

# WOP-2121V

## 12.1" SVGA Operator Panel with PM Designer 2.0 Software



### Features

- Various LCD sizes (3.5", 5.7", 7", 8", 10.4", 12.1")
- Supports ARM9-based CPUs with 70~200MHz and 4~16M flash memory size
- Supports RTC, battery backup RAM, and Ethernet-based operator panels
- Supports runtime data downloads through Serial, Ethernet, USB
- Supports adjustable brightness controls via touch panel
- Reliable firmware for 24/7 operation
- Supports Windows XP/Vista-based PM Designer 2.0 development tool
- Easy to switch one application to different LCD sizes in seconds
- Supports vertical and horizontal application screen rotation
- Supports over 250 PLC industrial communication protocols
- Communicates with up to four types of devices
- Panel mounting for machinery

### Introduction

To satisfy the stringent standards required in the automation market, especially packaging, label slitting, and motion-based robot dispensing, Advantech offers the WOP-2000 series which are designed with ARM9-based RISC CPU with 70~200MHz and 4~16MB flash memory size for application software. The WOP-2000 series also support a variety of LCD size from 3.5" to 12.1" for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. PM Designer 2.0 is a software development kit which helps create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory. The WOP-2000 series is bundled with PM Designer 2.0 offering an outstanding price performance ratio for various markets such as conventional operator panels, HMI + Low mini SCADA systems, and HMI + communication gateways.

### Specifications

#### General

- **Certifications** CE / FCC / BSMI / UL / CCC
- **Dimensions (WxHxD)** 315 x 241 x 54.5 mm (12.4" x 9.48" x 2.14")
- **Cut-out Dimensions** 301.5 x 228 mm (11.87" x 8.97")
- **Front Panel Thickness** 6mm
- **Operating System** HMI RTOS, PM Designer 2.0
- **Power Supply Voltage** 24V<sub>DC</sub> ±10%
- **Power Consumption** 25W
- **Enclosure Housing** Plastic
- **Mounting** Panel
- **Weight (Net)** 1.55 kg (3.41 lbs)

#### System Hardware

- **CPU** RISC 32bits, 200MHz
- **Battery Backup Memory** 128KB
- **Flash Memory** 16MB
- **Power-On LED** Yes
- **Communication LED** COM1, COM2 and COM3
- **Front USB Access** No

#### Communication Interface

- **COM1** RS-232/422/485 (DB9 Female)
- **COM2** RS-232/422/485 (DB9 Male & 5-Pin Plug Connector)
- **COM3** RS-232 (6-Pin Plug Connector)
- **Ethernet (RJ45)** 10/100-BaseT
- **I/Os**
  - USB Client Yes
  - USB Host No
  - Micro-SD Slot No

#### LCD Display and Touchscreen

- **Display Type** SVGA TFT LCD
- **Display Size** 12.1"
- **Max. Resolution** 800 x 600
- **Max. Colors** 65,536 colors
- **Luminance (cd/m<sup>2</sup>)** 350
- **Viewing Angle (H/V°)** 130/110
- **Backlight Life** CCFL, 30,000
- **Dimming** Adjustable by touch panel
- **Touchscreen** 8 wire analog resistive

#### Environment

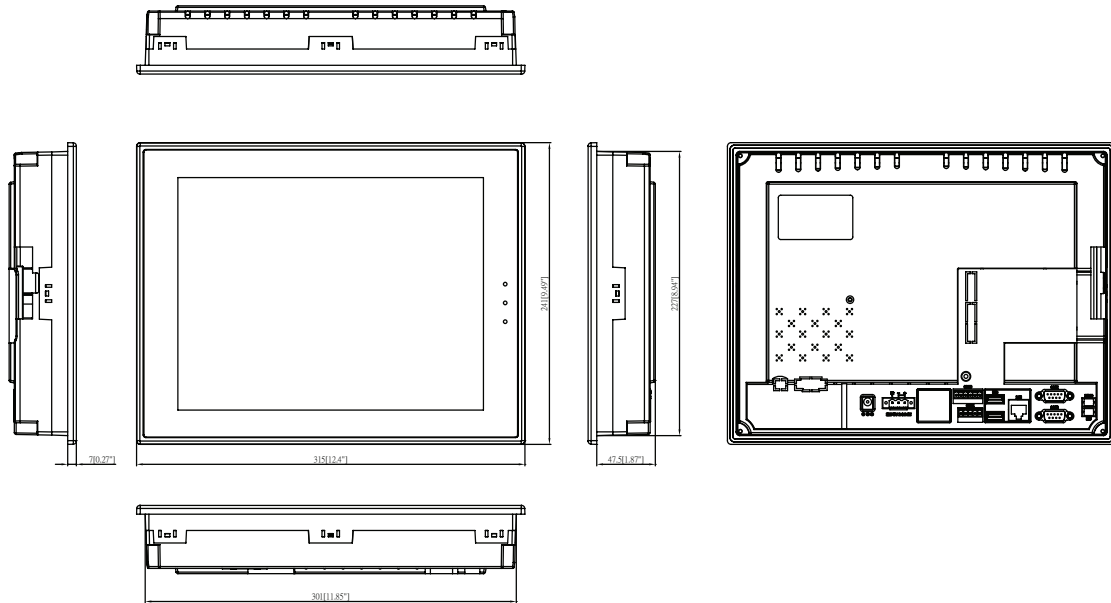
- **Operating Temperature** 0 ~ 50° C (32 ~ 122° F)
- **Storage Temperature** -20 ~ 60° C (-4 ~ 140° F)
- **Humidity** 10 ~ 95% RH @ 40° C, non-condensing
- **Ingress Protection** Front panel: NEMA4, IP65
- **Vibration Protection** Operating, random vibration 1 Grms (5 ~ 500 Hz)

### Ordering Information

- **WOP-2121V-N4AE** 12.1" SVGA, 16MB, RS-232/422/485, Ethernet

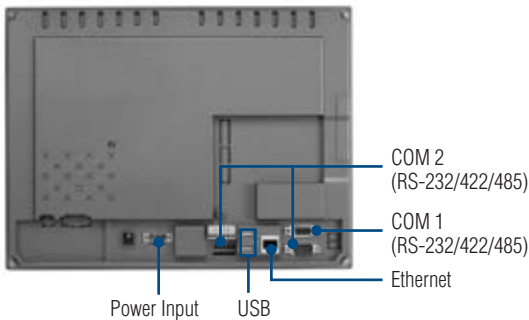
**Dimensions**

Unit: mm



**Panel Cut-out Dimensions: 301.5 x 228 mm (11.87" x 8.97")**

**Rear View**



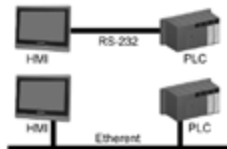
**HMI Development Software Features**



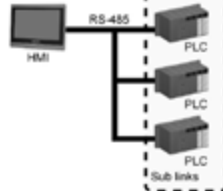
**Communication Links**

**Direct Link**

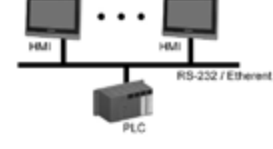
**1-to-1 Connection**



**1-to-N Connection**

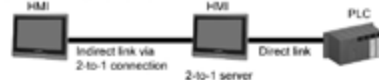


**N-to-1 Data Sharing Connection**

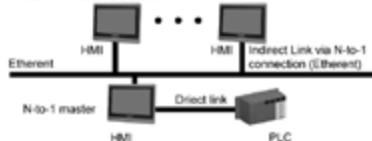


**In-Direct Link**

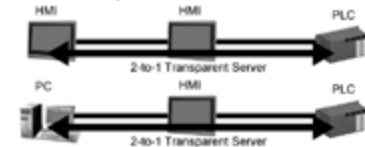
**2-to-1 Connection**



**N-to-1 Connection**



**2-to-1 Transparent Connection**



- 1 Operator Panels
- 2 Fanless Panel PCs
- 3 Panel Computers
- 4 Display Solutions
- 5 Ethernet Switches
- 6 Device Servers
- 7 Serial Comm. Cards
- 8 Video Surveillance
- 9 Pre-Configured Systems

- 10 IPC Chassis
- 11 SBCs and Backplanes
- 12 Industrial Motherboards
- 13 Embedded IPCs
- 14 Mobile Computers
- 15 IPC Peripherals
- 16 DAQ
- 17 Signal Conditioning
- 18 USB DAQ