

TFT-LCD.

Better than life.



SFT Technology¹

High luminance, wide color gamut.

With our SA-SFT and UA-SFT technologies we have achieved improved panel transmissivity, resulting in higher luminance and wider color gamut displays allowing customers to view clear and vivid color images in bright environments.

- High definition**
 We offer products with pixel density of up to 200 pixels/inch and resolution of up to 5M pixel displays. That means customers enjoy faithful reproduction of high-precision images down to the finest details – from the fine text and lines of CAD and DTP to the delicate nuances of nature images and imaging data for medical purposes.
- Quick response**
 We are developing our SFT technology, which features low dependence on response time between gray-scale levels, to achieve uninterrupted full-motion video.
- Ultra-wide viewing angle, reduced color shift.**
 LCDs with SFT Technology feature a new ultra-wide 170° (right/left and up/down) viewing angle while minimizing the color shift phenomenon that occurs as luminance changes with viewing angle. The result is a new and definitive benchmark in image quality with virtually no color deviation – a great picture no matter how you look at it.



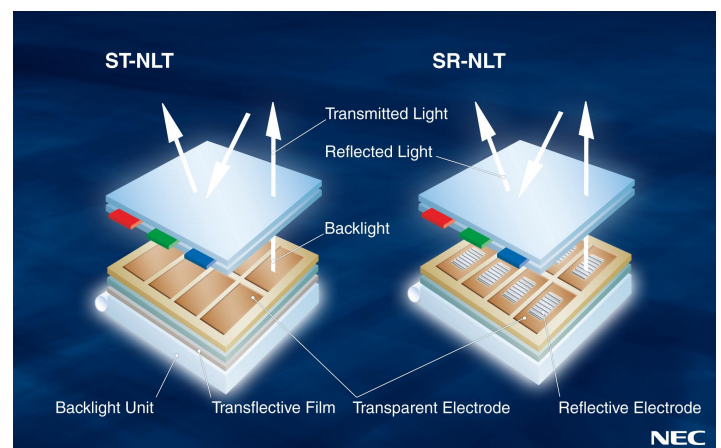
Adaptive Design Technology

For industrial products NEC follows the concept of “form-fit-function”: Every new or improved model is electrically and mechanically compatible to its predecessor. Development of backward-compatible designs enables us to provide the long-term support required by industrial applications.

When even possible, NEC uses identical interfaces and mechanics to create whole display families, giving developers highest flexibility and varieties for their range of applications.

NLT Technology²

- SR-NLT³ guarantees high-visibility in all outdoor light environments**
 SR-NLT maximizes the high ambient light visibility features of a reflective-type LCD along with the low ambient light visibility features of a transmissive-type LCD to deliver high picture quality in all possible light environments.
- ST-NLT⁴ brings you the clearest, sharpest pictures under the sun!**
 This revolutionary new ST-NLT is a transmissive type that guarantees bright, easy-viewing displays even in bright sunlight. It's the history-making forerunner of a new generation of LCDs unaffected by changes in natural light — for bright, vivid color displays anytime.



*1 SFT: Super Fine TFT

*2 NLT: Natural Light TFT

*3 SR-NLT: Super-Reflective NLT

*4 ST-NLT: Super-Transmissive NLT

TFT module line-up for monitor products 1/2

Screen size	21.3 inch (54 cm diagonal)				
Part number	NL204153BM21-01/01A	NL204153AM21-07A NEW	NL204153BC21-02 NEW	NL160120AM27-06/06A	NL160120BM27-03/03A
Resolution	2048 × 1536	2048 × 1536	2048 × 1536	1600 × 1200	1600 × 1200
Display color	256 gray scales/1sub-pixel 766 gray scales/1pixel	256 gray scales/1sub-pixel 766 gray scales/1pixel	16,777,216 colors	256 gray scales/1sub-pixel 766 gray scales/1pixel	256 gray scales/1sub-pixel 766 gray scales/1pixel
Pixel pitch (mm)	0.211 × 0.211	0.211 × 0.211	0.211 × 0.211	0.27 × 0.27	0.27 × 0.27
Luminance (TYP.)	800 cd/m ²	1500 cd/m ²	235 cd/m ²	1800 cd/m ²	1000 cd/m ²
Contrast ratio (TYP.)	700 : 1	850 : 1	450 : 1	600 : 1	700 : 1
Viewing angle (Up/down; right/left)	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°
Response time (TYP.) ^{*2}	35 ms	45 ms	23 ms	35 ms	35 ms
Interface	4 port LVDS (LCR 8 bits each)	4 port LVDS (LCR 8 bits each)	4 port LVDS (RGB 8 bits each)	2 port LVDS (LCR 8 bits each)	2 port LVDS (LCR 8 bits each)
Power supply voltage	12 V	12 V	12 V	12 V × 2	12 V
Power consumption (TYP.)	34.2 W ^{*3}	67.2 W	32.5 W	64.0 W	30.7 W ^{*3}
Operating temperature	0°C ~ + 55°C	0°C ~ + 55°C	0°C ~ + 55°C	0°C ~ + 55°C	0°C ~ + 55°C
Storage temperature	-20°C ~ + 60°C	-20°C ~ + 60°C	-20°C ~ + 60°C	-20°C ~ + 60°C	-20°C ~ + 60°C
Polarizer surface	Antiglare	Antiglare	Antiglare	Antiglare	Antiglare
Module size (mm): W×H×D (D: max)	457 × 350 × 25.5	457 × 350 × 37	457 × 350 × 25.5	457 × 350 × 36.5	457 × 350 × 25.5
Weight (TYP.)	3800 g	3000 g	3800 g	2610 g	3750 g
Backlight	Top and bottom, 3 CCFL each	16 CCFL	Top and bottom, 3 CCFL each	16 CCFL	Top and bottom, 3 CCFL each
Inverter	None	Built in	None	Built in	None
Remarks	• Super-advanced SFT • Monochrome: - 01 : Blue base - 01A : Clear base	• Super-advanced SFT • Monochrome • High intensity backlight	• NTSC ratio* 72% • Super-advanced SFT	• Super-advanced SFT • Monochrome: - 06 : Blue base - 06A : Clear base	• Super-advanced SFT • Monochrome: - 03 : Blue base - 03A : Clear base

Screen size	21.3 inch (54 cm diagonal)			
Part number	NL160120AM27-13A NEW	NL160120BC27-14 NEW	NL160120AC27-05	NL160120BC27-02
Resolution	1600 × 1200	1600 × 1200	1600 × 1200	1600 × 1200
Display color	256 gray scales/1sub-pixel 766 gray scales/1pixel	16,777,216 colors	16,777,216 colors	16,777,216 colors
Pixel pitch (mm)	0.27 × 0.27	0.27 × 0.27	0.27 × 0.27	0.27 × 0.27
Luminance (TYP.)	1700 cd/m ²	250 cd/m ²	450 cd/m ²	250 cd/m ²
Contrast ratio (TYP.)	850 : 1	550 : 1	450 : 1	450 : 1
Viewing angle (Up/down; right/left)	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°
Response time (TYP.) ^{*2}	45 ms	20 ms	16 ms	20 ms
Interface	2 port LVDS (LCR 8 bits each)	2 port LVDS (RGB 8 bits each)	2 port LVDS (RGB 8 bits each)	2 port LVDS (RGB 8 bits each)
Power supply voltage	12 V	12 V	12 V × 2	12 V
Power consumption (TYP.)	63.7 W ^{*3}	30.7 W	63.7 W	30.7 W ^{*3}
Operating temperature	0°C ~ + 55°C	0°C ~ + 55°C	0°C ~ + 55°C	0°C ~ + 55°C
Storage temperature	-20°C ~ + 60°C	-20°C ~ + 60°C	-20°C ~ + 60°C	-20°C ~ + 60°C
Polarizer surface	Antiglare	Antiglare	Antiglare	Antiglare
Module size (mm): W×H×D (D: max)	457 × 350 × 37	457 × 350 × 25.5	457 × 350 × 36.5	457 × 350 × 25.5
Weight (TYP.)	2900 g	3750 g	2610 g	3750 g
Backlight	16 CCFL	Top and bottom, 3 CCFL each	16 CCFL	Top and bottom, 3 CCFL each
Inverter	Built in	None	Built in	None
Remarks	• Super-advanced SFT • Monochrome • High intensity backlight	• NTSC ratio* 72% • Super-advanced SFT	• NTSC ratio* 72% • Super-advanced SFT	• NTSC ratio* 72% • Super-advanced SFT

* Wide colour gamut.

*2 Values equal Ton + Toff
(10% ↔ 90%).*3 Values do not include inverter
power consumption.

TFT module line-up for monitor products 2/2

Screen size	20.1 inch (51 cm diagonal)	19.0 inch (48 cm diagonal)		
Part number	NL256204AM15-01/01A	NL128102BM29-05A	NL128102BC29-01	NL128102BC29-01B NEW
Resolution	2560 × 2048	1280 × 1024	1280 × 1024	1280 × 1024
Display color	256 gray scales/1sub-pixel 766 gray scales/1pixel	256 gray scales/1sub-pixel (8 bit)	16,777,216 colors	16,777,216 colors
Pixel pitch (mm)	0.156 × 0.156	0.294 × 0.294	0.294 × 0.294	0.294 × 0.294
Luminance (TYP.)	850 cd/m ²	1000 cd/m ²	300 cd/m ²	280 cd/m ²
Contrast ratio (TYP.)	600 : 1	900 : 1	450 : 1	450 : 1
Viewing angle (Up/down; right/left)	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°
Response time (TYP.)* ²	30 ms	35 ms	20 ms	20 ms
Interface	4 port LVDS LCR (8 bits each)	2 port LVDS (LCR 8 bits each)	2 port LVDS RGB (8 bits each)	2 port LVDS RGB (8 bits each)
Power supply voltage	12.0 V × 2	5.0 V	5.0 V	5.0 V
Power consumption (TYP.)	49.2 W	26.8 W	26.8 W* ³	26.8 W* ³
Operating temperature	0°C ~ + 55°C	0°C ~ + 55°C	0°C ~ + 55°C	0°C ~ + 55°C
Storage temperature	-20°C ~ + 60°C	-20°C ~ + 60°C	-20°C ~ + 60°C	-20°C ~ + 60°C
Polarizer surface	Antiglare	Antiglare	Antiglare	Antiglare
Module size (mm): W×H×D (D: max)	423.4 × 343.5 × 44.5	404.2 × 330 × 22.0	404.2 × 330 × 22.3	404.2 × 330 × 22.0
Weight (TYP.)	2440 g	2900 g	2900 g	2900 g
Backlight	12 CCFL	6 CCFL	Top and bottom, 3 CCFL each	6 CCFL
Inverter	Built in	None	None	None
Remarks	• Super-advanced SFT • Monochrome: - 01 : Blue base - 01A : Clear base	• Super-advanced SFT • Monochrome	• NTSC ratio* 72% • Super-advanced SFT	• NTSC ratio* 72% • Super-advanced SFT • High uniformity

* Wide colour gamut.

*² Values equal Ton + Toff
(10% ↔ 90%).

*³ Values do not include inverter
power consumption.

TFT module line-up for monitor products

		21.3 inch		20.1 inch	19.0 inch
SXGA 1280 × 1024 (1M pixels)	Ultra-wide viewing angle type				NL12810BC29-01 • 300cd/m ² , 450 : 1, 20ms • Super-advanced SFT • NTSC ratio* 72%
					NL128102BC29-01B • 280cd/m ² , 450 : 1, 20ms • Super-advanced SFT • NTSC ratio* 72% • High uniformity
					NL128102BM29-05A • 1000cd/m ² , 900 : 1, 35ms • Super-advanced SFT • Monochrome
UXGA 1600 × 1200 (2M pixels)	Ultra-wide viewing angle type	NL160120AC27-05 • 450cd/m ² , 450 : 1, 16ms • Super-advanced SFT • NTSC ratio* 72%			
		NL160120BC27-02 • 250cd/m ² , 450 : 1, 20ms • Super-advanced SFT • NTSC ratio* 72%	NL160120BC27-14 • 250cd/m ² , 550 : 1, 20ms • Super-advanced SFT • NTSC ratio* 72%		
		NL160120AM27-06/06A • 1800cd/m ² , 600 : 1, 35ms • Super-advanced SFT • Monochrome	NL160120AM27-13A • 1700cd/m ² , 850 : 1, 45ms • Super-advanced SFT • High intensity backlight • Monochrome		
		NL106120BM27-03/03A • 1000cd/m ² , 700 : 1, 35ms • Super-advanced SFT • Monochrome			
QXGA 2048 × 1536 (3M pixels)	Ultra-wide viewing angle type	NL204153BC21-02 • 235 cd/m ² , 450 : 1, 23ms • Super-advanced SFT • NTSC ratio* 72%			
		NL204153BM21-01/01A • 800 cd/m ² , 700 : 1, 35ms • Super-advanced SFT • Monochrome			
		NL204153AM21-07A • 1500 cd/m ² , 850 : 1, 45ms • Super-advanced SFT • High intensity backlight • Monochrome			
QSXGA 2560 × 2048 (5M pixels)	Ultra-wide viewing angle type			NL256204AM15-01/01A • 850cd/m ² , 600 : 1, 30ms • Super-advanced SFT • Monochrome	

* – Wide colour gamut

⌈ ⌋ – Mounting compatibility. Outer dimensions (except thickness), position of mounting holes and relative to screen center.

TFT module line-up for industrial products 1/2

Screen size	15 inch (38 cm diagonal)				12.1 inch (31 cm diagonal)	
Part number	NL10276BC30-17	NL10276BC30-15	NL10276BC30-18 NEW	NL10276BC30-18C NEW	NL10276BC24-13	NL10276BC24-14 NEW
Resolution	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1024 × 768	1024 × 768
Display color	16,777,216 colors	16,777,216 colors	16,777,216 colors	16,777,216 colors	16,777,216 colors / 262,144 colors	262,144 colors
Pixel pitch (mm)	0.297 × 0.297	0.297 × 0.297	0.297 × 0.297	0.297 × 0.297	0.24 × 0.24	0.24 × 0.24
Luminance (TYP.)	350 cd/m ²	250 cd/m ²	500 cd/m ²	600 cd/m ²	400 cd/m ²	300 cd/m ²
Contrast ratio (TYP.)	700 : 1	400 : 1	500 : 1	600 : 1	600 : 1	600 : 1
Viewing angle (Up/down; right/left)	85°, 85°, 85°, 85°	40°, 60°, 60°, 60°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	45°, 55°, 70°, 70°	20°, 40°, 45°, 45°
Response time (TYP.) ^{*2}	25 ms	25 ms	18 ms	18 ms	33 ms	25 ms
Interface	LVDS RGB (8 bits each)	LVDS RGB (8 bits each)	LVDS RGB (8 bits each/6 bits each)	LVDS RGB (8 bits each/6 bits each)	LVDS RGB (8 bits each / 6 bits each)	CMOS RGB (6 bits each)
Power supply voltage	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V
Power consumption (TYP.) ^{*3}	16.6 W	9.4 W	15.7 W	15.7 W	7.0 W	4.5 W
Operating temperature	0°C ~ +55°C	0°C ~ +50°C	0°C ~ +70°C	0°C ~ +70°C	-10°C ~ +70°C • Wide operating temperature range	0°C ~ +55°C
Storage temperature	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +80°C	-20°C ~ +80°C	-20°C ~ +80°C	-20°C ~ +60°C
Polarizer surface	Antiglare	Antiglare	Antiglare	Antiglare	Clear	Clear
Module size (mm): W×H×D (D: max)	326.5 × 253.5 × 17	328 × 252 × 11.5	326.5 × 253.5 × 17.0	326.5 × 253.5 × 17.0	280 × 210 × 13.7	260 × 200 × 6.5
Weight (TYP.)	1300 g	970 g	1300 g	1300 g	750 g	285 g
Backlight	Top and bottom, 1 CCFL each	Top and bottom, 1 CCFL each	Top and bottom, 4 CCFL	Top and bottom, 4 CCFL	One side, 2 CCFL	One side, LED
Inverter	Sold separately	None	Sold separately	Sold separately	Sold separately	–
Recommended inverter	150PW231	–	150PW231	150PW231	121PW181	–
Remarks	• NTSC ratio* 72% • Ultra-advanced SFT	–	–	• Super-transmissive NLT	–	–

Screen size	12.1 inch (31 cm diagonal)					
Part number	NL8060BC31-42 NEW	NL8060BC31-42D NEW	NL8060BC31-41D NEW	NL8060BC31-20	NL8060BC31-32 NEW	NL8060BC31-36 NEW
Resolution	800 × 600	800 × 600	800 × 600	800 × 600	800 × 600	800 × 600
Display color	262,144 colors	262,144 colors	262,144 colors	262,144 colors	262,144 colors	262,144 colors
Pixel pitch (mm)	0.3075 × 0.3075	0.3075 × 0.3075	0.3075 × 0.3075	0.308 × 0.308	0.3075 × 0.3075	0.3075 × 0.3075
Luminance (TYP.)	400 cd/m ²	400 cd/m ²	400 cd/m ²	250 cd/m ²	400 cd/m ²	1100 cd/m ²
Contrast ratio (TYP.)	600 : 1	600 : 1	600 : 1	400 : 1	600 : 1	600 : 1
Viewing angle (Up/down; right/left)	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	80°, 80°, 80°, 80°	45°, 55°, 70°, 70°	45°, 55°, 70°, 70°
Response time (TYP.) ^{*2}	25 ms	25 ms	25 ms	80 ms	33 ms	33 ms
Interface	CMOS RGB (6 bits each)	CMOS RGB (6 bits each)	CMOS RGB (8 bits each)	CMOS RGB (6 bits each)	CMOS RGB (6 bits each)	CMOS RGB (6 bits each)
Power supply voltage	3.3V/5V	3.3V/5V	3.3 V	3.3V/5V	3.3V/5 V	3.3V/5 V
Power consumption (TYP.) ^{*3}	6.9 W	6.9 W	6.8 W	7.0 W	6.4 W	13.7 W
Operating temperature	-20°C ~ +70°C • Wide operating temperature range	-20°C ~ +70°C • Wide operating temperature range	-20°C ~ +70°C • Wide operating temperature range	0°C ~ +55°C	-10°C ~ +70°C • Wide operating temperature range	-10°C ~ +70°C • Wide operating temperature range
Storage temperature	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C	-20°C ~ +60°C	-20°C ~ +80°C	-20°C ~ +80°C
Polarizer surface	Clear	Antiglare	Antiglare	Clear	Clear + Antireflection (AR)	Clear
Module size (mm): W×H×D (D: max)	280 × 210 × 11	280 × 210 × 11	280 × 210 × 11	280 × 210 × 13.7	280 × 210 × 13	280 × 209 × 16.5
Weight (TYP.)	670 g	670 g	670 g	760 g	745 g	900 g
Backlight	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	Top and bottom, 4 CCFL
Inverter	Sold separately	Sold separately	Sold separately	Sold separately	Sold separately	None
Recommended inverter	121PW181	121PW181	121PW181	121PW161	121PW181	–
Remarks	–	–	–	• Advanced SFT	• Super-transmissive NLT	• Ultra-high brightness

Screen size	10.4 inch (26 cm diagonal)					
Part number	NL10276BC20-04	NL10276BC20-04C NEW	NL10276BC20-08 NEW	NL8060BC26-27	NL6448BC33-53	NL6448BC33-54
Resolution	1024 × 768	1024 × 768	1024 × 768	800 × 600	640 × 480	640 × 480
Display color	262,144 colors	262,144 colors	262,144 colors	262,144 colors	262,144 colors	262,144 colors
Pixel pitch (mm)	0.206 × 0.206	0.206 × 0.206	0.2055 × 0.2055	0.264 × 0.264	0.33 × 0.33	0.33 × 0.33
Luminance (TYP.)	300 cd/m ²	300 cd/m ²	300 cd/m ²	400 cd/m ²	380 cd/m ²	220 cd/m ²
Contrast ratio (TYP.)	300 : 1	300 : 1	700 : 1	700 : 1	500 : 1	350 : 1
Viewing angle (Up/down; right/left)	45°, 60°, 60°, 60°	60°, 45°, 60°, 60°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	85°, 85°, 85°, 85°	30°, 20°, 45°, 45°
Response time (TYP.) ^{*2}	55 ms	55 ms	25 ms	50 ms	34 ms	38 ms
Interface	LVDS RGB (6 bits each)	LVDS RGB (6 bits each)	LVDS RGB (6 bits each)	CMOS RGB (6 bits each)	CMOS RGB (6 bits each)	CMOS RGB (6 bits each)
Power supply voltage	3.3 V	3.3 V	3.3 V	3.3 V/5 V	3.3 V/5 V	3.3 V/5 V
Power consumption (TYP.) ^{*3}	6.2 W	6.2 W	6.7 W	6.6 W	5.9 W	5.8 W
Operating temperature	0°C ~ + 60°C	0°C ~ + 60°C	0°C ~ + 55°C	-10°C ~ + 70°C • Wide operating temperature range	-10°C ~ + 70°C • Wide operating temperature range	-10°C ~ + 70°C • Wide operating temperature range
Storage temperature	-20°C ~ + 70°C	-20°C ~ + 70°C	-20°C ~ + 60°C	-20°C ~ + 80°C	-20°C ~ + 80°C	-20°C ~ + 80°C
Polarizer surface	Clear	Clear / Antiglare	Clear	Clear	Clear	Clear
Module size (mm): W×H×D (D: max)	243 × 185.1 × 11.5	243 × 185.1 × 11	227 × 174.5 × 10.5	243 × 185.1 × 11	243 × 185.1 × 11	243 × 185.1 × 11
Weight (TYP.)	530 g	t.b.d.	440 g	475 g	475 g	465 g
Backlight	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL
Inverter	Sold separately	Sold separately	Sold separately	Sold separately	Sold separately	Sold separately
Recommended inverter	104PW191	104PW191	104PW191	104PW161	104PW191, 104PW161	104PW191, 104PW161
Remarks	–	• Super-transmissive NLT	• Super-advanced SFT	• Super-advanced SFT	• Super-advanced SFT	–

Screen size	10.4 inch (26 cm diagonal)				9.0 inch (23 cm diagonal)
Part number	NL6448BC33-50	NL6448BC33-64 NEW	NL6448BC33-63C NEW	NL6448BC33-63D NEW	NL8048BC24-01 NEW
Resolution	640 × 480	640 × 480	640 × 480	640 × 480	800 × 480
Display color	262,144 colors	262,144 colors	16,777,216 colors	16,777,216 colors	16,777,216 colors
Pixel pitch (mm)	0.33 × 0.33	0.33 × 0.33	0.33 × 0.33	0.33 × 0.33	0.246 × 0.246
Luminance (TYP.)	250 cd/m ² (transmissive mode)	450 cd/m ²	450 cd/m ²	450 cd/m ²	400 cd/m ²
Contrast ratio (TYP.)	100:1 (transmissive mode) 8:1 (reflective mode)	600 : 1	600 : 1	600 : 1	600 : 1
Viewing angle (Up/down; right/left)	40°, 55°, 55°, 75° (transmissive mode)	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°
Response time (TYP.) ^{*2}	25 ms (transmissive mode)	25 ms	25 ms	25 ms	25 ms
Interface	LVDS RGB (6 bits each)	CMOS RGB (6 bits each)	LVDS RGB (8 bits each/6 bits each)	LVDS RGB (8 bits each/6 bits each)	LVDS RGB (8 bits each/6 bits each)
Power supply voltage	3.3 V/5 V	3.3 V/5 V	3.3 V	3.3 V	3.3 V
Power consumption (TYP.) ^{*3}	6.2 W	6.2 W	6.2 W	6.2 W	5.8 W
Operating temperature	0°C ~ + 65°C	-20°C ~ + 70°C • Wide operating temperature range	-20°C ~ + 70°C • Wide operating temperature range	-20°C ~ + 70°C • Wide operating temperature range	-20°C ~ + 70°C • Wide operating temperature range
Storage temperature	-20°C ~ + 80°C	-30°C ~ + 80°C	-30°C ~ + 80°C	-30°C ~ + 80°C	-30°C ~ + 80°C
Polarizer surface	Clear / Antiglare	Clear	Clear + Antireflection (AR)	Antiglare	Clear
Module size (mm): W×H×D (D: max)	243 × 185.1 × 11.5	243 × 185.1 × 10.5	243 × 185.1 × 10.5	243 × 185.1 × 10.5	220.5 × 136.5 × 10.5
Weight (TYP.)	560 g	475 g	475 g	475 g	365 g
Backlight	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL
Inverter	Sold separately	Sold separately	Sold separately	Sold separately	Sold separately
Recommended inverter	104PW191, 104PW161	104PW201	104PW201	104PW201	104PW201
Remarks	• Super-reflective NLT	–	• Super-transmissive NLT	–	–

* Wide colour gamut
*2 Values equal Ton + Toff (10% ↔ 90%)
*3 Values do not include inverter power consumption

TFT module line-up for industrial products 2/2

Screen size	8.4 inch (21 cm diagonal)						
Part number	NL10276BC16-01	NL8060BC21-02	NL8060BC21-03 (NEW)	NL8060BC21-04 (NEW)	NL6448BC26-08D	NL6448BC26-09 (NEW)	NL6448BC26-09C (NEW)
Resolution	1024 × 768	800 × 600	800 × 600	800 × 600	640 × 480	640 × 480	640 × 480
Display color	16,777,216 colors / 262,144 colors	16,777,216 colors / 262,144 colors	16,777,216 colors	262,144 colors	16,777,216 colors / 262,144 colors	262,144 colors	262,144 colors
Pixel pitch (mm)	0.167 × 0.167	0.213 × 0.213	0.213 × 0.213	0.213 × 0.213	0.267 × 0.267	0.267 × 0.267	0.267 × 0.267
Luminance (TYP.)	400 cd/m ²	400 cd/m ²	650 cd/m ²	400 cd/m ²	400 cd/m ²	450 cd/m ²	750 cd/m ²
Contrast ratio (TYP.)	400 : 1	500 : 1	600 : 1	600 : 1	800 : 1	600 : 1	600 : 1
Viewing angle (Up/down; right/left)	85°, 85°, 85°, 85°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	85°, 85°, 85°, 85°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°
Response time (TYP.) ^{*2}	25 ms	25 ms	25 ms	25 ms	25 ms	25 ms	25 ms
Interface	LVDS RGB (8 bits each / 6 bits each)	LVDS RGB (8 bits each / 6 bits each)	LVDS RGB (8 bits each / 6 bits each)	CMOS RGB (6 bits each)	LVDS RGB (8 bits each / 6 bits each)	CMOS RGB (6 bits each)	CMOS RGB (6 bits each)
Power supply voltage	3.3 V	3.3 V	3.3 V	3.3 V/5 V	3.3 V	3.3 V/5 V	3.3 V/5 V
Power consumption (TYP.) ^{*3}	9.8 W	5.5 W	5.5 W	5.5 W	5.4 W	5.3 W	5.3 W
Operating temperature	0°C ~ +55°C	-10°C ~ +70°C • Wide operating temperature range	-10°C ~ +70°C • Wide operating temperature range	-20°C ~ +70°C • Wide operating temperature range	-10°C ~ +70°C • Wide operating temperature range	-20°C ~ +70°C • Wide operating temperature range	-20°C ~ +70°C • Wide operating temperature range
Storage temperature	-20°C ~ +60°C	-20°C ~ +80°C	-20°C ~ +80°C	-30°C ~ +80°C	-20°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +80°C
Polarizer surface	Antiglare	Clear	Clear + Antireflection (AR)	Clear	Antiglare	Clear	Clear + Antireflection (AR)
Module size (mm): W×H×D (D: max)	200 × 152 × 17	200 × 152 × 11	200 × 152 × 10.5	200 × 152 × 10.5	200 × 152 × 11	200 × 152 × 10.5	200 × 152 × 10.5
Weight (TYP.)	465 g	330 g	330 g	330 g	330 g	330 g	330 g
Backlight	Top and bottom, 2 CCFL each	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL	One side, 2 CCFL
Inverter	Sold separately	Sold separately	Sold separately	Sold separately	Sold separately	Sold separately	Sold separately
Recommended inverter	84PW021	84PW031/84PW041	84PW031/84PW041	84PW031/84PW041	84PW031/84PW041	84PW031/84PW041	84PW031/84PW041
Remarks	• NTSC ratio* 72% • Ultra-advanced SFT	–	• Super-transmissive NLT	–	• NTSC ratio* 72% • Ultra-advanced SFT	–	• Super-transmissive NLT

Screen size	7.0 inch (18 cm diagonal)	6.5 inch (17cm diagonal)			6.3 inch (16cm diagonal)
Part number	NL4823BC37-05 (NEW)	NL10276BC13-01C (NEW)	NL6448BC20-18D	NL6448BC20-20 (NEW)	NL10276BC12-02
Resolution	480 × 234	1024 × 768	640 × 480	640 × 480	1024 × 768
Display color	262,144 colors	16,777,216 colors	262,144 colors	262,144 colors	16,777,216 colors / 262,144 colors
Pixel pitch (mm)	0.321 × 0.372	0.129 × 0.129	0.207 × 0.207	0.207 × 0.207	0.126 × 0.126
Luminance (TYP.)	400 cd/m ²	600 cd/m ²	400 cd/m ²	650 cd/m ²	250 cd/m ²
Contrast ratio (TYP.)	600 : 1	500 : 1	600 : 1	600 : 1	500 : 1
Viewing angle (Up/down; right/left)	60°, 80°, 80°, 80°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	80°, 60°, 80°, 80°	45°, 60°, 60°, 60°
Response time (TYP.) ^{*2}	25 ms	25 ms	25 ms	25 ms	21 ms
Interface	CMOS RGB (6 bits each)	LVDS RGB (8 bits each / 6 bits each)	CMOS RGB (6 bits each)	CMOS RGB (6 bits each)	LVDS RGB (8 bits each / 6 bits each)
Power supply voltage	3.3 V	3.3 V	3.3 V/5 V	3.3 V/5 V	3.3 V
Power consumption (TYP.) ^{*3}	2.7 W	t.b.d.	4.4 W	4.4 W	4.9 W
Operating temperature	-20°C ~ +70°C • Wide operating temperature range	-20°C ~ +70°C • Wide operating temperature range	-10°C ~ +70°C • Wide operating temperature range	-10°C ~ +70°C • Wide operating temperature range	0°C ~ +65°C
Storage temperature	-30°C ~ +80°C	-30°C ~ +80°C	-20°C ~ +80°C	-20°C ~ +80°C	-20°C ~ +80°C
Polarizer surface	Clear	Clear + Antireflection (AR)	Antiglare	Clear + Antireflection (AR)	Antiglare
Module size (mm): W×H×D (D: max)	174.5 × 105.5 × 10.5	153 × 118 × 9	153 × 118 × 11	153 × 118 × 10.5	178.8 × 126.8 × 12.5
Weight (TYP.)	205 g	170 g	205 g	205 g	265 g
Backlight	One side, 1 CCFL	One side, LED	One side, 2 CCFL	One side, 2 CCFL	Top and bottom, 1 CCFL each
Inverter	Sold separately	–	Sold separately	Sold separately	Sold separately
Recommended inverter	70PW021	–	65PW061	65PW061	65PWB31
Remarks	–	• Super-transmissive NLT	–	• Super-transmissive NLT	–

Screen size	5.5 inch (14 cm diagonal)		3.5 inch (8.9 cm diagonal)	
Part number	NL3224BC35-22	NL3224BC35-20/21	NL2432HC22-41K NEW (with touchpanel)	NL2432HC22-40J NEW
Resolution	320 × 240	320 × 240	240 × 320	240 × 320
Display color	262,144 colors	262,144 colors	262,144 colors	262,144 colors
Pixel pitch (mm)	0.348 × 0.348	0.348 × 0.348	0.2235 × 0.2235	0.2235 × 0.2235
Luminance (TYP.)	750 cd/m ²	400 cd/m ²	200 cd/m ²	220 cd/m ²
Contrast ratio (TYP.)	500 : 1	400 : 1	130 : 1 (transmissive mode) 6 : 1 (reflective mode)	150 : 1 (transmissive mode) 15 : 1 (reflective mode)
Viewing angle (Up/down, right/left)	50°, 40°, 55°, 55°	50°, 40°, 55°, 55°	30°, 35°, 30°, 30°	35°, 35°, 35°, 35°
Response time (TYP.) ^{*2}	30 ms	30 ms	30 ms (transmissive mode)	30 ms (transmissive mode)
Interface	CMOS RGB (6 bits each)	CMOS RGB (6 bits each)	CMOS RGB (6 bits each) + serial I/F	CMOS RGB (6 bits each) + serial I/F
Power supply voltage	3.3V/5V	3.3V/5V	3 V	3 V
Power consumption (TYP.) ^{*3}	3.75 W	4.1 W	50 mW	50 mW
Operating temperature	-10°C ~ +70°C • Wide operating temperature range	-10°C ~ +70°C • Wide operating temperature range	-20°C ~ +70°C • Wide operating temperature range	-20°C ~ +70°C • Wide operating temperature range
Storage temperature	-30°C ~ +80°C	-30°C ~ +80°C	-30°C ~ +70°C	-30°C ~ +70°C
Polarizer surface	Clear / Antiglare	Antiglare	Clear	Clear
Module size (mm): W×H×D (D: max)	134 × 104.5 × 13	134 × 104.5 × 13	63.5 × 85 × 4.2	63.5 × 85 × 3
Weight (TYP.)	215 g	210 g	45 g	25 g
Backlight	Top and bottom, 1 CCFL each	Top and bottom, 1 CCFL each	One side, LED	One side, LED
Inverter	Sold separately	Sold separately	—	—
Recommended inverter	55PW131	55PW131	—	—
Remarks	• Super-transmissive NLT	Variation: Position of lamp cable compartment Side compartment: NL3224BC35-20 Back compartment: NL3224BC35-21	• Super-reflective NLT	• Super-reflective NLT

* Wide colour gamut

*2 Values equal Ton + Toff (10% ↔ 90%)

*3 Values do not include inverter power consumption

TFT module line-up for industrial products

			15.0 inch	12.1 inch	10.4 inch	9.0 inch
QVGA 320 × 240	Wide viewing angle type	QVGA Interface Compatibility (CMOS)				
WQVGA 480 × 234						
VGA 640 × 480	Ultra-wide viewing angle type	VGA Interface Compatibility (CMOS)			NL6448BC33-53 • 380 cd/m ² • Super-advanced SFT • Wide operating temperature range	VGA Interface Compatibility (LVDS)
	Wide viewing angle type				NL6448BC33-64 • 450 cd/m ² • Wide operating temperature range	VGA Interface Compatibility (CMOS)
					NL6448BC33-50 • 250 cd/m ² (transmissive mode) • Super-reflective NLT	
		VGA Interface Compatibility (LVDS)			NL6448BC33-54 • 220 cd/m ² • Wide operating temperature range	
WVGA 800 × 480						NL8048BC24-01 • 400cd/m ² • Wide operating temperature range
SVGA 800 × 600	Ultra-wide viewing angle type	SVGA Interface Compatibility (CMOS)		NL8060BC31-20 • 250cd/m ² • Advanced SFT • Wide operating temperature range	NL8060BC26-27 • 400 cd/m ² • Super-advanced SFT • Wide operating temperature range	
	Wide viewing angle type			NL8060BC31-42 / 42D • 600 cd/m ² • Wide operating temperature range		
				NL8060BC31-32 • 400 cd/m ² • Super-transmissive NLT		
				NL8060BC31-36 • 1100 cd/m ² • Ultra-high brightness		
		SVGA Interface Compatibility (LVDS)		NL8060BC31-41D • 600 cd/m ² • Wide operating temperature range		
XGA 1024 × 768	Ultra-wide viewing angle type	XGA Interface Compatibility (LVDS) ^{*2}	NL10276BC30-17 • 350 cd/m ² • Ultra-advanced SFT • NTSC ratio* 72%	XGA Interface Compatibility (LVDS)	NL10276BC20-08 • 300 cd/m ² • Super-advanced SFT	
	Wide viewing angle type		NL10276BC30-18 • 600 cd/m ²	NL10276BC24-13 • 400 cd/m ² • Wide operating temperature range	NL10276BC20-04 • 300 cd/m ²	
			NL10276BC30-18C • 500 cd/m ² • Super-transmissive NLT	NL10276BC24-14 • 300 cd/m ²	NL10276BC20-04C • 300 cd/m ² • Super-transmissive NLT	
			NL10276BC30-15 • 250 cd/m ²			

* – Wide colour gamut

*2 – The interfaces of 15.0-inch XGA models and 12.1-inch XGA models or models below it are incompatible.

Interface compatibility – Interface connector pin assignment.

 – Mounting compatibility. Outer dimensions (except thickness), position of mounting holes and relative to screen center.

8.4 inch	7.0 inch	6.5 inch	6.3 inch	5.5 inch	3.5 inch
				NL3224BC35-22 • 750 cd/m ² • Super-transmissive NLT • Wide operating temperature range	NL2432HC22-41K • 200 cd/m ² • Super-reflective NLT • Wide operating temperature range
				NL3224BC35-20/21 • 400cd/m ² • Wide operating temperature range	NL2432HC22-40J • 220 cd/m ² • Super-reflective NLT • Wide operating temperature range
	NL4823BC37-05 • 400 cd/m ² • Wide operating temperature rang				
NL6448BC26-08D • 400 cd/m ² • Ultra-advanced SFT • Wide operating temperature range					
NL6448BC26-09 • 450 cd/m ² • Wide operating temperature range		NL6448BC20-18D • 400 cd/m ² • Wide operating temperature range			
NL6448BC26-09C • 750 cd/m ² • Super-transmissive NLT • Wide operating temperature range		NL6448BC20-20 • 650 cd/m ² • Super-transmissive NLT • Wide operating temperature range			
NL8060BC21-04 • 400 cd/m ² • Wide operating temperature range					
NL8060BC21-02 • Wide operating temperature range					
NL8060BC21-03 • 650 cd/m ² • Super-transmissive NLT • Wide operating temperature range					
NL10276BC16-01 • 400 cd/m • Ultra-advanced SFT • NTSC ratio* 72%					
		NL10276BC13-01C • 600 cd/m ² • Super-transmissive NLT • Wide operating temperature range	NL10276BC12-02 • 250cd/m ²		

NEC Electronics (Europe) GmbH

Arcadiastr. 10
40472 Düsseldorf, Germany
Tel. (02 11) 65 030
Fax (02 11) 65 03-13 27

- Podbielskistr. 164
30177 Hannover, Germany
Tel. (05 11) 3 34 02-0
Fax (05 11) 3 34 02-34

- Werner-Eckert-Str. 9
81829 München, Germany
Tel. (0 89) 92 10 03-0
Fax (0 89) 92 10 03-15

- Industriestr. 3
70565 Stuttgart, Germany
Tel. (07 11) 9 90 10-0
Fax (07 11) 9 90 10-19

NEC Electronics (Europe) GmbH

Sucursal en España

Juan Esplandiu, 15
28007 Madrid, Spain
Tel. (091) 504 27 87
Fax (091) 504 28 60

NEC Electronics (Europe) GmbH

Succursale Française

9 rue Paul Dautier
B.P. 52
78142 Vélizy-Villacoublay Cédex, France
Tél. (01) 30 67 58 00
Fax (01) 30 67 58 99

NEC Electronics (Europe) GmbH

Filiale Italiana

Via Fabio Filzi, 25A
20124 Milano, Italy
Tel. (02) 66 75 41
Fax (02) 66 75 42 99

NEC Electronics (Europe) GmbH

Branch The Netherlands

Steijgerweg 6
5616 HS Eindhoven
The Netherlands
Tel. (0 40) 265 40 10
Fax (0 40) 244 45 80

NEC Electronics (Europe) GmbH

Tyskland Filial

Täby Centrum
Entrance S (7th floor)
18322 Täby, Sweden
Tel. (08) 6 38 72 00
Fax (08) 6 38 72 22

NEC Electronics (Europe) GmbH

United Kingdom Branch

Cygnus House, Sunrise Parkway
Linford Wood
Milton Keynes
MK14 6NP, United Kingdom
Tel. (0 19 08) 69 11 33
Fax (0 19 08) 67 02 90

Internet:

www.eu.necel.com/displays

E-mail:

LCDInfo@eu.necel.com

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