

OPTREX EUROPE GmbH

Your European Display Partner

Product Information

Issue Q4 2010



OPTREX

Optrex Europe – a leading company in the display market

Optrex Europe GmbH, based in Babenhausen/Hessen, Germany, is manufacturer and supplier of LCDs and modules with more than 30 years of experience. Traditionally, Optrex designs products for automotive use, telecommunications, medical equipment, white ware, industrial or any other individual application. Our business philosophy is to provide long term service to the market with up-to-date technologies.

Optrex Custom Designed Products

Since the beginning Optrex is expert in developing displays for demanding applications. Optrex is proud to keep business relationship with customers appreciating value of our service and our knowledge.

Optrex Standard Products

Our standard products include passive displays, TFT modules and capacitive touch switches which are mainly produced in Japan, China or Thailand. The Optrex product portfolio covers the complete range from segmented to graphic displays in passive or active technology.

Active Matrix

TFT LCDs

Deliver Best-in-Class

Front-of-Screen Performance

Optrex TFT LCDs provide exceptionally high contrast, colour saturation and luminance and a range of performance enhancements such as Natural Colour Matrix (NCM) for true colour fidelity, Anti-reflective coating and Ultra-Wide Viewing angles.

Why Choose Optrex for your TFT LCD Designs?

- Long term compatibility and support
- Higher luminance (Up to 1500 cd/m²)
- Super Wide View technology (Up to 170° viewing angle)
- Field replaceable/long life CCFL/LED
- Reverse scan
- Wide temperature range
- RoHS compliant
- Touch versions
- Portrait and landscape format



- NCM (Natural Colour Matrix)
- 6/8 bit compatibility with LVDS interface
- Anti-reflective coating
- Wide format
- Fast response time < 25ms
- Transflective versions

Special Features / Technology

Super Wide View	New display technology with up to 170° viewing angle	SWV
Anti-Reflective Coating	Surface reflectivity is reduced to approximately 0.3%, providing outstanding performance in high ambient-light environments with excellent legibility, no glare, no decrease in luminance or contrast, and no increase in backlight power consumption.	AR
Wide View Film	Viewing angle enhancement	UWV
High Luminance	<ul style="list-style-type: none"> • Up to 1500 cd/m² luminance • Designed for operation in direct sunlight • Low power consumption with top/bottom lamp design 	HL
Wide Format	<ul style="list-style-type: none"> • Meets high definition display format • Expands usable display area and allows more information on the screen 	WF
Transflective	Transflective displays offer both reflective and transmissive modes, resulting in high light reflectance for a bright display. Allows low power consumption for "Green Technology".	TF
Touch Screen	A touch screen display provides the ability for the user to make choices by touching icons or graphical buttons on the screen.	Touch

Touch Screen Solutions

A touch screen display provides the ability for the user to make choices by touching icons or graphical buttons on the screen.

Resistive touch panel offers

- High reliability and durability
- High accuracy
- Multiple input modes such as finger or stylus
- High transmittance (> 80 %)
- Wide operating temperature range

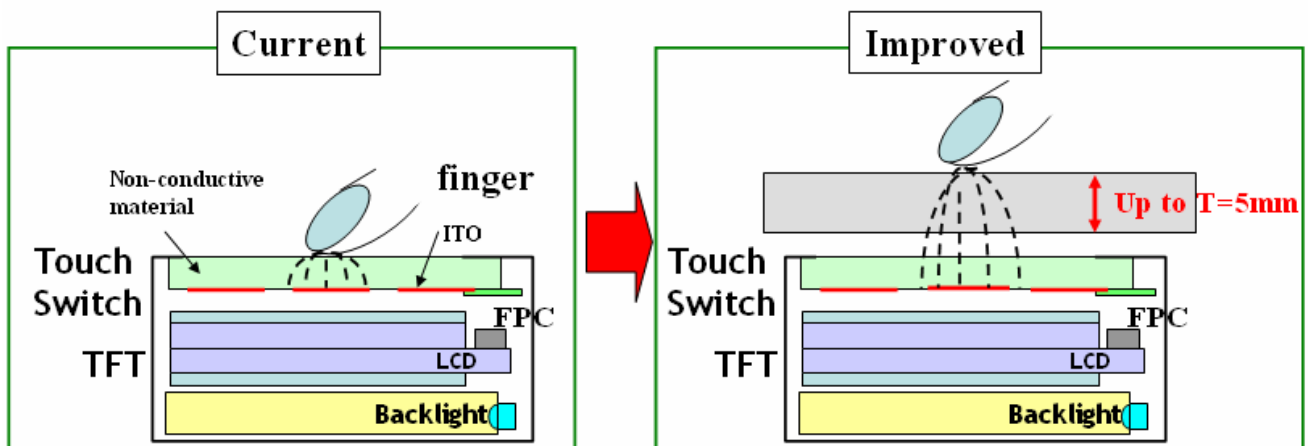


Available in following sizes: 3.5", 5", 5.7", 6.5", 8.4"

Projected Capacitive touch switch

Optrex has created a new capacitive touch switch which needs less space and has less reflections than a resistive touch switch. Multiple touch commands (moving, scrolling, etc.) are possible. The improved Projected Capacitive Touch allows the use of thicker cover glass against rough environmental conditions.

Available for Optrex TFT standard products 3.0", 3.5" and 5.7".



Touch Switches Promise Enhanced Visibility and Performance

Optrex is offering a new capacitive touch switch based on technology experience gained in the smart phone market. This capacitive touch switch detects variations in position and command. This technology offers the highest standard of optical performance with ease of design. Capacitive touch solutions focus on a number of applications, including: handheld terminals, gaming, medical equipment, point-of-sale and mobile applications to enable human-machine interface.



The new touch switch solution provides outstanding clarity and simplifies your design. The new capacitive touch switch technology eliminates air gaps and reduces the number of layers. An improved visibility results from less reflectance and higher transparency of the display image through the touch panel and allows for a thinner display sensor stack up (0.5 mm — 0.7 mm thickness in viewing area). The new solutions not only offer high optical performance but also are more compact and light weight. The structure is very robust with lifetime of approximately 100 million touches. The surface is not damaged by exposure to fluid and is easy to clean.

In addition, the new touch switch solution from Optrex offers a transparency of min. 95 percent and a reflection of less than 15 percent. The operating temperature is $-20\text{ }^{\circ}\text{C} \sim +70\text{ }^{\circ}\text{C}$.

Capacitive touch switch with 12 points is available in 3" and 3.5". This product range will be extended in near future. TFT modules with optical-bonded capacitive touch switch are offered in same sizes.



New Line of Displays with LED Backlight

Optrex launches a new line of TFT-LCD modules with LED backlight with following sizes: 2\", 3\", 3.5\", 4.3\", 5\", 5.7\", 6.5\", 8.4\", 9.0\", 10.4\", 12.1\", 14.1\", 15\", 17.5\" and 19.2\".

Some key features of LED backlight displays are:

- No warm-up time, LED backlights are instantly on
- Wider range of brightness control
- Mercury free, environmental friendly
- LED rail is field replaceable in most models
- Improved EMI performance (high voltage inverter is not needed)
- Power consumption is lower compared to standard CCFL backlights
- High performance in the low temperature range
- Long Life. Many TFTs provide a lifetime of up to 100,000 hours
- Higher brightness compared to current modules with CCFL B/L

TFT LCD Display Line-up

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Size [inch]	Resolution [Pixel]	Article	Viewing Angle U/D/L/R CR>1.0	Luminance [cd/m ²]	Operating Temperature [°C]	Interface	BL	Features
2,0"	240x320	T-55040GD020JU-LW-AGN	80/58/70/70	300	-20 ~ +70	digital RGB+SPI	LED	QVGA, AG, Portrait
3,0"	240x400	T-55149GD030J-MLW-AJN	80/58/70/70	400	-20 ~ +70	CMOS 6bit	LED	TQVGA, glare, TF, Portrait
3,0"	240x400	T-55149GD030J-MLW-ALN	80/58/70/70	360	-20 ~ +70	CMOS 6bit	LED	TQVGA, TF, Touch
3,0"	240x400	T-55149GD030J-MLW-AMN	80/58/70/70	360	-20 ~ +70	CMOS 6bit	LED	TQVGA, Touch, opt.bonded
3,5"	320x240	T-55596GD035JU-LW-AAN	80all CR>5	300	-20 ~ +70	18b par./8b ser.RGB	LED	QVGA, AG
3,5"	320x240	T-55596GD035JU-LW-ABN	80all CR>5	400	-20 ~ +70	24bit RGB	LED	QVGA, AG, wide view film
3,5"	320x240	T-55343GD035JU-LW-ADN	80all CR>5	400	-20 ~ +70	24bit RGB	LED	QVGA, AG, Landscape
3,5"	320x240	T-55343GD035JU-LW-AEN	80all CR>5	400	-20 ~ +70	24bit RGB	LED	QVGA, Touch
3,5"	320x240	T-55343GD035JU-LW-AFN	80all CR>5	320	-20 ~ +70	24bit RGB	LED	QVGA, Touch
3,5"	240x320	T-51963GD035J-MLW-AFN	40/40/40/40	160	-20 ~ +70	CMOS 6bit	LED	QVGA, AR, TF, Portrait
3,5"	240x320	T-51963GD035J-MLW-AKN	40/40/40/40	144	-20 ~ +70	CMOS 6bit	LED	QVGA, Touch, TF
3,5"	240x320	T-51963GD035J-MLW-ALN	40/40/40/40	144	-20 ~ +70	CMOS 6bit	LED	QVGA, Touch, opt. bonded, TF
3,5"	240x320	T-51963GD035J-MLW-AGN	40/40/40/40	130	-20 ~ +70	CMOS 6bit	LED	QVGA, Touch, TF
4,3"	800x480	T-55226D043J-LW-A-AAN	65/45/65/65	200	-20 ~ +70	CMOS 6/8bit	LED	WVGA, wide format
5,0"	800x480	T-55423GD050J-LW-A-ABN	85/85/85/85	300	-20 ~ +60	CMOS 8bit	LED	WVGA, SWV
5,0"	800x480	T-55423GD050J-LW-A-AAN	85/85/85/85	250	-20 ~ +60	CMOS 8bit	LED	WVGA, SWV, Touch
5,0"	800x480	T-55382GD050JU-LW-A-ABN	45/65/65/65	420	-20 ~ +70	CMOS 8bit	LED	WVGA
5,0"	800x480	T-55382GD050JU-LW-A-AAN	45/65/65/65	350	-20 ~ +70	CMOS 8bit	LED	WVGA, Touch
5,7"	320x240	T-55264GD057J-FW-XDN	70all CR>5	500	-20 ~ +70	CMOS 6bit	CCFL	QVGA, AG
5,7"	320x240	T-55264GD057J-FW-ADN	70all CR>5	400	-20 ~ +70	CMOS 6bit	CCFL	QVGA, AG, Touch
5,7"	320x240	T-55265GD057J-LW-ADN	70all CR>5	500	-20 ~ +70	CMOS 6bit	LED	QVGA, AG
5,7"	320x240	T-55265GD057J-LW-ACN	70all CR>5	400	-20 ~ +70	CMOS 6bit	LED	QVGA, AG, Touch
5,7"	640x480	T-55548GD057JU-LW-ABN	70all CR>5	500	-20 ~ +70	CMOS 6bit	LED	VGA, AG
5,7"	640x480	AA057VF02	80/80/60/80	400	-20 ~ +70	CMOS 6bit	LED	VGA
5,7"	640x480	AA057VG02	80/80/60/80	250	-20 ~ +70	CMOS 6bit	LED	VGA, TF
6,5"	640x480	T-51750GD065J-FW-ADN	30/60/55/55	400	-25 ~ +75	CMOS 6bit	2 CCFL	VGA, AG
6,5"	640x480	T-51750GD065J-FW-AFN	60/30/55/55	400	-25 ~ +75	CMOS 6bit	2 CCFL	VGA, AR
6,5"	640x480	T-51750GD065J-LW-AON	30/60/55/55	750	-25 ~ +75	CMOS 6bit	LED	VGA, AG
6,5"	640x480	T-51750GD065J-LW-ANN	30/60/55/55	600	-25 ~ +75	CMOS 6bit	LED	VGA, AR
6,5"	640x480	T-51750GD065J-FW-APN	30/60/55/55	320	-25 ~ +75	CMOS 6bit	CCFL	VGA, AR, Touch
6,5"	640x480	T-51750GD065J-LW-AQN	30/60/55/55	600	-25 ~ +75	CMOS 6bit	LED	VGA, AR, Touch
6,5"	640x480	T-55465D065J-LW-A-AAN	80/80/60/80	700	-30 ~ +80	CMOS 6bit	LED	VGA, AG
6,5"	640x480	T-55465D065J-LW-A-ABN	80/80/60/80	700	-30 ~ +80	CMOS 6bit	LED	VGA, AR
6,5"	640x480	T-51952D065J-FW-A-ADN	60/50/70/70	600	-20 ~ +70	CMOS 6bit	2 CCFL	VGA, AG
6,5"	640x480	T-51952D065J-FW-A-AEN	60/50/65/65	600	-20 ~ +70	CMOS 6bit	2 CCFL	VGA, AR
6,5"	640x480	T-51952D065J-FW-A-AFN	60/50/65/65	400	-20 ~ +70	CMOS 6bit	2 CCFL	VGA, AG
6,5"	640x480	T-55629D065J-LW-A-AAN	60/50/65/65	700	-20 ~ +70	LVDS 6/8bit	LED	VGA, AG

Legend:

SWV: Super Wide View technology
AG: Anti-Glare coating

WVF: Wide View Film
AR: Anti-Reflective

HL: High Luminance
Touch: TFT with Touchscreen
TF: Transflective

Size	Resolution	Article	Viewing Angle	Luminance	Operating	Interface	BL	Features
[inch]	[Pixel]		U/D/L/R CR> 10	[cd/m ²]	Temperature [°C]			
8.4"	640x480	T-55399D084J-FW-A-ABN	65/50/65/65	480	-30 ~ +80	CMOS 6bit	2 CCFL	VGA AG
8.4"	640x480	T-55399D084J-FW-A-ACN	60/50/65/65	480	-30 ~ +80	CMOS 6bit	2 CCFL	VGA, AR
8.4"	640x480	T-55151FD084J-MFW-A-AAN	70/50/80/80	200	-20 ~ +70	CMOS 6bit	2 CCFL	VGA, AR, TF
8.4"	640x480	T-55467D084J-LW-A-AAN	80/80/60/80	800	-30 ~ +80	CMOS 6bit	LED	VGA, AG
8.4"	800x600	T-55308D084J-FW-A-AAN	65/65/80/80	400	-20 ~ +70	LVDS 6/8bit	2 CCFL	SVGA, AG
8.4"	800x600	T-55466D084J-LW-A-ABN	80/80/60/80	480	-30 ~ +80	LVDS 6/8bit	LED	SVGA, AG, Touch
8.4"	800x600	T-55466D084J-LW-A-AAN	80/80/60/80	600	-30 ~ +80	LVDS 6/8bit	LED	SVGA, AG
8.4"	1024x768	T-55549D084J-LW-A-AAN	60/50/65/65	500	-20 ~ +70	LVDS 6/8bit	LED	XGA, AG
9.0"	960x540	T-55618D090J-LW-A-AAN	60/80/80/80	400	-20 ~ +70	LVDS 6/8bit	LED	QHD, SWV, AG
9.0"	800x480	T-55311D090J-FW-A-ABN	60/80/80/80	600	-20 ~ +70	LVDS 6/8bit	2 CCFL	WVGA, AG
9.0"	800x480	T-55561D090J-LW-A-AAN	85/85/85/85	400	-20 ~ +70	LVDS 6/8bit	LED	WVGA, AG, SWV
9.0"	800x480	T-55561D090J-LW-A-ABN	85/85/85/85	320	-20 ~ +70	LVDS 6/8bit	LED	WVGA, AG, SWV, Touch
9.0"	800x480	T-55562D090J-LW-A-AAN	60/80/80/80	800	-20 ~ +70	LVDS 6/8bit	LED	WVGA, AG
9.0"	800x480	T-55562D090J-LW-A-ABN	60/80/80/80	640	-20 ~ +70	LVDS 6/8bit	LED	WVGA, AG, Touch
10.4"	640x480	T-51513D104JU-FW-A-AIN	45/65/65/65	430	-20 ~ +70	CMOS 6/8bit	2 CCFL	VGA, AG
10.4"	640x480	T-51513D104J-FW-A-AJN	65/45/65/65	430	-20 ~ +70	CMOS 6bit	2 CCFL	VGA, AG
10.4"	640x480	T-51513D104J-FW-A-AKN	80/70/80/80	430	-20 ~ +70	CMOS 6bit	2 CCFL	VGA, AG, WVF
10.4"	640x480	T-51513D104JU-FW-A-AHN	45/65/65/65	430	-20 ~ +70	CMOS 6bit	2 CCFL	VGA, AR
10.4"	640x480	T-55334GD104J-FW-A-AAN	65/65/70/70	1500	-20 ~ +70	CMOS 6bit	4 CCFL	VGA, AG
10.4"	640x480	T-55333GD104J-FW-A-AAN	65/65/70/70	500	-20 ~ +70	CMOS 6bit	4 CCFL	VGA, AG
10.4"	640x480	T-55532D104J-LW-A-AAN	65/65/70/70	800	-20 ~ +70	CMOS 6bit	LED	VGA, AG
10.4"	640x480	T-55532D104J-LW-A-ABN	65/65/70/70	800	-20 ~ +70	CMOS 6bit	LED	VGA, AG
10.4"	640x480	T-55532D104J-LW-A-ACN	65/65/70/70	1500	-20 ~ +70	CMOS 6bit	LED	VGA, AG
10.4"	640x480	T-55532D104J-LW-A-ADN	65/65/70/70	1500	-20 ~ +70	CMOS 6bit	LED	VGA, AG
10.4"	800x600	T-51944D104J-FW-A-AA	60/50/70/70	400	-20 ~ +70	LVDS 6/8bit	2 CCFL	SVGA, AG
10.4"	800x600	T-51944D104J-FW-A-ABN	60/50/65/65	400	-20 ~ +70	LVDS 6/8bit	2 CCFL	SVGA, AR
10.4"	800x600	T-55563D104J-LW-A-AAN	60/50/65/65	700	-20 ~ +70	LVDS 6/8bit	LED	SVGA, AG
10.4"	800x600	T-55563D104J-LW-A-ABN	60/50/65/65	1200	-20 ~ +70	LVDS 6/8bit	LED	SVGA, AG
10.4"	1024x768	T-55225D104J-FW-A-AAN	60/50/65/65	400	-20 ~ +70	LVDS 6/8bit	2 CCFL	XGA, AG
10.4"	1024x768	T-55225D104J-FW-A-ABN	60/50/65/65	400	-20 ~ +70	LVDS 6/8bit	2 CCFL	XGA, AR
10.4"	1024x768	T-55533D104J-LW-A-AAN	60/50/65/65	600	-20 ~ +70	LVDS 6/8bit	LED	XGA, AG
10.4"	1024x768	T-55533D104J-LW-A-ABN	60/50/65/65	1000	-20 ~ +70	LVDS 6/8bit	LED	XGA, AG

Legend:

SWV: Super Wide View technology
AG: Anti-Glare coating

WVF: Wide View Film
AR: Anti-Reflective

HL: High Luminance
TF: Transflective
Touch: TFT with Touchscreen

TFT LCD Display Line-up

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Size	Resolution	Article	Viewing Angle	Luminance	Operating	Interface	BL	Features
[inch]	[Pixel]		U/D/L/R CR>10	[cd/m ²]	Temperature [°C]			
12.1"	1280x800	T-55312D121J-FW-A-ACN	60/70/80/80	1000	-20 ~ +70	LVDS 6/8bit	2 CCFL	WXGA, AG
12.1"	1280x800	T-55526D121J-FW-A-AAN	60/70/80/80	400	-20 ~ +70	LVDS 6/8bit	2 CCFL	WXGA, AG
12.1"	1280x800	T-55592D121J-LW-A-AAN	60/70/80/80	700	-20 ~ +70	LVDS 6/8bit	LED	WXGA, AG
12.1"	1024x768	T-51756D121J-FW-A-ACN	75/45/65/65	320	-20 ~ +70	LVDS 6/8bit	2 CCFL	XGA, AG
12.1"	1024x768	T-51756D121J-FW-A-ADN	75/45/65/65	320	-20 ~ +70	LVDS 6/8bit	2 CCFL	XGA, AR
12.1"	1024x768	T-51756D121J-FW-A-AEN	80/70/85/85	320	-20 ~ +70	LVDS 6/8bit	2 CCFL	XGA, WWF
12.1"	1024x768	T-55105D121J-FW-A-AAN	75/45/65/65	1000	-20 ~ +70	LVDS 6/8bit	4 CCFL	XGA, AG
12.1"	1024x768	T-55105D121J-FW-A-ABN	75/45/60/60	1000	-20 ~ +70	LVDS 6/8bit	4 CCFL	XGA, AR
12.1"	1024x768	T-55513D121J-LW-A-AAN	80/80/80/60	500	-30 ~ +80	LVDS 6/8bit	LED	XGA, AG
12.1"	1024x768	T-55566D121J-LW-A-AAN	80/80/80/60	1000	-30 ~ +80	LVDS 6/8bit	LED	XGA, AG
12.1"	800x600	T-51512D121J-FW-A-AIN	75/45/65/65	450	-20 ~ +70	CMOS 6bit	2 CCFL	SVGA, AG
12.1"	800x600	T-55373D121J-LW-A-AAN	75/45/65/65	550	-20 ~ +70	CMOS 6/8bit	LED	SVGA, AG
12.1"	800x600	T-51866D121J-FW-A-ACN	75/45/65/65	450	-20 ~ +70	LVDS 6/8bit	2 CCFL	SVGA, AG
12.1"	800x600	T-51866D121J-FW-A-ADN	75/45/60/60	450	-20 ~ +70	LVDS 6/8bit	2 CCFL	SVGA, AR
12.1"	800x600	T-52017D121J-FW-A-AAN	75/45/65/65	1000	-20 ~ +70	LVDS 6/8bit	4 CCFL	SVGA, AG
12.1"	800x600	T-52017D121J-FW-A-ABN	75/45/60/60	1000	-20 ~ +70	LVDS 6/8bit	4 CCFL	SVGA, AR
12.1"	800x600	T-55196D121J-FW-A-AAN	75/45/65/65	1500	-20 ~ +70	LVDS 6/8bit	4 CCFL	SVGA, AG
12.1"	800x600	T-55196D121J-FW-A-ABN	75/45/60/60	1500	-20 ~ +70	LVDS 6/8bit	4 CCFL	SVGA, AR
12.1"	800x600	T-55374D121J-LW-A-AAN	75/45/65/65	400	-20 ~ +70	LVDS 6/8bit	LED	SVGA, AG
14.1"	1280x800	T-55313D141J-FW-A-ABN	80/70/80/80	400	-20 ~ +70	LVDS 6/8bit	2 CCFL	WXGA, AG
14.1"	1280x800	T-55313D141J-FW-A-AEN	80/70/80/80	1000	-20 ~ +70	LVDS 6/8bit	2 CCFL	WXGA, AG
14.1"	1280x800	T-55313D141J-LW-A-AGN	80/70/80/80	800	-20 ~ +70	LVDS 6/8bit	LED	WXGA, AG
15"	1024x768	T-51863D150J-FW-A-AA	60/50/75/75	250	-20 ~ +70	LVDS 6/8bit	2 CCFL	XGA, AG
15"	1024x768	T-51863D150J-FW-A-AE	65/50/75/75	450	-20 ~ +70	LVDS 6/8bit	4 CCFL	XGA, AG
15"	1024x768	T-51863D150J-FW-A-AD	80/70/85/85	500	-20 ~ +70	LVDS 6/8bit	4 CCFL	XGA, WWF
15"	1024x768	T-51863D150J-FW-A-AFN	60/50/75/75	800	-20 ~ +70	LVDS 6/8bit	4 CCFL	XGA, AG
15"	1024x768	T-55335D150J-FW-A-AAN	60/50/75/75	1500	-20 ~ +70	LVDS 6/8bit	6 CCFL	XGA, AG
15"	1024x768	T-55519D150J-LW-A-AAN	85/85/85/85	350	-20 ~ +70	LVDS 6/8bit	LED	XGA, AG, SWV
15"	1024x768	T-55519D150J-LW-A-ABN	85/85/85/85	1100	-20 ~ +70	LVDS 6/8bit	LED	XGA, SWV
15"	1024x768	T-55534D150J-LW-A-AAN	85/85/85/85	800	-20 ~ +70	LVDS 6/8bit	LED	XGA, AG
15"	1024x768	T-55534D150J-LW-A-ABN	85/85/85/85	1500	-20 ~ +70	LVDS 6/8bit	LED	XGA, AG
17.0"	1280x1024	T-55535D170J-FW-A-AAN	60/50/75/75	550	-20 ~ +70	LVDS 6/8bit	4 CCFL	SXGA, AG
17.5"	1280x768	T-55621D175J-LW-A-AAN	60/50/75/75	800	-20 ~ +70	LVDS 6/8bit	LED	WXGA, AG
17.5"	1280x768	T-55336D175J-FW-A-AAN	60/50/75/75	400	-20 ~ +70	LVDS 6/8bit	4 CCFL	WXGA, AG
19.2"	1920x360	T-55604D192J-LW-A-AAN	60/50/75/75	500	-20 ~ +70	LVDS 6/8bit	LED	AG

Legend:

SWV: Super Wide View technology
AG: Anti-Glare coating

WWF: Wide View Film
AR: Anti-Reflective

HL: High Luminance
TF: Transflective

Touch: TFT with Touchscreen

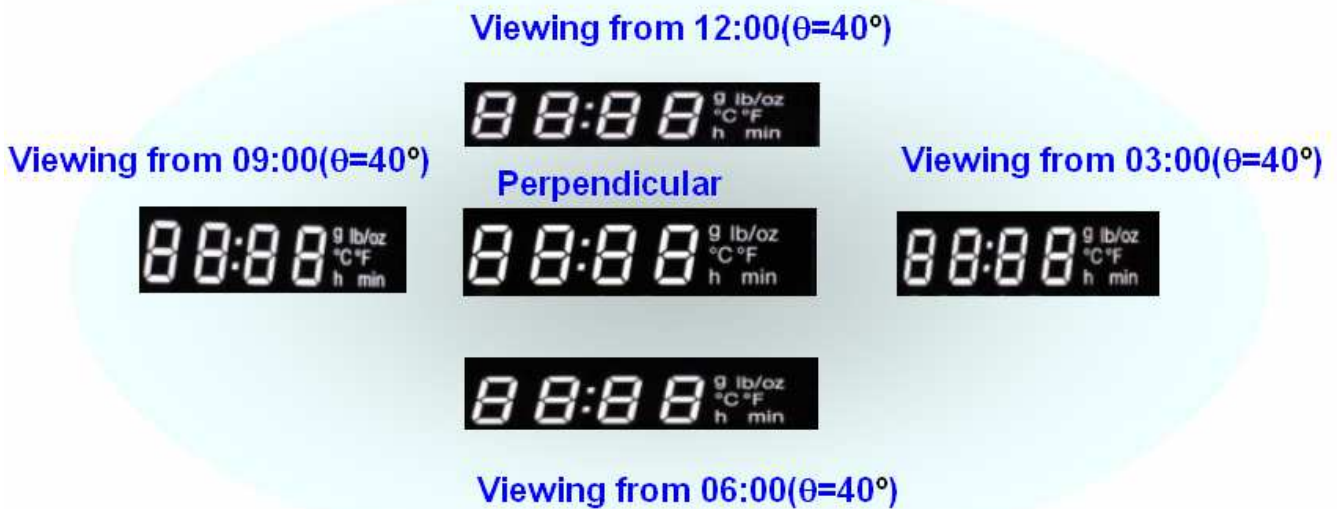
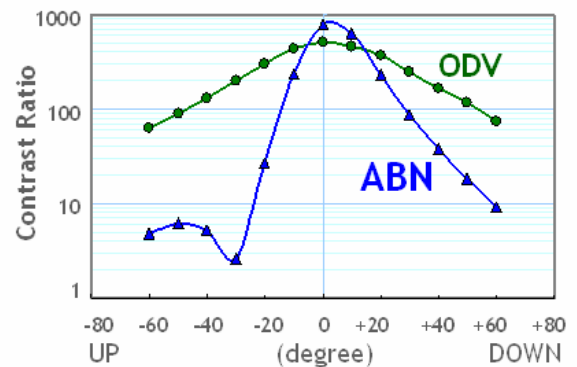
New product information

Glass Bonding

An air gap free bonding technology providing glass-on-glass fixing. Nearly lossless optical path reduces light scattering and absorption.

ODV Technology (Omni Directional View)

This new passive technology offers an enhanced viewing angle compared to conventional LCD's. Contrast values of > 100:1 at 40° from all directions are now possible. ODV Technology will be available in mass production from 2nd Quarter 2011 also for customer specific products.



Super High Brightness LCD's – Up to 1500 cd/m² Luminance

Optrex displays provide legibility and image clarity in high ambient light environments – even under direct sunlight.

- 6.5" offers 750 cd/m² luminance and 700:1 contrast ratio with operating temperatures from -20° to 70° C
- 10.4" offers 1500 cd/m² luminance and 700:1 contrast ratio with operating temperatures from -20° to 70° C
- 12.1" offers 1000 to 1500 cd/m² luminance and 500:1 to 700:1 contrast ratio with Top from -20° to 70° C
- 15" offers 800 or 1500 cd/m² luminance and 450:1 or 600:1 contrast ratio with Top from -20° to 70° C
- 17.5" offers 800 cd/m² luminance and 700:1 contrast ratio with Top from -20° to 70° C



15" XGA (1500cd/m²)

Super Wide View Angle Technology

These TFT combine black background for high contrast with an enhanced viewing angle - 85° to 85° (CR > 10) for 5", 9" and 15".

New WXGA/WVGA Wide Format Displays Optimized for Industrial Applications

These TFT are an upgrade from the current 4:3 format, now with resolutions of 800 x 480 on small screens and 1280 x 768/800 on larger screens. They provide suitable format for video or additional information. Available sizes are 4.3", 5", 9", 12.1", 14.1", 17.5" and 19.2".



Sunlight readable TFTs with Anti-Reflective (AR) surface

Whereas Anti-Glare (AG) basically is a roughened polarizer surface Anti-Reflective is an additional layer to reduce surface reflectivity down to approximately 0.3%, compared to 4 % reflectance offered by normal anti-glare surface. TFT modules with AR allow lower backlight power consumption and hence lower heat dissipation under high-ambient sun light. Available on Optrex's 3.5", 6.5", 8.4", 10.4" and 12.1" TFT LCDs.

Key Features for Anti-Reflective Displays:

- Surface reflectivity reduced to approximately 0.3 %
- High image clarity
- AR coating is more reliable since it is integrated at factory

Optrex Monochrome Graphic Displays

Optrex passive matrix STN (super twisted nematic) monochrome graphic modules offer a wide range of sizes and display formats in transmissive, reflective or transmissive mode. An extensive range of colour/background combinations with high brightness, high contrast, low power consumption, serial or parallel interface and chip-on-glass (COG) construction is available.

Why Optrex STEP Displays

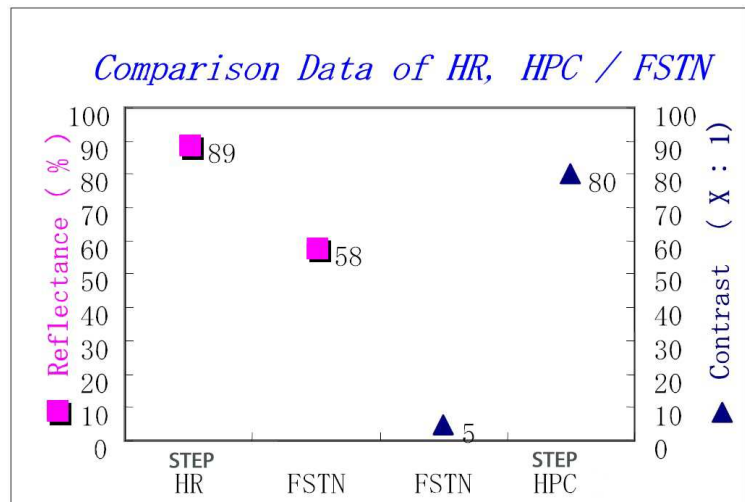
- Wide operating temperature (-20/-30 to 70/80° C) standard
- High contrast ratio up to 80:1
- High reflectance up to 89 %
- High brightness up to 100 cd/m²
- High ambient-light legibility
- Built-in controllers
- Selectable interface



▲ High Performance Colour (**HPC**)



■ High Reflective (**HR**)

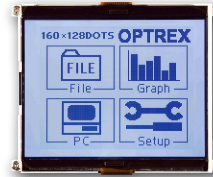


Graphic LCDs

Featuring built-in controllers, standard operating temperatures of -20 °C to 70 °C, and a luminance of up to 100 cd/m², these are the "next step" STN graphic displays.



Winter White Background
F-55471GNFJ-SLW-ADN
(240 x 64)



Winter White Background
F-51854GNFJ-SLW-ABN
(160 x 128)

Part#	Size	Color Background	Dot Format	Modul Dimensions (mm)	Interface
F-55472	2.8"	<input type="checkbox"/> C <input checked="" type="checkbox"/> B <input checked="" type="checkbox"/> G <input checked="" type="checkbox"/> R	128 x 64	89.7 x 49.8 x 6	Selectable 8-bit Parallel or Serial
F-51854	4.7"	<input type="checkbox"/> C	160 x 128	129.0 x 102.0 x 13.5	8- bit Parallel
F-55471	5.2"	<input type="checkbox"/> C	240 x 64	135.2 x 51.7" x 9.8	8- bit Parallel

Character LCDs

Offering a 5V power supply, standard operating temperatures of -20 °C to 70 °C, and a luminance of up to 70 cd/m², these LCDs are the new generation in STN character displays.



F – 51847 Series



F – 51849 Series

Part#	Color	Dot Format	Modul Dimensions (mm)	Interface
C-51848	<input checked="" type="checkbox"/> W <input checked="" type="checkbox"/> G <input type="checkbox"/> B	16 character x 2 line	122.0 x 44.0 x 14.6	8- bit Parallel
C-51505	<input checked="" type="checkbox"/> W <input checked="" type="checkbox"/> G <input type="checkbox"/> B <input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> G	20 character x 2 line	116.0 37.0 x 15.7	8- bit Parallel
C-51847	<input checked="" type="checkbox"/> W <input checked="" type="checkbox"/> G <input type="checkbox"/> B	20 character x 4 line	98.5 x 61.0 x 15.6	8- bit Parallel
C-51850	<input checked="" type="checkbox"/> W <input checked="" type="checkbox"/> G <input type="checkbox"/> B	40 character 2 line	182.0 x 34.5 x 15.1	8- bit Parallel
C-51849	<input checked="" type="checkbox"/> W <input checked="" type="checkbox"/> G <input type="checkbox"/> B	40 character x 4 line	190.0 x 54.0 x 14.6	8- bit Parallel

Some old LCD-Modules are still available. Please contact Optrex sales team or your local distributor.

For any queries or technical information please contact us to find your local distributor:

OPTREX EUROPE GmbH

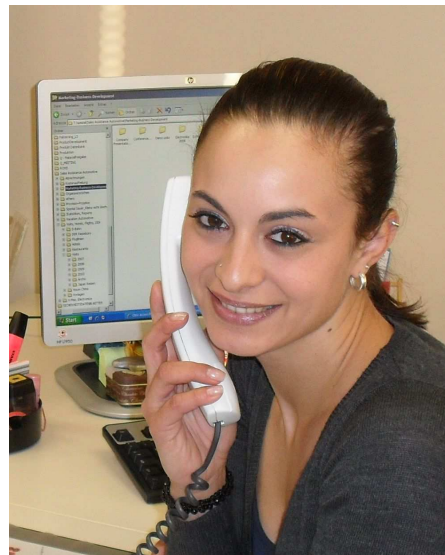
Seligenstädter Strasse 40
64832 Babenhausen
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Phone: +49-6073-721-0

Fax: +49-6073-721-130

<http://www.optrex.de>

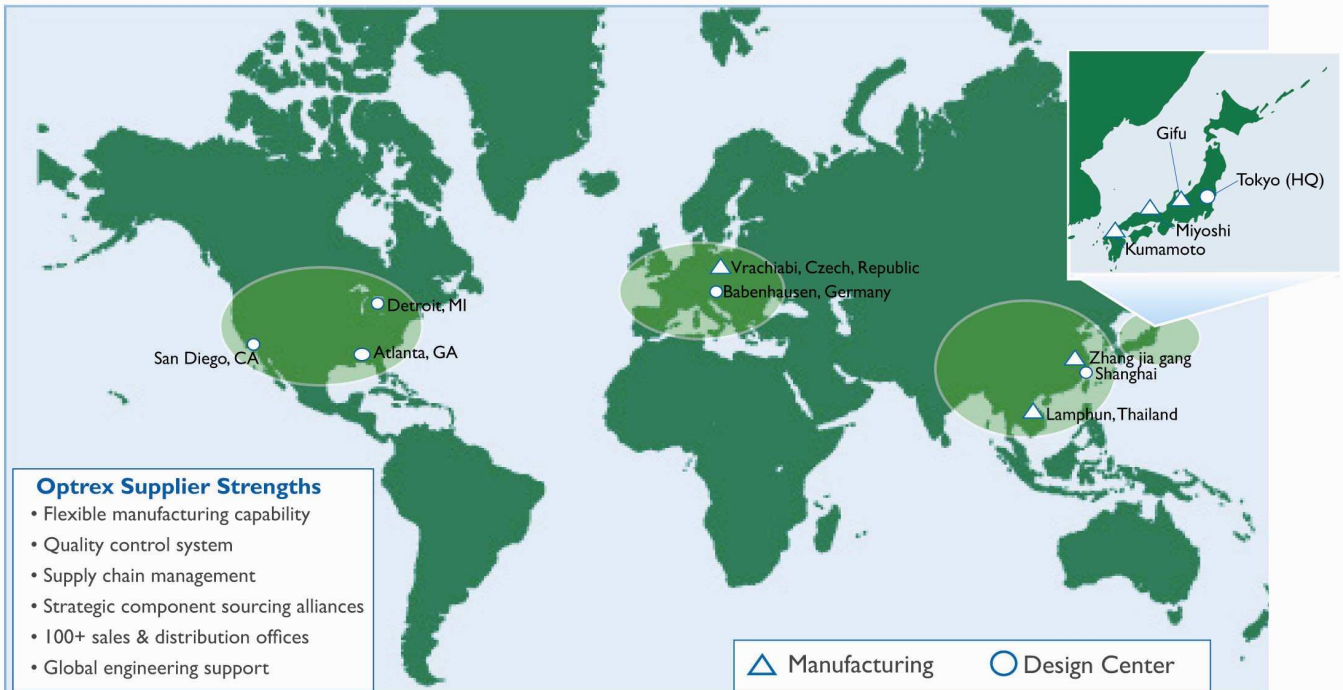
Email: info@optrex.de



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Manufacturing and Global Support

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