ms	25ms	25ms	(25) ms
Interface	4port LVDS RGB 10 bits	4port LVDS LCR 10 bits	4port LVDS RGB 10 bits	4lanes eDP RGB 10bits
Power Consumption	58.0W	49.8W	65.4W	114W
Operating Temperature	0°C ~ +60°C	0°C ~ +60°C	0°C ~ +60°C	0°C ~ +60°C
Polarizer Surface	AG	AG	AG	AG
Module Size WxHxD(mm) (D : max)	457.0 x 350.0 x 23.0	438.8 x 361.3 x 26.0	438.8 x 361.3 x 26.0	670.0 x 427.0 x 30.5
Weight	2700g	3100g	3100g	5500g
Remarks				



TO CREATE COLORFUL LIFE

TOUCH PRODUCTS TM SERIES

SFT
Super Fine TFT

Screen Size	4.3 inch	4.3 inch	5.0 inch	5.7 inch	7.0 inch	7.0 inch	7.0 inch
Display Mode	TN	TN	TN	TN	TN	TN	TN
Resolution(pixel)	480 x 272	480 x 800	800 x 480	320 x 240	800 x 480	800 x 480	1024 x 600
Module Size (W x H x D) (mm)	113.44x71.46x1.35	67.50x117.70x2.58	123.26x80.06x1.35	144.00x104.60x1.35	171.50x110.30x1.35	171.50x110.30x1.35	171.50x110.30x1.35
Active Area (mm)	96.04 x 54.86	94.40 x 56.96	96.04 x 54.86	116.60 x 87.80	155.24 x 87.12	155.24 x 87.12	155.20 x 91.40
Luminance (cd/m ²)	350	300	330	400	300	1200	270
Contrast Ratio	900:1	800:1	600:1	500:1	500:1	1000:1	500:1
Multi Touch	2~5 Points	5 Points	2~5 Points	2~5 Points	2~5 Points	2~5 Points	2~5 Points
Input Type	Finger, Glove	Finger, Glove, Passive Pen	Finger, Glove	Finger, Glove	Finger, Glove	Finger, Glove	Finger, Glove
Cover Surface	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Cover Glass Thickness(mm)(Max.)	0.7	2	0.7	0.7	0.7	0.7	0.7
Interface	RGB 24 bits/I ² C	RGB 24 bits/I ² C	RGB 24 bits/I ² C	RGB 18 bits/I ² C	RGB 24 bits/I ² C	RGB 24 bits/I ² C	LVDS/I ² C
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Remark	Air Bonding	Air Bonding	Air Bonding	Air Bonding	Air Bonding	Air Bonding	Air Bonding

Screen Size	7.0 inch	10.1 inch	10.1 inch	10.1 inch	10.1 inch	5.0 inch	15.0 inch
Display Mode	SFT	TN	SFT	SFT	TN	HD-SFT TED	TN + CTP
Resolution(pixel)	1280 x 800	1280 x 800	1280 x 800	1280 x 800	1024 x 600	720 x 1280	1024 x 768
Module Size (W x H x D) (mm)	179.76x123.60x1.75	244.50x168.10x1.75	233.00x156.00x1.83	258.66x177.30x1.75	236.40x147.89x1.75	66.10x118.30x1.61	336.50x263.50x12.00
Active Area (mm)	150.76 x 94.60	218.36 x 137.00	218.36 x 137.00	218.36 x 137.00	223.72 x 126.28	62.10 x 110.40	307.00 x 231.00
Luminance (cd/m ²)	500	350	430	850	360	300	300
Contrast Ratio	800:1	800:1	800:1	700:1	800:1	900:1	1000:1
Multi Touch	2~5 Points	2~10 Points	2~10 Points	2~10 Points	2~10 Points	2~5 Points	2~10 Points
Input Type	Finger, Glove	Finger, Glove	Finger, Glove	Finger, Glove	Finger, Glove	Finger, Passive Pen	Finger, Glove
Cover Surface	Clear	Clear	AG	Clear	Clear	Clear	Clear
Cover Glass Thickness(mm)(Max.)	1.1	1.1	1.18	1.1	1.1	3	1.1
Interface	LVDS/USB	LVDS/I ² C	LVDS/I ² C	LVDS/USB	LVDS/I ² C	MIPI/I ² C	LVDS/USB
Operating Temperature	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C	-20°C~+70°C
Remark	Air Bonding	Optical Bonding	Air Bonding	Air Bonding	Air Bonding	-	Air Bonding



TO CREATE COLORFUL LIFE

TOUCH PRODUCTS NL SERIES

SFT
Super Fine TFT

Screen Size	6.5 inch	6.5 inch	7.0 inch	7.0 inch	7.0 inch	8.4 inch
Part Number	NL6448BC20-30JF	NL10276BC13-01JA	NL8048AC19-14KH	NL8048AC19-13KD	NL8048AC19-13BD	NL8060AC21-21KD
Display Mode	TN	TN	TN	TN	TN	TN
Resolution (pixel)	640 x 480	1024 x 768	800 x 480	800 x 480	800 x 480	800 x 600
Module Size W x H x D (mm)(D: max)	153.0 x 118.0 x 10.0	153.0 x 118.0 x 10.7	170.0 x 111.0 x 11.2	170.0 x 111.0 x 11.2	170.0 x 111.0 x 11.2	200.0 x 152.0 x 10.9
Display Area (mm)	132.48 x 99.36	132.096 x 99.072	152.4 x 91.44	152.4 x 91.44	152.4 x 91.44	170.4 x 127.8
Luminance (cd/m ²)	950	480	950	470	430	370
Viewing Angle (U/D/L/R)	80/80/80/80	80/60/80/80	80/80/80/80	80/80/80/80	80/80/80/80	80/80/80/80
Multi Touch	Available	Available	Available	Available	Available	Available
Cover Surface	Clear + AFP	Clear	AG + AFP	AG + AFP	AG + AFP	AG + AFP
Cover Glass Thickness(mm)(Max.)	-	-	0.7	0.7	0.7	0.7
Operating Temperature	-30°C ~ +80°C	-20°C ~ +70°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C
Remarks	Optical Bonding	Optical Bonding	Optical Bonding Wet & Glove	Optical Bonding Wet & Glove	-	Optical Bonding Wet & Glove

Screen Size	8.4 inch	8.4 inch	10.4 inch	10.4 inch	10.4 inch	10.4 inch
Part Number	NL8060BC21-11KG	NL10276BC16-06KD	NL8060BC26-56KD	NL8060BC26-35BD	NL8060BC26-35BA	NL10276BC20-18KH
Display Mode	TN	SFT	TN	TN	TN	TN
Resolution (pixel)	800 x 600	1024 x 768	800 x 600	800 x 600	800 x 600	1024 x 768
Module Size W x H x D (mm)(D: max)	200.0 x 152.0 x 10.8	200.0 x 152.0 x 10.9	243.0 x 185.1 x 13.2	243.0 x 185.1 x 12.7	243.0 x 185.1 x 12.5	228.0 x 178.5 x 11.4
Display Area (mm)	170.40 x 127.80	170.496 x 127.872	211.20 x 158.40	211.20 x 158.40	211.20 x 158.40	210.432 x 157.824
Luminance (cd/m ²)	750	580	380	350	350	760
Viewing Angle (U/D/L/R)	80/80/80/80	88/88/88/88	80/80/80/80	80/80/80/80	80/80/80/80	80/80/80/80
Multi Touch	Available	Available	Available	Available	Available	Available
Cover Surface	AR	AG + AFP	AG + AFP	AG + AFP	Clear	AG + AFP
Cover Glass Thickness(mm)(Max.)	0.7	0.7	0.7	0.7	0.7	0.7
Operating Temperature	-30°C ~ +80°C	-20°C ~ +70°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C
Remarks	Optical Bonding Wet & Glove	Optical Bonding Wet & Glove	Optical Bonding Wet & Glove	Wet & Glove	Wet & Glove	Optical Bonding Wet & Glove

Screen Size	10.4 inch	10.4 inch	10.4 inch	10.6 inch	12.1 inch	12.1 inch
Part Number	NL10276BC20-18KE	NL10276BC20-18KD	NL10276BC20-18BD	NL12876AC18-07DC	NL10276BC24-36KD	NL10276BC24-21KH
Display Mode	TN	TN	TN	SFT	TN	TN
Resolution (pixel)	1024 x 768	1024 x 768	1024 x 768	1280 x 768	1024 x 768	1024 x 768
Module Size W x H x D (mm)(D: max)	228.0 x 178.5 x 11.2	228.0 x 178.5 x 11.4	228.0 x 178.5 x 10.9	267.8 x 174.2 x 9.2	260.5 x 203.0 x 11.6	260.5 x 203.0 x 11.6
Display Area (mm)	210.43 x 157.82	210.43 x 157.82	210.43 x 157.82	230.40 x 138.24	245.76 x 184.32	245.76 x 184.32
Luminance (cd/m ²)	770	380	350	250	390	750
Viewing Angle (U/D/L/R)	80/80/80/80	88/88/88/88	88/88/88/88	88/88/88/88	88/88/88/88	88/88/88/88
Multi Touch	Available	Available	Available	Available	Available	Available
Cover Surface	Clear	AG + AFP	AG + AFP	AR	AG + AFP	AG + AFP
Cover Glass Thickness(mm)(Max.)	0.7	0.7	0.7	1.1 Chemical strength	0.7	0.7
Operating Temperature	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-20°C ~ +70°C	-30°C ~ +80°C	-30°C ~ +80°C
Remarks	Optical Bonding Wet & Glove	Optical Bonding Wet & Glove	Wet & Glove	-	Optical Bonding Wet & Glove	Optical Bonding Wet & Glove

Screen Size	12.1 inch	12.1 inch	12.1 inch	15.0 inch	15.0 inch	15.3 inch
Part Number	NL12880BC20-13ND	NL12880BC20-05BD	NL12880BC20-05BA	NL10276KC30-50DD	NL10276KC30-43DD	NL12876BC26-33NA
Display Mode	SFT	SFT	SFT	TN	TN	SFT
Resolution (pixel)	1280 x 800	1280 x 800	1280 x 800	1024 x 768	1024 x 768	1280 x 768
Module Size W x H x D (mm)(D: max)	298.7 x 200.8 x 11.5	277.7 x 180.6 x 11.2	277.7 x 180.6 x 11.2	326.5 x 253.5 x 15.0	326.5 x 253.5 x 15.0	385.0 x 251.4 x 17.3
Display Area (mm)	261.12 x 163.20	261.12 x 163.20	261.12 x 163.20	304.12 x 228.09	304.12 x 228.09	334.08 x 200.45
Luminance (cd/m ²)	430	400	400	450	450	470
Viewing Angle (U/D/L/R)	88/88/88/88	88/88/88/88	88/88/88/88	88/88/88/88	88/88/88/88	88/88/88/88
Multi Touch	Available	Available	Available	Available	Available	Available
Cover Surface	AG Etching	AG + AFP	Clear	AG + AFP	AG + AFP	Clear
Cover Glass Thickness(mm)(Max.)	0.95	0.7	0.7	1.8 Chemical strength	1.8 Chemical strength	1.1 Chemical strength
Operating Temperature	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C	-20°C ~ +70°C
Remarks	Optical Bonding Wet & Glove	-	-	Wet & Glove	Wet & Glove	Optical Bonding

TO CREATE COLORFUL LIFE



PASSIVE PRODUCTS TM SERIES

EBN Enhanced Black Nematic



Duty	1/1	1/4		1/9	1/16	1/32	WEBN (1/4-static)	DEBN (1/4-static)
Bias	1/1	1/3	1/3	1/4	1/5	1/6	1/3	1/3
Available Backlight	Mono	Mono	Mono	Mono	Mono	Mono	Mono	Mono
CR at -30°C	1000:1	1000:1	1000:1	900:1	600:1	200:1	600:1	1000:1
CR at 22°C	3000:1	1500:1	1500:1	1000:1	800:1	300:1	800:1	1000:1
CR at 85°C	1000:1	1000:1	1000:1	1000:1	600:1	200:1	600:1	1000:1
Ton+Toff(-30°C)(s)	2	9	4	9	11	15	8	7
Ton+Toff(22°C)(ms)	30	100	50	100	100	250	90	40
Color/Background	Black	Black	Black	Black	Black	Black	Black	Black
Transmittance(%)	22%	13%	10%	12%	10%	7%	5%	7%
Operation Temperature	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C
Storage Temperature	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C
Vertical(CR>100)	-60°/+60°	-25°/+60°	-25°/+50°	-15°/+38°	-20°/+60°	-18°/+60°	> -70° / > +70°	-20°/+60°
Horizontal(CR>100)	-60°/+60°	-60°/+60°	-60°/+50°	-30°/+30°	-50°/+49°	-45°/+40°	> -70° / > +70°	-50°/+40°

TN-NW Normal White TN

Duty	1/4					1/9
Bias	1/3	1/3	1/3	1/3	1/3	1/5
Available Backlight	Mono	Mono	Mono	RED/Orange/Amber	Mono	RED/Orange/Amber
Mode	Transflective NW	Transflective NW	Transmissive NW	Transmissive WV	Transflective NW	Transmissive WV
CR at-30°C	8.4	4.0	7.2	93	8.4	35
CR at22°C	8.6	6.2	10.5	84	8.6	55
CR at80°C	3.5	6.7	5.5	5.1	3.5	7
Ton+Toff(-30°C)(s)	4.3	5	4.8	2	4.3	5.2
Ton+Toff(22°C)(ms)	80	120	90	66	80	240
Ton+Toff(80°C)(ms)	30	30	30	20	30	50
Color/Background	Black/backlight color	Black/backlight color	Black/backlight color	Black/backlight color	Black/backlight color	Black/backlight color
Transmittance(%)	15	10	30	18	15	25
Operation Temperature	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C	-30°C~+85°C
Storage Temperature	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C	-40°C~+90°C
VerticalCR>2 for NW CR>10 for NB	-15°/+50°	-15°/+50°	-15°/+50°	-35°/+40°	-15°/+50°	-20°/+20°
Horizontal CR>2 for NW CR>10 for NB	-60°/+60°	-60°/+60°	-60°/+60°	-50°/+50°	-60°/+60°	-40°/+40°

ASTN Advanced STN

TIANMA COG MODULE
214 X 43 DOTS

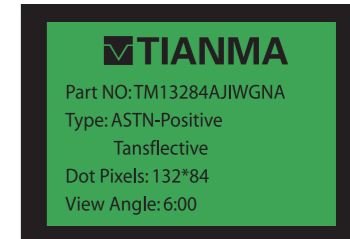
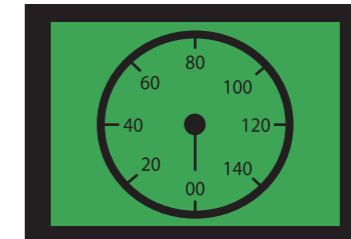
TIANMA COG MODULE
214 X 43 DOTS

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TIANMA COG MODULE
214 X 43 DOTS

AM-M1 531 KHz
AM-M2 1602 KHz
AM-M3 1602 KHz



1. ASTN-WV,Its viewing angle especially suit for car radio.

Duty	66			88
Bias	9	9	9	10
Available Backlight	Mono	Mono	Mono	Mono
Display Mode	Transmissive NB	Transmissive NB	Transflective NB	Transmissive NB
CR at -30°C	22	22	22	22
CR at 22°C	85	70	70	80
CR at 80°C	20	20	20	20
Ton+Toff(-30°C)	9s	5.6s	5.6s	9.5s
Ton+Toff(22°C)	400ms	300ms	300ms	450ms
Color/Background	White/Black	White/Dark-Blue	White/Blue	Ice-blue/Black
Transmittance	20%	18%	10%	12%
Vertical(CR>10)	45°/-20°	40°/-18°	40°/-18°	45°/-20°
Horizontal(CR>10)	-41°/42°	-41°/42°	-41°/42°	-42°/40°

2. ASTN-High duty, Its viewing angle is especially suit for cluster.

Duty	44	136	
Bias	8	11	11
Available Backlight	Mono	Mono	Mono
Display Mode	Transflective NW	Transmissive NB	Transmissive NB
CR at -30°C	6	16	16
CR at 22°C	10	55	45
CR at 80°C	2	18	18
Ton+Toff(-30°C)	8s	>15s	8s
Ton+Toff(22°C)	250ms	500ms	280ms
Color/Background	White	Ice-blue/blue	Ice-blue/blue
Transmittance	16%	23%	21%
Vertical(CR>2)	36°/-56°	42°/-28°	40°/-25°
Horizontal(CR>2)	>-60°/48°	-30°/40°	-28°/35°