

Council Meeting
June 15, 2010

Honorable Mayor and Members
of the Torrance City Council
City Hall
Torrance, California

Members of the Council:

SUBJECT: General Services and CIT-Award a contract for Network Air Conditioning Controller for the Cultural Arts Center (CAC) and appropriate funds from the CAC Enterprise Fund.

Expenditure: \$ 29,542

RECOMMENDATION

Recommendation of the General Services Director and the Information Technology Director that City Council:

- 1) Award a contract to Control Technologies West, Inc. for \$23,150 with a 5% contingency of \$1,158 for the purchase and installation of Network Controller for the Cultural Arts Center air conditioning.
- 2) Authorize an increase to the annual purchase order with Dell Computers (#1005) for \$ 3,514.00 and approve \$1,720 internet costs, VPN access and LAN jack installation.
- 3) Appropriate \$29,542 from the Cultural Arts Center Enterprise to the CAC Network AC Controller project.

FUNDING- Funding is available Cultural Arts Center Enterprise Fund

BACKGROUND/ ANALYSIS

The current air conditioning network controller at the Cultural Arts Center (CAC), original to the building (1991), is not operational due to a failed communication board within the system. As a result the system is not able communicate between the main chiller and individual room air handling units. The original controller manufacturer is no longer in business and the parts are not readily available. The original controller manufacturer transferred the proprietary rights of the system to another company which continues to provide system support however not individual replacement parts for older units. As with many energy management control systems the unit uses a proprietary technology which cannot be replaced with systems from other manufacturers without a total system replacement.

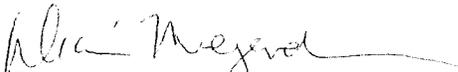
This controller replacement is consistent with the City's energy savings program. Staff requests replacement of the existing controller with a new network air conditioning controller to allow continued use of other portions of the existing control system. The new controller will interface with existing energy management system which regulates the temperature in the classrooms and meeting rooms of the Cultural Arts Center. The new controller does not replace the individual controls in each classroom but interfaces between the main chiller and individual rooms. Staff does not have plans at this time to replace individual controls, which will continue to work as designed. A complete system replacement, estimated at over \$100,000, would not achieve additional energy savings.

Along with the new air conditioning controller, two new computers will be purchased to support the software of the web based controller. The computers and controller allow staff to remotely monitor and adjust the temperature in the rooms when necessary. The purchase of the computers will require an increase to the annual purchase order with Dell Computers. In addition to the computers, staff is requesting approval for \$1,720 associated costs; internet connection, VPN access for remote support and LAN jack installation at two locations.

Therefore, the General Services Director and Information Technology Director recommend the City Council award a contract to Control Technologies West, Inc. for \$23,150 with a 5% contingency of \$1,158 for network controller for air conditioning in the Cultural Arts Center, authorize an increase to the annual purchase order with Dell Computers and approve \$500 for installation of LAN jacks and appropriate the amount from the Cultural Arts Center Enterprise Fund.

Respectfully submitted,

SHERYL BALLEW
General Services Director


By Diane Megerdichian
Business Manager

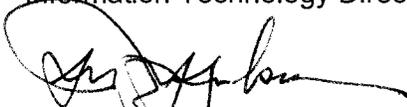
CONCUR:



Sheryl Ballew
General Services Director



Richard Shigaki
Information Technology Director



LeRoy J. Jackson
City Manager

Attachment A: Control Technologies West, Inc. Contract

CONTRACT SERVICES AGREEMENT

This CONTRACT SERVICES AGREEMENT ("Agreement") is made and entered into as of June 15, 2010 (the "Effective Date"), by and between the CITY OF TORRANCE, a municipal corporation ("CITY"), and Control Technologies West Incorporated, a California Corporation ("CONTRACTOR").

RECITALS:

- A. CITY wishes to retain the services of an experienced and qualified CONTRACTOR to provide and install one (1) I/A ENC-520 controller with communications driver to communicate with existing Network 8000 Energy Management System per proposal attached.
- B. CONTRACTOR represents that it is qualified to perform those services.

AGREEMENT:

1. SERVICES TO BE PERFORMED BY CONTRACTOR

CONTRACTOR will provide the services listed in the Proposal attached as Exhibit A. CONTRACTOR warrants that all work and services set forth in the Proposal will be performed in a competent, professional and satisfactory manner.

2. TERM

Unless earlier terminated in accordance with Paragraph 4 below, this Agreement will continue in full force and effect from the Effective Date through June 30, 2011.

3. COMPENSATION

- A. CONTRACTOR's Fee.

For services rendered pursuant to this Agreement, CONTRACTOR will be paid in accordance with the Proposal attached as Exhibit A, provided, however, that in no event will the total amount of money paid the CONTRACTOR, for services initially contemplated by this Agreement, exceed the sum of \$ 23,150 ("Agreement Sum"), unless otherwise first approved in writing by CITY.

B. Schedule of Payment.

Provided that the CONTRACTOR is not in default under the terms of this Agreement, upon presentation of an invoice, CONTRACTOR will be paid the fees described in Paragraph 3.A. above, according to the Proposal. Payment will be due within 30 days after the date of the invoice.

4. TERMINATION OF AGREEMENT

A. Termination by CITY for Convenience.

1. CITY may, at any time, terminate the Agreement for CITY's convenience and without cause.
2. Upon receipt of written notice from CITY of such termination for CITY's convenience, CONTRACTOR will:
 - a. cease operations as directed by CITY in the notice;
 - b. take actions necessary, or that CITY may direct, for the protection and preservation of the work; and
 - c. except for work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.
3. In case of such termination for CITY's convenience, CONTRACTOR will be entitled to receive payment for work executed; and costs incurred by reason of such termination, along with reasonable overhead and profit on the work not executed.

B. Termination for Cause.

1. If either party fails to perform any term, covenant or condition in this Agreement and that failure continues for 15 calendar days after the nondefaulting party gives the defaulting party written notice of the failure to perform, this Agreement may be terminated for cause; provided, however, that if during the notice period the defaulting party has promptly commenced and continues diligent efforts to remedy the default, the defaulting party will have such additional time as is reasonably necessary to remedy the default.
2. In the event this Agreement is terminated for cause by the default of the CONTRACTOR, the CITY may, at the expense of the CONTRACTOR and its surety, complete this Agreement or cause it to be completed. Any check or bond delivered to the CITY in connection with this Agreement, and the money payable thereon, will be forfeited to and remain the property of the CITY. All moneys due the CONTRACTOR under the terms of this Agreement will be

retained by the CITY, but the retention will not release the CONTRACTOR and its surety from liability for the default. Under these circumstances, however, the CONTRACTOR and its surety will be credited with the amount of money retained, toward any amount by which the cost of completion exceeds the Agreement Sum and any amount authorized for extra services.

3. Termination for cause will not affect or terminate any of the rights of the CITY as against the CONTRACTOR or its surety then existing, or which may thereafter accrue because of the default; this provision is in addition to all other rights and remedies available to the CITY under law.

C. Termination for Breach of Law.

In the event the CONTRACTOR or any of its officers, directors, shareholders, employees, agents, subsidiaries or affiliates is convicted (i) of a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of a contract or subcontract; (ii) under state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a public consultant or contractor; (iii) under state or federal antitrust statutes arising out of the submission of bids or proposals; or (iv) of violation of Paragraph 19 of this Agreement; or for any other cause the CITY determines to be so serious and compelling as to affect CONTRACTOR's responsibility as a public consultant or contractor, including but not limited to, debarment by another governmental agency, then the CITY reserves the unilateral right to terminate this Agreement or to impose such other sanctions (which may include financial sanctions, temporary suspensions or any other condition deemed appropriate short of termination) as it deems proper. The CITY will not take action until CONTRACTOR has been given notice and an opportunity to present evidence in mitigation.

5. FORCE MAJEURE

If any party fails to perform its obligations because of strikes, lockouts, labor disputes, embargoes, acts of God, inability to obtain labor or materials or reasonable substitutes for labor or materials, governmental restrictions, governmental regulations, governmental control, judicial orders, enemy or hostile governmental action, civil commotion, fire or other casualty, or other causes beyond the reasonable control of the party obligated to perform, then that party's performance shall be excused for a period equal to the period of such cause for failure to perform.

6. RETENTION OF FUNDS

CONTRACTOR authorizes CITY to deduct from any amount payable to CONTRACTOR (whether or not arising out of this Agreement) any amounts the payment of which may be in dispute or that are necessary to compensate CITY for any losses, costs, liabilities, or damages suffered by CITY, and all amounts for which CITY may be liable to third parties, by reason of CONTRACTOR's acts or omissions in performing or failing to perform CONTRACTOR's obligations under this Agreement. In the event that any claim is made by a third party, the amount or validity of which is disputed by CONTRACTOR, or any indebtedness exists that appears to be the basis for a claim of lien, CITY may withhold from any payment due, without liability for interest because of the withholding, an amount sufficient to cover the claim. The failure of CITY to exercise the right to deduct or to withhold will not, however, affect the obligations of CONTRACTOR to insure, indemnify, and protect CITY as elsewhere provided in this Agreement.

7. CITY REPRESENTATIVE

Hrand Ibranossian is designated as the "City Representative," authorized to act in its behalf with respect to the work and services specified in this Agreement and to make all decisions in connection with this Agreement. Whenever approval, directions, or other actions are required by CITY under this Agreement, those actions will be taken by the City Representative, unless otherwise stated. The City Manager has the right to designate another City Representative at any time, by providing notice to CONTRACTOR.

8. CONTRACTOR REPRESENTATIVE(S)

The following principal(s) of CONTRACTOR are designated as being the principal(s) and representative(s) of CONTRACTOR authorized to act in its behalf with respect to the work specified in this Agreement and make all decisions in connection with this Agreement:

Bob Meinking
Vinny Thuesen

9. INDEPENDENT CONTRACTOR

The CONTRACTOR is, and at all times will remain as to CITY, a wholly independent contractor. Neither CITY nor any of its agents will have control over the conduct of the CONTRACTOR or any of the CONTRACTOR's employees, except as otherwise set forth in this Agreement. The CONTRACTOR may not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of CITY.

10. BUSINESS LICENSE

The CONTRACTOR must obtain a City business license prior to the start of work under this Agreement, unless CONTRACTOR is qualified for an exemption.

11. OTHER LICENSES AND PERMITS

CONTRACTOR warrants that it has all professional, contracting and other permits and licenses required to undertake the work contemplated by this Agreement.

12. FAMILIARITY WITH WORK

By executing this Agreement, CONTRACTOR warrants that CONTRACTOR (a) has thoroughly investigated and considered the Proposal to be performed, (b) has carefully considered how the services should be performed, and (c) fully understands the facilities, difficulties and restrictions attending performance of the services under this Agreement. If the services involve work upon any site, CONTRACTOR warrants that CONTRACTOR has or will investigate the site and is or will be fully acquainted with the conditions there existing, prior to commencement of services set forth in this Agreement. Should CONTRACTOR discover any latent or unknown conditions that will materially affect the performance of the services set forth in this Agreement, CONTRACTOR must immediately inform CITY of that fact and may not proceed except at CONTRACTOR's risk until written instructions are received from CITY.

13. CARE OF WORK

CONTRACTOR must adopt reasonable methods during the term of the Agreement to furnish continuous protection to the work, and the equipment, materials, papers, documents, plans, studies and other components to prevent losses or damages, and will be responsible for all damages, to persons or property, until acceptance of the work by CITY, except those losses or damages as may be caused by CITY's own negligence.

14. CONTRACTOR'S ACCOUNTING RECORDS; OTHER PROJECT RECORDS

Records of the CONTRACTOR's time pertaining to the project, and records of accounts between CITY and the CONTRACTOR, will be kept on a generally recognized accounting basis. CONTRACTOR will also maintain all other records, including without limitation specifications, drawings, progress reports and the like, relating to the project. All records will be available to CITY during normal working hours. CONTRACTOR will maintain these records for three years after final payment.

15. INDEMNIFICATION

CONTRACTOR will indemnify, defend, and hold harmless CITY, the Redevelopment Agency of the City of Torrance, the City Council, each member thereof, present and future, members of boards and commissions, its officers, agents, employees and volunteers from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages whatsoever, including, but not limited to, those arising from breach of contract,

bodily injury, death, personal injury, property damage, loss of use, or property loss however the same may be caused and regardless of the responsibility for negligence. The obligation to indemnify, defend and hold harmless includes, but is not limited to, any liability or expense, including defense costs and legal fees, arising from the negligent acts or omissions, or willful misconduct of CONTRACTOR, its officers, employees, agents, subcontractors or vendors. It is further agreed, CONTRACTOR's obligations to indemnify, defend and hold harmless will apply even in the event of concurrent negligence on the part of CITY, the City Council, each member thereof, present and future, or its officers, agents and employees, except for liability resulting solely from the negligence or willful misconduct of CITY, its officers, employees or agents. Payment by CITY is not a condition precedent to enforcement of this indemnity. In the event of any dispute between CONTRACTOR and CITY, as to whether liability arises from the sole negligence of the CITY or its officers, employees, agents, subcontractors or vendors, CONTRACTOR will be obligated to pay for CITY's defense until such time as a final judgment has been entered adjudicating the CITY as solely negligent. CONTRACTOR will not be entitled in the event of such a determination to any reimbursement of defense costs including but not limited to attorney's fees, expert fees and costs of litigation.

16. NON-LIABILITY OF CITY OFFICERS AND EMPLOYEES

No officer or employee of CITY will be personally liable to CONTRACTOR, in the event of any default or breach by the CITY or for any amount that may become due to CONTRACTOR.

17. INSURANCE

A. CONTRACTOR and its subcontractors must maintain at its sole expense the following insurance, which will be full coverage not subject to self insurance provisions:

1. Automobile Liability, including owned, non-owned and hired vehicles, with at least the following limits of liability:
 - a. Primary Bodily Injury with limits of at least \$500,000 per person, \$500,000 per occurrence; and
 - b. Primary Property Damage of at least \$250,000 per occurrence; or
 - c. Combined single limits of \$1,000,000 per occurrence.
2. General Liability including coverage for premises, products and completed operations, independent contractors/vendors, personal injury and contractual obligations with combined single limits of coverage of at least \$1,000,000 per occurrence.
3. Workers' Compensation with limits as required by the State of California and Employer's Liability with limits of at least \$1,000,000.

- B. The insurance provided by CONTRACTOR will be primary and non-contributory.
- C. CITY ("City of Torrance"), the Redevelopment Agency of the City of Torrance, the City Council and each member thereof, members of boards and commissions, every officer, agent, official, employee and volunteer must be named as additional insured under the automobile and general liability policies.
- D. CONTRACTOR must provide certificates of insurance and/or endorsements indicating appropriate coverage, to the City Clerk of the City of Torrance before the commencement of work.
- E. Each insurance policy required by this Paragraph must contain a provision that no termination, cancellation or change of coverage can be made without thirty days notice to CITY.

18. SUFFICIENCY OF INSURERS

Insurance required by this Agreement will be satisfactory only if issued by companies admitted to do business in California, rated "B+" or better in the most recent edition of Best's Key Rating Guide, and only if they are of a financial category Class VII or better, unless these requirements are waived by the Risk Manager of CITY ("Risk Manager") due to unique circumstances. In the event the Risk Manager determines that the work or services to be performed under this Agreement creates an increased or decreased risk of loss to CITY, the CONTRACTOR agrees that the minimum limits of any insurance policies or performance bonds required by this Agreement may be changed accordingly upon receipt of written notice from the Risk Manager; provided that CONTRACTOR will have the right to appeal a determination of increased coverage by the Risk Manager to the City Council of CITY within 10 days of receipt of notice from the Risk Manager.

19. CONFLICT OF INTEREST

- A. No officer or employee of the CITY may have any financial interest, direct or indirect, in this Agreement, nor may any officer or employee participate in any decision relating to the Agreement that effects the officer or employee's financial interest or the financial interest of any corporation, partnership or association in which the officer or employee is, directly or indirectly interested, in violation of any law, rule or regulation.
- B. No person may offer, give, or agree to give any officer or employee or former officer or employee, nor may any officer or employee solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation,

auditing, or in any other advisory capacity in any way pertaining to any program requirement, contract or subcontract, or to any solicitation or proposal.

20. NOTICE

- A. All notices, requests, demands, or other communications under this Agreement will be in writing. Notice will be sufficiently given for all purposes as follows:
1. Personal delivery. When personally delivered to the recipient: notice is effective on delivery.
 2. First Class mail. When mailed first class to the last address of the recipient known to the party giving notice: notice is effective three mail delivery days after deposit in an United States Postal Service office or mailbox.
 3. Certified mail. When mailed certified mail, return receipt requested: notice is effective on receipt, if delivery is confirmed by a return receipt.
 4. Overnight delivery. When delivered by an overnight delivery service, charges prepaid or charged to the sender's account: notice is effective on delivery, if delivery is confirmed by the delivery service.
 5. Facsimile transmission. When sent by fax to the last fax number of the recipient known to the party giving notice: notice is effective on receipt. Any notice given by fax will be deemed received on the next business day if it is received after 5:00 p.m. (recipient's time) or on a non-business day.

6. Addresses for purpose of giving notice are as follows:

CONTRACTOR Control Technologies West Inc.
4165 E. La Palma Avenue
Anaheim, CA 92807

Fax: 714-854-7161

CITY: City Clerk
City of Torrance
3031 Torrance Boulevard
Torrance, CA 90509-2970
Fax: (310) 618-2931

- B. Any correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission of the party to be notified, will be deemed effective as of the first date the notice was refused, unclaimed or deemed undeliverable by the postal authorities, messenger or overnight delivery service.
- C. Either party may change its address or fax number by giving the other party notice of the change in any manner permitted by this Agreement.

21. PROHIBITION AGAINST ASSIGNMENT AND SUBCONTRACTING

This Agreement and all exhibits are binding on the heirs, successors, and assigns of the parties. The Agreement may not be assigned or subcontracted by either CITY or CONTRACTOR without the prior written consent of the other.

22. INTEGRATION; AMENDMENT

This Agreement represents the entire understanding of CITY and CONTRACTOR as to those matters contained in it. No prior oral or written understanding will be of any force or effect with respect to the terms of this Agreement. The Agreement may not be modified or altered except in writing signed by both parties.

23. INTERPRETATION

The terms of this Agreement should be construed in accordance with the meaning of the language used and should not be construed for or against either party by reason of the authorship of this Agreement or any other rule of construction that might otherwise apply.

24. SEVERABILITY

If any part of this Agreement is found to be in conflict with applicable laws, that part will be inoperative, null and void insofar as it is in conflict with any applicable laws, but the remainder of the Agreement will remain in full force and effect.

25. TIME OF ESSENCE

Time is of the essence in the performance of this Agreement.

26. GOVERNING LAW; JURISDICTION

This Agreement will be administered and interpreted under the laws of the State of California. Jurisdiction of any litigation arising from the Agreement will be in Los Angeles County, California.

27. COMPLIANCE WITH STATUTES AND REGULATIONS

CONTRACTOR will be knowledgeable of and will comply with all applicable federal, state, county and city statutes, rules, regulations, ordinances and orders.

28. WAIVER OF BREACH

No delay or omission in the exercise of any right or remedy by a nondefaulting party on any default will impair the right or remedy or be construed as a waiver. A party's consent or approval of any act by the other party requiring the party's consent or approval will not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in writing and will not be a waiver of any other default concerning the same or any other provision of this Agreement.

29. ATTORNEY'S FEES

Except as provided for in Paragraph 15, in any dispute, litigation, arbitration, or other proceeding by which one party either seeks to enforce its rights under this Agreement (whether in contract, tort or both) or seeks a declaration of any rights or obligations under this Agreement, the prevailing party will be awarded reasonable attorney's fees, together with any costs and expenses, to resolve the dispute and to enforce any judgment.

30. EXHIBITS

All exhibits identified in this Agreement are incorporated into the Agreement by this reference.

31. CONTRACTOR'S AUTHORITY TO EXECUTE

The persons executing this Agreement on behalf of the CONTRACTOR warrant that (i) the CONTRACTOR is duly organized and existing; (ii) they are duly authorized to execute this Agreement on behalf of the CONTRACTOR; (iii) by so executing this Agreement, the CONTRACTOR is formally bound to the provisions of this Agreement; and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which the CONTRACTOR is bound.

CITY OF TORRANCE
a Municipal Corporation

Control Technologies West, Inc.
a California Corporation

Frank Scotto, Mayor

By: _____
Bob Meinking
Service Sales Manager

ATTEST:

Sue Herbers
City Clerk

APPROVED AS TO FORM:
JOHN L. FELLOWS III
City Attorney

By: _____

Attachments: Exhibit A Proposal

Revised: 10/29/2008

EXHIBIT A
PROPOSAL
[To be attached]



PROPOSAL

Date: April 15, 2010

To: City of Torrance
 3340 Civic Center Dr
 Torrance, CA 90503
 Attention: Hrand Ibranossian

Project: Torrance Cultural Arts Control Upgrade

Control Technologies proposes to perform the following labor and materials to accomplish the following:

- Provide and install one (1) I/A ENC-520 controller with communications driver to communicate with existing Network 8000 Energy Management System.
 - Install new system workstation, to be provided by customer, with WEB support to enable customer to see whole system on one graphics screen.
 - Customer to provide internet access and LAN connection with new IP Address
 - Provide all necessary programming, graphics and commissioning of all existing points in the system.
 - Provide all electrical wiring and connections as needed.
- Provide customer training on the system at startup
- Provide updated as built drawings at completion of the project
- Control Technologies standard one year warranty applies from date of customer acceptance.

All for the sum of: Twenty Three Thousand One Hundred & Fifty Dollars (\$ 23,150.00)

This quote assumes:

- No Hazardous Materials (i.e. asbestos removal).
- All labor performed during normal working hours
- No permits, bonding or special insurance requirements
- Normal access (i.e. no gowning for clean room, available parking, etc.)
- No patching or painting. Not responsible for ceiling tiles.
- All existing controllers & end devices are operational.
- Not responsible for Life Safety Systems (ie.smoke detectors, sprinklers, motion detectors etc)

ENC 520 Series

Enterprise Network Controller

- Integral LONWORKS, BACnet/IP, BACnet Ethernet, and BACnet MS/TP communications support.
- Embedded RISC Microprocessor platform provides high computing speeds.
- Distributes real-time control functions across an Ethernet LAN.
- Cost effective for any size commercial installation.
- Provides alarming, logging, scheduling, control, and custom HVAC applications.
- Multiple ENC stations can be used in a large scale system configuration, offering true peer-to-peer operation and full application sharing with optional peer-to-peer connectivity.
- Password protected access.
- Can be configured with optional Web User Interface services to support many simultaneous users over Intranet or Internet via standard Web browser.
- BACnet router functionality.

The TAC I/A Series™ ENC 520 Enterprise Network Controller (ENC) is a compact, embedded-processor platform with flash memory for backup. The ENC 520 can integrate combinations of LON, Modbus, or BACnet™ devices with the appropriate optional drivers. It provides integrated control, supervision, and network management solutions for a network of LONWORKS™-based, BACnet MS/TP-based, or Modbus-based controllers for building control. When connected over an Ethernet network, the ENC 520 can communicate to BACnet devices or systems and share data between LONWORKS, BACnet, and Modbus systems. A complete set of Java™-based control, application, logging, and user interface "objects" are included in a library. An optional Web User Interface is available. In this configuration, the system's graphical views can be accessed using any standard Web browser such as Netscape® Communicator or Microsoft® Internet Explorer.

APPLICATIONS

Specifically designed for mechanical room, factory floor, and other commercial environments, the ENC 520 can be wall-mounted using its integral metal enclosure.

In a small building application, a single ENC can be used to support a network of BACnet, LONWORKS or Modbus devices that can be accessed directly over the Ethernet LAN, remotely over the Internet, or via dial-up modem.

MODELS

Part Number	Description	Voltage
ENC-520-2	Enterprise Network Controller, includes: <ul style="list-style-type: none"> • 10/100 Mbit Ethernet port • 2 RS-232 ports • 4 RS-485 ports (electrically isolated) • 1 LONWORKS port, with driver (electrically isolated) 	120 Vac, 50/60 Hz, 25 VA max.
ENC-520-2-N	<ul style="list-style-type: none"> • LON Tunnel service • BACnet/IP, BACnet Ethernet, and BACnet MS/TP drivers • QNX® operating system with IBM J9™ Java Virtual Machine • Control Engine software 	240 Vac, 50/60 Hz, 25 VA max.

Communications

All versions

One 10/100 Mbit Ethernet port – RJ-45 connector

Two RS-232 ports – RJ-45 connectors

Four RS-485 ports (up to 76.8 Kbaud) – three-position screw terminal connectors, electrically isolated

One LONWORKS port – FTT-10 (78 Kbaud) with two-pin Weidmuller connector, electrically isolated

BACnet Compliance

BACnet Building Controller (B-BC).

Options

Web Access
Network interface
5000

Part Number	Description
UNC-410-MDM	Internal auto-dial/auto-answer 56k modem, RJ-11 connector for North America applications
ENC-520-P2P	Peer-to-peer connectivity
ENC-520-WEB	Web user interface
ENC-DRV-ASD	ASD device driver; direct ASD bus support
ENC-DRV-MOD	Modbus device driver; direct Modbus support
ENC-DRV-MOD-R	Modbus slave device driver; Modbus TCP support; ENC 520 acts as Modbus slave using Ethernet TCP
ENC-DRV-MOD-S	Modbus slave device driver; ENC 520 acts as Modbus slave using RTU protocol
ENC-DRV-MOD-T	Modbus master device driver; Modbus TCP support; ENC 520 acts as Modbus master using Ethernet TCP
ENC-DRV-SNMP	Simple Network Management Protocol (SNMP) driver
ENC-WB	Embedded workbench tool

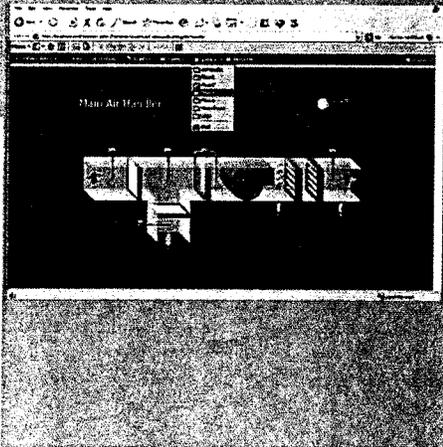
Note: Be sure to verify compatibility with a vendor's devices before specifying third party device drivers.

Accessories

Part Number	Description
UNCC-405	RJ-45 socket to DB-9 socket adapter, null modem
UNCC-430	RJ-45 socket to DB-25 plug adapter, straight through
CBL-RJ45-4	Flat silver satin cable, 4 ft
CBL-RJ45-10	Flat silver satin cable, 10 ft
CBL-RJ45-25	Flat silver satin cable, 25 ft



BACnet is a registered trademark of ASHRAE. ASHRAE does not endorse, approve, or test products for compliance with ASHRAE standards. Compliance of listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet International (BI). BTL is a registered trademark of BI.



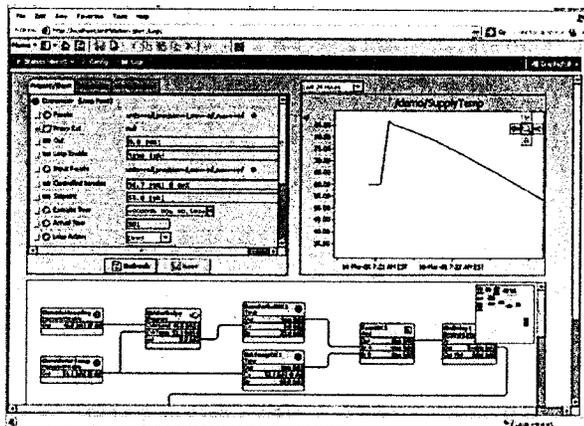
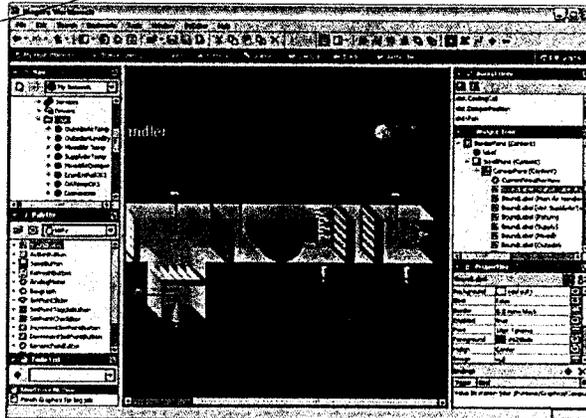
ENS-1

Enterprise Network Server

The Enterprise Network Server is a flexible network server for ENC-410 and ENC-520 controllers supporting peer-to-peer connectivity. The Enterprise Network Server is designed to harness the power of the Internet and provide efficient integration of standard open protocols, such as BACnet™ and LONWORKS™. The Enterprise Network Server creates a powerful HTTP network environment with comprehensive database management, alarm management and messaging services. In addition, the Enterprise Network Server provides an engineering environment and graphical user interface.

- Java® (Sun™ Hot Spot) enabled user interface
- Supports an unlimited number of users over the Internet or Intranet with a standard Web browser
- Optional enterprise-level data archival using SQL, Oracle or DB2 database, and HTTP/HTML/XML text formats
- "Audit Trail" of database changes, database storage and backup, global time functions, calendar, central scheduling, control and energy management routines
- Sophisticated alarm processing and routing which includes e-mail and paging
- Internet time synchronization capability for all ENC stations, if desired
- Provides access to alarms, logs, graphics, schedules and configuration data with a standard Web browser
- Password protection and security using standard Java authentication and encryption techniques
- HTML-based help system that includes comprehensive on-line system documentation
- Supports multiple ENC-410 and ENC-520 controllers connected to a local Ethernet or the Internet
- Provides online and offline use of the Workbench™ graphical application configuration tool and a comprehensive Java Object Library
- Optional support for database and Ethernet-based drivers available.

Graphics Resident on ENC



SPECIFICATIONS

ENS-1 ENTERPRISE NETWORK SERVER

HARDWARE

Platform

Intel Pentium™ IV, 3.0 GHz or higher

Memory

2 GB RAM minimum or higher recommended

Hard Drive

10 GB minimum (100 GB or higher recommended) SCSI or SATA drives recommended

Additional Drives

R/W CD drive (minimum) R/W DVD recommended (especially for large database files and archives)

Display

Video card and monitor capable of displaying 1024 x 768 pixel resolution

Network Support

Ethernet adapter (10/100 megabit with RJ-45 connector)

OPERATING SYSTEM

Microsoft® Windows XP Professional

BROWSER

Microsoft Internet Explorer 5.0 or later, or Netscape® Communicator 4.5 or later

COMMUNICATIONS

Full-time high speed ISP connection recommended for remote site access (such as T1, xDSL, cable modem)

Note: These are recommended specifications. While ENS-1 may run on a PC that does not meet these specifications, a PC meeting or exceeding the recommended specifications should be used to ensure efficient operation.

OPTIONS

Part Number	Description
ENS-DBS-DB2	IBM DB2 database driver
ENS-DBS-ORCL	Oracle database driver
ENS-DBS-SQL	Microsoft SQL database driver
ENS-BAC	BACnet IP Client driver — includes 500 BACnet IP points
ENS-BAC-500	Additional 500 BACnet IP points
ENS-MOD	Modbus TCP driver— includes 500 Modbus TCP points
ENS-MOD-500	Additional 500 Modbus TCP points
ENS-OPC	OPC Client driver— includes 500 OPC points
ENS-OPC-500	Additional 500 OPC points
ENS-SNMP	SNMP driver— includes 500 SNMP points
ENS-SNMP -500	Additional 500 SNMP points

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