



## High Performance LCD Modules

Hitachi is a leading global developer and manufacturer of liquid crystal displays. With dedicated manufacturing and production facilities in Japan and Taiwan, ensure continuity of supply can be maintained during extreme market fluctuations. In-house design, production and procurement of key components such as LCD glass, colour filters, LCD drivers and backlights, allows Hitachi to provide continual enhancement to an extensive range of high quality and performance optimised display solutions. More recently the development and introduction of in-plane switching (IPS) wide viewing angle technology has reiterated Hitachi's commitment to providing display excellence.

### Applications

- Building Management Systems
- Measurement and Monitoring
- Industrial Control
- Instrumentation
- Navigation Systems
- Data Loggers
- Automotive
- Gaming
- Marine
- ePOS
- Industrial Process Control
- Domestic Appliance
- Ticketing Systems
- Security Systems

## High End TFT Displays

Size	Resolution	Part Number	Technology	Mode	Dimensions (mm)	Backlight	Touchscreen	Brightness	Contrast	Features
10.4"	800 x 600	TX26D12VM0AAA	IPS Pro	Transmissive	243 x 185 x 11	LED	TX23D12VM0APA	450 cd/m <sup>2</sup>	800:1	IPS Pro (176 degree viewing angle)
12"	800 x 480	TX31D58VM0CAA	IPS Pro	Transmissive	312.35 x 185.8 x 13	CFL	n/a	300 cd/m <sup>2</sup>	500:1	IPS Pro (176 degree viewing angle)
17"	1280 x 768	TX43D55VM0BAA	IPS Pro	Transmissive	400 x 258 x 22	CFL	n/a	350 cd/m <sup>2</sup>	800:1	IPS Pro (176 degree viewing angle)
17"	1280 x 1024	TX43D57VC0CAA	IPS Pro	Transmissive	368 x 306 x 20.3	CFL	n/a	270 cd/m <sup>2</sup>	1000:1	IPS Pro (176 degree viewing angle)
19.0"	1680 x 1050	TX48D21VM0CAA	IPS Pro	Transmissive	444 x 300 x 24	CFL	n/a	300 cd/m <sup>2</sup>	800:1	IPS Pro (176 degree viewing angle)
21.3"	1600 x 1200	TX54D13VC0CAA	IPS Pro	Transmissive	460.6 x 362 x 25	CFL	n/a	300 cd/m <sup>2</sup>	900:1	IPS Pro (176 degree viewing angle)

## Wide Format TFT Displays

Size	Resolution	Part Number	Technology	Mode	Dimensions (mm)	Backlight	Touchscreen	Brightness	Contrast	Features
7.0"	800 x 480	TX18D16VM1CAA	TFT	Transmissive	165 x 106 x 10.5	CFL	TX18D16VM1CBA	350 cd/m <sup>2</sup>	200:1	High brightness, wide viewing angle
7.0"	800 x 480	TX18D16VM1CAB	TFT	Transmissive	165 x 106 x 10.5	CFL	TX18D16VM1CBB	600 cd/m <sup>2</sup>	200:1	Wide viewing angle, super high brightness
7.0"	800 x 480	TX18D57VM2BAA	TFT	Transmissive	167.8 x 108.6 x 15.6	CFL	TX18D57VM2BBA	600 cd/m <sup>2</sup>	450:1	Wide temp range (-30 to +80 degrees)
7.0"	800 x 480	TX18D35VM0AAA	IPS Pro	Transmissive	165 x 108 x 12.8	LED	TX18D35VM0APA	400 cd/m <sup>2</sup>	600:1	IPS Pro (176 degree viewing angle), WTR
8.0"	800 x 480	TX20D16VM2BAA	TFT	Transmissive	189 x 120 x 10.5	CFL	TX20D16VM2BBA	350 cd/m <sup>2</sup>	200:1	High brightness, wide viewing angle
8.0"	800 x 480	TX20D19VM2BAA	TFT	Transmissive	189 x 120 x 7.5	LED	TX20D19VM2BPA	350 cd/m <sup>2</sup>	200:1	Ultra slim design, 40k hour LED
8.0"	800 x 480	TX20D26VM0AAA	IPS Pro	Transmissive	190 x 120 x 13	LED	TX20D26VM0APA	600 cd/m <sup>2</sup>	600:1	IPS Pro (176 degree viewing angle)
9.0"	800 x 480	TX23D12VM0CAA	IPS	Transmissive	236 x 135 x 12.5	CFL	TX23D12VM0CBA	300 cd/m <sup>2</sup>	400:1	IPS (176 degree view angle)
9.0"	800 x 480	TX23D38VM0AAA	IPS Pro	Transmissive	218 x 135 x 11	LED	TX23D38VM0APA	450 cd/m <sup>2</sup>	800:1	IPS Pro (176 degree viewing angle), LVDS
12"	800 x 480	TX31D55VM2BAA	TFT	Transmissive	283 x 173.8 x 12.4	CFL	TX31D55VM2BPA	350 cd/m <sup>2</sup>	350:1	Extended temperature range
15.4"	1280 x 800	TX39D55VM1BAA	TFT	Transmissive	356.8 x 238 x 15	CFL	n/a	450 cd/m <sup>2</sup>	500:1	High brightness, LVDS interface, WTR

## Standard Format TFT Displays

Size	Resolution	Part Number	Technology	Mode	Dimensions (mm)	Backlight	Touchscreen	Brightness	Contrast	Features
2.7"	240 x 320	TX07D09VM1CBB	TFT	Transmissive	50.5 x 68.6 x 2.6	White LED	TX07D09VM1CAB	420 cd/m <sup>2</sup>	300:1	built in timing controller, high brightness
3.5"	240 x 320	TX09D70VM1CBA	TFT	Transmissive	64 x 86 x 4	White LED	TX09D70VM1CEA	400 cd/m <sup>2</sup>	300:1	high brightness, TMR
3.5"	240 x 320	TX09D70VM1CDA	TFT	Transmissive	64 x 86 x 6.5	White LED	TX09D70VM1CCA	400 cd/m <sup>2</sup>	300:1	high brightness, built in timing controller, TMR
3.5"	320 x 240	TX09D40VM3CBA	TFT	Transmissive	86 x 64 x 4	White LED	TX09D40VM3CAA	430 cd/m <sup>2</sup>	300:1	High brightness, TMR, built in timing controller
5.0"	640 x 480	TX13D03VM1CAA	TFT	Transmissive	119.4 x 89 x 8.8	LED	TX13D03VM1CPA	600 cd/m <sup>2</sup>	300:1	"70K hours LED, compact mechanical outline, super high brightness
5.7"	320 x 240	TX14D11VM1CBA	TFT	Transmissive	167 x 109 x 10	CFL	TX14D11VM1CAA	350 cd/m <sup>2</sup>	350:1	50K hour CFL, DC/DC, SP/SX14Q compatible
5.7"	320 x 240	TX14D11VM1CBB	TFT	Transmissive	167 x 109 x 9.2	CFL	TX14D11VM1CAB	600 cd/m <sup>2</sup>	350:1	Super high brightness
5.7"	320 x 240	TX14D12VM1CBA	TFT	Transmissive	131 x 102 x 10	CFL	TX14D12VM1CAA	350 cd/m <sup>2</sup>	350:1	Compact mechanical outline
5.7"	320 x 240	TX14D12VM1CBB	TFT	Transmissive	131 x 102 x 10	CFL	TX14D12VM1CAB	600 cd/m <sup>2</sup>	350:1	Compact mechanical outline, super high brightness
5.7"	320 x 240	TX14D12VM1CBC	TFT	Transmissive	131 x 102 x 10.9	LED	TX14D12VM1CPC	350 cd/m <sup>2</sup>	350:1	Compact mechanical outline
5.7"	640 x 480	TX14D14VM1BAA	TFT	Transmissive	131 x 102 x 12	CFL	TX14D14VM1BBA	350 cd/m <sup>2</sup>	350:1	Compact outline
5.7"	640 x 480	TX14D14VM1BAB	TFT	Transmissive	131 x 102.2 x 11.6	LED	TX14D14VM1BPB	350 cd/m <sup>2</sup>	350:1	Compact mechanical outline
5.7"	320 x 240	TX14D11VM1CBD	TFT	Transmissive	167 x 109 x 9.2	LED	TX14D11VM1CPD	400 cd/m <sup>2</sup>	350:1	40K hour LED, SP/SX14Q compatible
5.7"	320 x 240	TX14D22VM1BAA	TFT	Transmissive	131 x 102 x 7.5	LED	TX14D22VM1BPA	400 cd/m <sup>2</sup>	350:1	40K hour LED, super slim design
6.2"	640 x 240	TX16D11VM2CBA	TFT	Transmissive	173 x 70 x 7	CFL	TX16D11VM2CAA	350 cd/m <sup>2</sup>	200:1	High brightness, DC/DC,
6.2"	640 x 240	TX16D11VM2CAC	TFT	Transmissive	173 x 70 x 7	LED	TX16D11VM2CQC	350 cd/m <sup>2</sup>	200:1	40K hour LED, compact mechanical design
6.2"	800 x 300	TX16D18VM2CAB	TFT	Transmissive	173 x 70 x 7	CFL	TX16D18VM2CQB	350 cd/m <sup>2</sup>	200:1	40K hour LED, compact mechanical design
6.5"	640 x 480	TX17D01VM2CAA	TFT	Transmissive	153 x 118 x 9	LED	TX17D01VM2CPA	600 cd/m <sup>2</sup>	600:1	70K hours LED, compact mechanical outline, super high brightness
10.4"	640 x 480	TX26D55VM1CAA	TFT	Transmissive	243 x 181.6 x 12.5	CFL	n/a	350 cd/m <sup>2</sup>	500:1	High brightness, Wide temperature range
12.1"	800 x 600	TX31D56VM2AAA	TFT	Transmissive	280 x 210 x 13	CFL	n/a	400 cd/m <sup>2</sup>	500:1	High brightness, LVDS interface, WTR
15"	1024 x 768	TX38D55VM1AAA	TFT	Transmissive	330 x 260 x 17	CFL	n/a	350 cd/m <sup>2</sup>	500:1	LVDS interface, Wide temperature range

## 1/4 VGA STN Displays

Size	Resolution	Part Number	Technology	Mode	Dimensions (mm)	Backlight	Touchscreen	Brightness	Contrast	Features
3.8"	320 x 240	SP10Q010	Black/White Film STN	Transmissive	94.7 x 73.3 x 5.5	White LED	SP10Q010-ZZA	110 cd/m <sup>2</sup>	20:1	White LED, High brightness, WTR,
3.8"	320 x 240	SP10Q010-T	Black/White Film STN	Transflective	94.7 x 73.3 x 5.5	White LED	SP10Q010-TZA	60 cd/m <sup>2</sup>	5:1	White LED, Sunlight readable, WTR
4.7"	320 x 240	LMG7520RPFC	Black/White Film STN	Transmissive	129.6 x 92.6 x 7.5	CFL	n/a	100 cd/m <sup>2</sup>	20:1	
4.7"	320 x 240	LMG7525RPFF	Black/White Film STN	Transflective	129.6 x 92.6 x 7.5	CFL	n/a	25 cd/m <sup>2</sup>	5:1	Sunlight readable
4.7"	320 x 240	SP12Q01L6ALZZ	Black/White Film STN	Transmissive	129.6 x 92.6 x 7.5	White LED	On request	60 cd/m <sup>2</sup>	20:1	LMG7520RPFC compatible
4.7"	320 x 240	ST12Q01L6ALZZ	Black/White Film STN	Transflective	129.6 x 92.6 x 7.5	White LED	On request	60 cd/m <sup>2</sup>	5:1	Sunlight readable, LMG7525RPFF compatible
5.7"	320 x 240	SP14Q002-A1	Black/White Film STN	Transmissive	167 x 109 x 10	CFL	SP14Q002-C2A	140 cd/m <sup>2</sup>	25:1	
5.7"	320 x 240	SP14Q002-C1	Black/White Film STN	Transmissive	167 x 109 x 10	CFL	SP14Q002-C1A	140 cd/m <sup>2</sup>	25:1	50K hour CFL, WTR
5.7"	320 x 240	SP14Q003-A	Blue/White STN	Transmissive	167 x 109 x 10	White LED	SP14Q003-AZA	200 cd/m <sup>2</sup>	6:1	WTR
5.7"	320 x 240	SP14Q003-C1	Blue/White STN	Transmissive	167 x 109 x 10	CFL	SP14Q003-C1A	100 cd/m <sup>2</sup>	6:1	50K hour CFL, Blue mode, WTR
5.7"	320 x 240	SP14Q005	Black/White Film STN	Transmissive	167 x 109 x 10	CFL	SP14Q005-ZZA	220 cd/m <sup>2</sup>	25:1	50K hour CFL, High brightness, WTR
5.7"	320 x 240	SP14Q006	Black/White Film STN	Transmissive	167 x 109 x 10	White LED	SP14Q006-ZZA	150 cd/m <sup>2</sup>	25:1	White LED, High brightness, WTR
5.7"	320 x 240	SP14Q006-T	Black/White Film STN	Transflective	167 x 109 x 10	White LED	SP14Q006-TZA	60 cd/m <sup>2</sup>	5:1	White LED, Sunlight readable, WTR
5.7"	320 x 240	SP14Q011-A1	Black/White Film STN	Transmissive	131 x 102 x 10	White LED	SP14Q011-A1A	220 cd/m <sup>2</sup>	25:1	Compact outline, high brightness
5.7"	320 x 240	SP14Q011-T	Black/White Film STN	Transflective	131 x 102 x 10	White LED	SP14Q011-T1A	60 cd/m <sup>2</sup>	5:1	White LED, Sunlight readable
5.7"	320 x 240	SX14Q004	Colour STN	Transmissive	167 x 109 x 10	CFL	SX14Q004-ZZA	200 cd/m <sup>2</sup>	40:1	50K hour CFL, DC/DC, wide viewing angle
5.7"	320 x 240	SX14Q009	Colour STN	Transmissive	167 x 109 x 8.9	White LED	SX14Q009-ZZA	200 cd/m <sup>2</sup>	40:1	Wide viewing angle

## Standard STN

Size	Resolution	Part Number	Technology	Mode	Dimensions (mm)	Backlight	Touchscreen	Brightness	Contrast	Features
4.8"	256 x 64	SP12N001-T	Blue/Grey STN	Transflective	160 x 68 x 9.5	EL	n/a	10 cd/m <sup>2</sup>	3:1	Sanyo LC7981, LMG6381QHGE replacement
4.8"	256 x 64	SP12N002	Black/White Film STN	Transmissive	160 x 68 x 12	CFL	n/a	90 cd/m <sup>2</sup>	20:1	Toshiba T6963C, LMG7380QHFC replacement
5.1"	240 x 128	LMG7420PLFC-X	Black/White Film STN	Transmissive	159.4 x 101 x 11	CFL	n/a	90 cd/m <sup>2</sup>	20:1	Toshiba T6963C, 50K hour CFL
5.1"	240 x 128	SP14N001	Black/White Film STN	Transmissive	159.4 x 101 x 11	CFL	SP14N001-ZZA	150 cd/m <sup>2</sup>	20:1	Toshiba T6963C, 50K hour CFL, DC/DC
5.1"	240 x 128	SP14N001-Z1	Black/White Film STN	Transmissive	159.4 x 101 x 11	CFL	SP14N001-Z1A	150 cd/m <sup>2</sup>	20:1	Toshiba T6963C, 50K hour CFL
5.1"	240 x 128	SP14N002	Black/White Film STN	Transmissive	159.4 x 101 x 11	CFL	n/a	150 cd/m <sup>2</sup>	20:1	Sanyo LC7981, LMG7400PLFC replacement
5.1"	240 x 128	SP14N003	Blue/White STN	Transmissive	159.4 x 101 x 11	CFL	n/a	90 cd/m <sup>2</sup>	7:1	Sanyo LC7981, LMG7401PLBC replacement
5.1"	240 x 128	SP14N01L6ALCZ	Black/White Film STN	Transmissive	159.4 x 101 x 11	White LED	SP14N01L6ALCA	150 cd/m <sup>2</sup>	20:1	Toshiba T6963C, LMG740PLFC-X compatible
5.1"	240 x 128	SP14N01L6VLCZ	Black/White Film STN	Transmissive	159.4 x 101 x 11	White LED	SP14N01L6VLCA	150 cd/m <sup>2</sup>	20:1	Toshiba T6963, DC/DC
9.4"	640 x 480	SP24V001	Black/White Film STN	Transmissive	257.5 x 174 x 7	CFL	n/a	110 cd/m <sup>2</sup>	20:1	50K hour CFL, LMG5278XUFC compatible
9.4"	640 x 480	SP24V001-A	Black/White Film STN	Transmissive	257.5 x 174 x 7	CFL	n/a	110 cd/m <sup>2</sup>	20:1	50K hour CFL, Sharp LM64P83L compatible
10.4"	640 x 480	LMG7550XUFC	Black/White Film STN	Transmissive	264 x 183 x 9	CFL	n/a	100 cd/m <sup>2</sup>	18:1	



## Continuously evolving LCD technology

### Evolution of In-Plane-Switching (IPS)

One of the many areas of innovation that Hitachi has been recognised for during the last 30 years is the evolution of In-Plane-Switching (IPS) technology. Developed and released by Hitachi Displays, Ltd. in 1996, IPS was the first LCD technology to provide outstanding picture quality particularly when viewed at any viewing angle. IPS technology enables exceptional colour saturation, colour stability, contrast and black levels with a 176° wide vertical and horizontal viewing angle.

IPS has since evolved into Super-IPS, Advanced-Super IPS and more recently IPS-Pro. Hitachi's continuous improvement of IPS LCD technology now provides the best LCD solution on the market for the requirements of professional, high end and multi-user imaging.

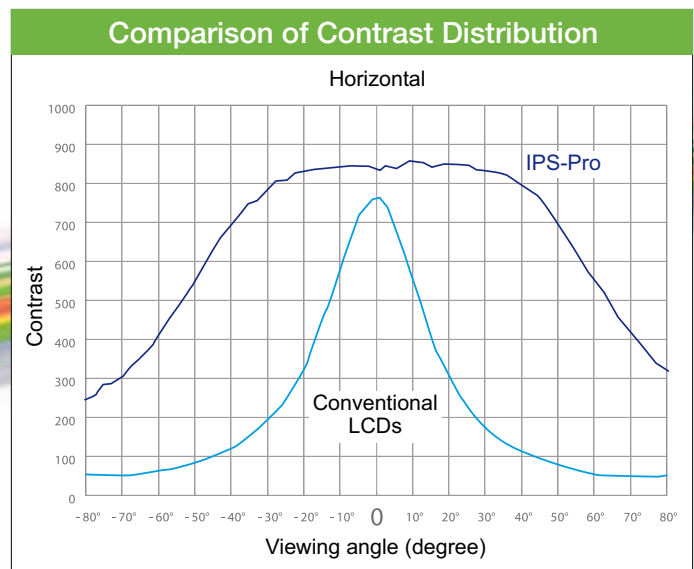
“IPS-Pro has a much higher and more stable image performance over viewing angle than any other TFT technology.”

The main benefits of IPS technology:

- wider viewing angles
- deeper black levels
- higher brightness
- excellent contrast

IPS LCDs are now being extensively used by blue chip multi-nationals in the manufacture of high performance mobile phones, monitors and televisions. Industrial markets and mainstream customers can now also benefit from the features of in-plane-switching technology as further Hitachi IPS displays become more widely available.

The diagram below illustrates the improved viewing angle.



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