

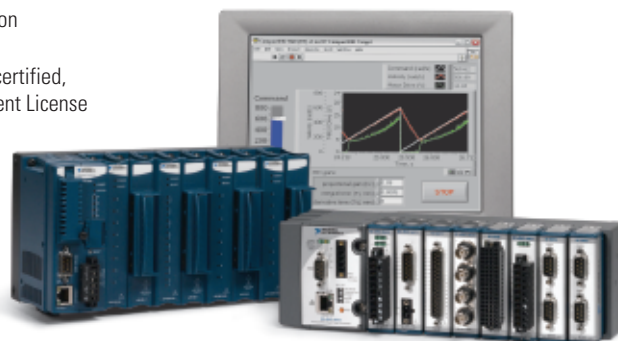
# Industrial Windows CE Touch Panel Computer

## NI TPC-2012

- 12.1 in. SVGA TFT LCD touch screen with 800 x 600 resolution
- GX3 LX800 500 MHz
- 256 MB DDR SDRAM memory and 128 MB CompactFlash storage
- Communication ports
  - 2 Hi-Speed USB
  - 1 Ethernet (10/100BaseT)
  - 3 RS232
  - 1 RS232/485
  - Keyboard/mouse PS2
  - NEMA4/IP65-compliant front panel

### Software

- Windows CE.NET 5.0 installed on 128 MB CompactFlash
- LabVIEW Touch Panel Module certified, with one Touch Panel Deployment License



## Overview

The National Instruments TPC-2012 touch panel computer features a 12.1 in. high-quality SVGA LCD touch screen with 800 x 600 resolution. The NI TPC-2012 offers a 500 MHz AMD GX3 processor and 256 MB DDR SDRAM, providing a powerful processor for human machine interface (HMI) graphics and shared variable communication. The system comes with Windows CE installed on a 128 MB CompactFlash storage card. The built-in 10/100 Ethernet port offers TCP/IP and Modbus TCP/IP communication using NI LabVIEW shared variables, TCP/IP VIs, or the Modbus LabVIEW library. The two USB ports provide connectivity for external memory, keyboard, and mouse.

## LabVIEW for HMI Development

The TPC-2012 works with the LabVIEW Touch Panel Module and includes one Touch Panel Deployment license. LabVIEW offers an integrated graphical development environment for creating embedded programs for real-time hardware using the LabVIEW Real-Time Module. Or you can download code directly to FPGAs using the LabVIEW FPGA Module and then easily add an on-machine or local HMI with the LabVIEW Touch Panel Module and a Windows CE touch panel computer. You can easily add Windows CE targets such as the TPC-2012 and TPC-2006 to a LabVIEW Project, create host-shared variables on any LabVIEW Real-Time target, and drag them from the LabVIEW Project to the HMI application.

## Software Configuration Utilities

The TPC-2012 runs the Windows CE.NET OS and comes with configuration and remote access utilities installed. These utilities include an IP address configurator, configuration for FTP and other utilities over a Web server, and *Remote Display*, which works in conjunction with the Windows CE Remote Display Host application, so you can remotely control the TPC-2012 from a host PC STE.

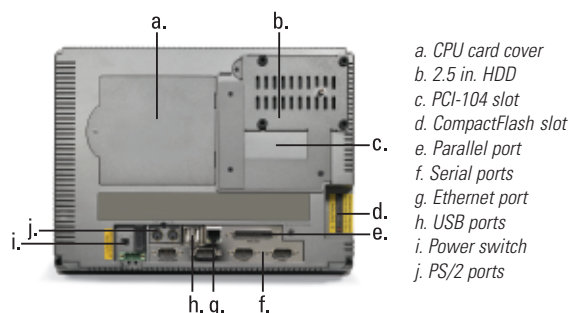


Figure 1. TPC-2012 Connectivity

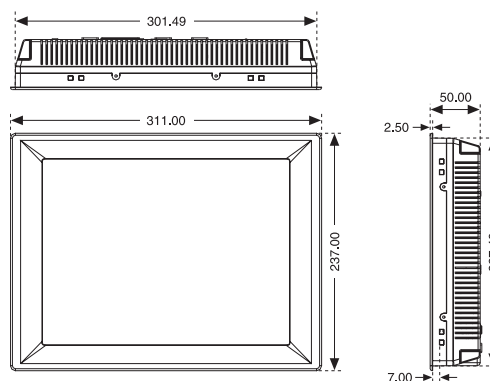


Figure 2. TPC-2012 Dimensions (mm)

### Typical System Configurations

#### Communication Options with LabVIEW

With the LabVIEW Touch Panel Module, you have several options for communication between the TPC-2012 STE and NI programmable automation controllers (PACs) and third-party PLCs including:

- Shared variables over Ethernet
- Native LabVIEW TCP/IP, serial, SMTP, or UDP
- Modbus TCP/IP or Modbus ASCII over Ethernet or serial

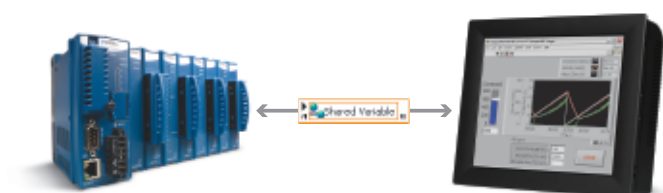


Figure 3. Shared-Variable Communication between NI PACs and a Touch Panel Computer



Figure 4. Standard TCP/IP Communication with Native LabVIEW TCP/IP VIs

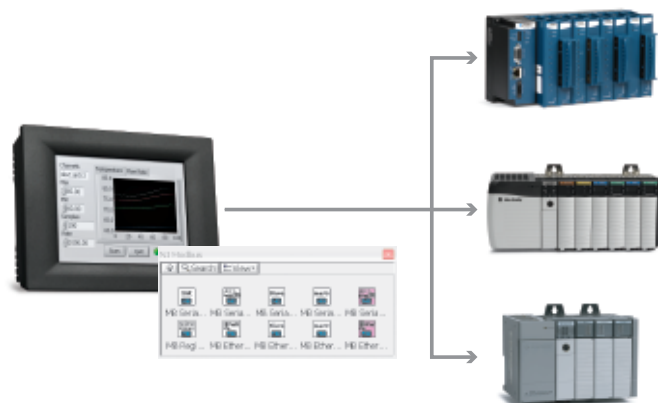


Figure 5. Modbus TCP/IP or ASCII Communication between a Touch Panel Computer and PLCs, RTU, or Modbus I/O

With this wide range of communication options, you can select the best method for your application. The LabVIEW shared variable offers the easiest solution for communication over Ethernet and shortens development time so you can build a quick and powerful user interface. For more advanced programming requirements, use the native LabVIEW TCP/IP or UDP VIs to develop more refined Ethernet-based communication or add e-mailing capabilities with built-in LabVIEW SMTP e-mail VIs. Connect to external serial devices using one of the four RS232 ports. For connectivity to Modbus PLCs or RTU controllers, use the LabVIEW Modbus Library to easily communicate between a touch panel computer and a PLC through the industry-standard Modbus protocol over Ethernet or serial.

#### Ordering Information

NI TPC-2012 .....779861-01  
Includes one Touch Panel Deployment License.

#### Related Products

NI TPC-2006<sup>1</sup> .....779561-01  
NI PS-5 Power Supply<sup>2</sup> .....778805-90  
NI LabVIEW Touch Panel Module .....779708A-09

<sup>1</sup>Includes one Touch Panel Deployment License.

<sup>2</sup>The PS-5 is recommended; the TPC-2012 requires 60 W.

#### BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to [ni.com/hmi](http://ni.com/hmi).

# Industrial Windows CE Touch Panel Computer

## Specifications

### System Components

Processor .....	500 MHz GX3 LX800
Memory .....	256 MB DDR SDRAM
Storage .....	128 MB CompactFlash
I/O ports	
10/100BaseT Ethernet .....	1
Hi-Speed USB .....	2
RS232 .....	3
RS485 .....	1
PS/2 keyboard/mouse .....	1
OS .....	Windows CE.NET 5.0

### Display

Description .....	SVGA TFT LCD
Resolution .....	800 x 600
Size .....	12.1 in.
Viewing angle .....	100 deg
Luminance .....	340 (cd/m <sup>2</sup> )
Max colors .....	256 K
Backlight life .....	50,000 h
Touch screen .....	8-wire, analog resistive
Touch screen lifespan .....	1 million touches at single point
MTBF .....	47,492 h (Belcore)

### Power Requirement

18 to 32 VDC .....	60 W peak
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### Physical

Dimensions (h x w x d) .....	311 by 237 by 50 mm (12.24 by 9.33 by 1.97 in.)
Mounting .....	Panel (standard)
Weight .....	2.2 kg (4.84 lb)

### Environmental

Ingress protection .....	Front panel NEMA4/IP65
Operating temperature .....	0 to 50 °C (32 to 122 °F)
Storage temperature .....	-20 to 70 °C (-4 to 122 °F)
Relative humidity .....	10 to 95% @ 40 °C (noncondensing)
Vibration, operating .....	2 g <sub>rms</sub>
Altitude .....	2000 m

### Safety and EMC/EMI Compliance

EMC/EMI .....	CE, FCC Part 15 Class A
Ratings .....	NEMA Type 4, IP65
Safety .....	UL, BEMI, CCC

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