Display Innovation, Make Values

TSD Philosophy
Your Fastest, Trusty and Professional LCD Solution Supplier & Manufacturer
Focus on Size 0.96-19.3inch TFT LCD module.

CEO's word
The development of science and technology brings us more better future and life. Currently, the LCD industry is coming to us step by step, it has opportunities and also challenges. TSD will work together with the industry to promote the development of LCD industry. This is our mission and responsibility as a member of the LCD industry.

TSD aim to be one of the best LCD solution provider and manufacturer from the birth of the day. And focus on the mid-small size LCD and LCD products research and development, manufacturing and sales. Quality is the life of our company. TSD's principle is quality is produced, not inspected.

TSD always believe that, through innovation technology, continuous improvement of LCD products and higher quality service, we can bring more values to our customers, partners and employees. TSD sincerely look forward to working together with you to create and share this special value, DISPLAY INNOVATION AND MAKE VALUES to our life.
Who is TSD

TEAM SOURCE DISPLAY Established in 2004. Head Office in Shenzhen, factory in Dongguan, China. TSD focus on the full range of LCD products and LCD solutions development, offer customers unique, innovative and cost effective modules and solutions. TSD professional and experienced R&D engineers with good English knowledge to support the whole TSD overseas market.

We are professional because we focus. In the past 15 years in LCD field. TSD producing high quality products with perfect service to Daiwa, Japan, Schneider, VTECH, Luminous, Inkel, Gino and etc. many European and US customers which are in the application field.

TSD, a group company of Shenzhen TSD Technology Co., Ltd, was established in 2004. Since its inception, TSD has been committed to the development and production of TFT LCD modules.

In 2005, TSD established a production line for TN rear assembly and the semi-auto TFT line.

In 2006, a sales office was set up in Shenzhen, and a joint venture company, TSD (HK) Ltd., was established to enter the overseas market.

In 2012, TSD established a German branch in Germany and began to expand its overseas market.

In 2013, TSD entered the TFT backlight production market.

In 2014, the company moved and expanded its production capacity.

In 2016, TSD established a German branch and expanded its production line.

In 2017, TSD moved to Fenggang New Factory, Combined LCM, CTP, Backlight and Panel production lines together.

In 2018, TSD established its Italian branch and the Netherlands branch.

In 2019, TSD established its Brazilian branch.

TSD is dedicated to providing customers with high-quality products and excellent services, and is committed to continuous innovation and development.
Factory Tour-1

Foshan Factory

Shanghai headquarters

Munich, Germany

Hamburg, Germany

Chang’an Factory

Picture descriptions as follows:

- Foshan Factory
- Shanghai headquarters
- Munich, Germany
- Hamburg, Germany
- Chang’an Factory
TSD Ability

More than 15 years of experience R&D team work on the full range of the customization solutions development, offering customers unique, innovative, and cost-effective yet market-leading products, catering for a range of applications and industries. Our professional and experienced R&D team always happy to support customers in new products development in a quick and effective way, including hardware & software design.

Facilities:
1. Automatic Production Line
2. Semi-Auto Production Line
3. CTP Line (OCR & OCA)
4. 2 full-automatic optical bonding lines

Production Ability:
- LCD 1,500K/M
- LCM 1,500K/M (TFT & Mono)
- CTP 500K/M

>10 years experience R&D team
>180 workers
Quality Control & System

- Vibration Test Equipment
- Humidity and Temperature Test Equipment
- Burn-in Testing Room
- Process Electrical & Structural Testing
- Single-arm drop test

Full Range products:
- TFT: 0.98” / 1.08” / 1.3” / 1.54” / 1.77” / 1.9” / 2.0” / 2.2” / 2.4” / 2.6” / 3.0” / 3.2” / 3.5” / 3.97”
- A4.2” / A4.3” / 4.5” / 5.0” / 5.5” / 6.0” / 6.97” / 7.0” / 8.0” / 9.7” / 10.4” / 12.1” / 11.2” / 13.3”

ISO9001:2008
ISO14001:2009
ISO13485:2009
IEC/EN62355
REACH
ROHS

Production cycle and production capacity:
- Drawing: LCD 1-2 days, LCM 2-4 days
- Sample: LCD 10-20 days, LCM 15-20 days
- Mass Production: LCD 18-28 days, LCM 12-30 days

Quality Targets:
1. Product qualification rate ≥99%
2. Customer return rate ≤0.3%
3. Customer satisfaction rate ≥90%

Display Innovation, Make Values
TSD Products

TSD provide LCD / LCM Modules complete solution, widely used in Industrial Equipment, Medical Equipment, Automotive Products, Education Electronics, Communication Products, Fiscal Products, Instrumentation Products, Home Appliances.

Product application

- Automotive Products
- Education Electronics
- Communication Products
- Industrial Equipment
- Medical Equipment
- Fiscal Products
- Instrumentation Products
- Home Appliances
TFT Special Solution

CTP
Standard CTP design for 3.2" 3.5" 4.3" 5" 7" 10.1" 13.3" available.
All Standard CTP are using Foschini Good driver
IC can change with cm requirements.
Can be Customised the FPC for all sizes CTP
Competitive Prices Support in the market
Customized Sensor slide, roll single touch or multi touch
Glove touching support by request
Water proof design available

Cover Lens
Any size and shape available: Round shape, polygonal shape,
holley shape or Irregular shape
Custom artwork available
Surface treatment: AR, AG, AF coating Several thickness available:
0.55mm, 0.7mm, 1.1mm, 1.6mm, 2.0mm, 2.8mm, 3.6mm

Ofilm Polarizer
Ofilm Polarizer solution TFTs viewing angle degree ±80° same as MVA products.
Full range sizes of TFT products can be designed with Ofilm Polarizer solution.

Transflective TFT
1.77"/2.4"/2.8"/3.5" True transflective TFT glass
Sunlight readable, super good performance under strong light
Low power consumption, energy saving Special Resistive touch panel available

TSD ProDisplay

ProLCD-T43N01
ProLCD-T43C01
ProLCD-T50R01

ProLCD-T70C01
ProLCD-T101N01

TSD HMI Professional solution Modules

TSD ProDisplay Modules are high-end and new technology of HMI modules with the Embedded Video Engine integration and controller chip 87/86x saradas from Brigates, which allow these HMI modules to control graphics, touch/resistive touch and I/Os) and audio, thus offering the display solutions for telecommunications, medical, networking, automotive, white goods and other advanced industries. The product line offers sizes options like: 2.4", 2.8" 3.2", 3.5", 4.3", 5", 7", 10.1" and the 2.4", 3.2", 5", 7", 10.1" versions also have IPS module. And full range modules with touch options-resistive and capacitive. We can do the custom designs and also added service like custom front and back housing.
### TFT LCD Module List

<table>
<thead>
<tr>
<th>Code</th>
<th>Part number</th>
<th>Res.</th>
<th>Code色彩</th>
<th>Aωmax</th>
<th>Umax</th>
<th>Vωmax</th>
<th>Vref</th>
<th>Interf</th>
<th>Vendor</th>
<th>Remark</th>
<th>Order</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>7070011-06</td>
<td>800x600</td>
<td>590x470x5x.75</td>
<td>18.8mm x 17.7mm</td>
<td>ALL</td>
<td>GB</td>
<td>SP</td>
<td>128</td>
<td>565700</td>
<td>-</td>
<td>T7070011</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>7070011-05</td>
<td>800x600</td>
<td>590x470x5x.75</td>
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<td>GB</td>
<td>SP</td>
<td>128</td>
<td>565700</td>
<td>-</td>
<td>T7070011</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>7070011-04</td>
<td>800x600</td>
<td>590x470x5x.75</td>
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<td>GB</td>
<td>SP</td>
<td>128</td>
<td>565700</td>
<td>-</td>
<td>T7070011</td>
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</tr>
<tr>
<td>1.6</td>
<td>7070011-03</td>
<td>800x600</td>
<td>590x470x5x.75</td>
<td>18.8mm x 17.7mm</td>
<td>ALL</td>
<td>GB</td>
<td>SP</td>
<td>128</td>
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<td>T7070011</td>
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<td>1.7</td>
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<td>GB</td>
<td>SP</td>
<td>128</td>
<td>565700</td>
<td>-</td>
<td>T7070011</td>
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<td>1.8</td>
<td>7070011-01</td>
<td>800x600</td>
<td>590x470x5x.75</td>
<td>18.8mm x 17.7mm</td>
<td>ALL</td>
<td>GB</td>
<td>SP</td>
<td>128</td>
<td>565700</td>
<td>-</td>
<td>T7070011</td>
<td></td>
</tr>
</tbody>
</table>

### TSD-TFT Solution

**Application:** Industrial, home appliance, automotive, OA system, medical equipment, consumer TSD Support

- Semi-customized TFT
- Standard Tcell with customized backlight / touch panel / cover lens / Customized interface

**Size:** 0.98-18 inch Standard TFT Module
- Capacitive or resistive touch screen
- Wide and normal viewing angle
- High resolution OLED / AR, AG, AF coating

**Optical Bonding:**
- OCA/VGCR Optical Bonding, improve sunlight readability ability
- More stable sensor performance
- Anti-vibration and shock protection
- Anti-dust and moisture-proof, increased lifetime

**TSD Touch Panel Solution**

- Customized CTP Slide, roll, single touch, multi-touch In-cell, on-cell, G+G, G+T, D+F, D+T+F
- Industry standard CTP solution (Cypress, Atmel, FocalTech, Sitronics, Solomax) with OCA, OCR optical bonding

**Customized RTP Transmissivity:** 94%
- Anti-static, Anti-Dust, water proof, high temperature and humidity line and 5 line RTP / Cover lens
- Customized Color with Silk print, logo printing
- Any Impulse Glass thickness support
- 0.5mm, 0.7mm, 1.1mm, 1.3mm, 2.0mm, 2.8mm, 3.0mm, 4.0mm
### Graphic Module List

<table>
<thead>
<tr>
<th>Dots</th>
<th>Model Name</th>
<th>Driver IC</th>
<th>Outline (mm)</th>
<th>V A (mm)</th>
<th>Supply Voltage</th>
<th>Interface Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>128x64</td>
<td>TSM12864E4</td>
<td>ST6810B</td>
<td>93.6 x 70.0 x 14.1 MAX</td>
<td>72.0 x 35.1</td>
<td>5.6V</td>
<td>Parallel</td>
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<tr>
<td></td>
<td>TSM12864D0</td>
<td>ST6810B</td>
<td>78.0 x 70.0 x 13.2 MAX</td>
<td>62.0 x 44.0</td>
<td>5.6V</td>
<td>Parallel</td>
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<tr>
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<td>TSM12864C4C</td>
<td>T9503C</td>
<td>78.0 x 70.0 x 13.2 MAX</td>
<td>62.0 x 44.0</td>
<td>5.6V</td>
<td>Parallel</td>
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<tr>
<td></td>
<td>TSM16032C</td>
<td>K50107-1521</td>
<td>146.0 x 43.0 x 12.5 MAX</td>
<td>122.0 x 32.8</td>
<td>5.6V</td>
<td>Parallel</td>
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<tr>
<td></td>
<td>TSM24040A</td>
<td>T9503C</td>
<td>180.0 x 62.0 x 14.5 MAX</td>
<td>132.0 x 35.0</td>
<td>5.6V</td>
<td>Parallel</td>
</tr>
<tr>
<td></td>
<td>TSM24040A</td>
<td>T9503C</td>
<td>144.0 x 104.0 x 12.0 MAX</td>
<td>114.0 x 64.0</td>
<td>5.6V</td>
<td>Parallel</td>
</tr>
<tr>
<td></td>
<td>TSM24040A</td>
<td>T9503C</td>
<td>147.0 x 116.0 x 14.5 MAX</td>
<td>122.0 x 70.0</td>
<td>5.6V</td>
<td>Parallel</td>
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<tr>
<td></td>
<td>TSM24040A</td>
<td>RA8935/R806</td>
<td>160.0 x 109.0 x 12.0 MAX</td>
<td>122.0 x 92.0</td>
<td>3.3V / 3.3V</td>
<td>Parallel</td>
</tr>
</tbody>
</table>

### Character Module List

<table>
<thead>
<tr>
<th>Dots</th>
<th>Model Name</th>
<th>Outline Dimension (mm)</th>
<th>Y A (mm)</th>
<th>Supply Voltage</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>16x1</td>
<td>TSM1601A</td>
<td>83.0 x 36.0 x 10.1 MAX</td>
<td>64.5 x 16.0</td>
<td>3.3V / 5.0V</td>
<td>Reflective</td>
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<tr>
<td>16x2</td>
<td>TSM1602A</td>
<td>83.0 x 36.0 x 13.1 MAX</td>
<td>64.5 x 16.0</td>
<td>3.3V / 5.0V</td>
<td>Reflective</td>
</tr>
<tr>
<td>16x4</td>
<td>TSM1604A</td>
<td>122.0 x 44.0 x 14.8 MAX</td>
<td>99.0 x 24.0</td>
<td>3.3V / 3.0V</td>
<td>STN-Gray/FSTN</td>
</tr>
<tr>
<td>20x4</td>
<td>TSM2004A</td>
<td>122.0 x 44.0 x 14.8 MAX</td>
<td>99.0 x 24.0</td>
<td>3.3V / 3.0V</td>
<td>STN-Gray/FSTN</td>
</tr>
<tr>
<td>40x2</td>
<td>TSM4002A</td>
<td>182.0 x 33.5 x 14.0 MAX</td>
<td>135.1 x 16.0</td>
<td>3.3V / 3.0V</td>
<td>STN-Gray/FSTN</td>
</tr>
</tbody>
</table>

### COG LCD Module List

**TSD strong and competitive in custom design of passive COG modules in all dots arrangement**

### Custom LCD / LCM

**How to customize your LCD**

1. Project scope clarification
2. Fill TSD Requirements form
3. Engineering analysis
4. Cost Evaluation
5. Customer confirmation
6. Pre-drawing or specification
7. Customer confirmation
8. Sampling
9. Customer approval
10. Mass Production

**Air Cleaner Instrument, HTN Negative type with Surface four color printing**

**Fuel Dispenser Customized Segment**

- Long Life Time up to 150,000 hours
- TN LCD panel, Duty 1/1
- Super wide working Temp range: -40°C~+80°C
- Sunlight readable, Anti-UV, Anti-vibration
- High-brightness backlight

**Washing Machine, STN Negative type**

- Inset Touch key function
- Anti-vibration
- Anti-glare and high brightness
### Customized Requirements

**TS Display Basic requirements of LCD Module**

<table>
<thead>
<tr>
<th>Customer Information</th>
<th>Company:</th>
<th>Contact:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module size(WxHxT)=</td>
</tr>
<tr>
<td>Viewing Area(WxH)=</td>
</tr>
<tr>
<td>Active Area(WxH)=</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LCD Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character Type:</td>
</tr>
<tr>
<td>Graphics Type:</td>
</tr>
<tr>
<td>Segment Type:</td>
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</table>

<table>
<thead>
<tr>
<th>Display Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid Crystal:</td>
</tr>
<tr>
<td>Polarizer Mode:</td>
</tr>
<tr>
<td>Display Mode:</td>
</tr>
<tr>
<td>Viewing Angle:</td>
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</table>

<table>
<thead>
<tr>
<th>Backlight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
</tr>
<tr>
<td>Colour:</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Specified IC</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD driver( ):</td>
</tr>
<tr>
<td>Controller( ):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product form</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD panel[ ], COB (LCD module)[ ], COG[ ], COF[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connector:</th>
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<tbody>
<tr>
<td>Power[ ], Metal pin[ ], FPC[ ], FFC[ ], Heat seal[ ]</td>
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<table>
<thead>
<tr>
<th>Operating Temperature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to -50°C[ ], -10 to +60°C[ ], -20 to +70°C[ ], -30 to +80°C[ ]</td>
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<table>
<thead>
<tr>
<th>Operating Environment:</th>
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<tbody>
<tr>
<td>Outdoors[ ], Indoors[ ]</td>
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<table>
<thead>
<tr>
<th>Operating Voltage:</th>
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<tbody>
<tr>
<td>3V[ ], 3.3V[ ], 5V[ ], Other[ ]</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Application:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Please fill "[ ]" in the matched [ ] and your particular requirements in the ( ) and blank.
2. Please send us the draft diagram of LCD you need if you have.