12 in. Industrial Touch Panel Computer

NI TPC-2512 *NEW!*

- 12.1 in. SVGA TFT color LCD touch screen with 800 x 600 resolution
- 500 MHz AMD LX800 processor
- 512 MB DDR SDRAM memory
- NEMA4/IP65-compliant front panel

Communication Ports

- 2 Hi-Speed USB ports
- 1 Ethernet (10/100BASE-T)
- 4 serial ports (3 RS232 and 1 RS232/485)
- PS2 keyboard/mouse

NI Hardware Support

- USB data acquisition (DAQ)
- NI CompactDAQ
- NI PACs: CompactRIO, NI Single-Board RIO, Compact FieldPoint, and PXI

Installed Software Support

- Windows XP Embedded on a 4 GB CompactFlash card
- NI-DAQmx 8.7.2 for NI USB DAQ devices
- Hardware Touch Panel Deployment License

Overview

The NI TPC-2512 touch panel computer (TPC) features a 12.1 in. high-quality 800 x 600 SVGA LCD touch screen. It offers a 500 MHz AMD GX3 processor and 512 MB SDRAM, and is shipped with a 4 GB CompactFlash storage device with Windows XP Embedded. The TPC-2512 is certified to work with the NI LabVIEW Touch Panel Module. For data acquisition systems, the TPC-2512 includes NI-DAQmx components for USB data acquisition devices.

Touch Panel Computer Hardware Support

The TPC-2512 comes with NI-DAQmx 8.7.2 installed for out-of-the-box connectivity to NI CompactDAQ and all NI USB DAQ devices compatible with NI-DAQmx. Support for shared variables as both a host and client plus Modbus TCP/IP or standard TCP/IP makes the TPC-2512 an ideal human machine interface (HMI) for NI programmable automation controllers (PACs) including CompactRIO, NI Single-Board RIO, Compact FieldPoint, and PXI real-time controllers. It provides a wide range of connectivity options including the following:

- 10/100BASE-T Ethernet for connectivity to NI PACs
- Two Hi-Speed USB ports for NI CompactDAQ and USB DAQ
- Four serial ports (three RS232 and one RS232/485)

LabVIEW for HMI Development

The TPC-2512 works with the LabVIEW Touch Panel Module and includes one Touch Panel Deployment License. From the LabVIEW Project, you can detect new TPC-2512 devices over Ethernet and then update IP settings and add the device to your project (see Figure 1). LabVIEW offers a single HMI and logic development environment for creating user interfaces and embedded programs for real-time hardware using the LabVIEW Real-Time Module.

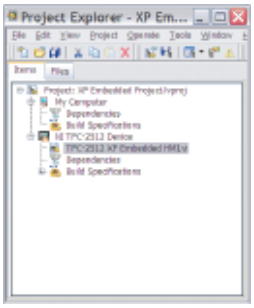
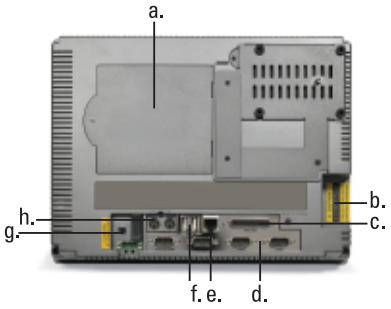


Figure 1. LabVIEW Project with NI TPC-2512



a. CPU card cover
b. CompactFlash slot
c. Parallel port
d. Serial ports
e. Ethernet port
f. USB ports
g. Power switch
h. PS/2 ports

Figure 2. TPC-2512 Connectivity

Hardware	LabVIEW Touch Panel Module 8.6							
	Operating System	Shared Variables	TCP/IP and UDP	NI-DAQmx	NI-DAQmx Base	Modbus	NI-VISA RS232	Serial-Compatible VIs (RS232/RS485)
TPC-2106/T (ARM)	Windows CE	Client	✓	–	✓ [1,2]	TCP/IP and ASCII	✓	✓
TPC-2012 (x86)	Windows CE	Client	✓	–	✓ [2]	TCP/IP and ASCII	✓	✓
TPC-2512 (x86)	Windows XP Embedded	Host and client	✓	✓ [2]	–	TCP/IP and ASCII	✓	✓

[1]The TPC-2106/T supports only USB DAQ devices that are USB 1.1 compatible
[2]LabVIEW 8.6 and NI-DAQmx 8.7.2 or NI-DAQmx Base 3.2 or later are required

Table 1. NI Touch Panel Computer Driver Compatibility

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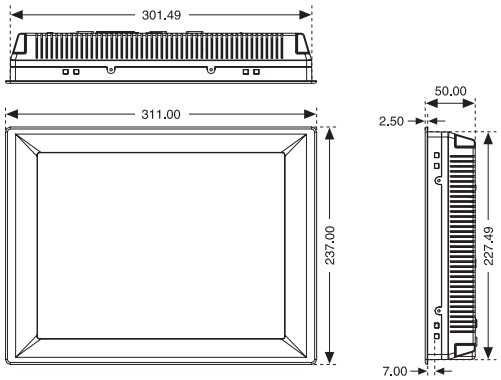

Figure 3. TPC-2512 Dimensions (mm)

Typical System Configurations

With the LabVIEW Touch Panel Module, you have several options for communication between the TPC-2512, NI USB DAQ devices, NI PACs, and third-party programmable logic controllers (PLCs) including:

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

Industrial Windows CE Touch Panel Computer

Figure 4. Shared-Variable Communication between NI PACs and a Touch Panel

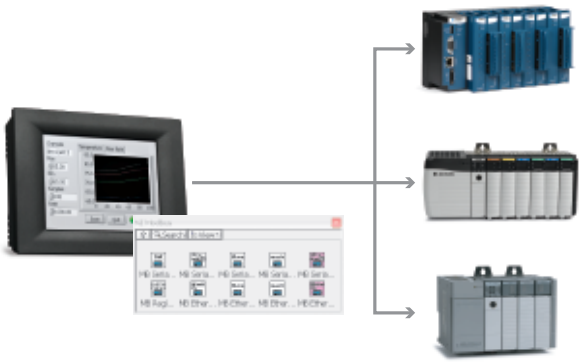

Figure 5. Modbus TCP/IP or ASCII Communication between a Touch Panel Computer and PLCs, RTU, or Modbus I/O

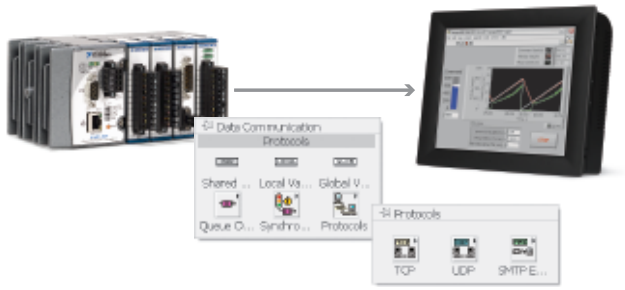

Figure 6. Standard TCP/IP Communication with Native LabVIEW TCP/IP VIs

With this wide range of communication options, you can select the best communication 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 powerful user interface. For more advanced programming requirements, use the native LabVIEW TCP/IP or UDP VIs to develop Ethernet-based communication or add e-mailing capabilities with built-in LabVIEW SMTP e-mail VIs. For connectivity to Modbus PLCs or RTU controllers, use the LabVIEW Modbus Library to easily communicate between a TPC and a PLC through the industry-standard Modbus protocol over Ethernet or serial.

Ordering Information

NI TPC-2512 with Windows XP Embedded 780541-01
Includes one Touch Panel Deployment License.

Related Products

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

NI PS-5 Power Supply 778805-90

NI LabVIEW Touch Panel Module 779708A-09

BUY NOW!

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

Specifications

System Components

Processor	500 MHz GX3 LX800
Memory	512 MB DDR SDRAM
Storage	4 GB CompactFlash
I/O ports	
10/100BASE-T Ethernet	1
Hi-Speed USB	2
RS232	3
RS485	1
PS/2 keyboard/mouse	1
OS	Windows XP Embedded

Display

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

Power Requirement

18 to 32 VDC	60 W peak

Physical

Dimensions (h by w by d)	237 by 311 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_{rms}
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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