

# TAC Vista Product Catalog



Make the most of your energy<sup>SM</sup>



# Providing solutions enabled by intelligent Building management Systems (iBMS)

## The intelligent energy management approach

Your complex energy challenges require a stronger and more efficient collaboration between your organization's key stakeholders. They demand comprehensive solutions that include enterprise-wide management of power, IT, HVAC and security, with a level of intelligence that involves system dynamics across segments, platforms and providers.

TAC Vista integrates multiple systems on one network to reduce training, operations, maintenance and energy costs, that improve comfort and increase productivity.

Combining industry-standard technology with an easy-to-use interface, TAC Vista produces an integrated building management solution that is reliable, flexible and cost-effective. Full integration of environmental control as well as facility and energy management in a single software package allow you to customize TAC Vista for any building and security management application.

## Integrated and intelligent systems deliver choices

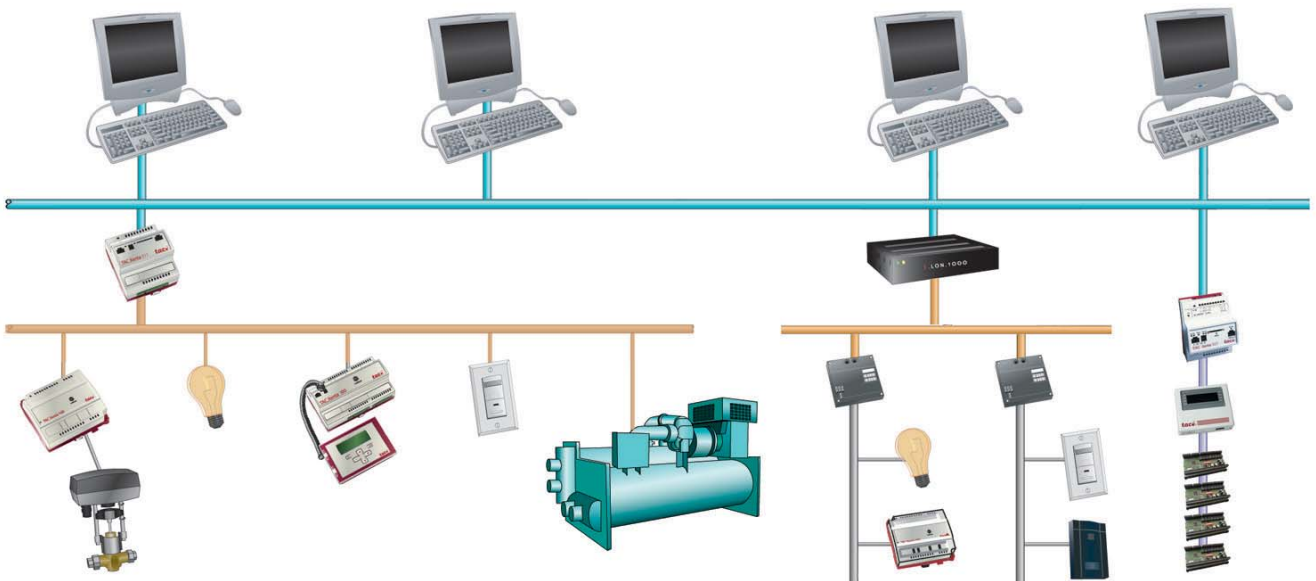
TAC Vista gives customers the freedom to select products from a wide range of suppliers, yielding true vendor independence. TAC Vista 5.1 runs on Microsoft® Windows® with standard LAN communication on Ethernet® or fiber optics using TCP/IP and standard network equipment. Field bus communication features open LONWORKS® technology, which is used by more than 3,000 vendors worldwide.

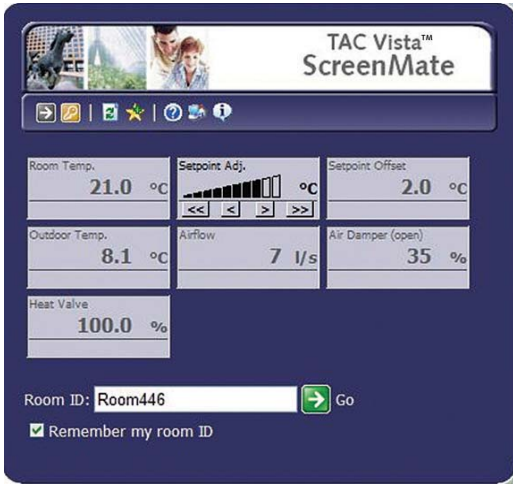
## TCP/IP offers a variety of networking architecture options

Using TCP/IP, TAC Vista host workstations can communicate across the Internet and existing commercial WAN/LANs.

## TAC Vista's flexible architecture makes it highly scalable

TAC Vista is well suited for any building management application, regardless of the building size, the number of buildings or what distances separate the buildings. TAC Vista manages multi-campus office parks and district-wide school systems just as efficiently as single, small office buildings.





**You will always know what is happening within your control system**  
Alarms and historical logs provide system monitoring that is both reliable and flexible. TAC Vista operators can respond to critical alarms in seconds. The receipt of an alarm can even automatically display a specific system page, giving the operator quick, graphical access to the situation.

### TAC Vista

TAC Vista is the software solution that efficiently controls, checks and analyzes the daily operation and economic efficiency of a building. TAC Vista is available in a variety of packages designed to maximize efficiency and economy. TAC Vista is also modular, making it easy to expand the system as your needs change. TAC Vista is also available in an increasing number of languages.

### TAC Vista Server and Workstation

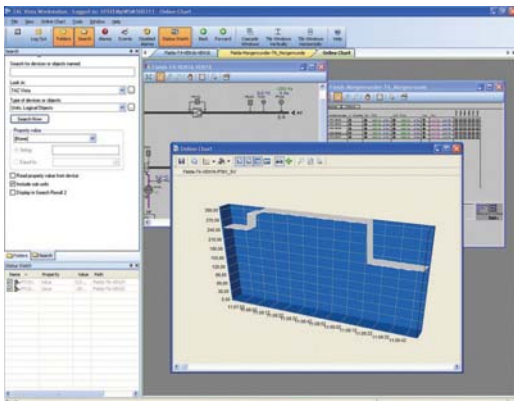
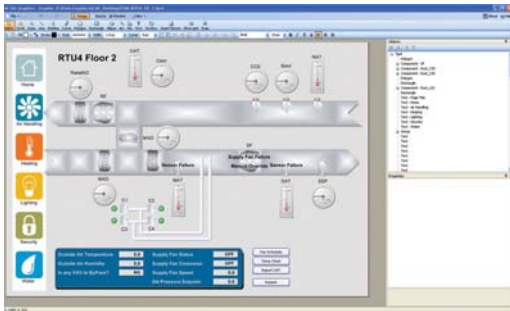
The TAC Vista server is built on a client/server architecture, where TAC Vista Server communicates with and monitors the environmental and security controllers, as well as serves up data to the TAC Vista Workstation, which is the primary user interface. The workstation displays daily operations through a graphical user interface, providing operators with ready access to alarms, historical logs and sophisticated data trend logs as well as standard and custom reports. A TAC Vista system can have multiple Servers depending on size and architecture as well as multiple Workstations depending on number of users.

### TAC Vista Webstation

The Webstation allows access to the control system using common web browsers. Using any web browser, users can navigate their site, view graphics and trend charts and manage alarms. Webstation provides access to trace events in the system, and the Webstation server provides access to periodic or automatic reports.

### TAC Vista ScreenMate

The main task of the TAC Vista ScreenMate is to replace the functionality found in sophisticated room thermostats. ScreenMate makes it possible for users to read and make custom changes to settings such as the room temperature setpoint or to view the outside air temperature directly from the user's PC. The ScreenMate solution is based on standard web technologies and can be accessed from any setpoint or client device with a web browser.





## TAC Menta™

TAC Menta is the programming software tool for the TAC Xenta controllers. You will save time and improve operational reliability with this engineering tool for HVAC applications.

TAC Menta:

- Provides many pre-programmed function blocks and basic application elements
- Monitors offline simulations and online testing with an integrated trend log

## TAC Xenta

All TAC Xenta controllers provide open, future-proof system architecture. TAC Xenta controllers provide access to a standardized LONWORKS®-based network technology supporting a flexible control system to which components from other manufacturers can be connected.

The TAC Xenta 100 line consists of LONMARK®-certified zone controllers designed for specific applications such as fan coil, VAV, chilled ceiling and rooftop air handling units.

The TAC Xenta 280 and 300 series of LONWORKS-certified programmable controllers are intended for any type of plant room control applications.

The LONWORKS-certified TAC Xenta 401 controller and the TAC Xenta 400 I/O modules are programmable and intended for larger applications.

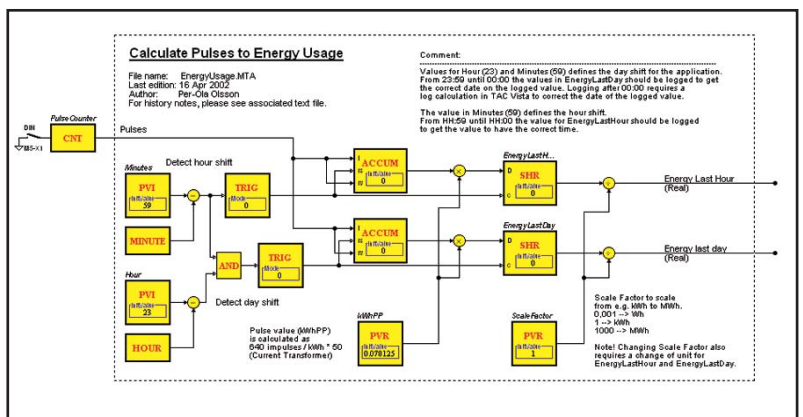
The TAC Xenta 511 is a cost-effective method of monitoring small-scale LONWORKS based networks. The TAC Xenta 511 works like any web server, making it easy to monitor and control operations over the Internet.

The TAC Xenta 911 is an Ethernet communication device that lets you communicate with your LONWORKS network over TCP/IP.

The TAC Xenta 913 is a multi-protocol gateway bridging the gap between different protocols and communication technologies – e.g. linking BACnet™, Modbus® or M-bus to LONWORKS.

The TAC Xenta 527 is a cost-effective method of integrating the I/NET security system into TAC Vista.

The TAC Xenta 700 series is a multifunctional presentation and control system with an embedded web server that allows you to access your control application and control networks via a web browser any time and anywhere in the world.



Hilton  Copenhagen Airport



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# TAC Vista Software Licensing

## TAC Vista 5.1 Hardware Dongle

### TAC Vista Software Licensing

The TAC Vista software is modular. Most modules require a license to run. There are also packages of licenses available for the most common configurations in order to keep the number of part numbers to order low.

The number of a specific TAC Vista software license refer to the number of concurrent users, not the number of computers where it can run. For example, TAC Vista Workstation can be installed several computers, but only the number of bought licenses will be allowed to run at the same time.

Software licenses are ordered through the same process as any part number. An order for a software licenses prompts an e-mail with an Entitlement ID to be sent out. The ID is used to access the Schneider Electric Buildings Business license activation and management web site. License files to be stored on the TAC Vista PC's are downloaded from the web site.

An order for a software license will not result in distribution of any data storage media with the software itself. The software is normally downloaded from a web site.

### Hardware Dongle

There are two ways to lock licenses in TAC Vista 5.1:

- To a hardware dongle
- To the MAC address (PC Host id) of the PC where the License Server is running.

This is typically the same PC as one of the TAC Vista Servers is running on, but it could on any PC.



#### Which mechanism should you choose?

The hardware dongle is used when there is a need to use different PC's on different occasions. The TAC Vista software can be installed on many machines but there has to be a valid license available for it to run. By moving around a hardware dongle e.g. Vista Workstation can be run on different machines with the same license.

The PC (host) locking mechanism is used when there is no USB port available, or when the customer does not want the risk of losing the dongle. When running TAC Vista on a virtual machine PC (host) locking is often the preferred way.

Locking a license to a particular dongle or to a PC is done on the licensing website. Log in with the Entitlement-id you received in e-mail when ordering the license. Here you will get the license file which is locking the licenses to either a hardware dongle or a PC.

No licenses are stored on the hardware dongle itself. It is the combination of the right license file and the dongle itself that allows the licensed TAC Vista software to run.

Part number	
000857510	TAC Vista 5.1 Hardware Dongle

# TAC Vista 5.1 Packages

## Overview

The TAC Vista software suite is delivered in the following software installation packages:

- TAC Vista Standalone
- TAC Vista Standard
- TAC Vista Manager
- TAC Vista Professional
- TAC Vista Enterprise

Please refer to the table below for the package contents.

Software		Packages				
Part number	Title	Standalone (000882001)	Standard (000882011)	Manager (000882021)	Professional (000882031)	Enterprise (000882041)
000882201	Workstation	■	■	■	■	■
000882211	Graphics Editor OGC				■	■
000882221	Graphics Editor TGML				■	■
000882231	Report Generator			■	■	■
000882241	OPC Tool					
000882251	IPCL Editor					
000882261	Central IPCL Editor					
000882271	Database Generator					
000882281	I/NET Integrated					
000882291	I/NET Security					
000882541	Video Pelco					
000882401	Menta 5.1				■	■
000882411	XBuilder 5.1					
000882421	ZBuilder 5.1					
000882501	Vista 5.1 Server	■ <sup>1</sup>	■	■	■	■
000882511	OPC Client					
000882551	OPC Server					
000882521	System 7					
	Webstation <sup>3</sup>					■ <sup>2</sup>
	ScreenMate <sup>3</sup>					

1) Limited server. Extension with Webstation, Screenmate or additional Vista Servers in network not possible.

2) Three Client Access Licenses, CALs (000882711).

3) See product datasheet for part numbers for various license packages.

Maintenance agreements are available for most TAC Vista 5.1 software modules (part numbers are given on the following pages). An active maintenance agreement ensures that the licensee has access to any new, minor and major, versions. Maintenance agreements are automatically renewed at the end of each 12 month period. The termination notice is three months. Minimum agreement time is three years.

The TAC Vista 5.1 Server communicates with TAC Xenta controllers or with any LON WORKS product using SNVTs (Standard Network Variable Types).

Connection for remote monitoring and/or remote control of Schneider Electric systems is by a PC LON TALK adapter or a dedicated/ dial-up line. Geographically remote systems can be connected via a modem. Automatic bi-directional dial-up (Auto Dial) is used for requests, changing values and for transferring alarms.

- Network management in a multi-station system
- Database Management
- Alarm Handling
- Authority/Security
- Backup
- Scheduling
- Trend Logging
- Event Logging
- Central IPCL
- System Administration

## Part number

000882501	New License
000883501	Upgrade
000884500	1 Year Maintenance Agreement

Basic software module with color graphics, alarm handling, authority/security, scheduling, trend logging and data backup functionality.

### Graphics

- Dynamic color graphics
- Display and control
- Hierarchical image links
- Real-time data acquisition
- Simultaneous display of several graphics on one screen
- Dynamic trend curves

### Alarm Handling

- Alarm and status monitoring
- Color-coded alarm display with information text
- Time and/or event-controlled alarm output on one or several printers
- 1000 alarm priority levels
- Real-time error message processing
- Alarm interlocking
- Selection and sorting options for alarm summary
- Alarm links to reports, color graphics, trend charts and text files
- Alarm repetition block
- Error report statistics
- Audible and visual alarm reports
- Error report acknowledgement

### Access Control

- User identification
- Specified access authorization for all users
- Standby log out function
- Automatic log out function
- Encrypted passwords and NT security

### Backup

- Seamless recording of all system data

### Time Schedule

- Automatic daylight savings correction
- Automatic leap year function
- Weekly and alternative time programs
- System time synchronization

### Trend Viewer

- Variety of calculation functions
- Time and event controlled activation
- Post editing option of recorded values
- Recording interval of 10 seconds to 10 years
- Dynamic trend curves
- Graphic display and evaluation of online values and trend logs
- Easy operation based on the Microsoft Windows standard
- Export of values to other applications such as Microsoft Excel®
- Variety of graphical presentation options

### Event Viewer

- Acquisition and storage of all events that occur in the system (system diary)
- Chronological acquisition of event data within the system when entering date, time, command carried out and the corresponding user
- Recording of events and commands
- Clearly arranged display of event data

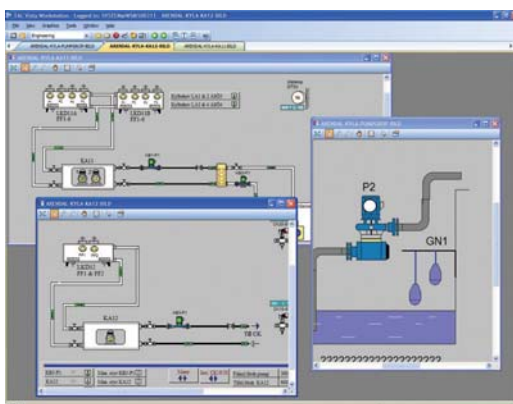
### System Documentation

- System configuration
- Process units
- Object list
- Data point list
- Data point checklist
- Fixed values

### Explorer

- User friendly navigation tool

Part number	
000882201	New License
000883201	Upgrade
000884200	1 Year Maintenance Agreement



# Report Generator Database Generator

## TAC Vista 5.1 Report Generator

Software module that independently generates clear and informative reports and overviews, such as alarm and maintenance reports, status reports, trend logging reports as well as special user-defined reports, diagrams and overviews.

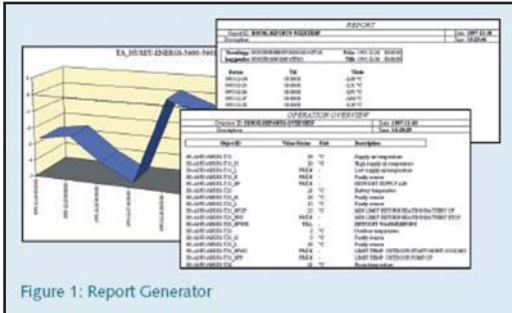


Figure 1: Report Generator

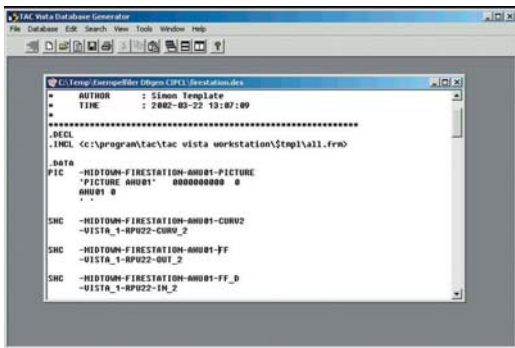
- Standard software based on Microsoft Excel
- Form and content presentation can be freely configured
- Wide range of options for editing acquired data
- Complete support for Microsoft Excel presentation options such as lines, bars and pie charts
- Report printing on demand, or as scheduled
- Wide range of options for text entry, preparation of graphics and calculation
- Standard formats or customized reports
- Display on screen or printed to one or several printers

### Part number

000882231	New License
000883231	Upgrade
000884230	1 Year Maintenance Agreement

## TAC Vista 5.1 Database Generator

Software module for the efficient processing of project specific system data.



- Copying, editing and reusing existing system data from other projects
- Data import, export and conversion
- Conversion and adaptation of system information in the TAC Vista 5.1 database

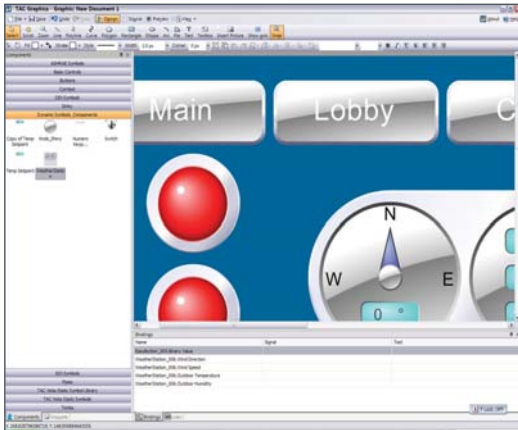
### Part number

000882271	New License
000883271	Upgrade
000884270	1 Year Maintenance Agreement

# Graphics Editor TGML & Graphics Editor OGC

## TAC Vista 5.1 Graphics Editor TGML

TGML is the enhanced Vista graphics system. The editor for TGML graphics provides the user with the most powerful and easy-to-use operator interface in the industry. The richness and flexibility of what can be achieved is unrivalled.



In addition to the ability to draw basic shapes like lines, polylines, curves, polygons, ellipses, arcs etc, the list of functions includes:

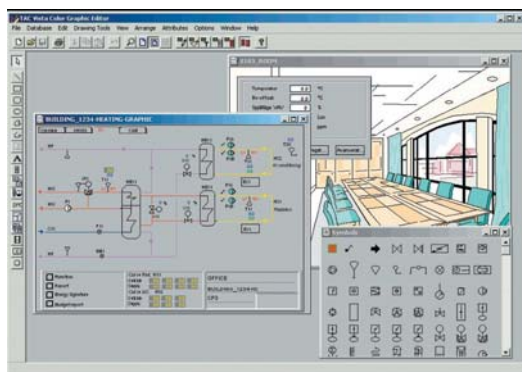
- Components and symbols. Use the symbols supplied with TGML, e.g. DIN and ISO, or create your own library with your preferred look and feel.
- Windows standard user interface 'drag and drop' can be used in the editor.
- Change object appearance with fill color, stroke color, width, height, font, font size etc, and add effects like color gradients or semi-transparency
- Bind to any signal in a Vista system, to any property of a graphical object, or bind several Vista signals to several properties for dynamic behavior.
- Embed pictures and photos.
- Automatically convert OGC graphics.
- Animations and conversions.
- Javascript for more advanced user interaction.

### Part number

000882221	New License
000883221	Upgrade
000884220	1 Year Maintenance Agreement

## TAC Vista 5.1 Graphics Editor OGC

A high performance standalone software module for creating and editing dynamic system images. A broad range of drawing tools, symbols and function allows customized and efficient color graphic creation.



- Extensive standard symbol library
- Symbol editor
- Run time simulation
- Unrestricted tool positioning
- Multiple graphics
- Import of .bmp .gif .jpg .pcx .tif graphics files
- Dynamic and animated graphics as well as creation of dynamic links

### Part number

000882211	New License
000883211	Upgrade
000884210	1 Year Maintenance Agreement



# Communication System 7

## OPC Client & OPC Server

### TAC Vista 5.1 Communication System 7

Software module for communication with the TAC ZONE II and SYSTEM 7 systems.

It supports PLB, KE11 and LCU-C communication interfaces and a dedicated/dialup line connection is used for remote monitoring and/or remote control. Geographically remote systems can be connected via a modem. Automatic bi-directional dial-up (Auto Dial) is used for requests, changing values and for transferring alarms.

Part number	
000882521	New License
000883521	Upgrade
000884520	1 Year Maintenance Agreement

### TAC Vista 5.1 OPC Client

Software module for communicating with a wide range of third party drivers via an OPC server.

Hundreds of examples of OPC servers are available for integrating devices and systems from other manufacturers. Drivers are available for the following communication protocols.

- ABB Master – Alfa Laval Automation – Andover – BACnet – BAS2800 – CAN – Carrier CCN – CSI
- Danfoss Danduc – EIB – Exomatic – Fabec/Tateco AB – FIX – Interbus-S – JCI – Landis & Gyr
- Modicon MODBUS – Panasonic – Profibus – Saia SBus – Toshiba – Telefrang N45 – TREND IQ70
- Siemens S7, H1, L2 – Siematic – York YT – Zerberus

Additional information and supply sources are available on request.

Part number	
000882511	New License
000883511	Upgrade
000884510	1 Year Maintenance Agreement

### TAC Vista 1.6 OPC Server

A software module for open access, via an OPC standard interface, to the TAC Vista 5.1 server.

Provides LonWORKS network object data (nodes, network variables) as OPC objects in a continuously updated database and carries out all the packaging, converting and updating required for these objects.

- Client/server architecture
- Easy and convenient access to TAC Vista via OPC
- Automatic updating
- Suitable for large data quantities

The OPC Server is distributed as a separate installation.

Part number	
000882550	New License
000883550	Upgrade
000884550	1 Year Maintenance Agreement

# CIPCL Editor

## IPCL Editor & OPC Tool

### TAC Vista 5.1 CIPCL Editor

High-level language for efficient programming of special functions in the TAC Vista 5.1 Server.

- Programming language for logical and special functions in the server
- Source file preparation
- Program code conversion

#### Part number

000882261	New License
000883261	Upgrade
000884260	1 Year Maintenance Agreement

### TAC Vista 5.1 IPCL Editor

High-level language for programming logical functions in TAC ZONE II and TAC SYSTEM 7 systems.

- Programming language for logical and special functions in the controller family TA 65XX and 67XX
- Source file preparation
- Download of software to the controllers

#### Part number

000882251	New License
000883251	Upgrade
000884250	1 Year Maintenance Agreement

### TAC Vista 5.1 OPC Tool

Software module for the integration of OPC servers into the TAC Vista 5.1 database (clients).

It is easy to operate and based on the Microsoft Windows standard. This minimizes the work required to configure the OPC client in the TAC Vista 5.1 server database. Structures and objects are imported into this from external OPC servers.

#### Part number

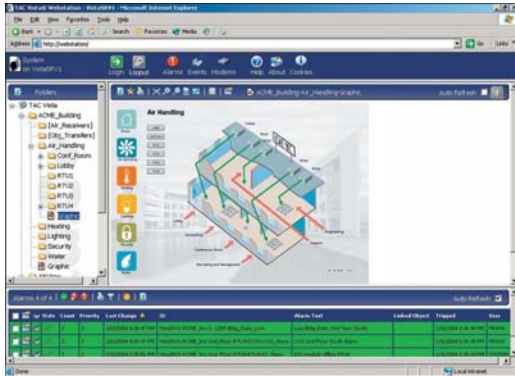
000882241	New License
000883241	Upgrade
000884240	1 Year Maintenance Agreement

# Webstation ScreenMate

## TAC Vista 5.1 Webstation

The software module TAC Vista 5.1 Webstation gives access to TAC Vista 5.1 systems using a standard web browser via the Intranet /Internet. The following operating functions are supported:

- Display and acknowledge alarms
- Read and write values
- View graphics
- Trend logging
- Historical events
- Reports and charts

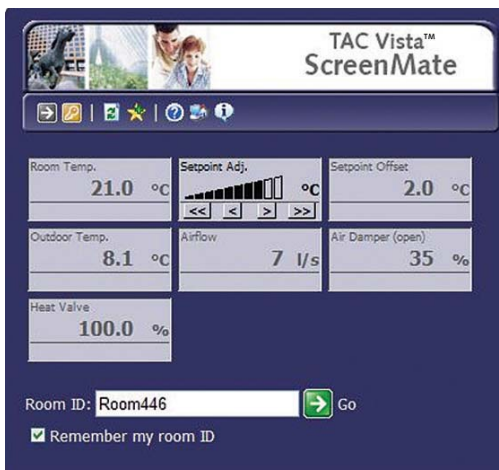


Part number	
000882701	New License – 1 User
000883701	Upgrade – 1 User
000884700	1 Year Maintenance Agreement – 1 User
000882711	New License – 3 Users
000883711	Upgrade – 3 Users
000884710	1 Year Maintenance Agreement – 3 Users
000882721	New License – 6 Users
000883721	Upgrade – 6 Users
000884720	1 Year Maintenance Agreement – 6 Users
000882731	New License – 12 Users
000883731	Upgrade – 12 Users
000884730	1 Year Maintenance Agreement – 12 Users
000882741	New License – Unlimited Users
000883741	Upgrade – Unlimited Users
000884741	1 Year Maintenance Agreement – Unlimited Users

## TAC Vista 5.1 ScreenMate

Room control via the Intranet on a PC workstation.

- Virtual room control device as monitor image
- Individualized control configuration
- Variable setting of room functions such as:
  - Dimming lights
  - Switching lights
  - Adjusting blinds
  - Change setpoints
  - Display of actual values



Part number	
000882801	New License – 10 Users
000883801	Upgrade – 10 Users
000884800	1 Year Maintenance Agreement – 10 Users
000882811	New License – 20 Users
000883811	Upgrade – 20 Users
000884810	1 Year Maintenance Agreement – 20 Users
000882821	New License – 100 Users
000883821	Upgrade – 100 Users
000884820	1 Year Maintenance Agreement – 100 Users

# Host Tool Pelco Video

### TAC Vista 5.1 Host Tool

We have integrated TAC I/NET with TAC Vista 5.1. The result is a uniquely well structured and feature rich solution, enabling users to operate TAC Vista 5.1/TAC Xenta and I/NET systems using one user interface.

If the advanced functions enabled by the I/NET Host Tool are required by end customers, TAC I/NET Security or TAC I/NET Integrated licenses are required. TAC I/NET Security limits the Host Tool to presenting access control and security options only.

#### Part number - Vista 5.1 I/NET Integrated

000882281	New License
000883281	Upgrade
000884280	1 Year Maintenance Agreement

#### Part number - Vista 5.1 I/NET Security

000882291	New License
000883291	Upgrade
000884290	1 Year Maintenance Agreement

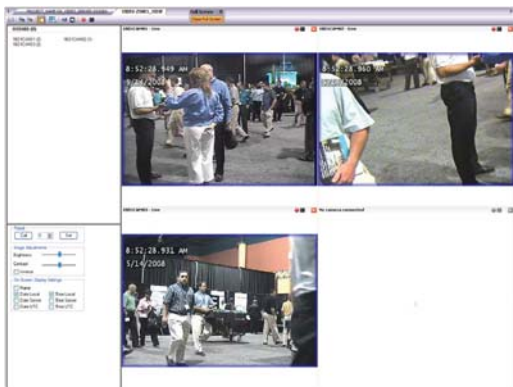
### TAC Vista 5.1 Pelco Video

The Pelco Video license allows use of only one single front-end for video as well as for other building related tasks. Supported video system is Digital Sentry. Viewing live video is only one function.

Users can also control camera movement, recall positions. Authorized users can configure the preset positions from TAC Vista. In addition, users can initiate recording of video and later play back the recordings, all from inside TAC Vista Workstation.

#### Part number

000882540	New license
000884540	1 Year Maintenance Agreement



**TAC Vista 5.1 LNS® Server**

The Echelon® LNS Server is used to expand the TAC Vista 5.1 Server so that it can communicate with LONWORKS devices directly via LNS.

The LNS Server is required for systems where LONMAKER is not installed.

**Part number**

000882531	New License
000883531	Upgrade
000884530	1 Year Maintenance Agreement



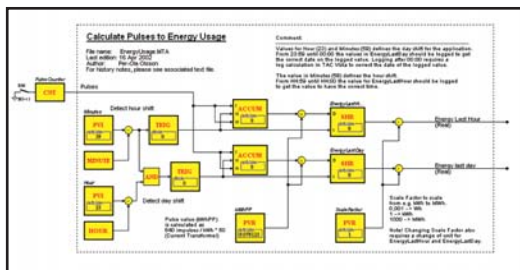
# Software / Engineering Tools

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## TAC Menta

Fully featured, graphical engineering tool for programming, commissioning and operating TAC Xenta® controllers.



- Easy graphical programming
- Wide range of functions and application libraries
- Trend logging, scheduling and alarm definitions
- Automatic creation of LONWORKS® object files in XIF format
- Offline simulation
- Single step execution
- Online operating functions
- Dynamic online trend
- Documentation support
- Downloading of software to TAC Xenta controllers
- Fully integrated with the TAC Vista database
- Definition of the menu structure for the TAC Xenta OP, Operator Panel

### Part number

000882401	New License
000883401	Upgrade
000884400	1 Year Maintenance Agreement

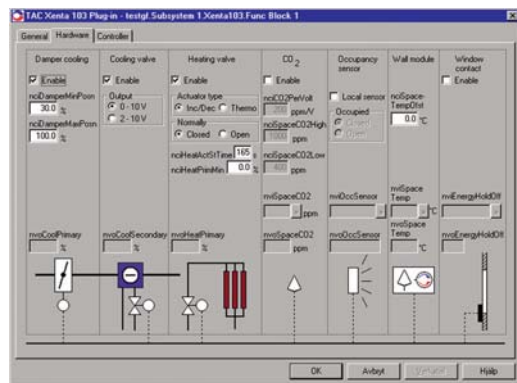
## LONMAKER Network Management Tool

High performance network management tool for creating, installing and maintaining multi-vendor, open and interoperable LONWORKS networks. The LONMAKER Management Tool is based on Echelon's LNS® network operating system, and combines high performance client-server architecture with the user-friendly Microsoft® Visio® user interface

- Simple graphics programming
- Based on LNS operating system and Microsoft Visio
- Supports remote access via LONWORKS or IP networks
- Connection of independent networks to one network
- Simple installation of LONMARK® applications
- Supports Plug-ins for TAC Xenta 100 series zone controllers
- Supports simultaneous access by several users

### Part number

900800030	Credits for LONMAKER Network Management Tool (100 units)
900800130	LONMAKER 3.2 Standard Edition
900800140	LONMAKER 3.2 Professional Edition
900800150	LONMAKER 3.2 Standard Edition Upgrade
900800160	LONMAKER 3.2 Professional Edition Upgrade





## TAC ZBuilder

TAC ZBuilder is an easy to use and a cognitive tool to configure TAC Xenta 121 zone controllers.

It is Windows® based and is fully integrated with TAC Vista and LONMAKER for Windows®. It can also be used as a standalone tool.

Full integration with TAC Vista 5.1 makes ZBuilder easy to learn and increases the engineering and installation efficiency.

## Graphic Representation

All heating, cooling and fan stages are represented in graphics, showing how you have configured it, for easy understanding of the control function including all activation levels and hystereses.

## Control Sequences

All heating and cooling sequences are easy to set by just choosing the number of stages or type of output from the drop down lists. The activation points are easily and intuitively adjusted.

The following stages are supported:

- On/off
- 1 stage
- 2 stages
- 3 stages
- Increase/decrease
- PWM
- Analog

## Fan Control

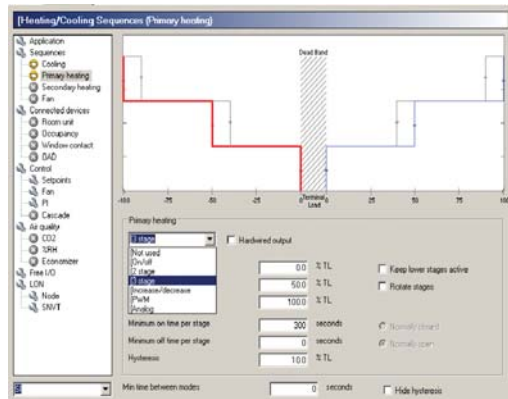
The fan can be programmed to support the following fan types including a number of additional fan control functions.

The following stages and functions are supported:

- On/off
- 2 stages
- 3 stages
- Analog
- Startup boost
- Conditioning
- Start and stop delays
- Fan feedback and interlock with temperature control devices

## TAC ZBuilder Templates

TAC ZBuilder comes with several templates covering most common fan coil and heat pump applications, including sequences and typical exception modes. Should a template covering your typical needs be missing, you can easily create it in TAC ZBuilder and re-use it over and over again.



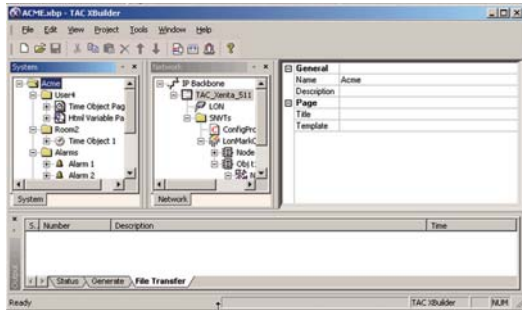
## Part number

000882420	New License
000884420	1 Year Maintenance Agreement

# TAC XBuilder OPC Tool

## TAC XBuilder

TAC XBuilder is the programming tool for TAC Xenta 511, (version 2.0 and later). XBuilder addresses the programming task from the end user point of view, instead of from the device point of view. XBuilder is a project oriented tool, which means all data in an application will be stored in a project container.



The user interface is intuitive and customizable with four main windows.

- System – describes the logical system with objects and connections
- Network – describes the physical implementation of the system with objects
- Properties – describes the properties of the selected object in the System or Network window
- Output – informs the user about errors and warnings in the project

### Part number

000882411	New License
000883411	Upgrade
000884410	1 Year Maintenance Agreement

## TAC Vista OPC Tool

The TAC Vista OPC Tool is a tool used for browsing OPC servers and automatically programming the TAC Vista database. Specifically, this tool is used for TAC OPC server for Danduc, I/Net OPC server or any other OPC server supporting OPC Data Access, alarm & events or historical data.

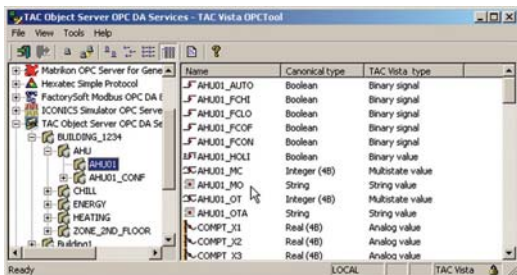
Programming the TAC Vista database involves choosing the signals and trend logs you need to generate and operate. After generation of the objects, TAC Vista 5.1 will be able to communicate with any equipment that is handled by an OPC server.

TAC Vista OPC Tool can be used to perform these tasks:

- Locate OPC servers locally or on any node of a network
- Browse the hierarchy of items in the OPC server
- Create and update objects for the TAC Vista 5.1 database
- Substitute unsupported characters in OPC servers
- Log result to a log file

### Part number

000882241	New License
000883241	Upgrade
000884240	1 Year Maintenance Agreement



NL220 is an LNS network installation and maintenance tool for LonWorks networks. It creates an interoperable LNS database compatible with any LNS software. This LNS manager tool is intuitive, fast and provides advanced functions that speed integration and decrease repetitive work.

**List 1.** Dongles with license for the respective software. Comes with a software CD. If you want to combine several software licenses on the same dongle, add on licenses from list 3 below.

NL220 is mainly chosen by trained integrators that need a fast and reliable tool. NL220 includes several unique features that make integration easier. NL220 is intentionally not graphic. Many engineers feel that a graphic layer doesn't give any added value or usability. The GUI's simplicity makes it intuitive, and since it only uses the LNS database there is no complementary database requiring resynchronisation.

NL220 supports all LNS features; even the most advanced. It is 100% compatible with all LNS plug-ins, including the TAC Vista system and device plug-in.

NL220 licensing allows software to be installed on multiple computers. The license is movable since it is located on a USB dongle (different from the TAC Vista 5.1 dongle).

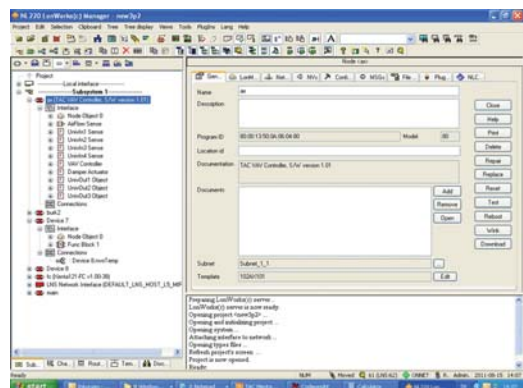
Part number	Description	Supplier part number
900800230	NL220 w. 64 credits <ul style="list-style-type: none"> <li>■ Dongle with NL220 license</li> <li>■ Software CD</li> <li>■ 64 credits</li> </ul>	NL220-I
900800240	NL220 w. 64 credits + CSV <ul style="list-style-type: none"> <li>■ Dongle with NL220 and CSV Toolkit licenses</li> <li>■ Software CD</li> <li>■ 64 credits</li> </ul>	NL220-PRO-I
900800250	NLFacilities Cfg Tool <ul style="list-style-type: none"> <li>■ Dongle with NLFacilities Configuration Tool license</li> <li>■ Software CD</li> </ul>	NLFAC-I
900800260	NLFacilites Cfg Tool w Dbg <ul style="list-style-type: none"> <li>■ Dongle with NLFacilities with debugger license</li> <li>■ Software CD</li> </ul>	NLFACPRO-I
900800280	CSV toolkit only <ul style="list-style-type: none"> <li>■ Dongle with CSV license</li> <li>■ Software CD</li> </ul>	NLCSV
900800290	LNS OPC Server (1 LNS Db) <ul style="list-style-type: none"> <li>■ Dongle with LNS OPC Server license for one (1) LNS data base</li> <li>■ Software CD</li> </ul>	NLOPC-TE
900800310	NLFacilites Runtime (Max. 100) <ul style="list-style-type: none"> <li>■ Dongle with NLFacilites Runtime license, Max. 100 nodes</li> <li>■ Software CD</li> </ul>	NLFAC-R-100-Z
900800320	NLFacilites Runtime (Max. 250) <ul style="list-style-type: none"> <li>■ Dongle with NLFacilites Runtime license, Max. 250 nodes</li> <li>■ Software CD</li> </ul>	NLFAC-R-250-Z
900800330	NLFacilites Runtime (Max. 500) <ul style="list-style-type: none"> <li>■ Dongle with NLFacilites Runtime license, Max. 500 nodes</li> <li>■ Software CD</li> </ul>	NLFAC-R-500-Z
900800340	NLFacilites Runtime (no limit) <ul style="list-style-type: none"> <li>■ Dongle with NLFacilites Runtime license, Max. unlimited number of nodes</li> <li>■ Software CD</li> </ul>	NLFAC-R-UL-Z
900800350	Network diagnostic tool <ul style="list-style-type: none"> <li>■ Dongle with NLUtil, Network Diagnostic Tool license</li> <li>■ Software CD</li> </ul>	NLUTIL
900800360	Network channel diag tool(1PC) <ul style="list-style-type: none"> <li>■ Dongle with Network Channel Diagnostic Tool license for 1 PC</li> <li>■ Software CD</li> </ul>	NLTESTCHNL-FI
900800370	Network channel diagnostic tool <ul style="list-style-type: none"> <li>■ Dongle with Network Channel Diagnostic Tool license, movable between PCs</li> <li>■ Software CD</li> </ul>	NLTESTCHNL-MV
900800380	Upgrade LNS3.0 to NL220/LNS3.2 <ul style="list-style-type: none"> <li>■ Dongle with NL220 license and upgrade of LNS3.0 to 3.2</li> <li>■ Software CD</li> </ul>	NL220TEUP
900800580	NL220 Maintenance <ul style="list-style-type: none"> <li>■ Dongle with NL220 Maintenance license</li> <li>■ Software CD</li> </ul>	NL220M

**List 2.** Credits only

Part number	Description	Supplier part number
900800270	NL220 w. 64 credits <ul style="list-style-type: none"> <li>■ Credits to be loaded on to an existing dongle</li> </ul>	NLCREDIT

**List 3.** These are licenses that can be added to an existing dongle, i.e. the dongle has already been purchased with a product from list 1

Part number	Description	Supplier part number
900800390	Upg NL220 w. 64 credits <ul style="list-style-type: none"> <li>■ NL220 license</li> <li>■ 64 credits</li> </ul>	NL220-I UPG
900800400	Upg NL220 w. 64 credits + CSV <ul style="list-style-type: none"> <li>■ NL220 and CSV Toolkit licenses</li> <li>■ 64 credits</li> </ul>	NL220-PRO-I UPG
900800410	Upg NLFacilities Cfg Tool <ul style="list-style-type: none"> <li>■ NLFacilities Configuration Tool license</li> </ul>	NLFAC-I UPG
900800420	Upg NLFac Cfg Tool w Dbg <ul style="list-style-type: none"> <li>■ NLFacilities Configuration Tool with debugger license</li> </ul>	NLFACPRO-I UPG
900800430	Upg CSV toolkit only <ul style="list-style-type: none"> <li>■ CSV Toolkit license</li> </ul>	NLCSV UPG
900800440	Upg LNS OPC Server (1 LNS Db) <ul style="list-style-type: none"> <li>■ LNS OPC Server license for one (1) LNS data base</li> </ul>	NLOPC-TE UPG
900800450	Upg 1 additnl LNS Db to OPC Svr <ul style="list-style-type: none"> <li>■ LNS OPC Server license for one (1) additional LNS data base</li> </ul>	NLOPC-TE-DB UPG
900800460	Upg NLFac Runtime (Max. 100) <ul style="list-style-type: none"> <li>■ NLFacilites Runtime license, Max. 100 nodes</li> </ul>	NLFAC-R-100-Z UPG
900800470	Upg NLFac Runtime (Max. 250) <ul style="list-style-type: none"> <li>■ NLFacilites Runtime license, Max. 250 nodes</li> </ul>	NLFAC-R-250-Z UPG
900800480	Upg NLFac Runtime (Max. 500) <ul style="list-style-type: none"> <li>■ NLFacilites Runtime license, Max. 500 nodes</li> </ul>	NLFAC-R-500-Z UPG
900800490	Upg NLFac Runtime (no limit) <ul style="list-style-type: none"> <li>■ NLFacilites Runtime license, unlimited no of nodes</li> </ul>	NLFAC-R-UL-Z UPG
900800500	Upg NLFac Runtime (no limit) <ul style="list-style-type: none"> <li>■ NLFacilites Runtime license, unlimited no of nodes</li> </ul>	NLUTIL UPG
900800510	Upg Network chnl diag tool(1PC) <ul style="list-style-type: none"> <li>■ Network Channel Diagnostic Tool license for 1 PC</li> </ul>	NLTESTCHNL FI UPG
900800520	Upg Network chnl diag tool <ul style="list-style-type: none"> <li>■ Network Channel Diagnostic Tool license, movable between PCs</li> </ul>	NLTESTCHNL-MV UPG
900800530	Upg Upg LNS3.0 to NL220TE <ul style="list-style-type: none"> <li>■ NL220 license and upgrade of LNS3.0 to 3.2</li> <li>■ Software CD</li> </ul>	NL220TEUP UPG



NL220 Screenshot

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# Hardware/ Ethernet Devices

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# TAC Xenta Ethernet Devices Overview

The convergence of Internet and LonWorks® technology creates new opportunities in building automation, and Schneider Electric is in the forefront of this development with the concept of Open Systems for Building IT.

Schneider Electric provides a number of Ethernet devices to let you save a large portion of the infrastructure cost for systems installation by sharing already installed network cables.

The table below provides an overview of the TAC Xenta® range of Ethernet devices and their functionality.

Product	Function											
	Web	LTA <sup>1</sup>	Xenta Server	TAC I/NET Points	TAC I/NET NPR	Modbus	Protocols <sup>4</sup>	Satchwell MicroNet	I/O Modules	Alarm & Trend Log	TAC Xenta 280/300/401 Support	Menta
TAC Xenta	511	■	■	■				■			■	■
	527	■	■	■	■	■					■	■
	555	■	■	■				■			■	■
	701	Service <sup>3</sup>	■	■					10	■		■
	711	■	■	■					10	■	■	■
	721	Service <sup>3</sup>	■	■					20	■	■	■
	731	■	■	■	■	■	■		20	■	■	■
	913	Service <sup>3</sup>	■	■	■			■				
	911 <sup>2</sup>		■									

1) LONtALK® Adapter

2) TAC Xenta 911 also supports IP Modem and Remote Serial Port

3) Web pages generated for commissioning and service purposes only. No end-user web content available.

4) M-bus, C-bus and BACnet Client

## Communication in TAC Xenta Ethernet Devices

Protocol	Description/Model	Driver description
BACnet	BACnet IP/MS-TP/PTP	BACnet is a standard protocol for building automation developed by ASHRAE <ul style="list-style-type: none"> <li>■ Supports BACnet ReadProperty</li> <li>■ WriteProperty messages.</li> <li>■ Max. no. of devices: IP: 10, MS-TP: 30, PTP: 10</li> </ul>
Modbus/J-Bus	Modbus/ Master/Slave/TCP	Commonly used protocol by many PLCs and other equipment manufacturers. <ul style="list-style-type: none"> <li>■ Uses Poll-on-demand to extract data</li> <li>■ RTU or ASCII Formats</li> <li>■ Max. no serial devices connected: 32</li> <li>■ Max. no of TCP Servers connected: 100</li> <li>■ Max. no of devices/TCP Server: 100</li> <li>■ Recommended Max. total number of devices: 100</li> </ul>
M-Bus	Metering bus	M-Bus is a standard protocol for meters <ul style="list-style-type: none"> <li>■ Requires a hardware converter between RS-232 and M-Bus e.g. Level-Converter PW20</li> <li>■ Relay GmbH.</li> <li>■ Max. no. of devices: 200</li> </ul>
C-Bus	Clipsal bus	C-Bus is a proprietary communication protocol of <ul style="list-style-type: none"> <li>■ Clipsal Lighting Control Systems.</li> <li>■ Max. no. of devices: 50</li> </ul>
LonWorks	FT-10	LonWorks® is a standard communication, extensively used in building automation. Up to 400 SNVTs or TAC Xenta network variables.
I/NET	Host LAN/Controller LAN	I/NET is a proprietary protocol for I/NET systems from TAC

# TAC Xenta 511 Web Server



The TAC Xenta 511 is a web-based presentation system for LONWORKS and Modbus networks. Using a standard web browser, the operator can easily view and control the devices in the LONWORKS network via the Internet or a local intranet. One TAC Xenta 511 can present a small to medium LONWORKS network or be one of several local presentation devices in a larger network. The TAC Xenta 511 can also be used as an LTA (LONTALK adapter) between TAC Vista and the LONWORKS network.

## Functional features

- Multiple access levels
- Security functions for TCP/IP firewalls
- Complete alarm handling
- Alarm routines for sending emails that can be converted to SMS and reports
- Dynamic color graphics (automatic updating)
- Display of values in diagrams
- Data logging and data logging viewer
- Ability to change values/conditions (e.g. setpoints)
- Ready-made menus, help functions and links to web pages
- Storage of customer-specific documentation and web pages

Supports SNVT (Standard Network Variable Types) in accordance with LONMARK and TAC network variables. Changes are immediately visible to all users. TAC XBuilder is used to create web pages, and for the installation and initial

## Specifications

Supply voltage	24 VAC +/- 20%, 50-60 Hz or 19-40 VDC
Power consumption	Max. 5 W
Transformer sizing	5 VA
<b>Ambient temperature</b>	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions	90 x 110 x 77 mm (3.5" x 4.3" x 3")
Weight	0.2 kg (0.44 lb.)
Enclosure rating	IP 20
<b>Real-time clock</b>	
Accuracy at 25 °C (77 °F)	± 12 min/year
Power failure protection	72 h
<b>Communication ports</b>	
Port A: RS232	2400-57600 bps, RJ45, 8-p
Port A: RS485	2400-57600 bps, 2/4-wire, asynchronous, screw terminal
Port B: RS232	RJ10, 4-p
LONWORKS	TP/FT-10, screw terminal
Ethernet	TCP/IP, 10Base-T, RJ45
Modbus, Port A	Serial Master/Slave (RS485 or RS232)
Modbus TCP	Client
Port B	Configuration (9600 bps)
<b>Memory</b>	
Memory	16 MB

For further specifications, see technical data sheet.

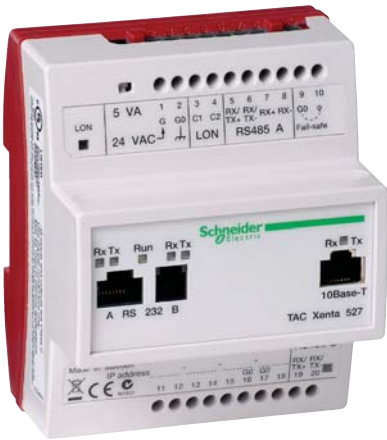
## Part number

007308110	TAC Xenta 511
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## Accessories

007308110	Terminal Part Xenta 400
007309200	TAC Xenta: Programming Serial Kit

# TAC Xenta 527 I/NET Integration



## Functional features

- Real-time graphics and dynamic data
- Simultaneous presentation of TAC I/NET and TAC Vista 5.1 systems
- Trend logging and analysis
- Time scheduling
- Time synchronization
- Alarm management
- Alarm notification via email
- Device mode management
- Event viewing and filtering
- Point control
- Operator security
- Personal home page
- Wireless Sensor Support
- Embedded Net Plus router
- Peer to Peer linking of TAC I/NET to LON® signals
- Configurable Encryption for TAC I/NET I/P communications
- Supports DNS and DHCP configurations
- Comprehensive SNMP integration
- On-board Controller

The TAC Xenta 527 is a comprehensive presentation system, which enables secure web access to both TAC I/NET Seven and TAC Vista 5.1 networks simultaneously. It provides you with the freedom to monitor your system from any location with Internet access. With automatic network discovery of TAC I/NET systems, the only configuration needed is to point the Xenta 527 to TAC I/NET's NetPlus™ Routers or TAC I/NET Hosts. After that, your entire TAC I/NET network is immediately available through the web interface.

You can access any point in your system, either through the convenient browse functionality, or via a graphic page link. Comprehensive control features include changing values such as set points, optimization parameters, and PID parameters. Manual control features such as test, hold, and manual are all supported as well as acknowledge, and momentary release for doors.

## Specifications

Supply voltage	24 VAC +/- 20%, 50-60 Hz or 19-40 VDC
Power consumption	Max. 5 W
Transformer sizing	5 VA
<b>Ambient temperature</b>	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions	90 x 110 x 77 mm (3.5" * 4.3" * 3")
Weight	0.2 kg (0.44 lb.)
Enclosure rating	IP 20
<b>Real-time clock</b>	
Accuracy at 25 °C (77 °F)	± 12 min/year
Power failure protection	72 h
<b>Communication ports</b>	
Port A: RS232	2400-57600 bps, RJ45, 8-p
Port A: RS485	2400-57600 bps, 2/4-wire, asynchronous, screw terminal
Port B: RS232	RJ10, 4-p
Port C: RS485	Synchronous (SDLC), 2-wire, screw terminal
LONWORKS	TP/FT-10, screw terminal
Ethernet	TCP/IP, 10Base-T, RJ45
Modbus, Port A	Serial Master/Slave (RS485 or RS232)
Modbus TCP	Client
Port B	Configuration (9600 bps)
<b>Memory</b>	
Memory	16 MB

For further specifications, see technical data sheet.

## Part number

007308200	TAC Xenta 527
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## Accessories

007309020	Terminal part TAC Xenta 400
007309200	TAC Xenta: Programming Serial Kit

# TAC Xenta 555 MicroNet Integration



The TAC Xenta 555 is a multifunctional presentation system with a built-in (embedded) web server. It offers MicroNet and SatchNet users a feature rich web solution by providing secure web browser access to MicroNet and SatchNet controllers and networks.

Monitoring, energy management, alarm annunciation, logging, scheduling and point overrides are all accessible via an easy to use and intuitive graphical user interface.

VisiSat and TAC XBuilder programming tools enable speedy configuration and engineering.

The Xenta 555 can also act as a Xenta server for LonWORKS and has in-built connectivity to Vista. This option provides an unsurpassed and integrated solution for building management and security.

MicroNet users can choose the communications platform best suited to their business: NCP, ARCNET or LonWORKS. TAC Xenta 555 can also act as a Modbus TCP Client and communicate with Modbus TCP Servers.

## Functional features

- Multiple access levels
- Security functions for TCP/IP firewalls
- Complete alarm handling
- Alarm routines for sending emails that can be converted to SMS and reports
- Dynamic color graphics (automatic updating)
- Display of values in diagrams
- Data logging and data logging viewer
- Ability to change values/conditions (e.g. setpoints)
- Ready-made menus, help functions and links to web pages
- Storage of customer-specific documentation and web pages

Supports SNVT (Standard Network Variable Types) in accordance with LonMARK® and TAC network variables. Changes are immediately visible to all users. TAC XBuilder is used to create web pages, and for the installation and initial operation of the TAC Xenta 511.

## Specifications

Supply voltage	24 VAC ± 20%, 50-60 Hz or 19-40 VDC
Power consumption	Max. 5 W
Transformer sizing	5 VA
<b>Ambient temperature</b>	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions	90 x 110 x 77 mm (3.5" x 4.3" x 3")
Weight	0.2 kg (0.44 lb.)
Enclosure rating	IP 20
<b>Real-time clock</b>	
Accuracy at 25 °C (77 °F)	±12 min/year
Power failure protection	72 h
<b>Communication ports</b>	
Port A: RS232	2400-57600 bps, RJ45, 8-p
Port A: RS485	2400-57600 bps, 2/4-wire, asynchronous, screw terminal
Port B: RS232	RJ10, 4-p
LonWORKS	TP/FT-10, screw terminal
Ethernet	TCP/IP, 10Base-T, RJ45
MicroNet, SatchNet, Port A	Serial RS-232/RS-485
Modbus TCP	Client
Port B	Configuration (9600 bps)
<b>Memory</b>	
Memory	16 MB

For further specifications, see technical data sheet.

## Part number

007308250	TAC Xenta 555
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## Accessories

007308110	Terminal Part Xenta 400
007309200	TAC Xenta: Programming Serial Kit

# TAC Xenta 700 Programmable Controller



## Functional features

- TAC Xenta 700 controller family with built-in web functionality
- Configurable or automatically generated Web interface
- Complete web-based Building Management System
- Highly scalable systems based on TAC Xenta 700 in combination with TAC Vista
- IP connectivity enabling worldwide access via the Internet
- Versatile and easily learnt TAC Menta programming tool
- Several TAC Menta applications can run simultaneously
- Multiple instances of one TAC Menta application for easy engineering
- High performance control applications
- Efficient engineering based on the TAC XBuilder tool
- Security functions for TCP/IP firewalls
- Complete alarm handling capability
- Dynamic color graphics (updated automatically)
- Flexible value displays - in diagrammatic or tabular form
- Data logging and data logging viewer

Part number	
007301500	El.Part TAC Xenta 701 TCP/IP based controller
007301550	El.Part TAC Xenta 711 TCP/IP based controller,
007301600	El.Part TAC Xenta 721 TCP/IP based controller
007301650	El.Part TAC Xenta 731 TCP/IP based controller,

Accessories	
00730902	Terminal part TAC Xenta 400
00730920	TAC Xenta: Programming Serial Kit

The TAC Xenta 700 series is a multifunctional presentation and control system with an embedded web server that allows you to access your control application and control networks via a web browser - anywhere in the world, at any time. TAC Xenta 700 series controllers are the first to combine building automation, web functionality, alarm handling and amazing graphics, all in a powerful, compact package. This all-in-one solution has everything you need to monitor and control your settings in a single economical device. Furthermore, Xenta 700 controllers are Xenta servers designed to be connected via TCP/IP to TAC Vista in larger installations, aggregating data for easy operation and benchmarking.

All functions for daily operations such as Alarm Handling, Trend Logging and Viewing, Event Handling, Time Schedules, Advanced Dynamic Graphics, are included. The TAC Xenta 700 series comprises four controllers, as per the table below.

Supports	Modbus	MicroNet	I/NET	Web	Xenta 400 I/O Modules	Xenta 280/300/401
Xenta 701	■			Service	10	
Xenta 711	■			Custom	10	■
Xenta 721	■			Service	20	■
Xenta 731	■	■	■	Custom	20	■

## Specifications

Supply voltage	24 VAC +/- 20%, 50-60 Hz or 19-40 VDC
Power consumption	Max. 5 W
Transformer sizing	5 VA
Ambient temperature	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
Mechanical	
Dimensions	90 x 110 x 77 mm (3.5" x 4.3" x 3")
Weight	0.2 kg (0.44 lb.)
Enclosure rating	IP 20
Real-time clock	
Accuracy at 25 °C(77 °F)	± 12 min/year
Power failure protection	72 h
Communication ports	
Port A: RS232	2400-57600 bps, RJ45, 8-p
Port A: RS485	2400-57600 bps, 2/4-wire, asynchronous, screw terminal
Port B: RS232	RJ10, 4-p
Port C: RS485 (731 only)	Synchronous (SDLC), 2-wire, screw terminal
LONWORKS	TP/FT-10, screw terminal
Ethernet	TCP/IP, 10Base-T, RJ45
Modbus, Port A	Serial Master/Slave (RS485 or RS232)
Modbus TCP	Client
Port B	Configuration (9600 bps) or OP7
Memory	
Memory	16 MB

# TAC Xenta 911 LONTalk Adapter



The TAC Xenta 911 communication device can be configured in three different ways:

- As a LONTalk adapter between TAC Vista and a LonWORKS network
- As an IP modem, working as a direct replacement for a telephone modem, with dial-up functionality over the computer network
- As a remote serial port, meaning the serial port of Xenta 911 can be used as if it was a serial port on the PC. To be used for the serial protocols of Vista.

In the latter case, TAC Xenta 911 is intended for use with most TAC units supporting dial-up. See the data sheet for TAC Xenta 911. The IP address of the "dialed-up" unit will then replace the telephone number. This makes it very easy to save money by eliminating telephone line costs. The fast dial-up time, typically less than two seconds, provides the feeling of a directly connected network.

The TAC Xenta 911 is quick to install and is easily maintained, using a web browser on the TCP/IP network. Its default values are set for TAC Xenta connection, and it is pre-configured for most TAC products. The TAC Xenta 911 contains HTML pages providing comprehensive on-line help.

## Functional features

- Works as a LONTalk adapter over IP between TAC Vista 5.1 and a LonWORKS network
- Supports TAC Xenta controllers and most TAC legacy products
- Configurable over an IP network with a standard web browser
- Pre-configured for most TAC products
- Real-time clock
- All configuration data, e.g. like telephone numbers, are stored in a non-volatile memory

Supports SNVT (Standard Network Variable Types) in accordance with LONMARK and TAC network variables.

## Specifications

Supply voltage	24 VAC ± 20%, 50-60 Hz or 19-40 VDC
Power consumption	Max.. 5 W
Transformer sizing	5 VA
Ambient temperature	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
Mechanical	
Dimensions	90 * 110 * 77 mm (3.5" * 4.3" * 3")
Weight	0.2 kg (0.44 lb.)
Enclosure rating	IP 20
Communication ports	
Port A: RS232	2400-57600 bps, RJ45, 8-p
Port A: RS485	2400-57600 bps, 2/4-wire, asynchronous, screw terminal
Port B: RS232	RJ10, 4-p
Port C: RS485	Synchronous (SDLC), 2-wire, screw terminal
LonWORKS	TP/FT-10, screw terminal
Ethernet	TCP/IP, 10Base-T, RJ45
Port B	Configuration (9600 bps)

## Part number

007308310	TAC Xenta 911
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## Accessories

007309020	Terminal part TAC Xenta 400
007309200	TAC Xenta: Programming Serial Kit

# TAC Xenta 913 Gateway



## Functional features

- Freedom to migrate to open systems
- Bridges the gap between two protocols and communication technologies
- Handles most common protocols
- Easy to operate
- Reliable and cost effective
- Links chiller plants
- Integrates power meters

The TAC Xenta 913 is a cost-effective way to integrate a large variety of products into a TAC network. The TAC Xenta 913 supports the most commonly used open protocols, such as Modbus, BACnet and LonWorks. It also supports some manufacturer-specific protocols, e.g. I/NET and Clipsal C-bus.

The TAC Xenta 913 acts as a gateway, and transfers data point values from one network to another. Configuration is carried out using the TAC XBuilder programming tool.

## Specifications

Supply voltage	24 VAC $\pm$ 20%, 50-60 Hz or 19-40 VDC
Power consumption	Max. 5 W
Transformer sizing	5 VA
<b>Ambient temperature</b>	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions	90 x 110 x 77 mm (3.5" x 4.3" x 3")
Weight	0.2 kg (0.44 lb.)
Enclosure rating	IP 20
<b>Real-time clock</b>	
Accuracy at 25 °C (77 °F)	$\pm$ 12 min/year
Power failure protection	72 h
<b>Communication ports</b>	
Port A: RS232	2400-57600 bps, RJ45, 8-p
Port A: RS485	2400-57600 bps, 2/4-wire, asynchronous, screw terminal
Port B: RS232	RJ10, 4-p
Port C: RS485	Synchronous (SDLC), 2-wire, screw terminal
LonWorks	TP/FT-10, screw terminal
Ethernet	TCP/IP, 10Base-T, RJ45
Modbus, Port A	Serial Master/Slave (RS485 or RS232)
Modbus TCP	Client
Port B	Configuration (9600 bps)

## Part number

007308351	TAC Xenta 913
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## Accessories

007309020	Terminal Part Xenta 400
007309200	TAC Xenta: Programming Serial Kit





# Programmable Controllers

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TAC Xenta® is a range of LONMARK®-certified programmable controllers intended for control of small, medium and large heating, ventilation and air-conditioning systems. TAC Xenta series controllers are designed for use in open systems and for integration via LONWORKS® – an industrial standard for network communications which enables a range of different systems within a property, such as HVAC, lighting and access control, to be integrated on the same network. TAC Xenta series provides an open, future-proof system architecture. At the same time, it provides access to standardized network technology supporting a flexible control system, to which components from other manufacturers can be connected.

### Designed for effective control of heating and ventilation

The TAC Xenta programmable controllers have full HVAC functionality, including control loops, control curves, time control, alarm handling, etc.

### Simplicity of installation

The controllers are freely programmable and can be fitted in a standard enclosure or a control panel. Installation is extremely simple. The controller is designed for installation adjacent to the equipment that it controls, which greatly simplifies wiring. The unique TAC Menta graphic programming tool quickly adapts the controller for different types of control and/or supervisory applications. Engineering is further simplified by the fact that TAC Menta contains a large number of preprogrammed function blocks, together with a comprehensive library of functions.

### Developed for network communication

The TAC Xenta can be used either independently or as a communicating controller in a larger system. Several controllers can be easily connected to form a network and exchange data. In addition, the TAC Xenta series controller can be connected to TAC Vista – a Building Management System running under Windows® for controlling and analyzing all aspects of performance, either in individual buildings or a whole area.

Device	Controllers						I/O Modules				
	Xenta 281	Xenta 282	Xenta 283	Xenta 301	Xenta 302	Xenta 401	Xenta 411/412	Xenta 421A/422A	Xenta 451A/452A	Xenta 471	Xenta 491/492
Usage	Small installations			Medium size installations		Large installations	I/O extension				
I/O points	12	16	12	20	20		10	9	10	8	8
Digital inputs	2	2	2	4	4		10				
Thermistor inputs, TI		2	4	4	4						
Universal inputs, UI	4	4		4	4			4	8		
Analog inputs, AI										8	
Digital outputs relay, DO	3	4		6	4			5			
Digital outputs, triac, DO			6								
Analog outputs, AO	3	4		2	4				2		8
Number of I/O modules				2	2	10					
<b>LONWORKS variables</b>											
Number of input SVNTs	15	15	15	15	15	125		Yes (1)	Yes (1)		
Number of output SVNTs	30	30	30	30	30	125		Yes (1)	Yes (1)		

(1) The I/O points and configuration of these modules can be accessed via SNVTs.



## Functional features

- Optimized for maximum flexibility in HVAC control with on board inputs and outputs
- Fully programmable using the intuitive TAC Menta programming tool
- Intelligent start time calculation minimizing energy usage
- Designed for use in open systems and integration via LONWORKS
- Available in a range of models to secure cost-efficiency for each application
- Designed to work with TAC Vista

A compact, freely programmable controller which is LONMARK certified and has fixed inputs and outputs. The controller is available in three different versions:

- TAC Xenta 281 (12 physical inputs/outputs)
- TAC Xenta 282 (16 physical inputs/outputs)
- TAC Xenta 283 (12 physical inputs/outputs)

The controllers can be easily programmed using the graphical programming tool TAC Menta. The controllers can be used in a standalone system, where the TAC Xenta OP can be used for displaying and operating the controller. Controllers can alternatively be used in larger LONWORKS networks.

## Specifications

Operating voltage	24 V AC/DC $\pm 20\%$ , 50/60 Hz
Power consumption	Max. 5 W
Data backup in event of power failure	72 h RAM-Backup
<b>Ambient temperature</b>	
Storage	$-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ( $-4\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$ )
Operation	$0\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ( $+32\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$ )
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions including base	180 x 110 x 77mm (7" x 4.3" x 3")
Protocol	FTT-10, LONTALK <sup>®</sup>
Transmission rate	78 kbits/s
<b>External LONWORKS data points</b>	
Input variable	Max. 15 SNVTs
Output variable	Max. 30 SNVTs
<b>Interfaces</b>	
Serial connection	RS232, RJ45
Operator panel	Modular jack, LONTALK Protocol

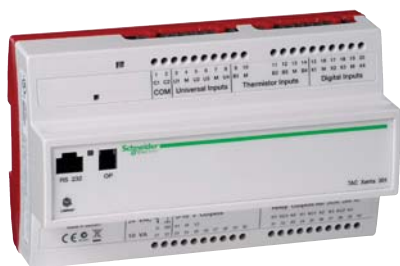
Unit	DI	DO	UI	TI	AO
TAC Xenta 281	2	3	4	-	3
TAC Xenta 282	2	4	4	2	4
TAC Xenta 283	2	6	-	4	-

## Part number

007300300	TAC Xenta 281
007300310	TAC Xenta 282
007300320	TAC Xenta 283

## Accessories

007309010	Terminal part for all Xenta 280/300
007309200	TAC Xenta: Programming Serial Kit



A compact, networkable, freely programmable controller which is LONMARK-certified and has 20 fixed inputs and outputs. It can be expanded for up to 40 inputs/outputs using 2 expansion modules. Data can be directly accessed on site using a TAC Xenta OP Operator Panel.

## Functional features

- Optimized for maximum flexibility in HVAC control with on board inputs and outputs
- Fully programmable using the intuitive TAC Menta programming tool
- Intelligent start time calculation minimizing energy usage
- Designed for use in open systems and integration via LONWORKS
- Available in a range of models to secure cost-efficiency for each application
- I/O points can be extended by TAC Xenta 400 I/O modules
- Designed to work with TAC Vista

## Specifications

Operating voltage	24 V AC/DC $\pm 20\%$ , 50/60 Hz
Power consumption	Max. 5 W
Data backup in event of power failure	72 h RAM-Backup
<b>Ambient temperature</b>	
Storage	$-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ( $-4\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$ )
Operation	$0\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ( $+32\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$ )
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions including base	180 x 110 x 77mm (7" x 4.3" x 3")
Protocol	FTT-10, LONTALK <sup>®</sup>
Transmission rate	78 kbits/s
<b>External LONWORKS data points</b>	
Input variable	Max. 15 SNVTs
Output variable	Max. 30 SNVTs
<b>Interfaces</b>	
Serial connection	RS232, RJ45 for PC or modem (up to 9600 bit/s)
Operator panel	Modular jack, LONTALK <sup>®</sup> Protocol

For further specifications, see technical data sheet.

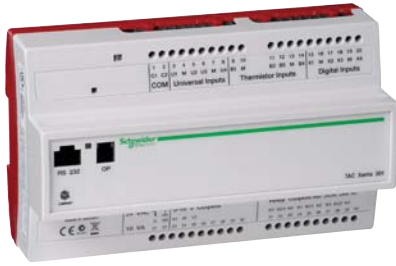
Unit	UI	DI	TI	AO	DO
TAC Xenta 301	4	4	4	2	6
TAC Xenta 302	4	4	4	4	4

## Part number

007300092	TAC Xenta 301/N/P network- and PC-communication
007300112	TAC Xenta 302/N/P network- and PC-communication

## Accessories

007309010	Terminal part TAC Xenta 280/300
007309072	Operator terminal TAC Xenta OP
007309200	TAC Xenta: Programming Serial Kit



A compact, freely programmable controller which is LONMARK certified and has 20 fixed inputs and outputs. The controller can be expanded to up to 40 inputs/outputs using two expansion modules. It does not include peer-to-peer or BMS (TAC Vista) communication. The controller can be upgraded at any time to a networkable version without changing the hardware. The TAC Xenta OP Operator Panel and a compatible terminal block are included in the standalone package.

## Functional features

- Optimized for maximum flexibility in HVAC control with on board inputs and outputs
- Fully programmable using the intuitive TAC Menta programming tool
- Intelligent start time calculation minimizing energy usage
- Available in a range of models to secure cost-efficiency for each application
- I/O points can be extended by TAC Xenta 400 I/O modules

## Specifications

Operating voltage	24 V AC/DC $\pm 20\%$ , 50/60 Hz
Power consumption	Max. 5 W
Data backup in event of power failure	72 h RAM-Backup
<b>Ambient temperature</b>	
Storage	$-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ( $-4\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$ )
Operation	$0\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ( $+32\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$ )
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions	180 x 110 x 77mm (7" x 4.3" x 3")
Protocol	FTT-10, LONTALK
Transmission rate	78 kbits/s
<b>External LONWORKS data points</b>	
Input variable	Max. 15 SNVTs
Output variable	Max. 30 SNVTs
<b>Interfaces</b>	
Serial connection	RS232, RJ45 for PC or modem (up to 9600 bit/s)
Operator panel	Modular jack, LONTALK Protocol

For further specifications, see technical data sheet.

Unit	UI	DI	TI	AO	DO
TAC Xenta 301	4	4	4	2	6
TAC Xenta 302	4	4	4	4	4

## Part number

007300132	TAC Xenta 301 Standalone
007300152	TAC Xenta 302 Standalone
000872981	Upgrade TAC Xenta 300V3 to N/P

## Accessories

007309010	Terminal part TAC Xenta 280/300
007309200	TAC Xenta: Programming Serial Kit



High performance, freely programmable, high end controller without its own physical inputs and outputs. LONMARK certified. It can be expanded for up to 100 inputs/outputs with 10 expansion modules. It has a large memory so that the controller can be easily used for higher level functions (e.g. centralized schedule management).

## Functional features

- Powerful platform supporting complex applications
- Fully programmable using the intuitive TAC Menta programming tool
- Expandable I/O provides cost effective solution
- Smart and powerful data logging maximizing storage capacity
- Extensive memory supporting trending and scheduling
- LONMARK-certified enabling seamless integration with other building systems and functions

## Specifications

Operating voltage	24 V AC/DC ±20%, 50/60 Hz
Power consumption	Max. 5 W
Data backup in event of power failure	72 h RAM-Backup
<b>Ambient temperature</b>	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions	180 x 110 x 77mm (7" x 4.3" x 3")
Protocol	FTT-10, LONTALK
Transmission rate	78 kbits/s
<b>External LONWORKS data points</b>	
Input variable	Max. 125 SNVTs
Output variable	Max. 125 SNVTs
<b>TAC Xenta 401:B</b>	
Input variable	Max. 210 SNVTs
Output variable	Max. 70 SNVTs
Total number inputs and outputs	Max. 250 SNVT
<b>I/O modules</b>	
TAC Xenta 401	Max. 10
TAC Xenta 401:B	0
<b>Interfaces</b>	
Serial connection	RS232, RJ45 for PC or modem (up to 9600 bit/s)
Operator panel	Modular jack, LONTALK Protocol

For further specifications, see technical data sheet.

## Part number

007301012	TAC Xenta 401
007301030	TAC Xenta 401:B

## Accessories

007309020	Terminal part TAC Xenta 400
007309072	Operator terminal TAC Xenta OP
007309200	TAC Xenta: Programming Serial Kit

# TAC Xenta 411/412 Digital Input Module



For monitoring and counting digital, dry contact signals. The digital input module is only to be used in combination with the TAC Xenta 300/401 basic controllers. The module is available either with or without status LEDs. The terminal block is not part of the electronic unit and must be ordered separately.

## Functional features

- Universal inputs provide installation flexibility
- Designed for TAC Vista systems
- Perfect for distributed installations
- Manual override switches provide local bypass operation
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

## Specifications

Operating voltage	24 V AC/DC $\pm 20\%$ , 50/60 Hz
Power consumption	Max. 2 W
Ambient temperature	
Storage	$-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ( $-4\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$ )
Operation	$0\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ( $+32\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$ )
Humidity	Max. 90% RH non-condensing
Mechanical	
Dimensions including base	90 x 110 x 77mm (3.5" x 4.3" x 3")
Protocol	FTT-10, LonTALK
Transmission rate	78 kbits/s
Digital inputs	
Quantity	10
Duration of counting pulse	Min. 20 ms
Display	Status LEDs, red or green adjustable via DIP switch (TAC Xenta 412)

For further specifications, see technical data sheet.

## Part number

007302450	TAC Xenta 421A without LEDs, without manual override switches
007302460	TAC Xenta 422A with LEDs, with manual override switches

## Accessories

007309020	TAC Xenta 400 terminal part
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# TAC Xenta 421A/422A Universal Input and Digital Output Module



TAC Xenta 421A and 422A are Universal Input/Digital Output modules in the TAC Xenta family. They can be used as normal Xenta I/O modules or as certified LONMARK devices. Both modules have four universal inputs and five digital outputs. The universal inputs can be used as digital, thermistor, current, or voltage inputs. In addition, TAC Xenta 422A is equipped with LED status indicators, one for each digital input, and manual override switches for the digital outputs. The LED colors, red or green, can be selected individually by altering the parameter settings in TAC Menta graphical tool or manually at start up.

## Functional features

- Universal inputs provide installation flexibility
- Designed for TAC Vista and open standard LonWorks systems
- Perfect for distributed installations
- Manual override switches provide local bypass operation
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

## Specifications

Operating voltage	24 V AC $\pm 20\%$ , 50/60 Hz or 21.6-40 V DC
Power consumption	Max. 4 W
<b>Ambient temperature</b>	
Storage	-20 °C to +70 °C (-4 °F to +158 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions incl. base	90 x 110 x 77mm (3.5" x 4.3" x 3")
Protocol	FTT-10, LONTALK
Transmission rate	78 kbits/s
<b>Universal inputs</b>	
Quantity	4
Duration of counting pulse	Min. 20 ms
Indication	Status LEDs, red or green adjustable via TAC Menta or manually at start up (TAC Xenta 422A only)
As thermistor input	NTC, 1800 ohm or 10 kohm at 25°C (77°F)
As voltage input	0 – 10 V DC
As current input	0 – 10 V DC
<b>Digital outputs</b>	
Quantity	5
Switching capacity	250V AC / 2A
Manual switch	ON, AUTO, OFF (TAC Xenta 422A)
Indication	Status LEDs green (TAC Xenta 422A)

For further specifications, see technical data sheet.

## Part number

007302450	TAC Xenta 421A without LEDs, without manual override switches
007302460	TAC Xenta 422A with LEDs, with manual override switches

## Accessories

007309020	TAC Xenta 400 terminal part
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# TAC Xenta 451A/452A Universal Input and Analog Output Module



TAC Xenta 451A and 452A are Universal Input/Analog Output modules in the TAC Xenta family. They can be used as normal Xenta I/O modules or as certified LONMARK devices.

Both modules have eight universal inputs and two analog outputs. The universal inputs can be used as digital, thermistor, current, or voltage inputs. In addition, the TAC Xenta 452A is equipped with LED status indicators - one for each universal input when used for digital inputs. There is also a manual override for the analog output values. The LED colors, red or green, can be selected individually by altering the parameter settings in the TAC Menta graphical tool.

## Functional features

- Universal inputs provide installation flexibility
- Designed for TAC Vista and open standard LONWORKS systems
- Perfect for distributed installations
- Manual override switches provide local bypass operation
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

## Specifications

Operating voltage	24 V AC/DC $\pm 20\%$ , 50/60 Hz or 21.6-40 V DC
Power consumption	Max. 3 W
<b>Ambient temperature</b>	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Dimensions including base	90 x 110 x 77mm (3.5" x 4.3" x 3")
Protocol	FTT-10, LONTALK <sup>®</sup>
Transmission rate	78 kbits/s
<b>Universal inputs</b>	
Quantity	8
Duration of counting pulse	Min. 80 ms
Display	Status LEDs, red or green adjustable via TAC Menta or manually (TAC Xenta 452A)
As thermistor input	NTC, 1800 ohm or 10 kohm at 25°C (77°F)
As voltage input	0 – 10 V DC
As current input	0 (4) - 20 mA
<b>Analog outputs</b>	
Quantity	2
Output signal	0 – 10 V DC
Manual switch	MAN, AUTO and Pot. 0 – 10 V (TAC Xenta 452A)

For further specifications, see technical data sheet.

## Part number

007302850	TAC Xenta 451A without LEDs, without manual switches
007302860	TAC Xenta 452A with LEDs, with manual switches
007309020	TAC Xenta 400 terminal part

# TAC Xenta 471 Analog Input Module



For connecting analog, active, current and voltage signals. The analog input module is only to be used in combination with the TAC Xenta 300/401 basic controllers.

## Functional features

- Universal inputs provide installation flexibility
- Designed for TAC Vista and open standard LonWorks systems
- Perfect for distributed installations
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

## Specifications

Operating voltage	24 V AC $\pm$ 20%, 50/60 Hz, 19 - 40V DC
Power consumption	Max. 10 W
Ambient temperature	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0°C to +50°C (+32°F to 122°F)
Humidity	Max. 90% RH non-condensing
Mechanical	
Dimensions incl. base	90 x 110 x 77mm (3.5" x 4.3" x 3")
Protocol	FTT-10, LON-TALK
Transmission rate	78 kbits/s
Analog inputs	
Quantity	8
Input signal	
Current input	0(4) – 20 mA, Input resistance 20 ohm
Internal power supply	200 mA, max
Voltage input	0 – 10V DC, Input resistance 100k ohm
Max. input voltage	24 V DC

For further specifications, see technical data sheet.

## Part number

007302910	TAC Xenta 471
007309020	TAC Xenta 400 terminal part

# TAC Xenta 491/492 Analog Output Module



For issuing analog actuating signals. The analog output module is only to be used in combination with the TAC Xenta 300/401 basic controllers. The TAC Xenta 492 is equipped with manual override switches for the analog outputs.

## Specifications

Operating voltage	24 V AC/ ±20%, 50/60 Hz, 19 - 40V DC
Power consumption	Max. 2 W
Ambient temperature	
Storage	-20 °C to +50 °C (-4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
Mechanical	
Dimensions including base	90 x 110 x 77mm (3.5" x 4.3" x 3")
Protocol	FTT-10, LON <sup>TALK</sup>
Transmission rate	78 kbits/s
Analog outputs	
Quantity	8
Output signal	0 – 10 V DC
Manual switch	MAN, AUTO and Pot. 0 – 10 V DC (TAC Xenta 492)

For further specifications, see technical data sheet.

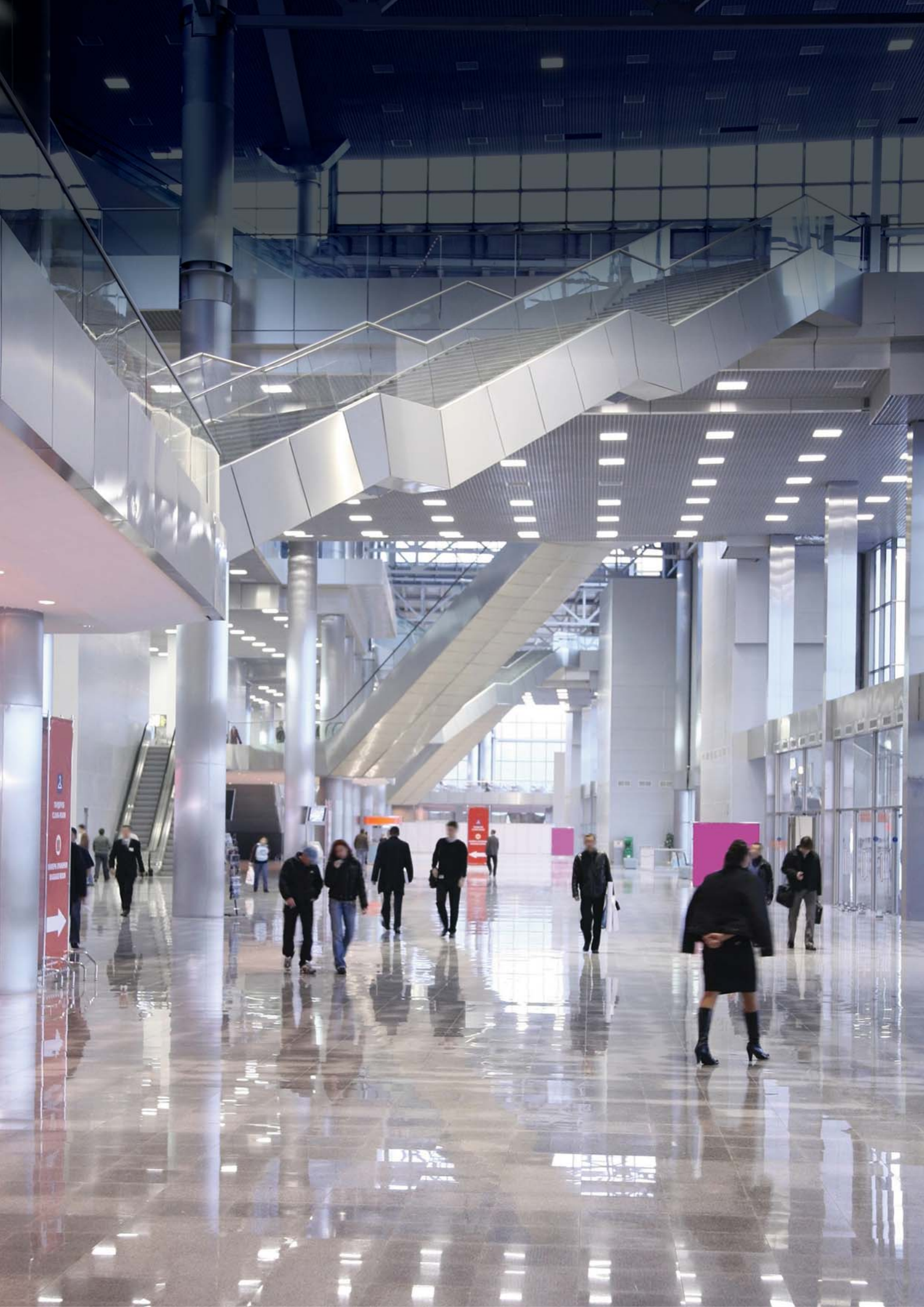
## Functional features

- Universal inputs provide installation flexibility
- Designed for TAC Vista and open standard LONWORKS systems
- Perfect for distributed installations
- Manual override switches provide local bypass operation
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

## Part number

007303010	TAC Xenta 491 without manual switches
007303030	TAC Xenta 492 with manual switches
007309020	TAC Xenta 400 terminal part

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# Zone Controllers

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## Functional features

- Air-quality control with CO2 measurement
- PI control with P-band and I-time setting
- Seven different types of operation
- Neutral zone between heating and cooling
- On demand override of the wall module by the occupancy sensor, window contact or bypass control switch
- Individual setpoint adjustment
- Zone sensors with the ability to connect to a TAC Xenta LONWORKS Operator Panel
- LONMARK certified

TAC Xenta® zone controllers are individual room controllers based on LONWORKS® for controlling and optimizing secondary heating/cooling systems. The TAC Xenta zone controllers are specifically designed for zone applications and include hardware and software. The controllers can be adapted to individual requirements using the flexible configuration settings. Parameters can be set on site using the TAC Xenta Operator Panel or centrally using the TAC Vista central system. Room sensors with setpoint adjuster make on demand adjustments possible. Unlike traditional zone controllers, intelligent LONWORKS based devices can also be controlled directly via the bus.

The individual room controllers are integral components in a building's automation system and communicate via the LONWORKS bus with the TAC Xenta controllers and the TAC Vista central system. Dynamic data exchange allows on demand optimization of the primary systems while maintaining comfortable conditions. To ensure optimal functionality, individual room controllers and/or parameters can be organized into groups so that several controllers can be set simultaneously. Groups also allow statistical evaluations and can therefore optimize the whole system. All TAC Xenta individual room controllers are LONMARK® certified and allow completely open communication with other systems within a LONWORKS network.

Controllers	Xenta 121-FC	Xenta 102-EF	Xenta 102-VF	Xenta 102-ES	Xenta 102-AX	Xenta 103-A	Xenta 104-A	Xenta 110-D	Xenta 121-HP
<b>Applications</b>	<b>Fan coil</b>	<b>Variable air volume (VAV)</b>				<b>Chilled ceiling</b>	<b>Roof top</b>	<b>Dual zone</b>	<b>Heat pump</b>
Heating & air conditioning	■								■
3 speed fan	■								■
On/ off fan	■								■
VAV		■	■	■	■				
VAV with electric heater		■							
VAV with hot water battery									
0-10 V control				■					
3 point control					■				
VAV controller with airflow sensor				■	■				
VAV controller with damper actuator					■				
Cooling control	■					■		■	■
Changeover valve									■
Isolation valve									■
Lighting control – on/off, dimming & brightness								■	■
Control of motorized blinds								■	■
<b>Mode of operation</b>									
Comfort	■	■	■	■	■	■	■		■
Standby	■	■	■	■	■	■	■		■
Bypass	■	■	■	■	■	■	■		■
Unoccupied	■	■	■	■	■	■	■		■
Off	■	■	■	■	■	■	■	■	■
Master/slave	■	■	■	■	■	■			■
Heating only	■					■			■
Cooling only	■					■	■		■
Fan on	■						■		■
Cooling/heating (changeover)	■						■		■
Purge	■	■	■	■	■	■			
Morning heating					■				■
Emergency pressurization/ depressurization					■				
Configurable exceptions	■								■

# TAC Xenta 102-B, 102-EF, 102-VF VAV Controllers



LONMARK certified individual room controllers for VAV applications (Variable Air Volume) connected to an external air flow controller (Belimo VAV Compact). The controller keeps a constant temperature in the zone by controlling the air flow, optional heating stages, and fan in sequence. By using a carbon dioxide sensor, the air quality can be controlled in the zone. The controller can be operated standalone or within a LONWORKS network. PI control with individual P-band and I-time setting for heating and cooling. Can be monitored and parameters can be set centrally via the central system or remotely functional features with the TAC Xenta LONWORKS Operator Panel.

## Functional features

- Various applications: Single-step control with setpoint calculation of an external air flow controller. Two-step setting with cooling and heating in sequence. Heating operation via an electric reheater or hot water.
- Slave function mode of operation and setpoint for several slave controllers are controlled by one master.
- Setpoint adjustment via a wall module with setpoint adjuster or via a LONWORKS network variable.
- Seven modes of operation: comfort, standby, bypass, unoccupied, off, slave and purge mode.
- Air quality based adjustments.
- Configurable limit values MIN and MAX air flow limit.
- Alarm monitoring high or low room temperature, open window, temperature sensor error, etc.
- Occupancy sensor, window contact and cool-down protection, CO<sub>2</sub> measurement input.

## Specifications

Operating voltage	24 V AC ±20%
Power consumption	4 VA
Dimensions	127 x 126 x 50mm (5" x 5" x 2")
<b>Ambient temperature</b>	
Storage	-20°C to +50°C (-4°F to 122°F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
Enclosure rating	IP 30
<b>Inputs and outputs</b>	
Window contact	Digital input
Occupancy sensor	Digital input
Air damper	0 - 10 VDC
Heating valve	2-point output (102-EF); 0 - 10 VDC (102-VF)
Room temperature	Thermistor input
Air flow	0 - 10 VDC
CO <sub>2</sub> sensor	0 - 10 VDC
Wall module	As selected

For further specifications, see technical data sheet.

## Part number

007305310	TAC Xenta 102-B VAV Controller
007305330	TAC Xenta 102-EF VAV Controller electrical reheat
007305350	TAC Xenta 102-VF VAV Controller valve reheat

# TAC Xenta 102-ES VAV Controller



LONMARK certified individual room controller for VAV applications (Variable Air Volume flow) connected to an external air flow sensor (TAC GV). The controller is intended primarily for VAV cooling applications with one or two stages of reheating. The controller keeps a constant temperature in the zone by controlling the air flow and heating stages. By using a carbon dioxide sensor, the air quality can be controlled in the zone. The controller can be operated standalone or within a LONWORKS network. PI control with individual P-band and I-time setting for heating and cooling. Can be monitored and parameters can be set centrally via the central system or remotely with the TAC Xenta Operator Panel.

## Functional features

- Various applications: Single-step control via external air flow sensor and heating in sequence. Heating operation by modulating hot water radiator valve.
- Slave function mode of operation and setpoint for several slave controllers are controlled by one master.
- Setpoint adjustment via a wall module with setpoint adjuster or via a LONWORKS network variable.
- Seven modes of operation: comfort, standby, bypass, unoccupied, off, slave and purge mode.
- Air quality based adjustments.
- Configurable limit values MIN and MAX air flow limit.
- Alarm monitoring high or low room temperature, open window, temperature sensor error, etc.
- Occupancy sensor, window contact and cool-down protection, CO<sub>2</sub> measurement input.

## Specifications

Operating voltage	24 V AC ±20%
Power consumption	4 VA
Dimensions	127 x 126 x 50mm (5" x 5" x 2")
<b>Ambient temperature</b>	
Storage	-20°C to +50°C (-4°F to 122°F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
Enclosure rating	IP 30
<b>Inputs and outputs</b>	
Window contact	Digital input
Occupancy sensor	Digital input
Air damper	3-point output
Heating valve	3-point or on/off
Room temperature	Thermistor input
Air flow sensor	Tube connection
CO <sub>2</sub> sensor	0 – 10 VDC
Wall module	As selected
Optional	Temperature input

For further specifications, see technical data sheet.

## Part number

007305370	TAC Xenta 102-ES VAV Controller valve reheat
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# TAC Xenta 102-AX VAV Controller

with Onboard Actuator and Air Flow Transducer



## Functional features

- Various applications: Room temperature control via chilled ceiling, in sequence with damper and radiator valve modulating the hot water. Choice of heating/cooling, only heating or only cooling (water and/or air).
- Slave function mode of operation and setpoint for several slave controllers are controlled by one master controller.
- Setpoint adjustment via a wall module with setpoint adjuster or via a LONWORKS network variable.
- Seven modes of operation: comfort, standby, bypass, unoccupied, off, slave and purge mode.
- Air quality based adjustments.
- Configurable limit values.
- Alarm monitoring high or low room temperature, open window, temperature sensor error etc.
- Occupancy sensor, window contact and cool-down protection, CO<sub>2</sub> measurement input.

TAC Xenta 102-AX is a LONMARK compliant individual room controller intended for VAV heating and cooling applications with one or two stages of reheating. The controller keeps a constant temperature in the zone by controlling the air flow and heating stages. By using a carbon dioxide sensor, the air quality can be controlled in the zone. TAC Xenta 102-AX is equipped with an integrated, static air velocity transducer and a motorized bidirectional actuator in a single package. The differential pressure air velocity transducer requires a minimum of maintenance. Thus it is also well suited to be placed in the zone return air duct.

## Specifications

Operating voltage	24 V AC ±20%
Power consumption	4 VA
Dimensions	127 x 126 x 50mm (5" x 5" x 2")
<b>Ambient temperature</b>	
Operation	0°C to +50°C (32°F to 122°F)
Storage	-20°C to +50°C (-4°F to 122°F)
Humidity	Max. 90% RH non-condensing
Enclosure rating	IP 30
<b>Inputs and outputs</b>	
Window contact/hygrostat	Digital input
Occupancy sensor	Digital input
Cooling valve	0 – 10 VDC
Air damper	0 – 10 VDC
Heating valve	3-point or on/off
Room temperature	Thermistor input
CO <sub>2</sub> sensor	0 – 10 VDC
Wall module	As selected

For further specifications, see technical data sheet.

## Part number

007305401	TAC Xenta 102-AX VAV Controller with Actuator and Air Flow Transducer
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## Accessories

00463000	STR200 Wall Module
00463010	STR200-W Wall Module (White)
00463200	STR202 Wall Module
00463300	STR250 Wall Module

# TAC Xenta 103-A Chilled Ceiling Controller



LonMARK certified individual room controller for chilled ceiling applications. The controller keeps a constant temperature by modulating the cold water flow to the ceiling elements, the hot water flow to the radiators, and the air flow through the damper. The controller can be operated on a standalone basis or within a LonWORKS network. PI control with individual P-band and I-time setting for heating and cooling. Can be monitored and parameters can be set centrally via the central system, or remotely via the TAC Xenta Operator Panel. Air-quality based adjustments when a CO<sub>2</sub> sensor is connected.

## Functional features

- Various applications: Room temperature control via chilled ceiling, in sequence with damper and radiator valve modulating the hot water. Choice of heating/cooling, only heating or only cooling (water and/or air).
- Slave function mode of operation and setpoint for several slave controllers are controlled by one master controller.
- Setpoint adjustment via a wall module with setpoint adjuster or via a LonWORKS network variable.
- Seven modes of operation: comfort, standby, bypass, unoccupied, off, slave and purge mode.
- Air quality based adjustments.
- Configurable limit values.
- Alarm monitoring high or low room temperature, open window, temperature sensor error etc.
- Occupancy sensor, window contact and cool-down protection, CO<sub>2</sub> measurement input.

## Specifications

Operating voltage	24 V AC ±20%
Power consumption	4 VA
Dimensions	127 x 126 x 50mm (5" x 5" x 2")
<b>Ambient temperature</b>	
Storage	-20°C to +50°C (-4°F to 122°F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
Enclosure rating	IP 30
<b>Inputs and outputs</b>	
Window contact/hygrostat	Digital input
Occupancy sensor	Digital input
Cooling valve	0 – 10 VDC
Air damper	0 – 10 VDC
Heating valve	3-point or on/off
Room temperature	Thermistor input
CO <sub>2</sub> sensor	0 – 10 VDC
Wall module	As selected

For further specifications, see technical data sheet.

## Part number

007305610	TAC Xenta 103-A Chilled Ceiling Controller
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# TAC Xenta 104-A Roof Top Unit Controller



LONMARK certified controller for small air handling systems and roof top units for heating, cooling and heat recovery. The room temperature is held at a constant temperature with sequential control of the heating, cooling and heat recovery functions. Inlet air and room air temperature can be set in cascade. The fan mode may be selected to operate continuously during the occupied mode, or cycle with heating or cooling demand from the zone. PI control action with individual P-band and I-time setting for heating and cooling. The controller can be operated on a standalone basis or within a LONMARK network. Can be monitored and parameters can be set centrally via the central system or remotely via the TAC Xenta Operator Panel.

## Functional features

- Various applications: Single-step control with cooling, heating or changeover operation for cooling/heating. Two-step control with sequential cooling and heating.
- Three-point control of the heating and cooling valves.
- Relay output for fan control.
- Setpoint adjustment via a wall module with set point adjuster or via a LONWORKS network variable.
- Various modes of operation: heating only, cooling only, fan only, cooling/heating (changeover), on, unoccupied, standby and bypass.
- Various types of fan operation.
- Configurable limit values MIN and MAX limit the inlet air temperature.
- Alarm monitoring high or low room temperature, temperature sensor error, fan error, etc.

## Specifications

Operating voltage	24 V AC $\pm$ 20%
Power consumption	4 VA
Dimensions	126 x 122 x 50 mm (5" x 4.8" x 2")
<b>Ambient temperature</b>	
Operation	-25°C to +50°C (-13°F to 122°F)
Storage	-25°C to +50°C (-13°F to 122°F)
Humidity	Max. 90% RH non-condensing
Enclosure rating	IP 30
<b>Inputs and outputs</b>	
Fan alarm/status	2 digital inputs
Cooling valve	3-point output
Heating valve	3-point or 2 stages
Fan control	Relay output 24 V / 2A
Room temperature	Thermistor input
Inlet air temperature	Thermistor input
Discharge/mixed temperature	Thermistor input
Wall module	As selected

For further specifications, see technical data sheet.

## Part number

007305910	TAC Xenta 104-A Roof Top Unit Controller
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# TAC Xenta 110-D Dual Zone Controller



LONMARK certified individual room controllers for cost-effective individual room solutions of climate control, lighting control, dimming and window control. Seven LONMARK profiles are available for various applications. Configuring these as master or slave controllers means that zone/group requirements can be generated, and that they can interact with additional controllers in the TAC Xenta 100 family. The controller can be operated on a standalone basis or within a LONMARK network. Can be monitored and parameters can be set centrally via the central system or remotely with the TAC Xenta Operator Panel.

## Functional features

- Various applications: Single-step control with cooling or heating.
- Two-step control with cooling and heating in sequence, twopoint control of the heating and cooling valves.
- Light control on/off, dimming and brightness control with lux sensor.
- Window control opening/ closing and window contact, interlock of the window contacts with blind stop.
- Occupancy detection via digital input or LONWORKS network variable (SNVT).
- Possibility of combining with TAC Xenta 101, TAC Xenta 102, TAC Xenta 103 and TAC Xenta 104 for a wide range of individual room applications.
- Operation options via direct inputs for conventionally connected switches and setpoint adjuster or via LONWORKS network variables from a room control panel or via the virtual control panel, TAC Vista ScreenMate, on the Intranet.

## Specifications

Operating voltage	24 V or 230V AC $\pm 20\%$
Power consumption	4 – 80 VA $\pm 10\%$
Dimensions	126 x 122 x 50mm (5" x 4.8" x 2")
<b>Ambient temperature</b>	
Operation	0°C to +50°C (32°F to 122°F)
Storage	-20°C to +50°C (-4°F to 122°F)
Humidity	Max. 90% RH non-condensing
Enclosure rating	IP 30
<b>Inputs</b>	
Setpoint adjuster	2 x 10 kohm potentiometer
Zone temperature	2 x thermistor NTC, 1800 ohms at 25°C (77°F)
Bypass, light occupancy	3 x digital
<b>Outputs</b>	
Dimming	1 x 0 – 10 V, max 2 mA
Light control	4 x relay, 250 V 3 A (resistive), 250W (HF Lamps)
Heating/cooling valve	4 x triac for thermal actuators, 110-D/24 max 0.8 A, 110-D/230 max 0.5 A

For further specifications, see technical data sheet.

## Part number

007306010	TAC Xenta 110-D/24 Dual Zone Controller
007306030	TAC Xenta 110-D/230 Dual Zone Controller

# TAC Xenta 121-FC Programmable Fan Coil Controller



## Functional features

- The controller is designed for both 2 and 4 pipe installations
- Multi-functional Heating and Cooling: heating, cooling and secondary heating
- Multi-stage Fan Control: up to three stages or analog speed control
- Indoor Air Quality Control: full support for CO<sub>2</sub> and RH (Relative Humidity) functions
- Exception modes take care of abnormal conditions like fire or risk of frost
- Configurable In- and Outputs: all inputs and outputs are configurable to minimize installation cost

## eu.bac Certification - Energy Savings with Efficient Room Control



TAC Xenta 121-FC is eu-bac certified for these applications:

- Fan Coil Systems, 2 pipes, 2 wires (2 pipe and electrical re-heat)
- Fan Coil Systems, 2 pipes
- Fan Coil Systems, 4 pipes
- Chilled Ceiling Systems

The eu.bac Certification ensures energy is not wasted due to poor control behavior of the room controller. TAC Xenta 121 incorporates several other energy saving functions, described in EN 15500, such as:

- Different operating modes: Comfort, Economy
- Limitation of user set point changes
- Free cooling, use of external air for cooling when possible
- Demand based ventilation, air quality monitoring
- Window contact
- Occupancy sensing
- Other energy demand requests, e.g. a main contact common in a hotel room
- Status to supervisory systems for efficient plant control, demand based media supply

In addition, a system with TAC Xenta 121 can easily incorporate many other energy saving functions. One example is that the TAC Xenta 121 allows for set point changes from a supervisory system like TAC Vista or a TAC Xenta controller. This could be based on a time schedule or on outdoor temperature changes or information about the building usage.

TAC Xenta 121-FC is an easily programmable controller intended for both 2-pipe and 4-pipe applications, with or without re-heat. It can be configured for use with a multitude of valve actuator types, such as on/off, multistage, increase/decrease, PWM, etc. The controller has different types of fan control and advanced fan control functions, including on/off delays, boosting and conditioning.

The sequences for cooling, heating and fan are completely user programmable, allowing for numerous different applications. For energy savings the controller has built-in economizer functionality. Use TAC Xenta 121-FC with any TAC STR room unit.

Set-up is done using the programming tool TAC ZBuilder, which can be run standalone or as a device plug-in to either TAC Vista or LNS. The configuration settings are downloaded into a TAC Xenta 120, prepared with the necessary basic application software.

The controller is a LonMARK compliant device aimed at communicating on a LonTALK TP/FT-10 channel. It is able to operate both as a standalone device and as part of a system. Input and output network variables can be monitored via the TAC Xenta OP, but programming relies on the use of the TAC ZBuilder.

## Specifications

Operating voltage FC/24	24 V AC ±20%, 50–60 Hz
Operating voltage FC/230	230 V AC ±10%, 50–60 Hz
Power consumption	5 VA
Dimensions	126 x 122 x 50mm (5" x 4.8" x 2")
<b>Ambient temperature</b>	
Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	Max. 90% RH non-condensing
Enclosure rating	IP 30
<b>Inputs</b>	
Digital inputs	3, (X1-X3) NO/NC
Thermistor inputs	2, (B1-B2) NTC 1.8 kohm at 25°C (77°F)
Universal input	1, (U1), configurable as thermistor, digital or analog input
Potentiometer input	1, (R1) 10 kohm
<b>Outputs</b>	
Triac outputs	4, (V1-V4) 24 V AC Intern. supplied
Relay outputs	3, (K1-K3) 250 V AC, 3A
Relay output	1 (K4) FC/24: 24 VDC/3A, FC/230: 250VAC/12A
Voltage output	1 (Y1) 0-10 V DC

For further specifications, see technical data sheet.

## Part number

007306210	Contr Zone TAC Xenta 121-FC/24
007306220	Contr Zone TAC Xenta 121-FC/230



# TAC Xenta 121- HP Programmable Heat Pump Application



## Functional features

- The controller is designed for both water-sourced and air-sourced heat pump installations
- Multi-functional Heating and Cooling: the controller handles heating, cooling and secondary heating
- Multi-stage Fan Control: The Xenta 121 controller handles up to three stages or analog speed control
- Indoor Air Quality Control functions: Full support for CO<sub>2</sub> and RH (Relative Humidity) functions
- Exception modes take care of abnormal conditions like fire, compressor lockout or risk of frost
- Handles reversing and isolation valves
- Configurable In- and Outputs: All inputs and outputs are configurable to minimize installation cost

The sequences for cooling, heating and fan are completely user programmable, allowing for numerous different applications. For energy savings, the controller has built-in economizer functionality. Use TAC Xenta 121-HP with any TAC STR room unit. Set-up is done using the programming tool TAC ZBuilder, which can be run standalone or as a device plug-in to either TAC Vista or LONMAKER. The configuration settings are downloaded into a TAC Xenta 100, prepared with the necessary basic application software. The controller is a LONMARK compliant device aimed at communicating on a LONTALK TP/FT-10 channel. It is able to operate both as a standalone device and as part of a system. In- and output network variables can be monitored via the TAC Xenta OP.

## Specifications

Supply voltage HP/24	24 V AC ±20%, 50–60 Hz
Supply voltage HP/230	230 V AC ±10%, 50–60 Hz
Power consumption	5 VA
Dimensions	126 x 122 x 50mm (5" x 4.8" x 2")
<b>Ambient temperature</b>	
Operation	0°C to +50°C (32°F to 122°F)
Storage	-20°C to +50°C (-4°F to 122°F)
Humidity	Max. 90% RH non-condensing
Enclosure rating	IP 30
<b>Inputs</b>	
Digital inputs	3, (X1-X3) NO/NC
Thermistor inputs	2, (B1-B2) NTC 1.8 kohm at 25°C (77°F)
Universal input	1, (U1), configurable as thermistor, digital or analog input
Potentiometer input	1, (R1) 10kohm
<b>Outputs</b>	
Triac outputs	4, (V1-V4) 24 V AC Intern. supplied
Relay outputs	3, (K1-K3) 250 V AC, 3A
Relay output	1 (K4) FC/24: 24 VDC/3A, HP/230: 250VAC/12A
Voltage output	1 (Y1) 0-10 V DC

For further specifications, see technical data sheet.

## Part number

007306310	Contr Zone TAC Xenta 121-HP/24
007306320	Contr Zone TAC Xenta 121-HP/230

# TAC Xenta Compatibility Room Sensors

An overview over available room sensors from Schneider Electric, the most important functionality and their compatibility with the different TAC Xenta controllers.

## TAC Xenta 102-B/102-EF/102-VF/102-ES/103-A/104-A/110-D/121-FC/121-HP/280/300/401/700

	Part number	Com	Temp Sensor	Mode Indicator	Xenta OP Jack	Setpoint Offset	Bypass Button	Fan Speed Control
STR100	004600100	I/O	1.8kΩ					
STR100-W	004600110	I/O	1.8kΩ					
STR101	004600200	I/O	1.8kΩ	■	■			
STR102	004600300	I/O	1.8kΩ	■	■	■		
STR103	004600700	I/O	1.8kΩ	■	■		■	
STR104	004600400	I/O	1.8kΩ	■	■	■	■	
STR106	004600500	I/O	1.8kΩ	■	■	■	■	A-0-I-II-III
STR106-B	004600800	I/O	1.8kΩ	■	■	■	■ (no icon)	A-0-I-II-III
STR106-3	004600900	I/O	1.8kΩ	■	■	■ (max 3°C)	■	A-0-I-II-III
STR107	004600600	I/O	1.8kΩ	■	■	■	■	Auto-Off-On

## TAC Xenta 102-ES/102-B/102-EF/102-VF/103-A/104-A/121-FC/121-HP

	Part number	Com	Display	Backlight
STR150	004602800	Special com on digital input	■	

## All TAC Xenta series except TAC Xenta 102-AX

	Part number	Com	Display	Backlight
STR350	004605000	LONWORKS	■	
STR350-L*	004605010	LONWORKS	■	
STR350-B**	004605200	LONWORKS	■	
STR351	004605100	LONWORKS	■	■

TAC Xenta 401 and 700 can communicate with STR350/351 either using SNVTs or as an I/O module.

\* Difference from STR350: The display has a second lamp icon instead of the sun blind icon.

\*\* Difference from STR350: The on/off button is blank.

## TAC Xenta 102-AX

	Part number	Com	Display	Mode Indicator
STR200	004603000	I/O	10kΩ	
STR200-W	004603010	I/O	10kΩ	
STR202	004603200	I/O	10kΩ	■

## TAC Xenta 102-AX

	Part number	Com	Display	Backlight
STR250	004603300	Special Com (I/Stat)	■	
STR250 No Logo	004603310	Special Com (I/Stat)	■	

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# TAC Vista Security Controllers

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# TAC Vista Security Controllers

## Overview

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TAC Vista Security provides a complete security solution that is fully integrated with Vista, using your building's administrative TCP/IP network. Security devices and building control devices can share information, connected through a common architecture and network.

### Simple to install

TAC Vista Security is designed to be easy to install. Adding this solution to your Vista system is as simple as ordering the license option, then connecting the security hardware devices using the TAC Xenta 527 embedded web and infrastructure product. This same product provides field integration with Xenta LonWorks® networks as well as providing security integration with TAC Vista.

### Easy to configure

Only a limited amount of user intervention is needed to establish devices on the network. The configuration is intuitive and simple. You just add a TAC Xenta 527 to the Vista device list, and the rest of the setup process is primarily automated.

### Powerful to use

By making use of TAC's experience in security solutions, TAC Vista Security gives users a system that is easy to operate yet provides extremely powerful security capabilities. TAC Vista Security allows comprehensive access control and well designed functions that permit intruder detection monitoring to be established where needed. The open protocol and multiple secondary protocol connections mean that interfaces to, for example fire systems thru MODBUS, are easy to achieve.

# TAC Xenta 527

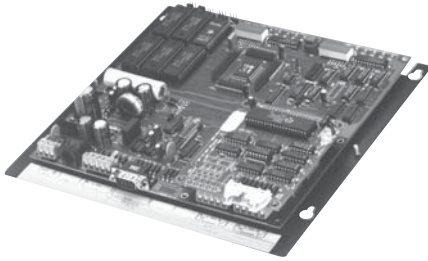


The TAC Xenta 527 is a comprehensive presentation system, which enable ssecure web access to both TAC I/NET Seven and TAC Vista 5.1™ networks simultaneously. It provides you with the freedom to monitor your system from any location with Internet access. With automatic network discovery of TAC I/NET systems, the only configuration needed is to point the Xenta 527 to TAC I/NET's NetPlus™ Routers or TAC I/NET Hosts. After that, your entire TAC I/NET network is immediately available through the web interface. You can access any point in your system, either through the convenient browse functionality, or via a graphic page link. Comprehensive control features include changing values such as set points, optimization parameters, and PID parameters. Manual control features such as test, hold, and manual are all supported as well as acknowledge, and momentary release for doors.

For further information, refer to the section on the TAC Xenta 527 in the chapter Ethernet Hardware Devices on page 35.



# TAC I/NET 7790A MCI MicroController Interface



The TAC I/NET™ 7790A MicroController Interface provides a “Gateway” between TAC’s token passing, Peer-to-Peer Controller LAN and a network of standalone MicroControllers. The MCI also functions as a network controller for a standalone system. The MCI provides global functions for the MicroControl Units. These global functions include: Access Initiated Control, Elevator Control, Event Initiated Control, Trending, Runtime Accumulation, Automatic Time Scheduling, Calculations, Anti-Passback and periodic synchronization of the local clocks in the MicroControl Units.

## Functional features

- Integration
  - Environmental
  - Access Control
  - General Purpose
- MicroControl units supported
  - 123 Series MicroRegulators™
  - SCU1284 Security Control Unit
  - SCU1280 Security Control Unit
  - SCU1200 Security Control Unit
- Peer-to-Peer, Token Passing LAN standard
- Dual MicroController Sub-LANs
  - 16 SCUs per MCI
  - 64 MRs per MCI
  - 64 MicroControl Units per MCI (SCU and MR combined)
  - Mix and Match Controllers on the Sub-LANs
- Counter-Scanning Loop Option
- Front End Controller for Standalone System
  - Supports up to 64 Doors
  - Supports up to 64 HVAC Equipment Units
- Remote Operation over Dial-Up Phone Lines
- Fiber Optic Compatible
- Local Ports for PC or Modem
- Auto Dial/Auto Answer Modem- Option Board
- Modular, Object-Oriented Programming
- Gateway for Global Control Functions
- Resident Programs for:
  - Access Initiated Control
  - Elevator Control
  - Environmental Control
  - Energy Management
  - Historical Data Collection

## Specifications

Operating voltage	24 V AC
Power consumption	40 VA Max.
Transformer sizing	5 VA
Dimensions	245 x 255 x 15mm (9.65" x 10" x 0.6")
Channels	2 per MCI
Controllers	Maximum 64 MicroControl Units per MCI

## Part number

7790AC	MicroController Interface – Baseplate Mounted
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## Accessories

RS232EXPC	Synchronous two-way modem card (w/o modem) – Plugs on to 7790 base card
CBL072	Cable, Controller DE9 to PC DE9, 6 ft (1.83 m)
CBL074	Cable, Controller DE9 to Modem DB25, 6 ft (1.83 m)
TCON109	7790 LAN Interface Unit Installation Guide – Hardware platform for MCI

# TAC 7798 I/SITE™ LAN Integrated Site Controller



The 7798 I/SITE LAN is a standalone unit that uses the MicroRegulator (MR) and Security Control Unit (SCU) controllers to provide building management services targeted at the requirements of managing smaller buildings or buildings in remote locations. The 7798 I/SITE LAN allows the operator or building manager to control the building through a ViewCon, a local host PC connection, a modem to a remote PC or an optional TAC Controller LAN network. When connected to a TAC I/NET™ host PC via modem, direct connection or optional controller LAN network, the I/SITE LAN becomes an interface between the MR and DPU sub-controllers and a larger TAC I/NET Distributed Control System. The I/SITE™ LAN supports up to eight telephone numbers for use with the AA/AD modem function.

The I/SITE LAN provides global functions for the MRs and DPUs. These global functions include: Access Initiated Control, Anti-Passback, Demand Control, Event Initiated Control, Trending, and Runtime.

## Functional features

- ViewCon™ keypad display
  - Built-in operator interface
  - Custom pages & standard summaries
  - Password protected
- Sub-LAN port for connection of up to 32 MicroRegulators and/or Door Processor controllers in any combination
  - Open or closed loop sub-LAN
  - Communications through both primary and alternate paths
- Local Port for PC or Printer
- Local Port for Auto Dial/Auto Answer modem
- Attractive plastic enclosure suitable for wall mounting in public areas
- Controller LAN option board
  - Global control functions
  - Peer-to-Peer, token passing network
- Trends all connected points
- Modular, Object-Oriented Programming
- Resident programs for:
  - Access Control
  - Environmental Control with DDC
  - Energy Management
  - Historical Data Collection

## Specifications

Operating voltage	24 V AC
Power consumption	1 per I/SITE LAN
Controllers	Maximum 32 MicroController units per 7798 I/SITE LAN

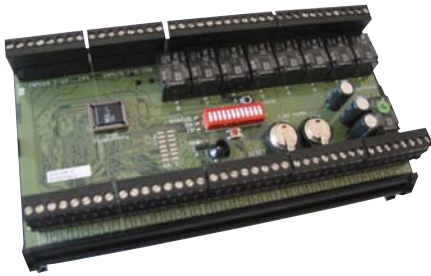
## Part number

7798B1C	I/SITE LAN Integrated Site Controller
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## Accessories

CLX-C	I/SITE Controller LAN Expansion Option, RS-485 – Plugs on to 7798 base unit
CBL072	Cable, Controller DB9 to PC DB9, 6 ft (1.83m) – 9-pin Serial Cable
CBL074	Cable, Controller DB9 to Modem DB25, 6 ft (1.83m) – 25-pin Modem Cable
XFMR6	Transformer 120 Vac Primary, 24 V/2.4 A Secondary
XFMR7	Transformer 240 Vac Primary, 24 V/2.4 A Secondary
TCON138	Model 7798 I/SITE LAN Installation Guide

# TAC I/NET Security Control Unit Models 1284, 1280, 1200



The SCU (Security Control Unit) family of modular, standalone controllers are basic building blocks of the I/NET Seven Security Management System, and provide a flexible mix of door control and alarm monitoring features. Three versions of the SCU are available. The SCU1284 is a door controller for up to 4 doors, with 12 supervised inputs and 8 Form C relay outputs. The SCU1280 is an input output controller with 12 supervised inputs and 8 Form C relay outputs. The SCU1200 is an input controller with 12 supervised inputs. All SCUs function as either standalone devices or as part of a larger local area network (LAN) host system.

## Functional features

- Robust, standalone four-door access controller
- Up to four readers and four doors per controller for flexible configurations
- Flash memory for easy online software updates
- Supports two-man rule and escorted access for increased security
- Configurable audio tones to indicate valid card read, invalid card read, and other types of events
- Large alarm buffer protects integrity of alarm data
- Small footprint for easy installation
- Dynamic memory management allows maximum storage of card holders and transactions
- Wide range of enclosures, battery options, and power options lowers installation costs

## Specifications

### Operating voltages

SCU12xxE1	115 V AC
SCU12xxE2	115 V AC / optional battery
SCU12xxE3	230 V AC

### Power consumption

SCU12xx	24 V AC 1.2A Max.
SCU12xxE1 or E2	115 V AC 75 VA Max.
SCU12xxE3	230 V AC 75VA Max. (50/60 Hz ±15%)

### Mechanical

Mounted controller size	216 x 127 x 64mm (8.5" x 5" x 2.5")
Enclosure type	Nema 1 (IP10) Style - Indoor
Dimensions	362 x 413 x 108mm (14.25" x 16.25" x 4.25")
Inputs and outputs	14 inputs, 8 outputs

## Part number

SCU1200	12 Input Controller
SCU1280	12 Input 8 Output Controller
SCU1284	12In 8Out 4Door 4Read Control
SCU1200E1	12DI DIN With transformer
SCU1280E1	12DI 8DO DIN With transformer
SCU1284E1	4 Read 12DI 8DO DIN,transformer
SCU1200E2	12DI DIN, transformer, battery
SCU1280E2	12DI 8DO DIN, transformer, batt
SCU1284E2	4Read 12DI 8DO DIN,transf,batt
SCU1200E3	12DI 8DO DIN 230V,transformer
SCU1280E3	12DI 8DO DIN With transformer
SCU1284E3	4Read 12DI 8DO DIN 230V,transf

## Accessories

Recommended enclosure	Model ENCLSCU
Recommended transformers	Mounting in ENCLSCU enclosure Model XFMR6 (115V) Model XFMR7 (220/240V)
DIN rail mounting	Model TR32 (220/240V)

# TAC 7798C (SLI) Sub-LAN Interface



The 7798C sub-LAN interface (SLI) functions as an intelligent hub managing a network of MicroControllers and other controllers in a larger TAC I/NET distributed control system. The SLI provides global functions for the MicroControllers, including: Access-initiated Control, Elevator Control, Event-initiated Control, Trending, Runtime Accumulation, Automatic Time Scheduling, Calculations, Anti-passback, and periodic synchronization of the local clocks in the MicroControllers.

## Functional features

- Robust, standalone four-door access controller
- Up to four readers and four doors per controller for flexible configurations
- Flash memory for easy online software updates
- Supports two-man rule and escorted access for increased security
- Configurable audio tones to indicate valid card read, invalid card read, and other types of events
- Large alarm buffer protects integrity of alarm data
- Small footprint for easy installation
- Dynamic memory management allows maximum storage of card holders and transactions
- Wide range of enclosures, battery options, and power options lowers installation costs

## Specifications

Operating voltage	24 V AC
Power consumption	24 V AC, ±10%, 50/60Hz, 10 V A (max)
Backplate dimensions	165 x 203 x 44mm (6.50" x 8.00" x 1.75")
PCB dimensions	203 x 244 x 6 mm (8.00" x 9.63" x 0.25")
Channels	1 sub-LAN per 7798
Controllers	32 MR per sub-LAN or 16 SCUs

## Part number

7798C	Controller with 1024K RAM
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## Accessories

Power supply	Recommended XFMR6, (110V) XFMR7, (220V)
Cable for PC	Emulated HHC CBL082

# TAC OP5 Intrusion Alarm System

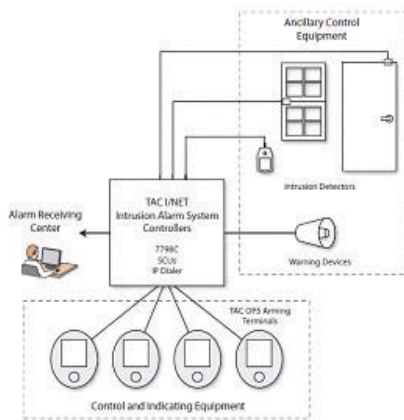


The TAC Vista Security Intrusion Alarm System, IAS, based in the integration with TAC I/NET is a capable intrusion alarm system, complaint with the European intrusion standard EN50131.

The system has been certified according to:

- EN50131 Security grade 3
- SSF1014 Alarm Class 2
- Environmental Class II

The system may be subject to country specific registration/certification. For certified installations, pre-made control panels are available.



## Part number

7798C	Controller with 1024K RAM
OP5	TAC OP5 IAS Operator Terminal
CBL083	Cable – Control to dialer
SCUEXP1	1 Power Monitoring Board/SCU
ICPB1	Intrusion Control Panel, Base
ICPD1	Intrusion Control Panel, Distributed
KITIPD1	Mounting Kit, IP Dialer

## Functional features

IAS can handle up to 144 intrusion sensors of various types, PIR's, window contacts, door contacts, glass breakage detectors etc. The system has functionality to handle:

- Up to four TAC OP5 Operator terminals, where users interact with the system; arm alarms etc.
- Zones, depending on building layout
- Different levels of users
- Entry and exit routes
- Alarms, communication with an Alarm Receiving Centre
- Monitored battery power



# Network Infrastructure

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# TAC Xenta Network Infrastructure Overview

## Functional features

- Connect the PC to the network via telephone/IP/LONWORKS® adapters
- LONWORKS adapters connect to PC via USB/Serial port/PCI/IP
- Plug and Play network design using intelligent LONWORKS routers and switches
- Easy to use IP to LONWORKS routers make the IP network the natural backbone in the LONWORKS network
- Network trouble shooting via the LPA

TAC Network infrastructure products give a variety of methods to connect a PC to the network. It allows for optimized LONWORKS network design and structure also using different types of routers, both for LON to LON and IP to LON connections.

LONWORKS network quality is improved using terminators, and can be extended via repeaters or routers. Problems on the network are detected using the Protocol analyzer.

The TAC Network infrastructure products include all necessary components to design a scalable and durable LONWORKS network.

TAC Xenta Model	LTA	TCP/IP connection to LTA	Serial/phone modem connection to LTA	Repeater
TAC Xenta 511/527/555/701/ 711/721/731/911/ 913  (Described in chapter <b><i>Ethernet Hardware Devices</i></b> )	■	■		
TAC Xenta 901	■		■	
TAC Xenta Repeater				■

# TAC Xenta 901 Serial LONTalk Adapter



## Functional features

- Works as a dial-up LonTalk adapter
- Line blocking at a preset number of failed dial-ups
- Functions for reducing dial-up costs
- Real-time clock
- Configured by TAC Xenta OP Operator Panel
- All configuration data, such as telephone numbers, are stored in a non-volatile memory

The TAC Xenta 901 is a serial LONTalk® adapter, designed to let TAC Vista reach a LonWORKS network via a dial-up line. When the modem line between TAC Xenta 901 and TAC Vista has been established, communication proceeds as if TAC Vista had been connected directly to the LonWORKS network. The dial-up can either be initiated by TAC Vista, or by the TAC Xenta 901 unit. TAC Xenta 901 has functions to reduce the connection cost, such as delaying a dial-up in order to collect more events, for example alarms, so that several events can be reported at the same call. It is also possible to specify dial-up to occur at a certain time of day, when the phone rates are lower.

## Specifications

Supply voltage	24 V AC $\pm$ 20%, 50 / 60 Hz or 19-40 V DC
Power consumption	Max. 5 W
Dimensions including base	90 x 110 x 77mm (3.5" x 4.3" x 3")
<b>Ambient temperature</b>	
Storage	-20°C to +50°C (-4°F to 122°F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Real-time clock</b>	
Accuracy at 25 °C (77°F)	$\pm$ 12 minutes per year
Data backup	72 h
<b>Communication</b>	
Modem	9600 bps, RS232A, RJ45, 8-p
Network	LonWORKS, FTT-10, screw terminal
TAC Xenta OP	LonWORKS, FTT-10, modular jack

For further specifications, see technical data sheet.

## Part number

007309150	TAC Xenta 901
007309020	TAC Xenta 400 terminal part
007309072	TAC Xenta OP

# TAC Xenta 911 LONTalk Adapter



## Functional features

- Works as a LONTalk adapter over IP between TAC Vista 5.1 and a LONWORKS network
- Supports TAC Xenta controllers and most TAC legacy products
- Configurable over an IP network with a standard web browser
- Pre-configured for most TAC products
- Real-time clock
- All configuration data, e.g. like telephone numbers, are stored in a non-volatile memory

Supports SNVT (Standard Network Variable Types) in accordance with LONMARK and TAC network variables.

The TAC Xenta 911 communication device can be configured in three different ways:

- As a LONTalk adapter between TAC Vista and a LONWORKS network
- As an IP modem, working as a direct replacement for a telephone modem, with dial-up functionality over the computer network
- As a remote serial port, meaning the serial port of Xenta 911 can be used as if it was a serial port on the PC. To be used for the serial protocols of Vista.

In the latter case, TAC Xenta 911 is intended for use with most TAC units supporting dial-up. See the data sheet for TAC Xenta 911. The IP address of the “dialed-up” unit will then replace the telephone number. This makes it very easy to save money by eliminating telephone line costs. The fast dial-up time, typically less than two seconds, provides the feeling of a directly connected network.

The TAC Xenta 911 is quick to install and is easily maintained, using a web browser on the TCP/IP network. Its default values are set for TAC Xenta connection, and it is pre-configured for most TAC products.

The TAC Xenta 911 contains HTML pages providing comprehensive on-line help.

**For further information, refer to the section on the TAC Xenta 911 in the chapter Ethernet Hardware Devices on page 38.**

# PC LONWORKS Adapter PCMCIA LONWORKS Adapter

## PC LONWORKS Adapter

Interface card for connecting the LONWORKS network to a TAC Vista central system or to a network management tool.



### Functional Features

- Standard PCI card
- Either for FTT-10 or TP/XF 1250
- Interface between LONWORKS and PC
- Half-length card for PCI slots
- Complies with LONMARK Interoperability Guidelines
- Reliable connection

### Part number

907300101	PCLTA21-FTT-10	PCI	78 kBit/s
907300111	PCLTA21-TP/XF 1250	PCI	1250 kBit/s

## PCMCIA LONWORKS Adapter

Interface card for connecting the LONWORKS network to a laptop using the PCMCIA interface.



### Functional Features

- Interface between LONWORKS and PC (laptop)
- Type II PC card (PCMCIA)
- Complies with LONMARK Interoperability Guidelines
- Reliable connection

### Part number

907300050	PCC10 FTT-10 Interface Card	78 kBit/s
907300060	PCC10 Cable	

# TAC Xenta Repeater LonWORKS Repeater FT-10



## Functional features

- Easy mounting on DIN rail
- No configuration needed
- Extends the network
- Extends the number of nodes to 128 on a FTT-10 channel

A passive signal amplifier for extending the maximum bus length (twisted pair) and for setting up networks with more than 64 nodes.

- Passive signal amplification
- Completely network transparent
- Modular device design via TAC Xenta 400 enclosure
- Din rail or wall mounting.

## Specifications

Operating voltage	24 V AC $\pm$ 20%, 50 / 60 Hz
Power consumption	< 1.5 VA
Ambient temperature	
Ambient temperature	0 - 50°C
Mechanical	
Dimensions incl. base	90 x 110 x 77 mm (3.5" * 4.3" * 3")
Max. no. of nodes	64 (FTT-10 transceiver)
Interface	FTT-10, screw terminal
Enclosure rating	IP 20

For further specifications, see technical data sheet.

## Part number

007309120	TAC Xenta FTT-10 Repeater 24V
007309020	TAC Xenta 400 terminal part

# TAC Xenta 913 LONWORKS Gateway



The TAC Xenta 913 is a cost-effective way to integrate a large variety of products into a TAC network. The TAC Xenta 913 supports the most commonly used open protocols, such as Modbus, BACnet and LONWORKS. It also supports some manufacturer-specific protocols, e.g. I/NET and Clipsal C-bus.

The TAC Xenta 913 acts as a gateway, and transfers data point values from one network to another. Configuration is carried out using the TAC XBuilder programming tool.

For further information, refer to the section on the **TAC Xenta 913** in the chapter **Ethernet Hardware Devices** on page 39.

# LONWORKS Terminal Units Termination NIC-PCI Network Interface

## LONWORKS Terminal Units



TP/FT-10, TP/LPT-10, and TP/XF-1250 networks need to be terminated using a defined network terminator. L-Term offers two standard network terminators in one slim housing, which makes them a perfect solution to be used with the active network infrastructure products (e.g. L-IP, L-Switch, etc.).

The LT-33 network terminator can be used to terminate two TP/FT-10 and TP/LPT-10 channels in bus or in free topology. The LT-13 network terminator can be used to terminate one TP/XF-1250 and one TP/FT-10 or TP/LPT-10 channel.

### Part number

LOY-LT-13	Term 1 x FT-10, 1 x TP-1250
LOY-LT-33	Term 2 x FT-10

## Functional features

- Supports bus and free topology termination
- TP/FT-10 side can also be used to terminate link power channels
- Screw terminals (0.5 - 2.5 mm<sup>2</sup>)
- 17 L x 90 W x 58mm H (0.7" x 3.5" x 2.3")
- 1 TE DIN-rail (EN 50 022) mountable

## Termination

Terminating resistor for FT-10 and TP/XF-1250 network segments.

### Part number

007309051	Termination FT-10
907300200	Termination TP/XF-1250

## NIC-PCI Network Interface



## Functional Features

- EIA-709 Network Interface with MNI (multiplexed network interface)
- Supports FT-10, TP-1250/2500, RS-485
- Connects to the PCI bus of a PC
- Compatible with LNS, MIP, and ORION applications

### Part number

LOY-NIC709-PCI100	Netw I/F, PCI, FT-10, TP-1250
-------------------	-------------------------------



The L-Switch Router is the solution to interconnect multiple LONWORKS (EIA-709) channels. It provides up to five ports and routes packets between these ports.

In spite of its small size the L-Switch router provides best class performance and flexibility in use. In order to provide the optimal router configuration the L-Switch supports 2 to 5 ports as well as the 2 operating modes “Smart Switch Mode” and “Configured Router Mode”.

The Plug & Play installation capability of the L-Switch allows connection of L-Switch to the network without any further configuration.

The Smart Switch technology automatically detects the bit-rates of the connected channels, learns the configuration of the network (domains, subnet/ node addresses, group addresses) and forwards the packets between the different ports of the L-Switch router.

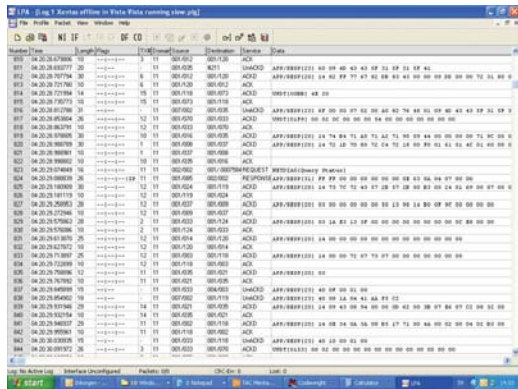
## Functional features

- For physical separation and logical connection of up to 5 ANSI/EIA-709 network segments
- Can be used as configured router
- Can be used as learning switch or repeater
- Forwarding decision based on subnet/node and group addresses
- Processes up to 3500 packets/sec
- Supports multiple transceivers: FT-10/LPT-10, TP-1250
- Diagnostic LEDs for each channel showing network activity, overload, and error conditions
- DIN-rail (EN 50 022) or wall mountable

## Part number

LOY-LS-33300CB	CEA 709 Router, 3 x FT-10
LOY-LS-13300CB	709 Router, 1x1250, 2xFT-10
LOY-LS-13333CB	709 Router, 1x1250, 4xFT-10
LOY-LS-11333CB	709 Router, 2x1250, 3xFT-10
LOY-LS-33CB	CEA 709 Router, 2 x FT-10
LOY-LS-13CB	709 Router, 1x1250, 1xFT-10
LOY-LS-11CB	CEA 709 Router, 2 x TP-1250





The family of LPA Protocol Analyzers listens on LonWorks (EIA-709) or LonWorks over IP (EIA-852) networks and displays all recorded packets on a PC screen. Thanks to its extended recording capability even intermittent faults can be detected and recorded. The interpretation of an LNS® database allows the display of meaningful node names and network variable names. Together with L-IP Internet Routers or NIC709-IP network interfaces, the LPA software can record packets even from remote network channels. The intuitive and easy to use LPA software runs on all NIC709's and the LPA-IP software runs on the NIC-852. Each LPA or LPA-IP software license must be registered for one NIC.

For remote protocol analysis, the LPA software can be registered for an NIC709-IP, and the LPA-IP software can be registered for a NIC-852 to analyze the channel behind an L-IP or a NIC709-IP. The PC running either the LPA or the LPA-IP software is connected through its Ethernet port over the Intranet/Internet/VPN with the NIC709-IPs or the L-IP routers. Up to 8 channels can be analyzed concurrently using NIC709-IPs and up to 32 channels can be analyzed using L-IPs. The software runs under Windows 2000/XP.

## Functional features

- Runs on Windows 2000/XP®
- Supports the LOYTEC Multiplexed Network Interface Technology (MNI)
- The LPA software supports both EIA-709 and LonMARK IP-852 on Ethernet
- Remote LPA function with LPA-IP and L-IP
- Online packet monitoring
- High resolution packet timestamping
- Comprehensive packet filter functions on each layer of the network protocol
- Packet interpretation down to bit-level
- Conversion of network addresses and variables into symbolic names
- Interpretation of SNVTs (Standard Network Variable Types), network management, and diagnostic messages
- LNS database interpretation
- Error tracking in packets with protocol errors
- Various forms of packet visualization
- Extensive packet statistics (short packets, CRC errors, packets/s, etc.)
- Extended packet recording capability
- Storing and exporting packet logs (e.g. to Excel spreadsheets)

### LPA-IP

- Protocol analyzer software for EIA-852 (IP)
- NIC852 USB key for the PC

### LPA-SET-USB

- Protocol analyzer software for EIA-852 (IP) and for EIA-709
- NIC852 USB key for the PC
- NIC709-USB key for the PC

Part number	
LOY-LPA-SW	Analyzer S/W 709 no NIC709
LOY-LPA-IP-SW	Analyzer S/W 852 no NIC852
LOY-LPA-IP	LPA-IP-SW + NIC852
LOY-LPA-SET-USB	LPA-/IP/-SW+NIC/709-USB100/852

# LONWORKS Network Interfaces, NIC



The NIC's are the world's fastest and most universal network interfaces for LONWORKS (EIA-709) and Ethernet (EIA-852) channels. Based on the revolutionary ORION and L-Chip technology, they offer the highest packet update rates and lowest response times on the market.

All NICs are fully compatible with legacy products, e.g. LONMAKER, NL220, ALEX, LNS 3.x applications, OPC servers, NodeUtil32, NLUtil, and with high performance ORION applications.

The multiplexed network interface (MNI) support allows, for the first time ever, multiple MIP applications to be started in parallel to an LPA or LSD Tool, or LONMAKER, or NL220 on a single network interface.

All NICs are fully compatible with legacy products, e.g. LONMAKER, NL220, ALEX, LNS 3.x applications, OPC servers, NodeUtil32, NLUtil, and with high performance ORION applications such as TAC Vista 4.4 and higher.

## Functional features

- Network Interface for EIA-709 and EIA-852 (IP-852) network channels.
- Best performance, highest packet throughput.
- Use the LPA, LSD Tool, your ORION applications, MIP applications, and LNS applications on a single network interface at the same time.
- Compatible with LNS applications in high performance VNI mode e.g. LONMAKER, NL220®, ALEX.
- Compatible with MIP applications (LDV interface) e.g. NodeUtil32, NLUtil, etc.
- Compatible with high performance ORION applications (ORION API).
- Software selectable transceivers on NIC709-USB and NIC709-PCI: FT-10/LPT-10, RS-485, and TP-1250/2500.
- Runs on Windows 98/ ME/2000/XP (NIC709-USB, NIC709-PCI, NIC709-IP and NIC-852).

The NIC709-IP acts as a high performance remote network interface over the Intranet or the Internet. Secure communication between the NIC709-IP and the PC is supported by using MD5 authentication. Remote protocol analysis is supported by using the LPA-IP-SW software. The NIC-852 supports MIP/LDV applications to access the IP-852 (Ethernet) channel without changing the application program.

### Part number

LOY-NIC709-USB100	Netw I/F, USB, FT-10, TP-1250
LOY-NIC709-PCI100	Netw I/F, PCI, FT-10, TP-1250
LOY-NIC852	Lon IP-852 port, USB key
LOY-NIC709-IP1E100	RNI, Ethernet, TP-1250
LOY-NIC709-IP3E100	RNI, Ethernet, FT-10
LOY-NIC852-SW	Lon IP-852 port, software key

# LONWORKS (EIA-709) – IP Routers Gateway



The L-IP fills the gap between LONWORKS (EIA-709) installations and IP networks. It can tunnel LONWORKS® packets back and forth through an arbitrary IP-based network, such as a LAN, an Intranet, or even the Internet. The L-IP connects to the IP network via an Ethernet channel. Available LONWORKS transceivers include FT-10 and TP-1250.

The installation of an L-IP router requires little effort. The IP configuration can either be obtained via DHCP or entered manually. The user only needs to provide the IP address of an IP configuration server. If operated behind a router with network address translation (NAT or masquerading), the L-IP supports Auto-NAT to work with dynamic public IP addresses.

When using the built in IP configuration server, the user can edit and backup the IP channel configuration through the built-in web server. The configuration is stored continuously and the device operates completely standalone.

## Functional features

- Routes packets between ANSI/EIA-709 and IP networks (10/100MBits/s Ethernet)
- LIP-3ECTB supports one FT-10 channel, LIP-1ECTB supports one TP-1250 channel, LIP-33ECTB supports 2 FT-10 channels, LIP-333ECTB supports 4 TP-10 channels
- Tunneling of LonWorks (ANSI/EIA-709) packets through IP (Ethernet) networks
- Configured Router Mode support
- Easy installation, Auto-NAT, roaming, DHCP
- Remote LPA support with LPA-IP
- Built in WEB server for LIP and IP-852 channel configuration
- SNTP support for time synchronization
- Network diagnostic LEDs

Part number	
LOY-LIP-1ECTB	709/852 Router, 1x1250, 1xEth
LOY-LIP-3ECTB	709/852 Router, 1*FT-10, 1*Eth
LOY-LIP-33ECTB	709/852 Router, 2 x FT-10
LOYLIP-333ECTB	709/852 Router, 4 x FT-10

# EDS-205

## Unmanaged 5-port Ethernet Switch



The EDS-205 is an industrial 5-port Ethernet switch that supports IEEE802.3/802.3u/802.3x with 10/100M, full/half-duplex, MDI/MDIX auto-sensing RJ45 ports. EDS-205 is rated to operate at temperatures ranging from -10 to 60 °C, and is rugged enough for any harsh industrial environment.

The EDS-205 is easy to install thanks to the DIN rail mounting and matches the TAC Xenta 500/700/900 series and other Ethernet devices. Furthermore the switch can be powered with 24 VAC like the TAC Xenta devices so there is no need for an extra power supply or transformer.

### Functional features

- 5 Port Ethernet Switch
- 10/100M, Full/Half-Duplex, MDI/MDI-X
- Operating temperature: -10 to 60 °C
- Broadcast storm protection
- Power requirements: 24 VAC or 24 VDC
- Enclosure rating: IP30
- Easy mounting with 35mm DIN rail
- No configuration

### Specifications

Supply voltage	12-48 VDC, 18-30 VAC (47-63 Hz)
Supply current	0.12A @ 24V
Dimensions, including base	100.0 x 24.9 x 74.0mm (HxWxD) (3.9" x 1.0" x 2.9")
<b>Ambient environment</b>	
Operation	-10 to 60 °C (14 to 140 °F)
Storage	-40 to 85 °C (-40 to 185 °F)
Relative humidity	5 to 95% non-condensing
<b>Interface</b>	
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection

### Part number

907300760	EDS-205 Ethernet switch 5 port
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# Xenta Operator Panels

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## Functional features

- Presents variables and parameters on the network
- No configuration required
- Enables access to the entire network via a local connection
- Provides the possibility of publicly displaying data of common interest, such as the outdoor temperature

TAC Vista offers a range of operator panels for various purposes and usage, ranging from text based devices to graphic touch panels. Common functions are the ability to access data points. Some devices offer alarm handling, schedules, trendlog viewer and graphics.

Panel	TAC Xenta OP	TAC OP7	Magelis Opti PC	Loytec LVIS
Connection	LONWORKS	RS-485	Ethernet	LONWORKS
Product	TAC Xenta 100, 280, 300, 401 and any LONMARK device	TAC Xenta 700 series	TAC Vista Webstation and TAC Xenta Servers	Any LONMARK device
Display	4*20 characters	3" graphical, monochrome	8.4" and 15" color LCD	5.7", 12" and 15" color LCD
Input	Keys	Wheel and keys	Touch	Touch
Data points	■	■	■	■
Xenta Alarms	■	■	■	
Local (in panel only) Alarms				■
Trend Logs		■	■	
Local (in panel only) Trend Logs				■
Xenta Schedules	■	■	■	■
TGML Graphics			■	
Local Graphics (special tool)				■
Configuration	TAC Menta. Automatic or user-defined.	TAC XBuilder. Automatic or user-defined. Access rights for different users.	Webstation.  No additional engineering. Xenta Server.  The web interface defined in Xbuilder.	Special Loytec tool



For convenient local operation of TAC Xenta controllers. Input is via 6 control keys and information is displayed in the clear LCD display. The LCD display's background lighting can be switched off if required by changing the relevant parameter. The operator panel is connected to the controller with a plug and-socket connection and supplied with power through the cable connector. It can also be directly connected to the LonWorks network.

The user can access all controllers connected to the network from one connection. The operator panel allows the current operating status to be checked and allows changes to be made to setpoints, time schedules etc., without connecting to a central system. In addition to allowing mobile deployment, the unit also supports the convenient plug-in installation to a TAC Xenta controller or can be mounted into the switchgear cabinet door. Modern and functional design. Compliant with TAC Xenta 100, TAC Xenta 280, TAC Xenta 300 and TAC Xenta 401.

Also available in Cyrillic character version.

## Functional features

- Local access to entire network
- Intuitive navigation
- Access levels for differentiated control and supervision
- Portable and easy to plug in on any TAC Xenta 280/300/400
- Monitors variables in a TAC Xenta 100

## Specifications

Operating voltage	24 V AC/DC from TAC Xenta or external
Power consumption	Max. 0.5 W
Dimensions including base	114 x 96 x 34mm (4.5" x 3.8" x 1.3")
Protocol	FTT-10, LonTALK®
Transmission rate	78 kbits/s
<b>Ambient temperature</b>	
Storage	-20°C to +50°C (-4°F to 122°F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	Max. 90% RH non-condensing
<b>Mechanical</b>	
Display	4 X 20 characters alphanumeric, backlit
Type of protection	IP 20 / IP 43

For further specifications, see technical data sheet.

## Part number

007309072	TAC Xenta OP Operator Panel
007309231	Optional Terminal TAC Xenta OP/RU

## Accessories

007309040	TAC Xenta OP mounting kit panel
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# TAC OP7

## Xenta 700 Operator Panel



The TAC OP7 is a small but powerful operator panel designed to be used with all models of the TAC Xenta 700 series of controllers. It has an LCD display, 240x160 pixels, with up to eight lines; four function buttons, four navigation buttons and one general purpose wheel. The LCD display is backlit. The OP7 is connected to Xenta 700 via an adapter that provides the power and the communication interface.

The operator panel allows access to control parameters and makes it possible to view and acknowledge alarms. Additionally, it is used to monitor signal values, display trend graphs, adjust setpoints and time channels. All values are displayed with their name and unit, and the trend curve display has zoom and pan facilities. The panel has the ability to display information even when no user is logged in. It can be used to show information continuously to end users, without their ever needing to touch the OP7. The TAC OP7 can be mounted in a cabinet door using the remote mounting kit, or hung on any flat, vertical surface using the wall mounting kit. In both cases OP7 can be easily detached and used as a hand-held terminal. By default, TAC OP7 will show the Xenta 700 web content: Value pages, Alarm pages, Trend Log Pages and Schedules; TGML graphics are not shown. In addition, System Variables, Variables and I/O points are shown. Using XBuilder the OP7 content can be customized with special content for individual users.

### Description

007309270	TAC OP7 Complete unit, includes: <ul style="list-style-type: none"> <li>■ 3261217000 RJ-45 female/female adapter</li> <li>■ 3261218000</li> <li>■ Remote cables 2 RJ45 conn. 3 m</li> </ul>
007309280	OP7 Adapter Xenta 700 - includes CPU cable
3261214000	Remote mounting kit IP 54
3261215000	Door IP 65
007309290	OP7 Wall mounting kit
3261216000	Remote cables 2 RJ45 conn. 1 m
3261218000	Remote cables 2 RJ45 conn. 3 m
3261219000	Remote cables 2 RJ45 conn. 5 m
3261217000	RJ-45 female/female adapter

### Specifications

Supply voltage (from the OP7 Adapter Xenta 700)	10 V DC $\pm 20\%$
Power consumption	Max. 1 W
Transformer sizing (OP7 Adapter Xenta 700)	3 VA
<b>Ambient temperature</b>	
Operation	-10 °C to +60 °C (+14 °F to +140 °F)
Storage	-25 °C to +70 °C (-13 °F to +158 °F)
Humidity	IEC 68-2-3, 5: up to 95% RH non-condensing
<b>Mechanical</b>	
Enclosure	ABS/PC
Dimensions	92 x 108 x 25 mm (3.62 x 4.25 x 0.98 in.)
Cabinet door cutout	105 x 116 mm (4.13 x 4.57 in.)
Weight	0.15kg (0.33lb.)
<b>Enclosure rating</b>	
Hand-held panel	IP 20
Cabinet mounted	IP 54
Cabinet mounted with covering door	IP 65
<b>Unit connection</b>	
Xenta 700	Via modular jack on the OP7 adapter
<b>Agency compliances</b>	
Environment protection	UL508C
Electrostatics discharge	IEC 1000-4-2
Radiated EM field	IEC 1000-4-3
Transient burst	IEC 1000-4-4
Surge immunity	IEC 1000-4-5
Immunity conducted radio frequency	IEC 1000-4-6
Emission	CISPR 11, Class A /EN55011, Class A, EN55022
C-tick	C-tick N1831
RoHS directive	2002/95/EG
<b>Supported characters</b>	
Pan-European character set	WGL4

# Magelis Opti PC Touch Panels



Magelis OptiPC are two touch panels for use with TAC Vista web solutions; TAC Vista Webstation and TAC Xenta 500/700 series. It comes in two sizes:

- Magelis Opti PC 8.4", SVGA 800\*600
- Magelis Opti PC 15", XGA 1024\*768

Using touch panels instead of desktop PC's offers big advantages to many customers, especially when it is not used continuously, when space is limited or the environment is harsh.

- No desktop space required
- Reduced energy consumption
- Silent, no revolving disk, no fan
- Reduced maintenance cost, e.g. no moving parts, no ventilation holes that can be clogged
- The disk is locked, meaning correct settings are always retained
- No data is stored on the device, no need for data backup
- Quick deployment on site
- No TAC Vista software installation required

## Functional features

### Touch Panels

- 8.4", SVGA 800 x 600
- 15", XGA 1024 x 768

### Interface with

- TAC Vista Webstation
- TAC Xenta 500/700 series

### Characteristics

- Rugged
- Silent
- Low energy consumption
- No maintenance

## Specifications

Element	8.4" HMI POC4AE00	15" HMI POC7AE00
Processor	ULVCeleron M GHz, secondary memory cache 512 KB	
RAM	1 GB	
Ethernet TCP/IP link	10/100 Base-T	
USB ports	3 x USB 2.0 (bottom side)	
Storage	Compact Flash 4 GB, SLC type	
Operating System	Windows XP Embedded	
Software	Internet Explorer	
Dimensions	254.3 x 187.5 x 64.5 mm (10 x 7.4 x 2.5 in)	372 x 292 x 60.6 mm (14.6 x 11.5 x 2.4 in)
Display characteristics		
Graphics	SVGA active matrix (800 x 600 pixels)	XGA active matrix (1024 x 768 pixels)
Number of colors	260 K colors	16,194,277 colors
Brightness	283.2 – 296 cd/m2	
Brightness control	4 levels of adjustment	
View angle	Left 60°, right 60°, above 45°, below 55°	Left 60°, right 60°, above 60°, below 60°
Touch sensitive screen	Five-wire analog resistive film	
Backlight	CFL – Life span > 50,000 h at 25°C (77°F)	
DC power supply requirements		
Input voltage	19-24 VDC	
Maximum output power	22 W	28 W
AC power supply		
Input voltage	100 - 240 V AC	

# Magelis Opti PC Touch Panels (cont'd)

Part number	Description	Additional description
HMIPOC4AE00	Magelis Opti PC 8.4"	Touch Panel Magelis Opti PC 8.4", SVGA 800*600. Celeron-M 1 GHz, 1 GB RAM, 4 GB CF Card. Includes AC adapter, DC extension cable and 4 installation fasteners.
HMIPOC7AE00	Magelis Opti PC 15"	Magelis Opti PC 15", XGA 1024*768. Celeron-M 1 GHz, 1 GB RAM, 4 GB CF Card. Includes AC adapter, DC extension cable, 4 installation fasteners and installation gasket.
HMIYPOACPS	Spare AC/DC Opti PC	AC adapter for Magelis Opti PC
HMIYPOC4MKIT	Spare kit Opti PC 8.4"	Maintenance Kit for Magelis Opti PC 8.4". Includes DC extension cable and 4 installation fasteners
HMIYPOC7MKIT	Spare kit Opti PC 15"	Maintenance Kit for Magelis Opti PC 15". Includes DC extension cable, 4 installation fasteners, and an installation gasket.

## Environmental characteristics

Characteristics	Value	Standards
Degree of protection	8.4" HMI POC4AE00: IP54 for panel mounting 15" HMI POC7AE00: IP65 on 5 sides (front, back, left, right, and top). IP 53 for panel mounting	IEC 60529, EN 61131-2
Pollution Degree	For use in Pollution Degree 2 environment	–
Ambient operating temperature	0 to 50° C (32 to 122° F)	EN 61131-2, UL 60950
Vibration (in operation)	5-17Hz, 2.54 mm (0.1 in.) double amplitude displacement. 17 – 640 Hz, 1.5 gn acceleration peak to peak, 60 min/per axis.	EN/IEC 60068-2-6 Fc
	3-axis direction, 60min/per axis	MIL-STD-810F 514.5C-1
Shock Resistance	Direction 3-axis, in operation: 3 gn (1/2 sine, 11 msec), Storage: 10 gn (1/2 sine, 11 msec)	IEC 60068-2-27 Ea test and EN 61131-2
Surrounding air humidity during operation	5 – 90% RH (Wet bulb temperature: 50° C (122 °F) max. – no condensation)	–
Immunity to interference	High frequency interference	EN 61131-2, IEC 61000-4-2/6 level 3
	Electromagnetic waves	Class B/EN 55022/55011
Additional standards	Information technology equipment	IEC 60950 UL 60950, CSA 22.2 No 60950



## Functional features

- Control and display panel for LONWORKS® ANSI/EIA-709 networks
- Graphical user interface with touch display
- Clear and user friendly navigation menus
- Representation of user defined graphics, numbers, text, bar charts, trend logs, and bitmaps
- Visualization of individual data points (NVs)
- Control of individual data points (NVs)
- Access control with PIN code
- Network ports: FT-10 and EIA- 852 Ethernet (IP-852)
- Compatible with LNS applications in the fast VNI mode, e. g. NL220®, ALEX, LONMAKER®
- Up to 512 input or output network variables can be processed
- Up to 512 destination addresses can be used
- Input voltage: 9-24V AC or DC
- Dimensions: W=210mm (8.3"), H=165mm (6.5"), D=60mm (2.4")

L-VIS impresses by its timeless design, harmonic integration into modern and historical architecture as well as its extremely user friendly concept.

Any information can be shown in a pleasing style on the high resolution 320x240 color LCD touch display. The L-Vis touch display come in three sizes and resolutions:

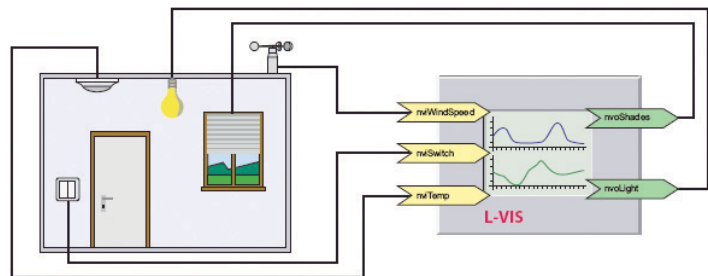
- 5.7" touch display 320x240, 256 colors
- 12.1" touch display 800x600, 65k colors
- 15" touch display 1024x768, 65k colors

The touch display offers easy navigation through the menu structure, but is also used to set temperatures, select light scenarios, move sun blinds, or send updates to network variables in the network. Network variables are dynamically created using LNS 3.x based tools (e.g. NL-220, ALEX, LONMAKER, etc.). The LNS plug-in supplied with the unit is used to create the menu structure and to design graphical pages in no time, which can be downloaded into L-VIS via the network connection. The LCD touch display shows numbers, text, bar charts, symbols, graphics, trend logs, and many other items in a clear way.

L-VIS can also be used in a switch cabinet. It can monitor and display important system parameters like energy consumption, alarms or the temperature in cold-storage rooms. Additionally L-VIS can control devices on the network by sending out network variables. L-VIS can be connected to a TP/FT-10 or IP-852 Ethernet channel. The unit is fully compatible with the EIA-709 and the EIA-852 standards.

Mounting frames are not included and must be ordered separately.

Part number	
LOY-LVIS-3E100	Lon 5.7" display
LOY-LVIS-3E112	Lon 12.1" display
LOY-LVIS-3E115	Lon 15" display
LOY-LVIS-ME200	BACnet 5.7" display
LOY-LVIS-ME212	BACnet 12.1" display
LOY-LVIS-ME215	BACnet 15" display
LOY-LVIS-FRM 1	Mount Frame 5.7"
LOY-LVIS-FRM12	MountFrame 12.1"
LOY-LVIS-FRM15	Mount Frame 15"



Sample L-VIS graphic

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As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this publication.

Design: Schneider Electric  
Photos: Schneider Electric