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Find the *National Instruments TPC-2106T* at our website: *Click HERE*

Industrial Windows CE Touch Panel Computers

NI TPC-2106, NI TPC-2106T *NEW!*

- 416 MHz Intel XScale Processor
- 64 MB SDRAM and CompactFlash 2.0 expansion slot
- Windows CE 5.0 OS
- 1 Touch Panel Deployment License

Display

- TPC-2106 – STN LCD display
- TPC-2106T – improved contrast and luminance TFT LCD display

Connectivity

- 1 Ethernet (10/100BaseT)
- 3 serial ports (2 RS232 and 1 RS485)
- 2 USB 1.1 ports (1 host, 1 client)

Mounting and Certifications

- Panel-mount brackets included
- NEMA4/IP65-compliant front panel
- Extended temperature range to 50 °C
- CE, FCC, and UL certifications



Features	TPC-2106	TPC-2106T
LCD display	STN LCD	TFT LCD
LCD screen size	5.7 in.	5.6 in.
Display resolution	320 x 240	320 x 234
Contrast ratio	55 to 1	400 to 1
Luminance	400 cd/m^2	500 cd/m^2

Table 1. TPC-2106 and TPC-2106T Display Comparison

Overview

National Instruments TPC-2106 and TPC-2106T touch panel computers (TPCs) provide an industrial touch panel display with a 416 MHz XScale processor, rugged solid-state hard drives, and an embedded Windows CE operating system. TPC-2106/T products run Windows CE OS preloaded in the onboard 64 MB solid-state (flash) memory. The systems offer one Ethernet, two USB 1.1 ports, and three serial ports for connectivity.

The TPC-2106 and TPC-2106T both work with the NI LabVIEW Touch Panel Module and appear as targets in the LabVIEW 8.5 Project. The two devices are binary compatible so you can exchange code easily between them without recompiling the executable. Add a human machine interface (HMI) to your NI programmable automation controller (PAC) using the LabVIEW Touch Panel Module to deploy LabVIEW to an embedded Windows CE HMI.

Compact Design

A TPC-2106/T features a small, rugged compact design that is well-suited for applications where space is limited. The 5.6 or 5.7 in. color display with touch screen includes antiglare NEMA4/IP65 glass. Both TPCs offer the same physical dimensions when mounted; feature high shock, vibration, and temperature ratings; and meet global safety standards and agency certifications.

HMI Development with the LabVIEW Touch Panel Module

The LabVIEW Touch Panel Module is an extension of the LabVIEW graphical development environment, which you can use to quickly create, build, and deploy HMIs. With the LabVIEW 8.5 Touch Panel Module, simply select your TPC target, choose a template for development, and deploy over Ethernet using the run button.

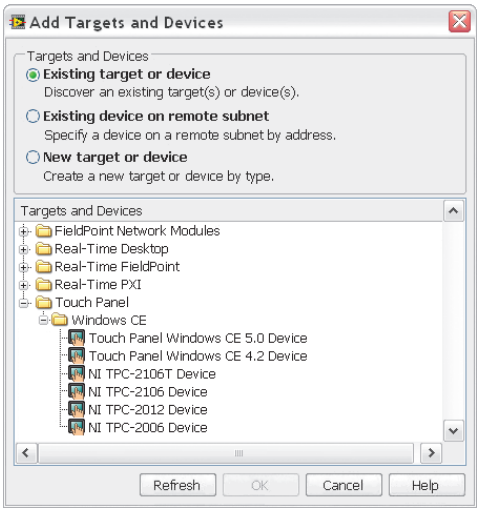


Figure 1. Select Targets and Devices in the LabVIEW 8.5 Touch Panel Module

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Remote Display Software

A TPC-2106/T includes remote display software already installed on the TPC when it is shipped. To view the entire screen and interact through your PC with the embedded touch panel computer, simply install the free host program and connect to the hardware. From the Windows CE start menu, select the Remote Display application and enter the IP address of the host PC. With the Remote Display function, you can quickly interact with the embedded touch panel hardware using your PC keyboard, mouse, and screen.

Communication Options between TPCs and PACs

A TPC-2106/T supports a wide range of communication options to exchange variables with PACs and programmable logic controllers (PLCs).

		LabVIEW 8.5 Touch Panel Module				
		Shared Variables	TCP/IP and UDP	Modbus	NI Serial	NI-VISA
Hardware	TPC-2106/T	Client	✓	TCP/IP and ASCII	✓	✓
	TPC-2012	Client	✓	TCP/IP and ASCII	✓	✓

Table 2. TPC-2106/T Communication Options

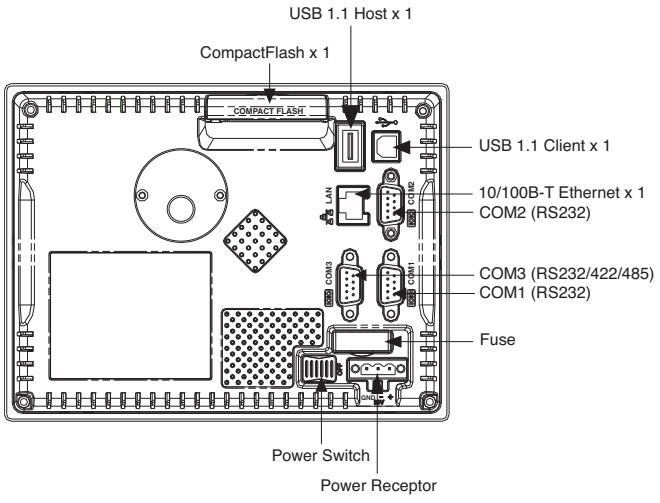


Figure 2. Rear View of a TPC-2106/T

NEMA4 and IP65 Industrial Ratings

NI HMIs feature a NEMA4 and IP65 industrial-rated front panel. When these systems are panel mounted in a NEMA4 or IP65 industrial enclosure, they are capable of withstanding the ingress of dust and water jets. The NEMA4/IP65 rating makes these systems ideal for harsh environments on the factory floor, in industrial plants, and for pharmaceuticals.

Open Flexible Platform

A TPC-2106/T features an open, extensible architecture based on industry standards. Featuring Windows CE and standard communication buses (RS232/422/485, USB, and Ethernet), a TPC-2106/T can be quickly and easily configured to address requirements beyond traditional HMI applications. When combined with the LabVIEW Touch Panel Module graphical development environment and rugged, industrial PACs, a TPC-2106/T provides a fully integrated solution for machine automation and other industrial applications.

Typical Applications

HMI for PAC-Based Control Systems with NI Compact FieldPoint

A TPC-2106/T provides an operator interface for all NI PACs, including Compact FieldPoint, CompactRIO, real-time PXI, and Compact Vision System.

HMI for PAC-Based Machine Control Systems with NI CompactRIO

For embedded machine control systems with CompactRIO, a TPC-2106/T is ideal as a local operator interface to provide input and feedback to the CompactRIO machine control unit. A TPC-2106/T functions as the local HMI for CompactRIO, as shown in Figure 3.



Figure 3. Touch Panel Display for Embedded Machine Control with CompactRIO

HMI Operator Interface for PAC-Based Control Systems with Compact FieldPoint for Real-Time Controller or Distributed I/O

Featuring a compact package, solid-state design, and touch panel interface, a TPC-2106/T is ideally suited for operator interfaces for embedded control systems with all PACs including Compact FieldPoint. A TPC-2106/T functions as the local HMI for embedded real-time control applications with Compact FieldPoint, as shown in Figure 4.

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Figure 4. Touch Panel Display for Compact FieldPoint Connected over Ethernet

Ordering Information

NI TPC-2106 780028-01
NI TPC-2106T 780029-01
NI LabVIEW Touch Panel Module 779708-09

Accessories

PS-5 Power Supply 778805-90
Touch Panel Deployment License[1] 779708-01

[1] Each TPC-2106/T includes one Touch Panel Deployment License.

BUY NOW!

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

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Specifications

System Components

Processor	416 MHz Intel XScale
Memory	64 MB SDRAM
Storage	64 MB flash
Memory expansion	1 CompactFlash slot
I/O ports	3 serial ports (2 RS232 and 1 RS485); 1 USB 1.0; 1 10/100BaseT Ethernet
OS	Windows CE 5.0 or later

Display

Description	
TPC-2106	STN color LCD
TPC-2106T	TFT transflective color LCD
Size	
TPC-2106	5.7 in.
TPC-2106T	5.6 in.
Touch screen	Analog resistive with tempered glass
Resolution	
TPC-2106	320 x 240 (256 colors)
TPC-2106T	320 x 234 (256 colors)
Viewing angle	
TPC-2106	100 deg (H), 55 deg (V)
TPC-2106T	100 deg (H), 60 deg (V)
Contrast ratio	
TPC-2106	55 to 1
TPC-2106T	400 to 1
Luminance	
TPC-2106	400 (cd/m^2)
TPC-2106T	500 (cd/m^2)

Power Requirement

Maximum power consumption	20 W
Input range	18 to 32 VDC

Physical

Dimensions (h by w by d)	148 by 195 by 44.4 mm (5.83 by 7.68 by 1.75 in.)
Gross weight	0.8 kg (1.76 lb)
Mounting	Panel (standard)

Environmental

Operating temperature	0 to 50 °C (32 to 122 °F)
Storage temperature	-20 to 70 °C (-4 to 158 °F)
Ingress protection	Front panel: NEMA4, IP65
Relative humidity	10 to 95% @ 40 °C (noncondensing)
Vibration, operating	1 g_{rms}

Safety and EMC/EMI Compliance

Safety

This product is designed to meet the requirements of the following standards of safety for information technology equipment:

- IEC 60950-1, EN 60950-1
- UL 60950-1, CSA 60950-1

Note: For UL and other safety certifications, refer to the product label or visit **ni.com/certification**, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

This product is designed to meet the requirements of the following standards of EMC for electrical equipment for measurement, control, and laboratory use:

- EN 55024, CISPR 24 EMC requirements
- EN 55022, CISPR 22 Emissions; Class A
- EN 55011, CISPR 11 Emissions; Class A
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A

Note: For EMC compliance, operate this device according to product documentation.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EEC; Electromagnetic Compatibility Directive (EMC)

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