

# 2500 Series® HMI Panels

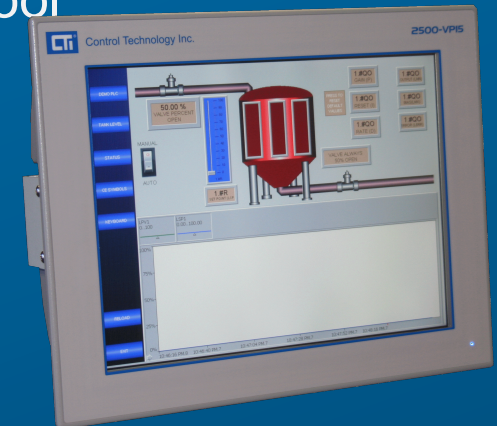


# New 2500 Series® HMI Panels

HMI Panel

## Overview

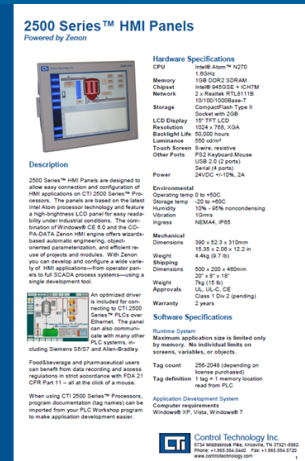
- Why is CTI Offering an HMI solution?
  - Most existing 2500 Series® installations use some HMI panel or panel-PC
  - Other companies are dropping their support for Ethernet solutions
  - This is the first step of a planned fully integrated solution that uses a single tag database and single development tool for control logic and visualization



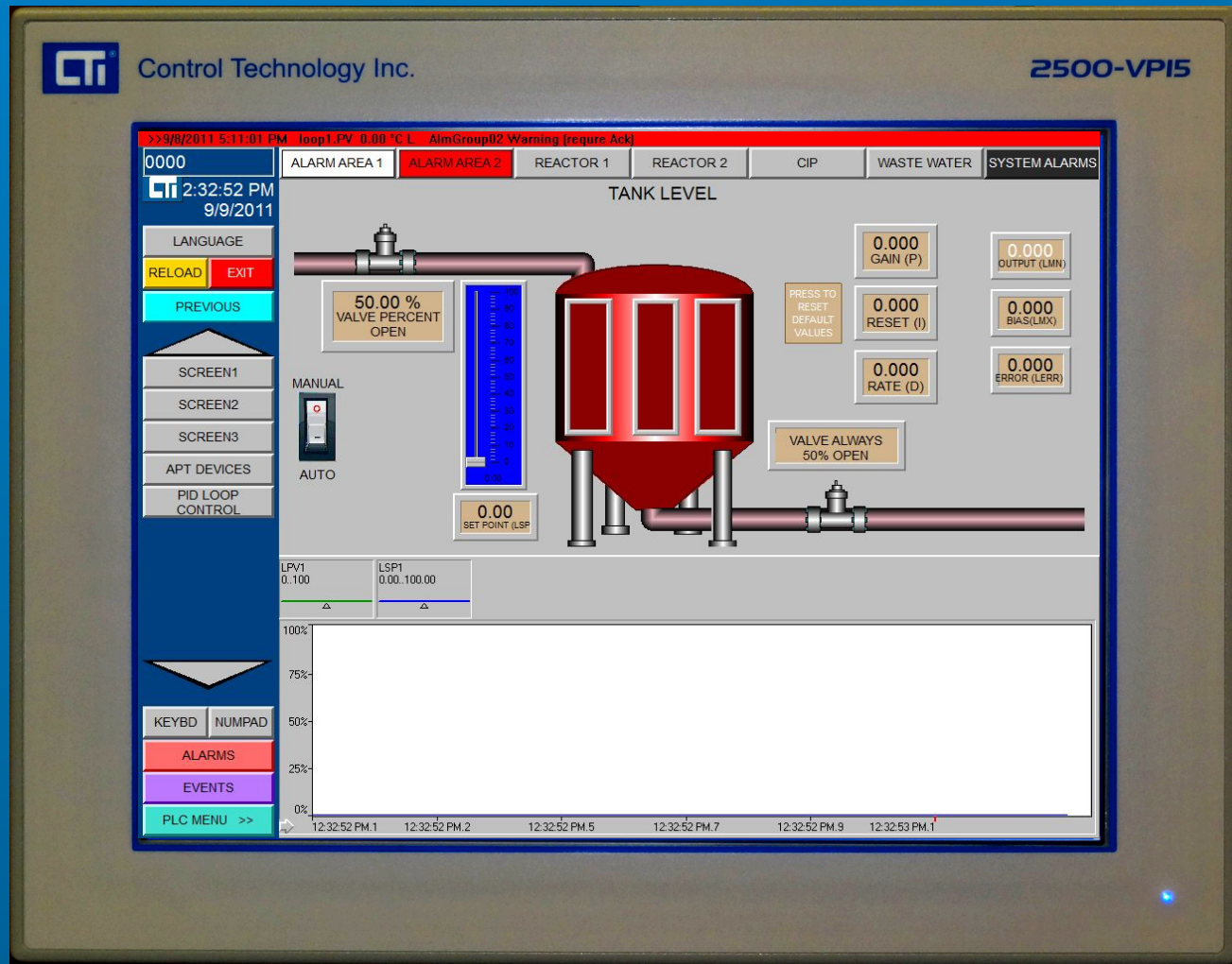
# New 2500 Series® HMI Panels

## Overview

- Launched in 2011
- Two Versions
  - HMI version uses “Zenon” HMI configuration and runtime software
  - Windows® 7 Embedded “panel PC” version allows you to install your own HMI application
- Full HMI version is designed for “plug and play” installation with 2500 Series® Processors
  - Driver is included for attachment to CTI 2500 Series® and Siemens® 505 processors over Ethernet



# Introducing the New CTI 2500 Series® HMI Panel . . .



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The Road Ahead: Product Roadmap



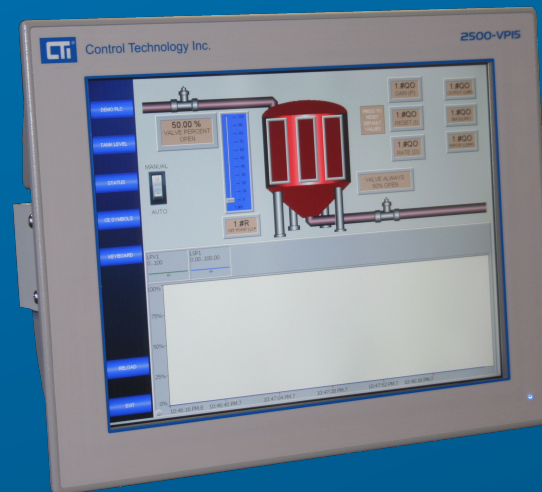
# New 2500 Series® HMI Panels

## Introduction

Home

# What is so important about the new CTI 2500 Series HMI panel?

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The Road Ahead: Product Roadmap



### 2500 Series™ HMI Panels

Powered by Zenon



#### Description

2500 Series™ HMI Panels are designed to allow easy connection and configuration of HMI applications on CTI 2500 Series™ Processors. The panels are based on the latest Intel Atom processor technology and feature a high-brightness LCD panel for easy readability under industrial conditions. The combination of Windows® CE 6.0 and the CO-PA-DATA Zenon HMI engine offers wizards-based automatic engineering, object-oriented parameterization, and efficient reuse of projects and modules. With Zenon you can develop and configure a wide variety of HMI applications—from operator panels to full SCADA process systems—using a single development tool.



An optimized driver is included for connecting to CTI 2500 Series™ PLCs over Ethernet. The panel can also communicate with many other PLC systems, including Siemens S5/S7 and Allen-Bradley.

Food&beverage and pharmaceutical users can benefit from data recording and access regulations in strict accordance with FDA 21 CFR Part 11 – all at the click of a mouse.

When using CTI 2500 Series™ Processors, program documentation (tag names) can be imported from your PLC Workshop program to make application development easier.

#### Hardware Specifications

**CPU** Intel® Atom™ N270  
1.6GHz  
**Memory** 1GB DDR2 SDRAM  
**Chipset** Intel® 945GSE + ICH7M  
**Network** 2 x Realtek RTL8111B  
10/100/1000Base-T  
**Storage** CompactFlash Type II  
Socket with 2GB  
**LCD Display** 15" TFT LCD  
**Resolution** 1024 x 768, 30GA  
**Backlight Life** 50,000 hours  
**Luminance** 550 cd/m²  
**Touch Screen** 8-wire, resistive  
**Other Ports** PS2 Keyboard/Mouse  
USB 2.0 (2 ports)  
Serial (4 ports)  
**Power** 24VDC +/-10%, 2A

**Environmental**  
**Operating temp** 0 to +50°C  
**Storage temp** -20 to +60°C  
**Humidity** 10% - 95% noncondensing  
**Vibration** 10ms  
**Ingress** NEMA4, IP66

**Mechanical**  
**Dimensions** 390 x 52.3 x 310mm  
15.35 x 2.06 x 12.2 in  
**Weight** 4.4kg (9.7 lb)

**Shipping**  
**Dimensions** 500 x 200 x 400mm  
20" x 8" x 16"

**Weight** 7kg (15 lb)  
**Approvals** UL, UL-C, CE  
**Class 1 Div 2** (pending)

**Warranty** 2 years

#### Software Specifications

**Runtime System**  
**Maximum application size** is limited only by memory. No individual limits on screens, variables, or objects.

**Tag count** 256-2048 (depending on license purchased)  
**Tag definition** 1 tag = 1 memory location read from PLC

**Application Development System**  
**Computer requirements**  
Windows® XP, Vista, Windows® 7

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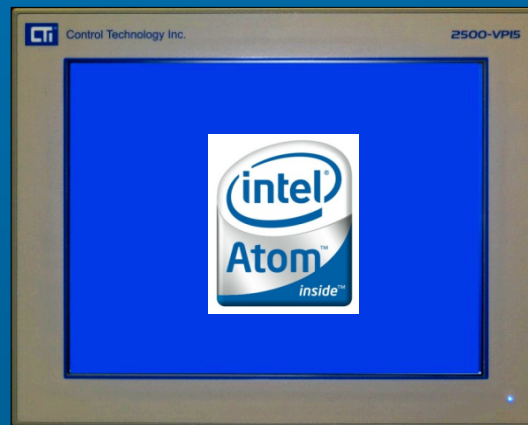
2500 Series™ PLC System  
Product Bulletin

# New 2500 Series® HMI Panels

## Introduction

Home

- The new CTI HMI panel has **CAPABILITY** and **EFFICIENCY**!
  - Uses a Powerful 1.6Ghz Intel Atom Processor
  - Modern Hardware Chipset can Handle Demanding Graphics
  - Low CPU Power Consumption (2.5 Watts)
  - Low Heat Generation
  - Requires Only Passive Cooling (No fans)



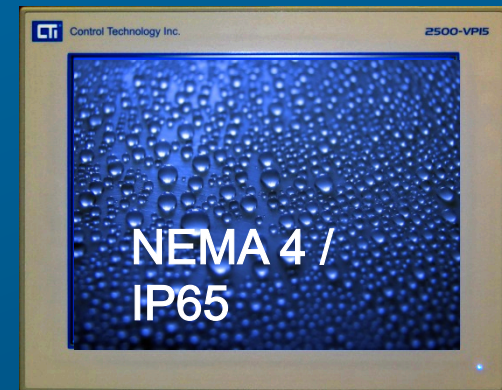
Atom CPU vs.  
Penny

# New 2500 Series® HMI Panels

## Introduction

Home

- The new CTI HMI panel has **STABILITY** and **DURABILITY**!
  - Operating System Files and HMI Project Files are stored in Compact Flash memory (2-3 times more Reliable than Hard Disk Drives)
  - Front Panel is Rated NEMA4 and IP65 for Indoor or Outdoor Installations Requiring Water and Dust Protection.

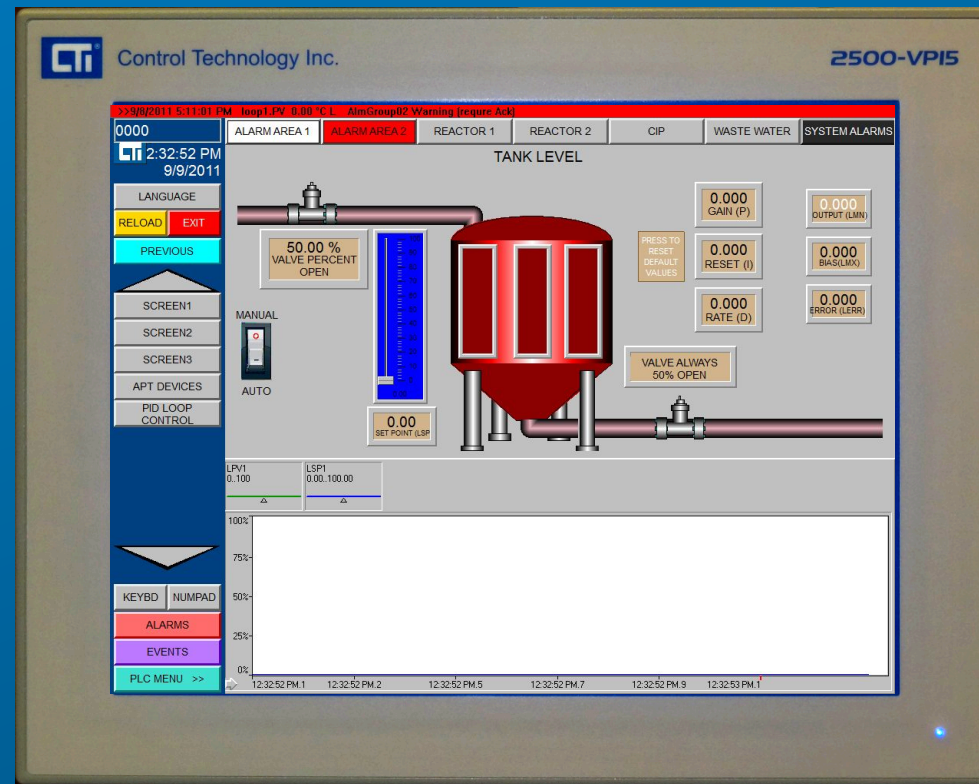


# New 2500 Series® HMI Panels

Home

## Introduction

- The new CTI HMI Panel has **VISIBILITY!**
  - 550 nit Super Bright Color LCD Display
  - 1024 x 768 (XGA) graphics resolution



# New 2500 Series® HMI Panels

## Introduction

Home

- The new CTI HMI Panel has **CONNECTIBILITY!**
  - 2x Realtek 1-Gigabit Ethernet Controllers
  - 2x fully Isolated RS-232 ports
  - 2x RS-232/422/485 ports
  - 2x USB 2.0 ports (Industrial keyboards, pointing devices, external drives)
  - CTI driver presently connects using Ethernet

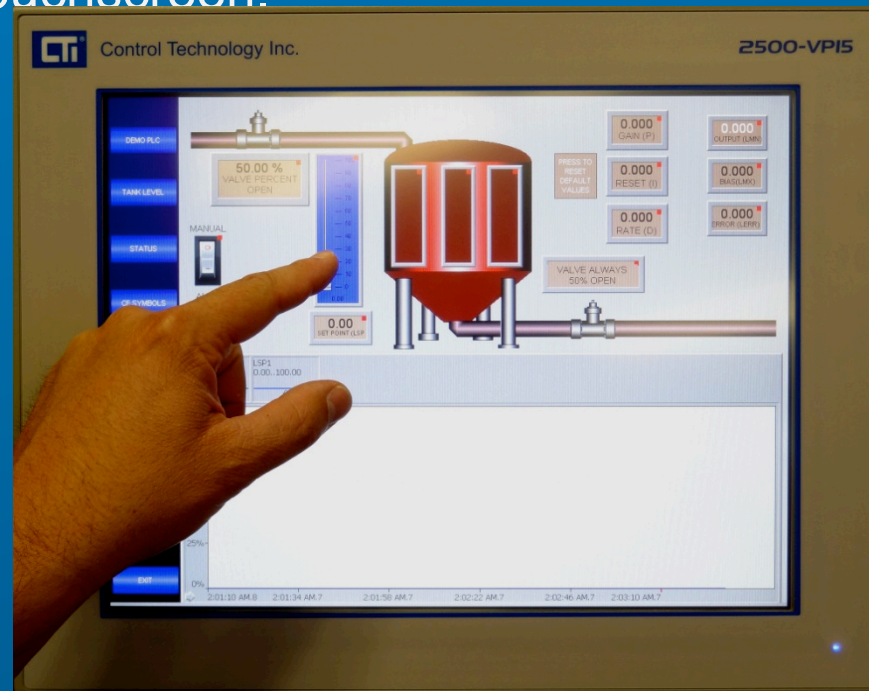


# New 2500 Series® HMI Panels

## Introduction

Home

- The CTI Panel has **TOUCHIBILITY!**
  - Uses an 8-Wire Resistive Touchscreen for More Accurate Touch Operation
  - Other Panel Manufacturers use a 5-Wire Touchscreen.



# New 2500 Series® HMI Panels

## Introduction

Home

- The CTI Panel has **EXPANDABILITY!**
  - Optional Compact Flash Upgrade to 16Gb
  - Optional Internal SATA Hard Drive for Data Collection



# New 2500 Series® HMI Panels

## Introduction

Home

- The Best of both worlds!
  - 2500 Series® HMI Panel **Hardware** is designed for high performance!
  - 2500 Series® HMI Panel **Software** is ZENON by Copa-Data, a powerful and versatile HMI/SCADA engine



# New 2500 Series® HMI Panels

Introduction to Zenon

Home

- ZENON is Emerging as a Leading HMI/SCADA Software
  - Zenon is already used by top companies worldwide to handle some or all of their HMI and SCADA applications



“After an intensive evaluation of all leading HMI/SCADA systems, the **BMW** Group decided in favour of world-wide implementation of **ZENON®**”

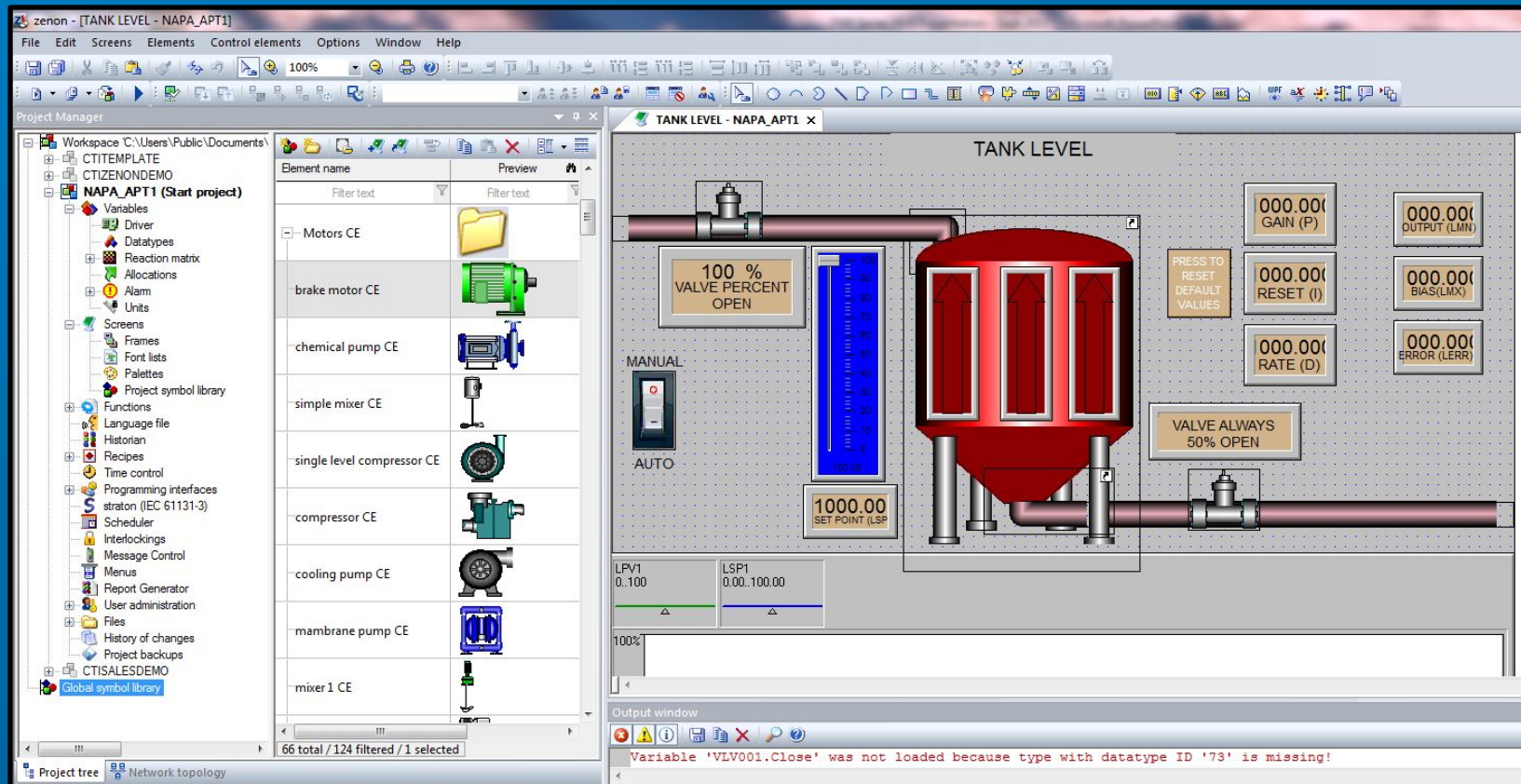
# New 2500 Series® HMI Panels

## Introduction to ZENON

- The Zenon HMI Editor Software is a Powerful Tool for Creating HMI projects

Home

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The Road Ahead: Product Roadmap

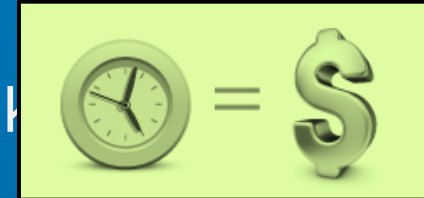


# New 2500 Series® HMI Panels

Introduction to Zenon

Home

- The Zenon Editor is Designed to Make Engineering Simple



- Large number of PLC drivers available (Allen Bradley, Beckhoff, Koyo, CTI, Siemens, TI, Mitsubishi, Modicon, Omron, Hitachi, & many more).
- Stores properties like alarm limits, scaling factors, and status colors in its variables rather than in objects. This object-based approach gives items their properties from the linked variable, and is unique to Zenon.
- ‘Frames’ which automate the size, location, and color settings of each screen. This object-based approach is unique to Zenon.

# New 2500 Series® HMI Panels

Introduction to Zenon

Home

- The Zenon Editor is Designed to Make Engineering Simple.
  - A screen in Zenon which displays information from one process area can be toggled to display similar process information from another area without having to design a second screen.
  - Zenon allows the user to create embedded graphical symbols with linked variables. When making a copy of an embedded symbol, Zenon automatically prompts you to keep or replace the variable links.
  - Zenon includes a Visual Basic interface allowing the user to create wizards which automate common design tasks like variable creation, variable importing, and language file creation.

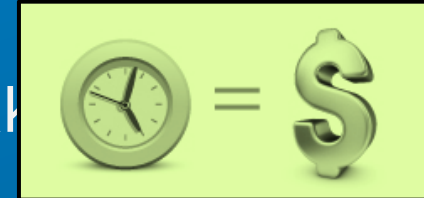


# New 2500 Series® HMI Panels

Introduction to Zenon

Home

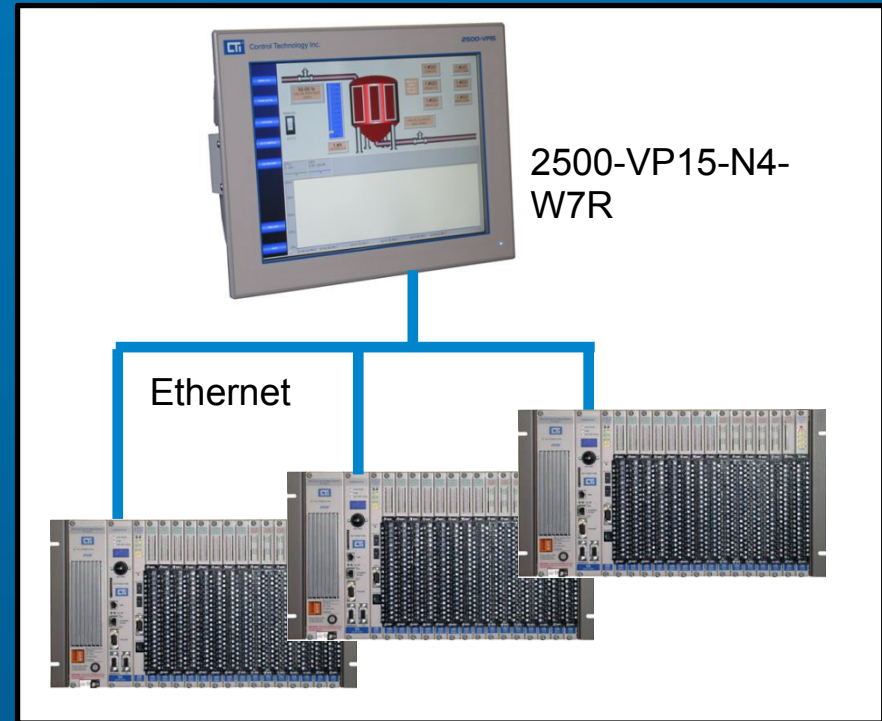
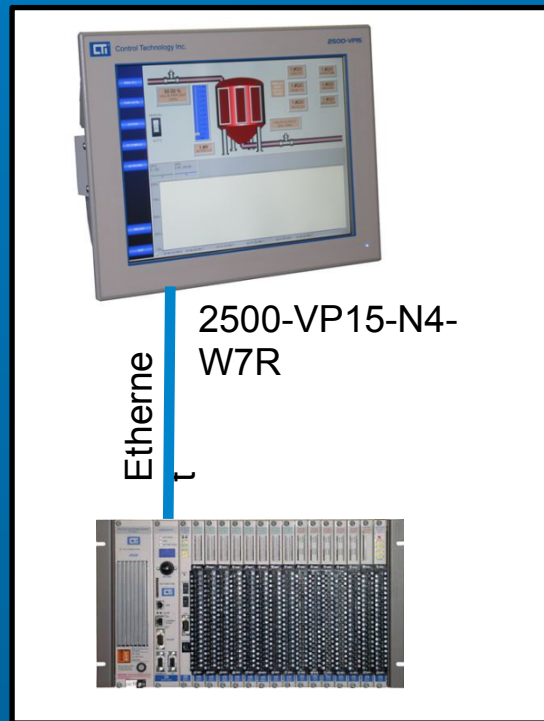
- The Zenon Editor is Designed to Make Engineering Simple.
  - To merge multiple projects into one master project, it only takes a **few minutes**. You need only create the master project and then insert desired existing projects as sub-projects into your master project tree. Now from one location you can monitor and control several process areas.
  - Zenon is backwards compatible! This means that there is NO need to upgrade an older version Zenon project on a network when a newer Zenon device is added!



# New 2500 Series® HMI Panels

Zenon Network Flexibility

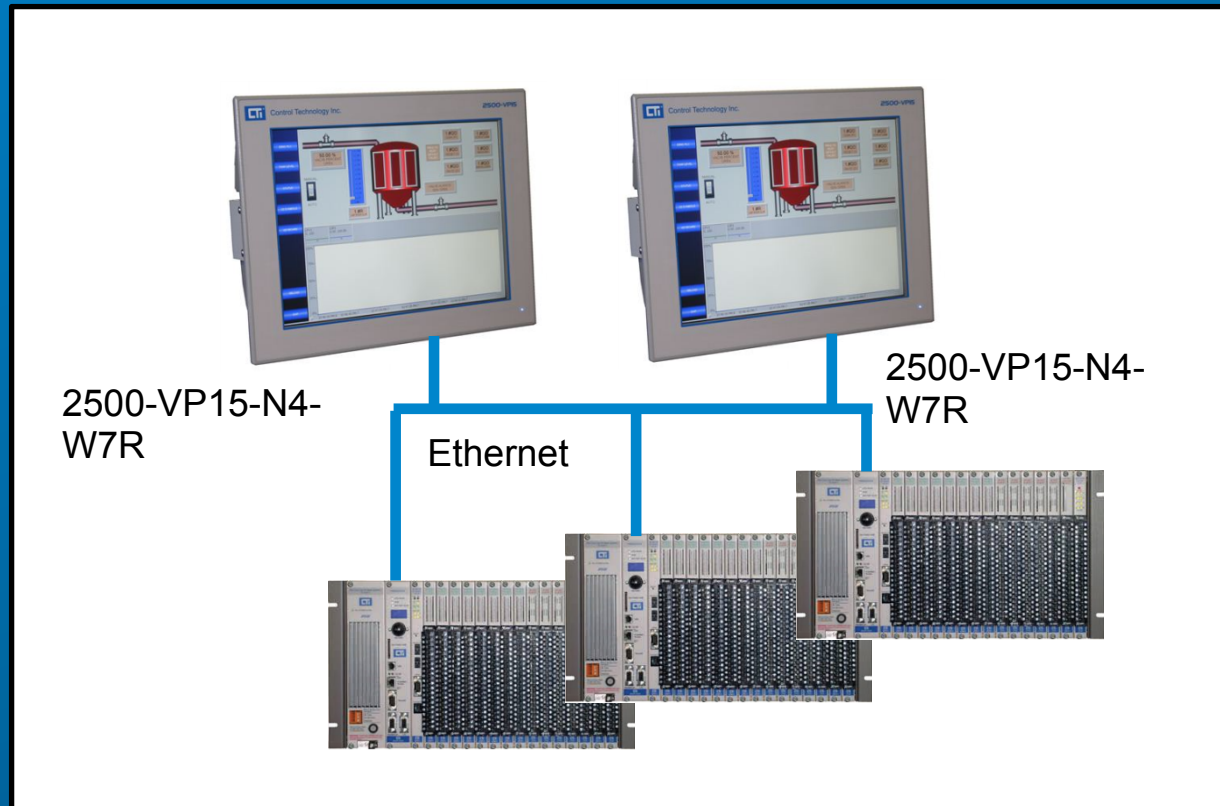
- The CTI HMI Panel is Optimized to Communicate with one or many CTI 2500 Series® CPUs



# New 2500 Series® HMI Panels

Zenon Network Flexibility

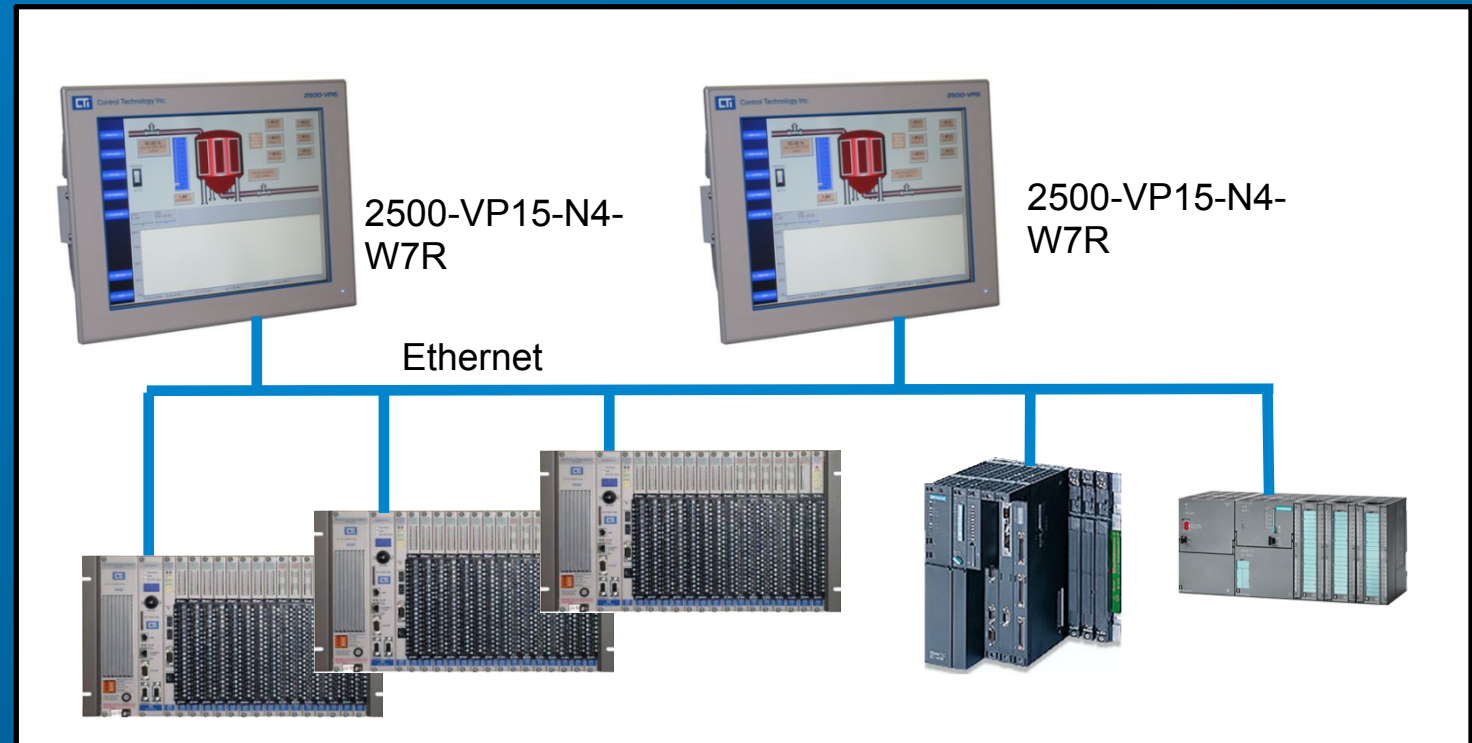
- Multiple CTI HMI Panels can Share Data and Control with Multiple CTI PLC's.



# New 2500 Series® HMI Panels

Zenon Network Flexibility

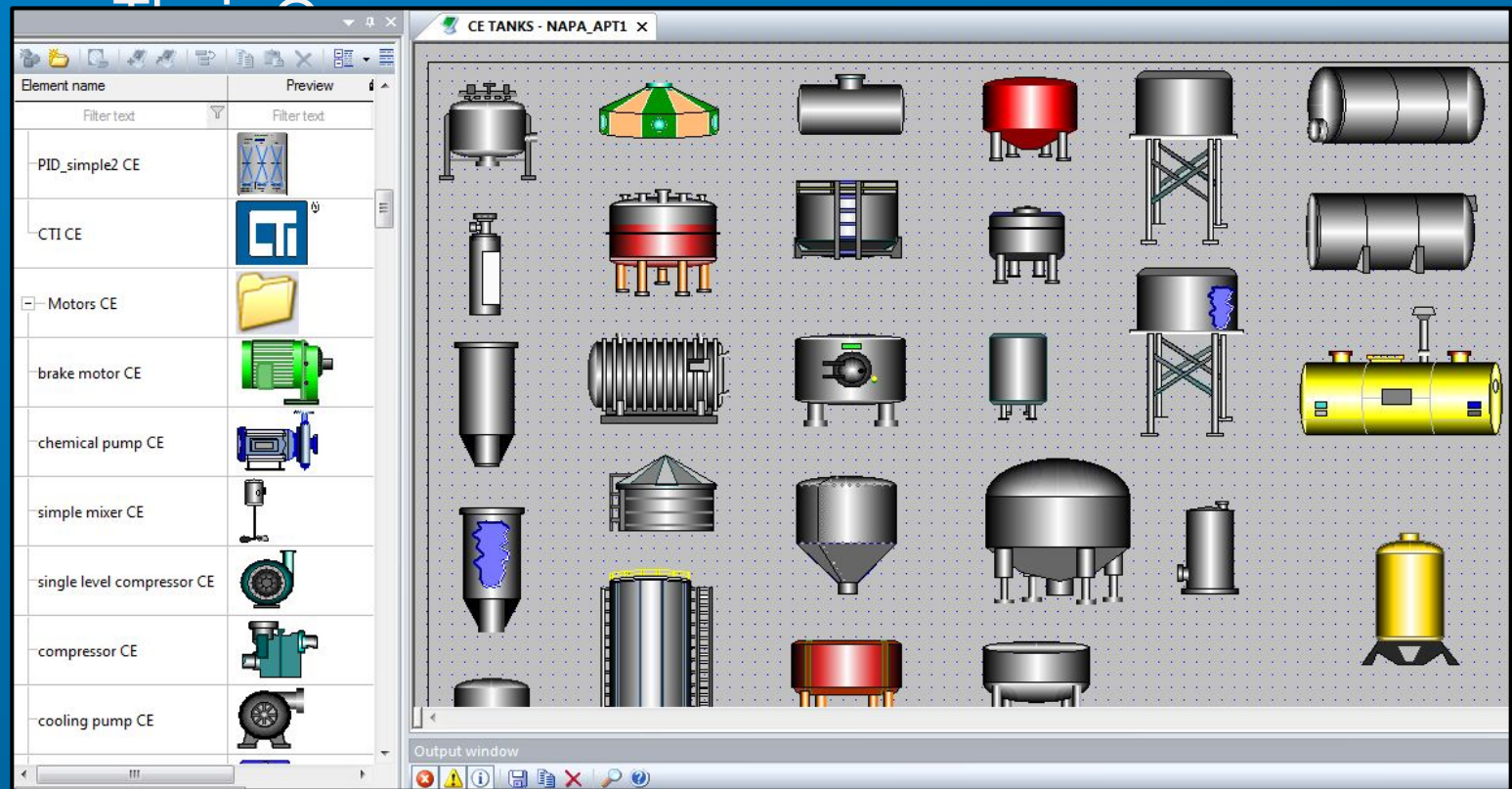
- Multiple CTI HMI Panels can Share Data and Control with Multiple PLC's of Different Brands. The CTI Panel can be a gateway between Different Brand PLC's.



# New 2500 Series® HMI Panels

Zenon Feature – GRAPHICAL SYMBOLS

- A Large Library of Symbols is Available in Zenon. Users can Also Create Symbols of



# New 2500 Series® HMI Panels

Home

Zenon Feature – ALARM SCREENS

- Zenon Makes Creating Process Alarm Screens Easy so that You can Monitor, Track, and Respond to Changing Process

**ALARM MESSAGE LIST**

Filter options: Total active 13, Not acknowledged 12

Filter: [!]\*[!T,Rel:0d,1h,0m,0s] Filter...

Alarm options: Acknowledge, Acknowledge page, Acknowl. All, Execute function

Navigation: Line up, Page up, Page down, Line down

Options: Stop

Al...	Time received	Time cleared	Time acknowledged	Variable name	Value	Me...	Text	Computer na...	Alarm class	Alarm area
●	>>07/09/2011 17:03:44	<<07/09/2011 17:03:54		AlarmArea1test	84	°C	HI		Warning (require Ack)	Alarm area 1
●	>>07/09/2011 17:03:54	<<07/09/2011 17:05:41		AlarmArea1test	92	°C	HH		Critical (require Ack)	Alarm area 1
●	>>07/09/2011 17:05:18	<<07/09/2011 17:06:23		AlarmArea2test	81	°C	HI		Warning (require Ack)	Alarm area 2
●	>>07/09/2011 17:05:41	<<07/09/2011 17:05:47		AlarmArea1test	87	°C	HI		Warning (require Ack)	Alarm area 1
●	>>07/09/2011 17:05:47	<<07/09/2011 17:05:51		AlarmArea1test	19	°C	LL		Warning (require Ack)	Alarm area 1
●	>>07/09/2011 17:06:27	<<07/09/2011 17:06:29		AlarmArea2test	82	°C	HI		Warning (require Ack)	Alarm area 2
●	>>07/09/2011 17:06:32	<<07/09/2011 17:06:34		AlarmArea2test	83	°C	HI		Warning (require Ack)	Alarm area 2
●	>>07/09/2011 17:06:34	<<07/09/2011 17:06:38		AlarmArea2test	0	°C	LL		Critical (require Ack)	Alarm area 2
●	>>07/09/2011 17:06:38	<<07/09/2011 17:06:40		AlarmArea2test	80	°C	HI		Warning (require Ack)	Alarm area 2
●	>>07/09/2011 17:06:40	<<07/09/2011 17:06:43		AlarmArea2test	5	°C	LL		Critical (require Ack)	Alarm area 2
●	>>07/09/2011 17:06:46	<<07/09/2011 17:06:51		AlarmArea2test	1	°C	LL		Critical (require Ack)	Alarm area 2
●	>>07/09/2011 17:06:55	<<07/09/2011 17:07:00		AlarmArea2test	84	°C	HI		Warning (require Ack)	Alarm area 2
●	>>07/09/2011 17:07:04	<<07/09/2011 17:07:23		AlarmArea2test	99	°C	HH	PCNAPA07	Critical (require Ack)	Alarm area 2

Comment

An Authorized User Can Acknowledge and Enter a Comment for Each Alarm.

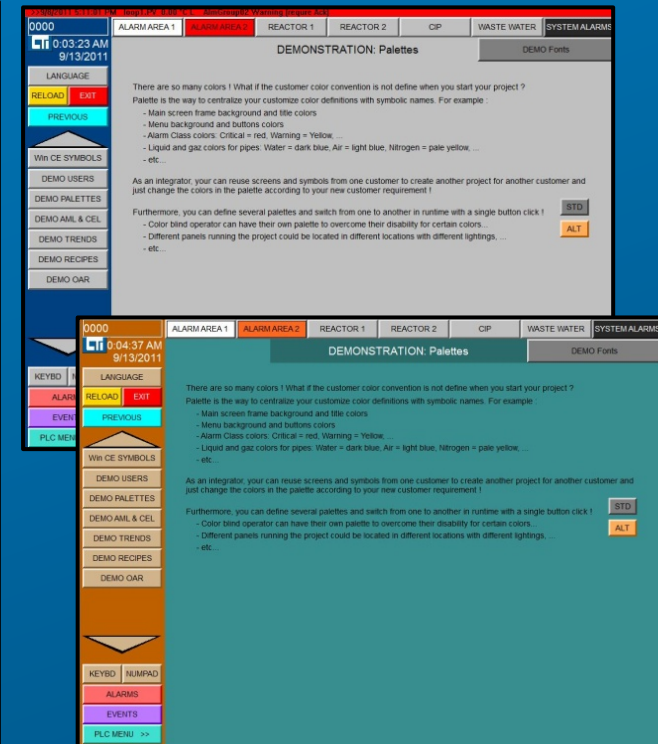
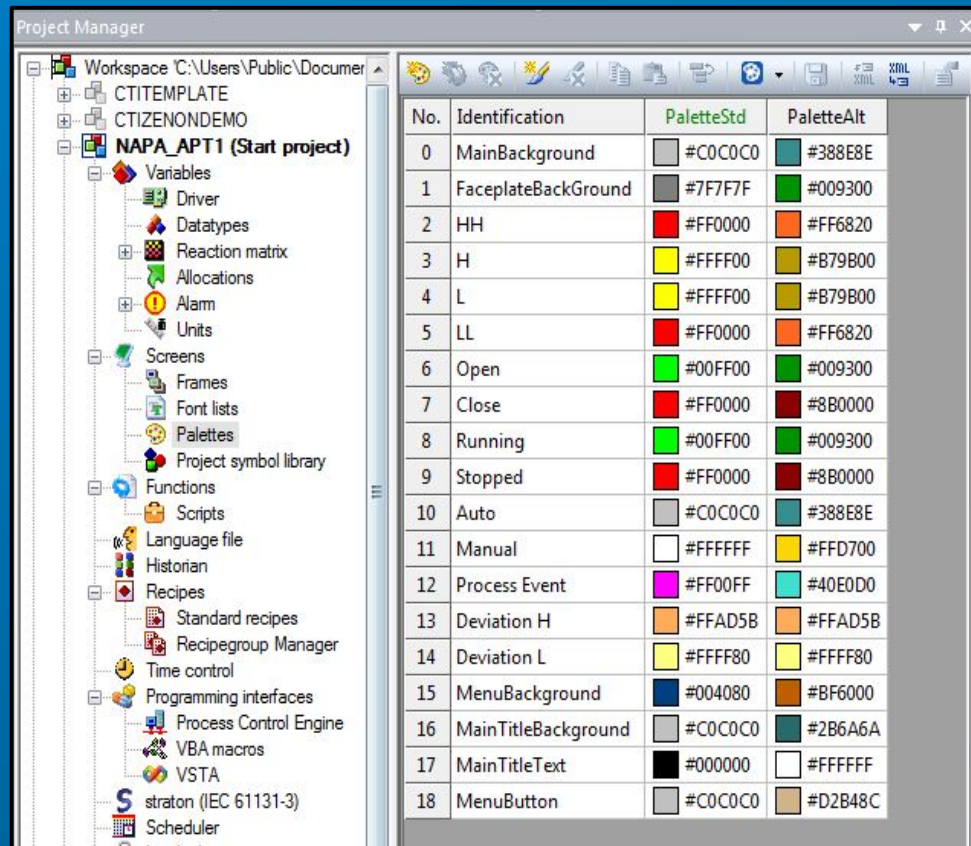
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The Road Ahead: Product Roadmap



# New 2500 Series® HMI Panels

Zenon Feature – COLOR PALETTES

- Zenon Allows Alternate Color Palettes to be Quickly Activated in Your Project with the Push of a Button.

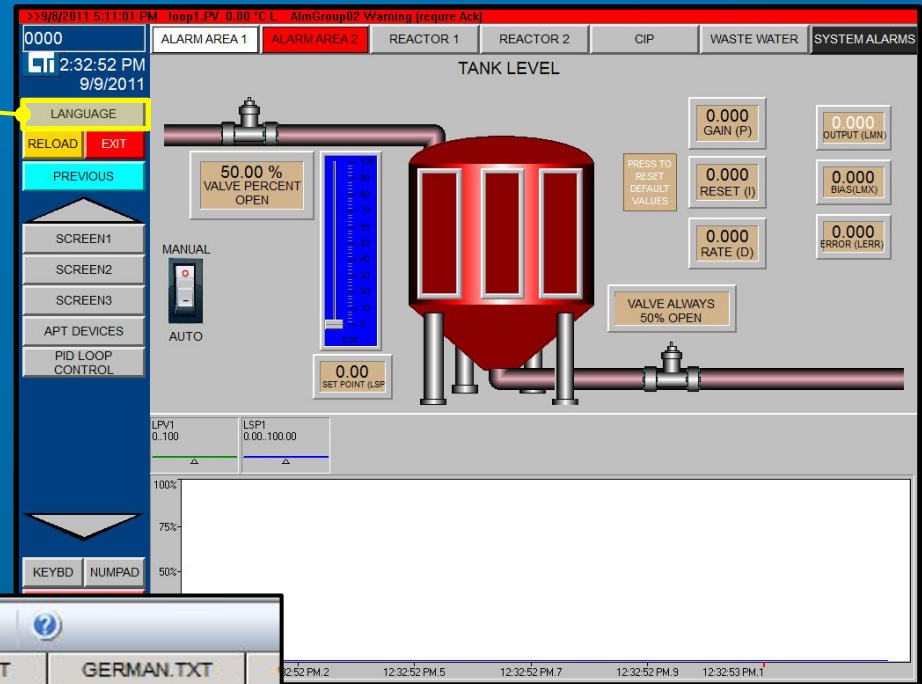


# New 2500 Series® HMI Panels

Home

Zenon Feature – LANGUAGE FILES

- Language Files can be Created in Zenon to Allow Process Screens to Display Alternate Languages.



	Keyword	ZENONSTR.TXT	FRENCH.TXT	GERMAN.TXT	
1	alarm	alarm	alarme	alarm	
2	group	group	groupe	group	
3	loop	loop	boucle	loop	
4	msgHH	message HH	alarme très haute	zehr H	msg

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# New 2500 Series® HMI Panels

Zenon Feature – USER ADMINISTRATION

- Zenon Gives You the Ability to Control the Access that Users Have to Information, Settings, and Controls on Your HMI Panel Screens.

The screenshot shows the Zenon HMI interface with a 'LOGIN' dialog box open. The background screen displays 'TANK LEVEL' controls, including a valve position indicator at 50.00% and various process parameters like GAIN, RESET, RATE, and ERROR. A list of users is visible on the left side of the interface.

User a...	User identification	Complete name
<input checked="" type="checkbox"/>	OP0001	Operator #1
<input checked="" type="checkbox"/>	MAINT2	Maintenance #2
<input checked="" type="checkbox"/>	ADMIN3	Administrator #3
<input checked="" type="checkbox"/>	NAPAMR	Administrator
<input checked="" type="checkbox"/>	ADMIN4	fgdhfghj
<input checked="" type="checkbox"/>	SUPER01	Supervisor #1
<input checked="" type="checkbox"/>	SUPERUSER	CTI Panel Super Us

The 'LOGIN' dialog box contains the following fields and buttons:

- Current User:** SYSTEM
- New User ID:** (empty field)
- Password:** (empty field)
- Buttons:** LOG OFF, OK, Cancel

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The Road Ahead: Product Roadmap



# New 2500 Series® HMI Panels

Zenon Feature – STANDARD RECIPES

- Zenon Gives You the Ability to Make Process Changes via its Standard Recipe Manager. Authorized Users can Add, Change, and Delete Recipes.

The screenshot shows the 'STANDARD RECIPES' window. It has a title bar and two main sections: 'Recipe options' and 'Recipe functions'. The 'Recipe options' section contains a dropdown menu set to 'loop1\_FASTset' and six buttons: 'New Recipe', 'Edit recipe', 'Add variable...', 'Copy recipe', 'Delete recipe', and 'Release variable'. The 'Recipe functions' section contains five buttons: 'Write recipe', 'Change set value', 'All values --', 'Read recipe', and 'All values ++', along with a 'Save changes' button at the bottom. Below these sections is a table with four columns: 'Variable', 'Identification', 'Value', and 'Measu...'. The table contains three rows of data.

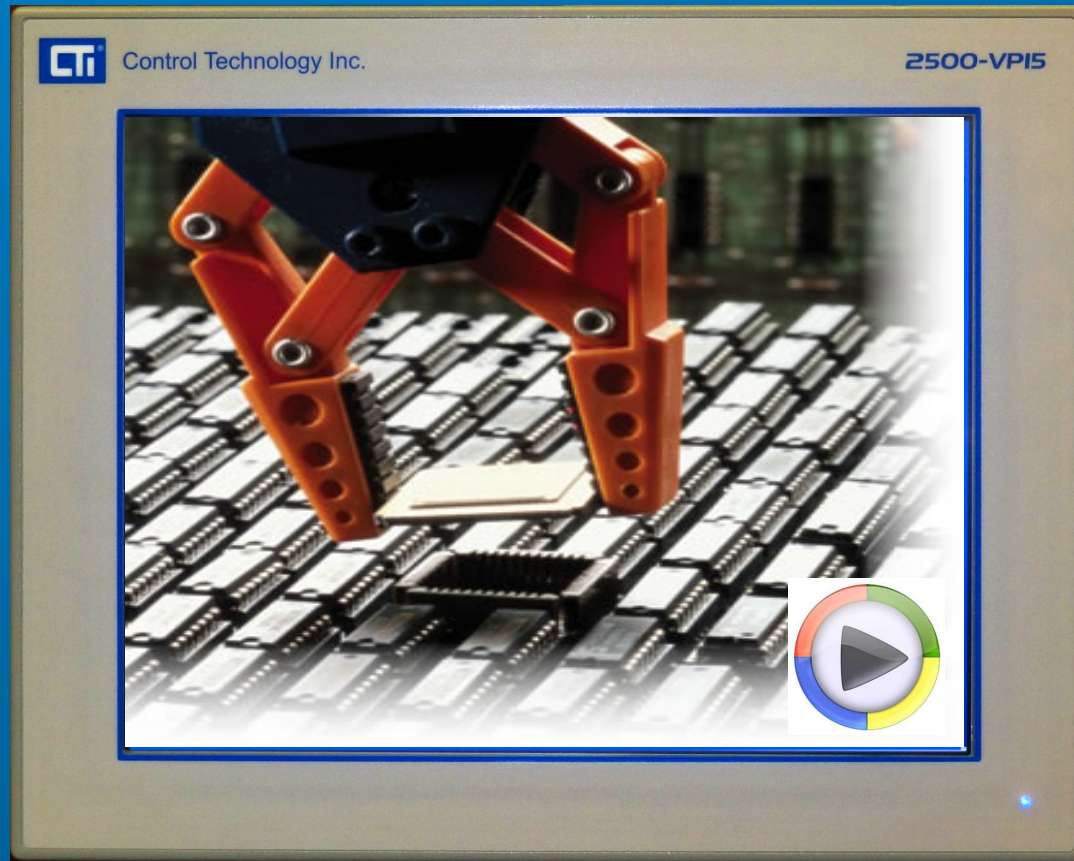
Variable	Identification	Value	Measu...
loop1.gain		100	
loop1.rate		101	
loop1.reset		111	

# New 2500 Series® HMI Panels

Home

Zenon Feature – Video Screens

- The CTI HMI Panel with Zenon Can Display High Resolution Video in AVI format.



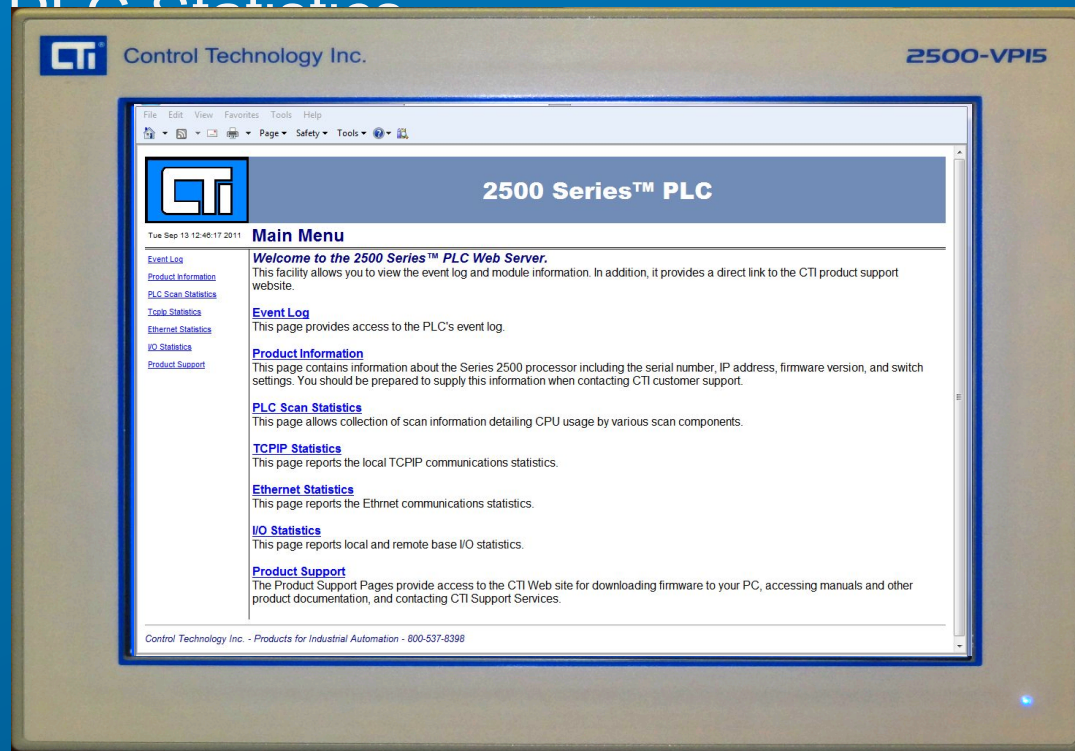
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The Road Ahead: Product Roadmap



# New 2500 Series® HMI Panels

Zenon Feature – CTI PLC Webpage

- The CTI HMI Panel with Zenon Can Display the Webpage of the CTI 2500 Series PLC Processor. You Can Access the Event Log, Status Information, and PLC Statistics.

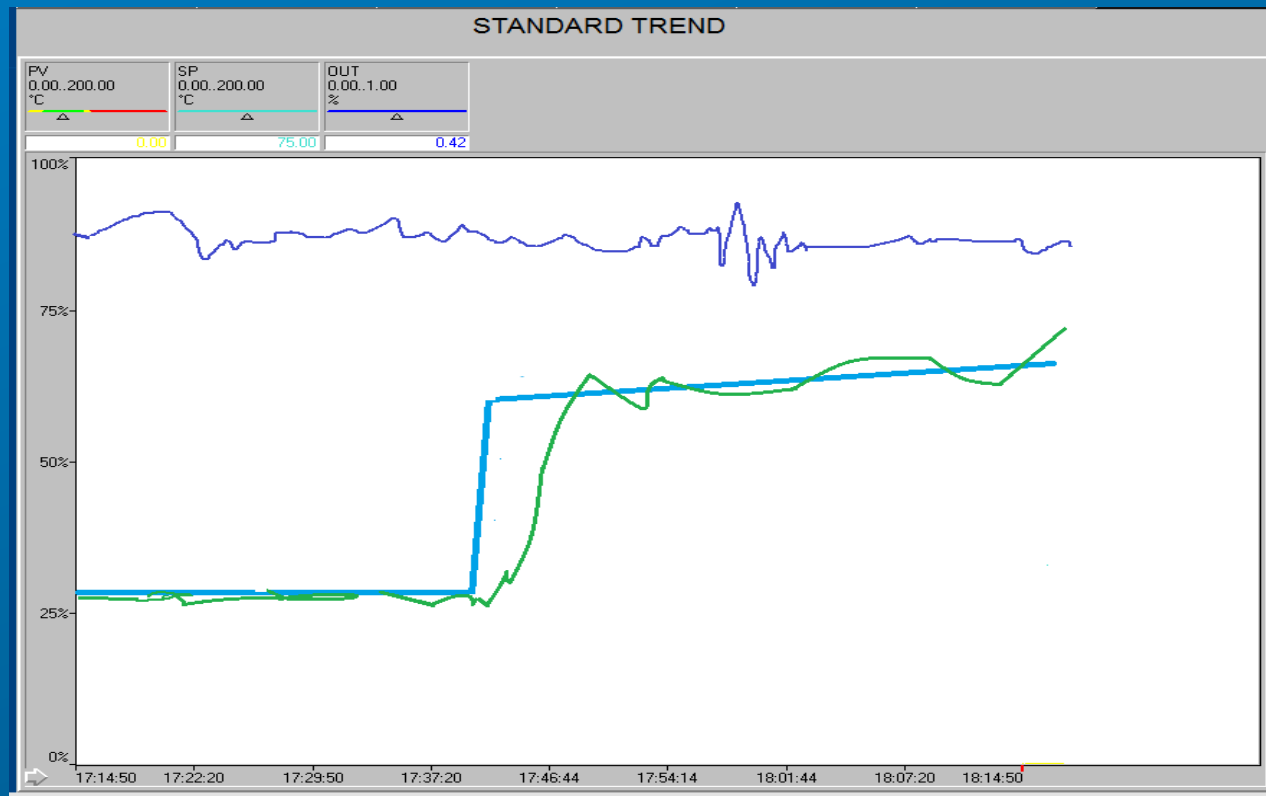


# New 2500 Series® HMI Panels

Home

Zenon Feature – Standard Trend Charts

- Zenon Gives You the Standard Ability to Add Trend Charts to Your Screens to View Realtime Data on the CTI HMI panel.



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The Road Ahead: Product Roadmap



# New 2500 Series® HMI Panels

Trending and Archiving

Home

- Optional Extended Trend & Historian, Starter Edition
  - used for the representation of online and historical values (archive values) of process variables and derived process variables in form of curves
  - It makes it possible to review historic data
  - Displays up to 8 curves with multiple y-axes and scrolling
  - CTI recommends the addition of an internal or external hard drive if data logging is required.

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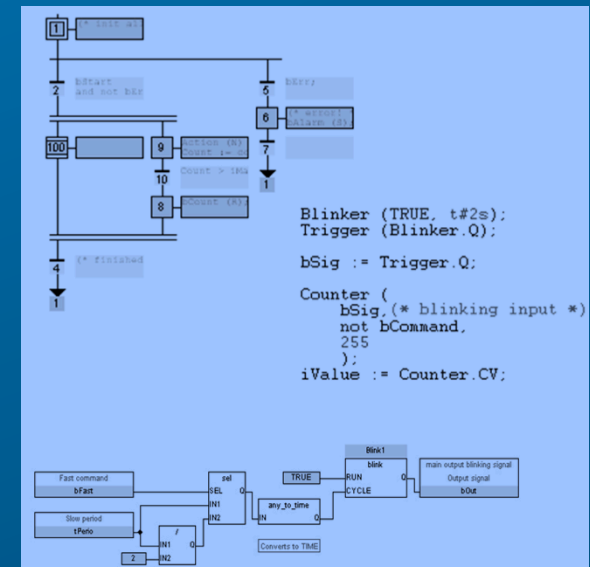


# New 2500 Series® HMI Panels

Home

Zenon Feature – Integrated IEC6-1131 Soft PLC

- Zenon Includes a Powerful Integrated Soft PLC that Runs on The CTI HMI Panel.
  - Additional Logic can be performed in the Soft PLC engine running on the CTI HMI Panel.
  - The Standard License limits the user to 8 variable tags.
  - IEC 61131-3 programming interface
    - Ladder Diagram
    - Instruction List
    - Structured Text
    - Function Block Diagram
    - Sequential Function Chart




HMI Panel

# 2500-VP15 HMI Panel

## Maintenance and Support Options

- Standard warranty is 2yr on hardware and 60 days on software. BASIC SUPPORT is included at no additional charge.
- Basic Support
  - Free lifetime support by email is standard on all HMI panels.

**2500 Series™ HMI Panels**  
Powered by Zenon



**Hardware Specifications**

CPU	Intel Atom™ N270
Memory	1 GB
Chipset	Intel® 3100
Network	2 x Ethernet 10/100/1000Base-T
Storage	2 x SATA 3.0
LCD Display	15" TFT LCD
Resolution	1280 x 800
Backlight Life	50,000 hours
Luminance	500 cd/m²
Touch Screen	5-point capacitive
Other Ports	1 x USB 2.0

**Description**

2500 Series™ HMI Panels are designed to allow easy installation and configuration of HMI applications on CTI 2500 Series™ Processors. These panels are based on the Intel Atom™ N270 processor, featuring a high-brightness LCD panel for easy reading under industrial conditions. The combination of Intel Atom™ N270 and the CTI 2500 Series™ HMI processor offers superior performance, compact size, and easy installation. The panel is designed for easy integration into existing SCADA systems, allowing for easy migration of existing SCADA systems to the 2500 Series™ HMI Panels.

**Environmental**

Operating Temp	0 to +50°C
Storage Temp	-20 to +60°C
Humidity	5% to 95% noncondensing
Vibration	15ms
Shock	MSD, 40g

**Mechanical**

Dimensions	360 x 62 x 310mm
Weight	1.8 kg (4.0 lb)
Shipping	600 x 200 x 400mm
Clearance	27 x 8 x 18"
Approvals	UL, IEC, CE, Class 1 (EN 60950)

**Software Specifications**

**Runtime System**

Maximum application size is limited only by memory. No individual limits on screens, variables, or trends.

**Tag count**

25,000 (depending on screen purchase)

**Tag definition**

1 tag = 1 memory location read from PLC

**Application Development System**

Computer requirements: Windows XP, Vista, Windows 7

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Phone: +1 651 284 2400 Fax: +1 651 284 2722  
www.controltechnology.com

2500 Series™ PLC System  
Product Bulletin

# 2500-VP15 HMI Panel

## Maintenance and Support Options

- Premium Annual Support
  - Includes priority access to telephone support
- Extended Hardware Warranty
  - Available in 1yr, 2yr, 3yr terms
  - Must be purchased within 60 days of the ship date of the HMI panel
  - Includes advanced replacement for warranty hardware failures (2 business days, ex Works).

### 2500 Series™ HMI Panels

Powered by Zenon



#### Description

2500 Series™ HMI Panels are designed to allow easy installation and configuration of HMI applications on CTI 2500 Series™ Processors. These panels are based on the latest HMI technology, featuring a high-brightness LCD panel for easy reading under industrial conditions. The combination of Windows CE 5.0 and the CTI 2500 Series™ HMI engine offers superior performance, rapid screen updates, and efficient use of graphics and resources. With Zenon, you can develop and configure a wide variety of HMI applications when operating panels in full SCADA process systems—using a single development tool.

**Hardware Specifications**

CPU	Intel Atom™ N270
Memory	1 GB
Chipset	Intel® 3200 + 3200
Network	2 x Ethernet 10/100/1000
Storage	16 GB
LCD Display	15" TFT LCD
Resolution	1280 x 800
Backlight Life	50,000 hours
Luminance	500 cd/m²
Touch Screen	Yes, resistive
Other Ports	1 x USB 2.0 port 1 x Serial RS-485
Power	24VDC 10-15W, 1A

**Environmental**

Operating Temp	0 to +50°C
Storage Temp	-20 to +60°C
Humidity	5% to 95% noncondensing
Vibration	15ms
Impact	1000g

**Mechanical**

Dimensions	360 x 623 x 310mm
Weight	4.4kg (9.7 lb)
Shipping	600 x 600 x 400mm
Clearance	27 x 8 x 18"
Approvals	UL, IEC, CE, Class 1 (EN 61010-1)

**Software Specifications**

Operating System	Windows CE 5.0
Maximum Application Size	Is limited only by memory. No individual limits on screens, variables, or points.
Tag count	255,040 (depending on screen purchase)
Tag definition	1 tag = 1 memory location read from PLC

**Application Development System**

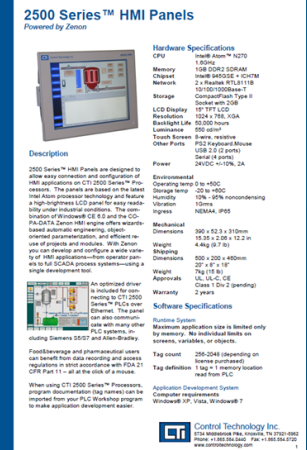
Computer requirements	Windows XP, Vista, Windows 7
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HMI Panel

# 2500-VP15 HMI Panel

## Maintenance and Support Options

- Annual Runtime Software Maintenance
  - Includes 1-year free upgrades on the Zenon runtime software installed on the HMI panel
  - Must be purchased within 60 days of the ship date of the HMI panel
- Annual Development Software Maintenance
  - Includes 1-year free upgrades on the Zenon Application Development Software for Windows®
  - Must be purchased within 60 days of the ship date of the HMI panel



HMI Panel

# 2500-VP15 HMI Panel

## Ordering Information

### HMI Panel

2500-VP15-N4-W7R      15" HMI Panel, Windows® 7 Embedded,  
NEMA4,

#### 256 tag

2500-Z256-512	Runtime 256-tag to 512-tag upgrade
2500-Z256-1024	Runtime 256-tag to 1024-tag upgrade
2500-Z256-2048	Runtime 256-tag to 2048-tag upgrade
2500-Z512-1024	Runtime 512-tag to 1024-tag upgrade
2500-Z512-2048	Runtime 512-tag to 2048-tag upgrade
2500-Z1024-2048	Runtime 1024-tag to 2048-tag upgrade

### Runtime Software Options

2500-Z-ETAS	Extended Trend & Historian, Starter Edition
2500-Z-WSP	Web Server Pro (coming late 2012)



# 2500-VP15 HMI Panel

## Ordering Information

### Development Software

2500-Z2K-DEV-USB Zenon Application Development Software (Editor), maximum 2048 tags, USB Dongle License Key

### Maintenance and Support

2500-VP15-BSC Basic Support (included at no charge)

2500-VP15-ASC Premium Annual Support

2500-VP15-EXW1 Extended Hardware Warranty, 1-year (total warranty 3 years)

2500-VP15-EXW2 Extended Hardware Warranty, 2-years (total warranty 4 years)

2500-VP15-EXW3 Extended Hardware Warranty, 3-years (total warranty 5 years)



# 2500-VP15 HMI Panel

## Ordering Information

### Maintenance and Support (continued)

2500-Z256-RT-AMP	Annual Runtime Software Maintenance, 256 tag
2500-Z512-RT-AMP	Annual Runtime Software Maintenance, 512 tag
2500-Z1K-RT-AMP	Annual Runtime Software Maintenance, 1K tag
2500-Z2K-RT-AMP	Annual Runtime Software Maintenance, 2K tag
2500-Z2K-DEV-AMP	Annual Development Software Maintenance, 2K tag

