



Product Specifications

90LM104S2F5B1F

Overview

This Open Frame Touchmonitor integrates AUO's 10.4" TFT LCD Panel and Promate's F-Series Driver Board in a reliable Mechanical Enclosure. It simplifies the design processes related to different aspects of creating a Display Solution and is suitable for a broad range of Industrial Applications.

Features

- Designed for Easy Integration
- Wide Range of Video Modes Supported
- Supports different Touch Technologies
- Rigid Mechanical Structure
- Optional Mounting Methods

Touchmonitor Product Specifications

Display Specifications	
Diagonal	10.4inch (264mm)
Optional Resolution	800 x 600 (SVGA)
Aspect Ratio	4 : 3
Display Active Area	Width: 211mm (8.3") Height: 158mm (6.2")
Supported Colors	16.2 Million Colors Up to 24bit
Response Time	30milliseconds
Viewing Angle	60 Up 80 Down 80 Left 80 Right
Brightness	400nits (Without Touch Sensor)
Contrast Ratio	500 : 1
Backlight Lamp Type	CCFL
Backlight Lamp Life	50,000 Hours to Half Brightness
Touch Specifications	
Resistive	320nits (4-Wire)
Capacitive	360nits (Optional)
Surface Acoustic Wave	360nits (Optional)
Interface	RS232 & USB
Video Specifications	
Input Format	Analog VGA, DVI
Input Signal Connector	D-Sub, DVI-D
Input Frequency	Horizontal: 30 ~ 80Hz Vertical: 56 ~ 75Hz
Power Specifications	
Power Supply	External AC Adapter
Input Connector	DC-Jack 2.5φ
Input Voltage	12VDC
Input Current	0.95Amps (Typical)
Power Consumption	44Watts (Typical) Under 3Watts (Standby) 0.62A(8.4") ~ 2.6A(19")
Power Protection	Heavy Current Prevention ESD Protection Fuse fitted
OSD Specifications	
User Controls	S1: Power Button S2: Auto Button S3: Right Button S4: Menu Button S5: Left Button
User Settings	Brightness, Contrast, Dimming, Sharpness, H/V Position, Auto Adjust, Auto Color, Color Temperature, Setup, VGA / DVI, Information
User Languages	Screen Settings, Language, OSD Settings, Audio, Recall English, French, German, Chinese, Russian
Others	
Speakers	2Channel x 2W (Optional)

Video Modes

Supported Resolutions	Refresh Rate
1680 x 1050	75Hz
1600 x 1200	60Hz
1440 x 900	60Hz
1366 x 768	60Hz
1360 x 768	60Hz
1280 x 1024	60Hz, 75Hz
1280 x 960	60Hz, 75Hz
1280 x 768	60Hz, 70Hz, 75Hz
1280 x 720	60Hz, 75Hz
1152 x 900	66Hz, 76Hz
1152 x 870	73Hz
1152 x 864	60Hz, 70Hz, 75Hz
1024 x 800	73Hz
1024 x 768	60Hz, 70Hz, 75Hz
832 x 624	75Hz
800 x 600	60Hz, 72Hz, 75Hz
720 x 400	70Hz
640 x 480	60Hz, 72Hz, 75Hz
640 x 350	70Hz

Environmental Specifications

Reliability	Criteria
Operating Temperature	0°C ~ 50°Celsius (32°F ~ 122°Fahrenheit)
Storage Temperature	-20°C ~ 60°Celsius (-4°F ~ 140°Fahrenheit)
Operating Humidity	5% ~ 95% Relative Humidity
Storage Humidity	5% ~ 95% Relative Humidity

Physical Specifications

Actual	
Enclosure Color	Grey
Overall Dimensions	Width: 270mm (10.6") Height: 190mm (7.2") Depth: 37mm (1.4")
Actual Weight	1.2 Kilograms (2.7 Pounds)
Mounting Options	Mounting Brackets 75mm VESA Mount 100mm VESA Mount
Shipping	
Packaging Dimensions	-
Shipping Weight	-

Other Specifications

Feature	Specification
Certifications	RoHS
MTBF	50,000 Hours
Warranty	1 Year



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TERMS AND CONDITIONS OF SALE

These Terms and Conditions of Sale apply to all items designed and/or made by Promate Electronics Company, LTD ("Promate"), and Buyer agrees they apply to all such items, unless a separate Agreement of Terms and Conditions has been mutually agreed upon and signed by both parties, at which time, the Separate Signed Terms and Conditions will supersede all terms and conditions listed hereof.

1 ACCEPTANCE OF TERMS. BUYER ACCEPTS THESE TERMS (i) BY WRITTEN ACCEPTANCE (BY PURCHASE ORDER OR OTHERWISE), OR (ii) BY FAILURE TO RETURN GOODS SUPPLIED BY PROMATE WITHIN 5 DAYS OF THEIR DELIVERY.

2 DELIVERY

- 2.1 Delivery will be made Free Carrier (Incoterms 1990), Promate's designated warehouse to a carrier designated in writing by Buyer, or if Buyer fails to designate a carrier, to a carrier designated by Promate.
2.2 Title to the goods and the entire risk will pass to Buyer upon delivery to carrier.
2.3 Shipments are subject to availability. Promate shall make every reasonable effort to meet the date(s) quoted or acknowledged; and if Promate makes such effort, PROMATE WILL NOT BE LIABLE FOR ANY DELAYS.

3 TERMS OF PAYMENT

- 3.1 Unless otherwise stated on Promate's quotation, all shipments shall be T/T in advance, by Letter of Credit at Sight, or pursuant to agreed prepayment terms. Promate reserves the right to change credit terms at any time in its sole discretion.
3.2 Buyer guarantees prompt payment of all obligations accrued pursuant to purchase orders issued by Buyer.

4 LIMITED WARRANTY

- 4.1 Promate warrants that the goods sold will be free from defects in material and workmanship and comply with Promate's applicable published specifications for a period of twelve (12) months from the date of Promate's shipment.
4.2 Goods or parts which have been subject to abuse (including without limitation repeated or extended exposure to conditions at or near the limits of applicable absolute ratings) misuse, accident, alteration, neglect, or unauthorized repair or improper application are not covered by any warranty. No warranty is made with respect to custom products or goods produced to Buyer's specifications (unless specifically stated in writing signed by Promate). Promate shall not be responsible for defects or claims caused by acts not performed by Promate; or by combination of goods with other things.
4.3 No warranty is made with respect to goods used in devices intended for use in applications where failure to perform when properly used can reasonably be expected to result in significant injury (including, without limitation, navigation, aviation, weaponry or nuclear equipment, or for surgical implant or to support or sustain life) and Buyer agrees to indemnify, defend, and hold harmless Promate from all claims, damages and liabilities arising out of any such uses.
4.4 This Article 4 is the only warranty by Promate with respect to goods and may not be modified or amended except in writing signed by an authorized officer of Promate.
4.5 Buyer acknowledges and agrees that it is not relying on any applications, diagrams or circuits contained in any literature, and Buyer will test all parts and applications under extended field and laboratory conditions. Notwithstanding any cross-reference or any statements of compatibility, functionality, interchangeability, and the like, the goods may differ from similar goods from other vendors in performance, function or operation, and in areas not contained in the written specifications, or as to ranges and conditions outside such specifications; and Buyer agrees that there are no warranties and that Promate is not responsible for such things.
4.6 REGARDLESS OF CAUSE OR REASON FOR DAMAGE (WHETHER ACCIDENT, NEGLIGENCE, OR OTHERWISE) PROMATE SHALL HAVE NO LIABILITY (DIRECT, CONSEQUENTIAL OR OTHER) FOR, IN CONNECTION WITH OR ARISING FROM PROPERTY FURNISHED FOR USE AT OR LEFT AT PROMATE; and by delivering or entrusting property to Promate, Buyer expressly confirms this limitation. Notwithstanding this limitation, Promate will replace, or pay the reasonable retooling costs to replace, masks damaged or destroyed as a result of Promate's gross negligence or fault.
4.7 EXCEPT AS PROVIDED ABOVE, PROMATE MAKES NO WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, OR STATUTORY; AND PROMATE EXPRESSLY EXCLUDES AND DISCLAIMS ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OR APPLICATION.

5 LIMITATION OF LIABILITY

- 5.1 Promate will not be liable for any loss, damage or penalty resulting from causes beyond its reasonable control, including but not limited to delay by others, force majeure, acts of God, material shortage or labor conditions. In any such event, the date(s) for Promate's performance will be deemed extended for a period equal to any delay resulting.
5.2 THE LIABILITY OF PROMATE ARISING OUT OF THIS AGREEMENT OR ANY GOODS SOLD WILL BE LIMITED TO REFUND OF THE PURCHASE PRICE OR (WITH PROMATE'S PRIOR WRITTEN CONSENT) REPAIR OR REPLACEMENT OF PURCHASED GOODS (RETURNED TO PROMATE FREIGHT PRE-PAID); OR IN THE EVENT OF A FAILURE OR BREACH BY PROMATE REGARDING DELIVERY, AN AMOUNT EQUAL TO THE TOTAL PURCHASE PRICE OF THE GOODS THAT HAVE NOT BEEN DELIVERED DUE TO SUCH FAILURE.
5.3 Buyer will not return any goods without first obtaining a customer return order number.
5.4 AS A SEPARATE LIMITATION, IN NO EVENT WILL PROMATE BE LIABLE (i) FOR COSTS OF SUBSTITUTE GOODS, (ii) FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, RELIANCE OR INDIRECT DAMAGES, OR (iii) FOR LOSS OF USE, OPPORTUNITY, MARKET POTENTIAL, GOODWILL AND/OR PROFIT ON ANY THEORY (CONTRACT, TORT, FROM THIRD PARTY CLAIMS OR OTHERWISE). THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OR OF ANY FAILURE OR INADEQUACY OF ANY REMEDY. THIS AGREEMENT STATES THE ONLY AND EXCLUSIVE REMEDY FOR ANY AND ALL CLAIMS MADE AGAINST PROMATE UNDER ANY AGREEMENT AND/OR WITH RESPECT TO PANELS, COMPONENTS, SERVICES AND/OR GOODS.
5.5 No action or proceeding may be commenced by either party against the other (other than to collect money due for goods delivered or services rendered), whether for breach, indemnification, contribution or otherwise, more than one year after delivery of the goods to the carrier; and no claim may be brought unless the non-claiming party has first been given commercially reasonable notice, a full written explanation of all pertinent details (including copies of all materials), and a good faith opportunity to resolve the matter.
5.6 BUYER EXPRESSLY AGREES TO THE LIMITATIONS OF ARTICLES 5, 8 AND 9 AND TO THEIR REASONABLENESS.
5.7 The exclusions and limitations of Articles 5, 8 and 9 will survive the termination of the applicable Agreements, and shall apply notwithstanding any claim of a failure of any one or more remedies to accomplish their purpose, and THE PARTIES EXPRESSLY WAIVE AND RELINQUISH ANY CONTRARY RIGHTS UNDER ANY AGREEMENT, AND/OR LAW, DECISION, CUSTOM OR PRACTICE.

6 SUBSTITUTIONS AND MODIFICATIONS

Promate may at any time make substitutions for product ordered which do not materially and adversely affect overall performance with the then current specifications in the typical and intended use. Promate reserves the right to halt deliveries and shipments and alter specifications and prices without notice. Buyer shall verify that the literature and information is current before purchasing. Other changes to process and/or specifications by Promate shall be pursuant to Promate's standard ECN procedures.

7 CANCELLATION

- 7.1 This Agreement may not be canceled by Buyer except with written consent by Promate and Buyer's payment of reasonable cancellation charges (including but not be limited to expenses already incurred for labor and material, overhead, commitments made by Promate, and a reasonable profit).
7.2 In no event will Buyer have rights in partially completed goods.

8 INDEMNIFICATION

- 8.1 Promate will, at its own expense, assist Buyer with technical support and information in connection with any claim that any parts as shipped by Promate under this purchase order infringe any valid, enforceable, unexpired R.O.C. patent, copyright, or trademark, provided however, that Buyer (i) gives immediate written notice to Promate, (ii) permits Promate to participate and to defend if Promate requests to do so, and (iii) gives Promate all needed information, assistance and authority. However, Promate will not be responsible for infringements resulting from anything not entirely manufactured by Promate, or from any combination with products, equipment, or materials not furnished by Promate. Promate will have no liability with respect to intellectual property matters arising out of products made to Buyer's specifications, code, or designs.
8.2 Except as expressly stated in this Article 8 or in another writing signed by an authorized officer, Promate makes no representations and/or warranties with respect to intellectual and/or industrial property and/or with respect to claims of infringement.
8.3 Except as to claims Promate agrees in writing to defend, BUYER WILL INDEMNIFY, DEFEND AND HOLD HARMLESS PROMATE FROM ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING ATTORNEYS FEES) AGAINST AND/OR ARISING OUT OF GOODS SOLD AND/OR SHIPPED HEREUNDER.

9 NO CONFIDENTIAL INFORMATION

Promate shall have no obligation to hold any information in confidence except as provided in a separate non-disclosure agreement signed by both parties.

10 ENTIRE AGREEMENT

These terms and conditions are the entire agreement between Promate and Buyer, and no addition, deletion or modification shall be binding on Promate unless expressly agreed to in a writing signed by an officer of Promate. Buyer is not relying upon any warranty or representation except for those specifically stated here.

11 APPLICABLE LAW

This Agreement and all performance and disputes arising out of or relating to goods involved will be governed by the laws of Taiwan, Republic of China, without reference to conflict of laws principles and excluding the U.N. Convention on Contracts for the International Sale of Goods. Buyer agrees at its sole expense to comply with all applicable laws in connection with the purchase, use or sale of the goods provided hereunder.

12 DISPUTE RESOLUTION

- 12.1 Buyer and Promate shall cooperate and attempt in good faith to resolve any and all disputes arising out of and/or relating to this Agreement and/or goods furnished pursuant to this Agreement.
12.2 Any disputes relating to and/or arising out of any Agreement and/or goods furnished pursuant to this Agreement that cannot be so resolved will be decided exclusively by binding arbitration. Such arbitration shall take place in Taipei, Taiwan pursuant to the Rules for International Arbitration under the American Arbitration Association.
12.3 Notwithstanding anything to the contrary, any party may apply to any court of competent jurisdiction for interim injunctive relief with respect to irreparable harm which cannot be avoided and/or compensated by such arbitration proceedings, without breach of this Article 12 and without any abridgment of the powers of the arbitrators.

13 ATTORNEYS' FEES

Reasonable attorneys' fees and costs will be awarded to the prevailing party in the event of litigation involving the enforcement or interpretation of this Agreement.

ALL RIGHTS STRICTLY RESERVED. ANY PORTION OF THIS PAPER SHALL NOT BE REPRODUCED, COPIED, OR TRANSFORMED TO ANY OTHER FORMS WITHOUT PERMISSION FROM PROMATE ELECTRONIC CO., LTD.