BID INVITATION FOR: PLC TRAINING SIMULATOR

Unless specifically amended or deleted by the Community College System of New Hampshire, the following General Terms and Conditions apply to this Bid and any resulting Purchase Order or Contract.

GENERAL CONDITIONS AND INSTRUCTIONS:

NATURE OF, AND ELIGIBILITY TO RESPOND. This bid invitation is submitted and the rules promulgated thereunder, and constitutes a firm and binding offer. A bid may not be withdrawn unless permission is obtained from the Community College System of NH (CCSNH).

Bids may be issued only by the Community College System of NH and are not transferable.

SAMPLES AND DEMONSTRATIONS. When samples are required they must be submitted free of costs and will not be returned.

Items left for demonstration or evaluation purposes shall be delivered and installed free of charge and shall be removed at no cost to the CCSNH. Demonstration units shall not be offered to the CCSNH as new equipment.

BIDS. Bids must be received at the Community College System of NH before the date and time specified for the opening. Bids must be submitted on this bid form or exact copies and must be typed or clearly printed in ink. Corrections must be initialed. Bids are to be made less Federal Excise Tax and no charge for handling unless required by law.

Bids will be made available to the public after the time of award. Bid results will be given by mail only if requested in writing and accompanied by a self-addressed, stamped business size envelope.

SPECIFICATIONS. Vendors must submit on items as specified. Proposed changes must be submitted in writing and received at the Community College System of NH at least five (5) working days prior to the bid opening. Vendors shall be notified in writing if any changes to the specifications are made.

AWARD. The award will be made to the responsible Vendor submitting a conforming RFB meeting specifications at the lowest cost unless other criteria are noted in the RFB. Unless otherwise noted, the award may be made by individual items.

If there is a discrepancy between the unit price and the extension, the unit price will prevail.

When identical low bids are received the award will be made in accordance with the Administrative Rules.

Discounts will not be considered in making award but will be applied on the invoice for earlier payment and will be applicable on the date of completion of delivery or receipt of Invoice, whichever is later. On orders specifying split deliveries, discounts will apply on the basis of each delivery or receipt of Invoice, whichever is later.

PATENT INFRINGEMENT. Any responding vendor who has reason to believe that any other responding vendor will violate a patent should such responding vendor be awarded the contract shall set forth in writing, prior to the date and time of opening, the grounds for his belief and a detailed description of the patent.

ASSIGNMENT PROVISION. The responding vendor hereby agrees to assign all causes of action that it may acquire under the antitrust laws of New Hampshire and the United States as the result of conspiracies, combinations, or contracts in restraint of trade which materially affect the price of goods or services obtained by the state under this contract if so requested by the State of New Hampshire.

FEDERAL FUNDS. The Community College System of NH shall assure the continuation or granting of federal funds or other assistance not otherwise provided for by law by following the Federal Procurement Standards.

CCSNH'S OPTIONS: The Community College System of NH reserves the right to reject or accept all or any part of any bid, to determine what constitutes a conforming bid, to award the bid solely as it deems to be in the best interest of the CCSNH, and to waive irregularities that it considers not material to the bid.

PUBLIC INFORMATION: The responding vendor hereby acknowledges that all information relating to this bid and any resulting order (Including but not limited to fees, contracts, agreements and prices) are subject to these laws of the State of New Hampshire regarding public information.

PERSONAL LIABILITY: The responding vendor agrees that in the preparation of this bid or the execution of any resulting contract or order, representatives of the Community College System of NH shall incur no liability of any kind.

PROOF OF COMPLIANCE. The responding vendor may be required to supply proof of compliance with proposal specifications. When requested, the responding vendor must immediately supply the Community College System of NH with certified test results or certificates of compliance. Where none are available, the CCSNH may require independent laboratory testing. All costs for such testing certified test results or certificate of compliance shall be the responsibility of the responding vendor.

FORM OF CONTRACT. The terms and conditions set forth in any additional Terms and Conditions by the Community College System of NH are part of the bid and will apply to any contract awarded the responding vendor unless specific exceptions are taken and accepted and will prevail over any contrary provisions in Terms and Conditions submitted by the responding vendor.

OFFER. The undersigned hereby offers to sell to the Community College System of NH the commodities or services indicated in the following page(s) of this Bid at the price(s) quoted in complete accordance with all conditions of this Bid.

Company Name: ________________________________________________________________

Address: _________________________________________________________________

Tel#: __________________________ (Toll free) __________________________

Fax#: __________________________

Authorized Signature: ____________________________________________________________

(TYPE OR PRINT NAME)

This document must be signed by a person who is authorized to legally obligate the responding vendor. A signature on this document indicates that all State of NH & Community College System of NH terms and conditions are accepted by the responding vendor and that any and all other terms and conditions submitted by the responding vendor are null and void, even if such terms and conditions have terminology to the contrary. The responding vendor shall also be subject to State of New Hampshire/CCSNH terms and conditions as stated on the reverse of the purchase order.
CONTRACT TERMS AND CONDITIONS

1. The Community College System of NH (CCSNH), engages the firm or individual ("the Vendor") to perform the services and/or sale of goods, described in the attached CCSNH documents, if any, and the Vendor’s bid or quotation, both of which are incorporated herein by reference.

2. COMPLIANCE BY VENDOR WITH LAWS AND REGULATIONS. In connection with the performance of this agreement, the Vendor shall comply with all statutes, laws, regulations, and orders of federal, state, county or municipal authorities which shall impose any obligation or duty upon the Vendor, including, but not limited to civil rights and equal opportunity laws.

3. TERM. The contract, and all obligations of the parties hereunder, shall become effective on a specified date and shall be completed in their entirety prior to a specified date. Any work undertaken by the Vendor prior to the effective date shall be at his sole risk and, in the event that the contract shall not become effective, the CCSNH shall be under no obligation to reimburse the Vendor for any such work.

4. CONTRACT PRICE. The contract price, a payment schedule and a maximum limitation of price shall be as specified by the bid invitation and the Vendor’s bid. All payments shall be conditioned upon receipt and approval by the CCSNH, of appropriate vouchers and upon satisfactory performance by the Vendor, as determined by the CCSNH. The payment by the CCSNH of the Contract Price shall constitute complete reimbursement to the Vendor for all expenses of any nature incurred by the Vendor in the performance by the Vendor and complete payment for the Services. The CCSNH shall have no other liability to the Vendor.

5. DELIVERY. If the Vendor fails to furnish items and/or services in accordance with all requirements, including delivery, the CCSNH may re-purchase similar items from any other source without competitive bidding, and the original vendor may be liable to the CCSNH for any excess costs.

6. INVOICING. All invoices must show Order Number, Unit and Extension Prices and discounts allowed. A separate invoice shall be submitted for each order. Unless otherwise noted on the invitation to bid or purchase order, payment will not be due until thirty (30) days after all services have been completed, or all items have been delivered, inspected and accepted or the invoice has been received at the agency business office, whichever is later.

7. PERSONNEL.

7.1. The Vendor shall disclose in writing the names of all owners (5% or more), directors, officers, employees, agents or subcontractors who are also officials or employees of the State of New Hampshire/CCSNH. Any change in this information shall be reported in writing within fifteen (15) days of their occurrence.

7.2. The person signing this agreement on behalf of the CCSNH, or his or her delegate ("Contracting Officer") shall be the CCSNH’s representative for purposes of this agreement. In the event of any dispute concerning the interpretation of this agreement, the Contracting Officer’s decision shall be final.

8. EVENT OF DEFAULT; REMEDIES.

8.1. Any one or more of the following acts or omissions of the Vendor shall constitute an event of default hereunder ("Events of Default"):  

8.1.1. failure to deliver the goods or services satisfactorily or on schedule; or

8.1.2. failure to submit any report required hereunder; or

8.1.3. failure to perform any of the other covenants and conditions of this agreement.

8.2. Upon the occurrence of any Event of Default, the CCSNH may take any one, or more, or all, of the following actions:

8.2.1. give the Vendor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) days from the date of the notice; and if the Event of Default is not timely remedied, terminate this agreement, effective two (2) days after giving the Vendor notice of termination; and

8.2.2. give the Vendor a written notice specifying the Event of Default and suspending all payments to be made under this agreement and ordering that the portion of the Contract Price, which would otherwise accrue to the Vendor during the period from the date of such notice until such time as the CCSNH determines that the Vendor has cured the Event of Default, shall never be paid to the Vendor; and

8.2.3. set off against any other obligation the CCSNH may owe to the Vendor any damages the CCSNH suffers by reason of any Event of Default; and

8.2.4. treat the agreement as breached and pursue any of its remedies at law or in equity, or both.

9. WAIVER OF BREACH. No failure by the CCSNH to enforce any provisions hereof after any Event of Default shall be deemed a waiver of its rights with regard to that Event, or any subsequent Event. No express failure of any Event of Default shall be deemed a waiver of any provision hereof. No such failure or waiver shall be deemed a waiver of the right of the State to enforce each and all of the provisions hereof upon any further or other default on the part of the Vendor.

10. VENDOR’S RELATION TO THE CCSNH. In the performance of this agreement the Vendor is in all respects an independent contractor, and is neither an agent nor an employee of the CCSNH. Neither the Vendor nor any of its officers, employees, agents or members shall have authority to bind the CCSNH nor are they entitled to any of the benefits, workmen’s compensation or emoluments provided by the CCSNH to its employees.

11. ASSIGNMENT AND SUBCONTRACTS. The Vendor shall not assign, or otherwise transfer any interest in this agreement without the prior written consent of the CCSNH. No work required by this contract shall be subcontracted without the prior written consent of the CCSNH.

12. INDEMNIFICATION. The contractor shall defend, indemnify and hold harmless the State, its officers and employees, from and against any and all losses suffered by the State, its officers and employees, and any and all claims, liabilities or penalties asserted against the State, its officers and employees, by or on behalf of any person, on account of, based on, resulting from, arising out of (or which may be claimed to arise out of) the acts or omissions of the Vendor. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant shall survive the termination of this agreement.

12.1 PATENT PROTECTION. The seller agrees to indemnify and defend the State of New Hampshire from all claims and losses resulting from alleged and actual patent infringements and further agrees to hold the CCSNH harmless from any liability arising under RSA 382-A:2-312(3). (Uniform Commercial Code).

13. TOXIC SUBSTANCES. In compliance with RSA 277: A known as the Workers Right to Know Act, the vendor shall provide Material Safety Data Sheets with the delivery of any and all products covered by said law.

14. NOTICE. Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given below.

15. AMENDMENT. This agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto.

16. CONSTRUCTION OF AGREEMENT AND TERMS. This agreement shall be construed in accordance with the laws of the State of New Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns.

17. ADDITIONAL PROVISIONS. The additional provisions (if any) have been set forth as Exhibit “A” hereto.

18. ENTIRE AGREEMENT. This agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties, and supersedes all prior agreements and understandings relating hereto.
BID INVITATION FOR:
PLC TRAINING SIMULATOR

INSTRUCTIONS TO BIDDER:
Read the entire bid invitation prior to filling it out. Complete the pricing information in the “Offer” section (the unit price is the price for the unit of purchase required by this bid invitation {i.e. each, case, box, etc.) and all other required information on your offer. The extension is the unit price multiplied by the quantity required by this bid invitation. Also complete the “Bidder Contact Information” section. Finally, complete the company information on the “General Conditions and Instructions” page of this bid invitation, then sign the bid in the space provided on that page.

BID SUBMITAL:
All bids must be submitted on this form or an exact copy, must be typed or clearly printed in ink and must be received on or before the date and time specified on page 1 of this bid. Interested parties may submit a bid to the Community College System of NH, 26 College Dr, Concord NH 03301 by email to purchasing@ccsnh.edu or if needed, may fax to (603)271-2725. All bids must be clearly marked with bid number, date due and purchasing agent’s name.

The Community College System of NH is not responsible for proposals not received due to equipment failure, mail delays, etc. If you want to ensure your proposal was received please verify by calling Kimberly Brent at (603)230-3540.

GOVERNING TERMS AND CONDITIONS:
A responding bid that has been completed and signed by your representative will constitute your company’s acceptance of all State of New Hampshire/CCSNH terms and conditions and will legally obligate your company to these terms and conditions.

A signed response further signifies that any terms and/or conditions that may be or have been submitted by the bidder are specifically null and void and are not a part of this bid invitation or any awarded purchase order, even if said terms and/or conditions contain language to the contrary.

PUBLIC DISCLOSURE:
Any information contained in the bid that a vendor considers confidential must be clearly designated. Marking of the entire bid or entire section of the bid (e.g. pricing) as confidential will neither be accepted nor honored. Notwithstanding any provision of this bid to the contrary, vendor pricing will be subject to public disclosure upon the effective date of all resulting contracts or purchase orders.

Generally, each bid shall become public information upon the effective date of all resulting contracts or purchase orders; however, to the extent consistent with applicable state and federal law and regulations, as determined by the State, including, but not limited to, RSA Chapter 91-A (Right to Know Law), the State/CCSNH shall endeavor to maintain the confidentiality of portions of the bid that is clearly and properly marked confidential. If a request is made to CCSNH to view portions of a bid that a vendor has properly and clearly marked as confidential, CCSNH will notify vendor of the request and of the date that CCSNH plans to release the records. By submitting a bid, vendors agree that unless the vendor obtains a court order, at its sole expense, enjoining the release of the requested information, CCSNH may release the requested information on the date specified in the CCSNH’s notice without liability to the vendors.

PURPOSE:
The purpose of this bid invitation is to establish contract in the form of a purchase order for supplying Community College System of NH with the item(s) indicated in the “Offer” section of this bid invitation, in accordance with the requirements of this bid invitation and any resulting order. This will be a one-time order with delivery required to the location indicated in the F.O.B. section of this bid invitation.
VENDOR CERTIFICATIONS:
All bidders must be duly registered as a vendor authorized to conduct business in the State of New Hampshire.

- The winning bidder must have a completed alternate W-9 on file with the Community College System of NH. If the winning bidder does not have a completed alternate W-9 on file, they will be required to completely fill the alternate W-9 and return to CCSNH before a purchase order will be issued.

- The vendor who is awarded the contract must comply with the terms of the purchase order and of the TAACCCT grant. Prospective bidders are encouraged to ensure they are able to comply with all applicable regulations. Compliance regulations are indicated further down in the document under the header COMPLIANCE BY BIDDER WITH LAWS AND REGULATIONS.

BID INQUIRIES:
Any questions must be submitted by an individual authorized to commit their organization to the Terms and Conditions of this bid. Submissions must clearly identify the Bid Number, the Vendor’s name and address and the name of the person submitting the question.

SPECIFICATION COMPLIANCE:
The manufacturers and models indicated are representative of the type and quality required. You may bid different makes and models, however, your offer must be materially similar to the ones indicated. The Community College System of NH - Manchester Community College shall be the sole determining factor of what is materially similar to the required items.

If there are any specifications indicated in this bid invitation, they will be considered the minimum requirements. Bidder's offer must meet or exceed these minimum requirements. The Community College System of New Hampshire – Manchester Community College shall be the sole determining factor of what meets or exceeds any specification.

Unless otherwise specified by the Community College System of NH in this bid invitation document, all equipment offered by the bidder must be new; shall not be used, rebuilt, refurbished; shall not have been used as demonstration equipment, and shall not have been placed anywhere for evaluation purposes.

CHANGES:
Any requested changes to this bid invitation by the bidder must be received in writing at the Community College System of NH no later than 4:30 PM on the fifth Community College System of NH business day prior to the date of the bid opening.

ADDENDUM:
In the event it becomes necessary to add or revise any part of this bid prior to the schedules submittal date, CCSNH will post on our website any addenda. Before your submission, always check the site for any addenda or other materials that may have been issued affecting the bid. The website address is www.ccsnh.edu/open-bids

BID PRICES:
Bid prices must be in US dollars and must include delivery and all other costs required by this bid invitation. Bid prices should result in prices that are no higher than those charged to the bidder’s best/preferred customer. Special charges, surcharges, or fuel charges of any kind (by whatever name) may not be added on at any time. Any and all charges must be built into your bid price at the time of the bid.

WARRANTY REQUIREMENTS:
Successful bidder shall be required to warranty all of the equipment awarded to him for a period of not less than the manufacturer’s standard period of time, from the date the items are received, inspected and accepted by the Community College System of New Hampshire. The warranty shall cover 100% of all parts, shipping, labor, travel, lodging and expenses.

COMPLIANCE BY BIDDER WITH LAWS AND REGULATIONS:
In connection with the performance of the purchase order, the winning bidder shall comply with all statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal opportunity laws.

In addition, the winning bidder shall comply with all applicable copyright laws.
During the term of any purchase order, the winning bidder shall not discriminate against employees or applicants for employment because of race, color, religion, creed, age, sex, handicap, sexual orientation, or national origin and will take affirmative action to prevent such discrimination.

If the purchase is funded in any part by monies of the United States, the Contractor shall comply with all the provisions of Executive Order No. 11246 of September 24, 1965 entitled “Equal Employment Opportunity”, as amended by Executive Order 11375 of October 13, 1967 and as supplemented in Department of Labor regulations (41C.F.R. Part 60) and with any rules, regulations and guidelines as the State of New Hampshire or the United States shall issue to implement these regulations.

The winning bidder shall allow access by the grantee, the sub-grantee, the Federal agency, the Comptroller General of the United States, or any of the their duly authorized representatives to any books, documents, papers, and records of the bidder which are directly pertinent to that specific contract for the purpose of making audits, examinations, excerpts, and transcripts.

The winning bidder agrees to retain all pertinent records for three years after CCSNH makes final payment and all other pending matters are closed.

**BID AWARD:**
The award of the bid will be based upon the total net low bid from the listing of the items indicated in the "Offer" section of this bid invitation. If an award is made it will be in total, in the form of a Community College System of NH Purchase Order.

If upon the award of any bid of multiple items (awarded by line item) it is determined that an order for any particular item would be $500.00 or less, and said item would be the only item on a purchase order, the state reserves the right to award that item to a bidder already receiving an award for multiple items.

**BID RESULTS:**
Bid results may be viewed when available, once the award has been made, on our web site only at: www.ccsnh.edu/closed-bids

For Vendors wishing to attend the bid opening: **Only the names of the Vendors submitting responses will be made public.**

**TERMINATION:**
The Community College System of NH shall have the right to terminate the purchase contract at any time by giving the successful bidder a thirty (30) day written notice.

**F.O.B.:**
The F.O.B. shall be destination to the following delivery point:

Manchester Community College
1066 Front St
Manchester NH 03102

**REQUISITION NO.:** R0074910

**RETURNED GOODS:**
The successful bidder must resolve all order and invoice discrepancies within five business days from notification. Products returned due to quality issues, duplicate shipments, over-shipments, etc. must be picked up by the successful bidder within five business days of notification with no restocking or freight charges, and must be replaced with specified products or the agency will be refunded/credited for the full purchase price. Unauthorized substitutions for any products are not allowed.

Standard stock products ordered in error by the Community College System of NH must be returned for full credit within fifteen days of receipt. Products must be in re-saleable condition (original container, unused) and there will be no restocking fee charged for these products. The using campus will be responsible for any freight charges to return these items to the successful bidder.
OFFER:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

DELIVERED PRICES

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<th>QTY</th>
<th>UNIT</th>
<th>DESCRIPTION</th>
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<th>EXTENSION</th>
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**PLC TRAINING SIMULATOR:**
Manufacturer: Intelitek or equivalent
Model: Allen Bradley and Siemens PLC Training System or equivalent

These panels will mount onto the wall or tabletop and are ideal for in-class or in-office training for experiments that will instruct students on the basic use and function of Programmable Logic Controllers.

The E-Learning Content must be compatible with the LearnMate Learning Management System (LMS) and will include an unlimited laboratory license allowing any registered student access via the internet from both within and outside the classroom. This requires installation on and student accessibility from a local server installed by the school. Perpetual license with no recurring annual fees.

This training panel serves to demonstrate the principles of programmable controllers and sequence control systems. It is suitable for teaching the fundamentals of PLC at both basic and advanced levels. The panel can be laid flat or raised to any angle. The components are permanently mounted on the panel, yet can easily be coupled, activated and controlled in numerous configurations.

The system is designed for integration with PLCMotion, a simulation software package that lets students observe and understand the control logic behind the operation of industrial PLCs. The software can be used as an offline, simulation tool with its collection of sample HMI applications. Alternately, it can be used for online operation and control of industrial PLCs such as the Allen Bradley SLC-500 and MicroLogix series.

The combination of software and hardware offers practical and cost-effective training in PLC programming and control.

This training panel is certified for CE safety compliance.

1 EA **PLC BENCHTOP PANEL (PLC Trainer with Content):**
Manufacturer: Allen Bradley or equivalent
Model: MicroLogix or equivalent

**Panel:**
- Aluminum, table-top training panel
- Dimensions: W=600 mm, H=560 mm (W=23.6”, H=22”)
- Panel can be laid flat, raised to any angle, or wall-mounted
- Components are permanently mounted on the panel
- Components are easily coupled, activated and controlled in numerous configurations.
OFFER CONTINUED:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

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<td>PLC BENCHTOP PANEL (PLC Trainer with Content) Continued:</td>
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**DC Servo Motor:**
- 24 VDC servo motor
- Drives lead screw
- Direction of motor revolution determined by polarity of the operating voltage

**Optical Encoder Unit:**
- One-slot rotating disk with photoelectric sensor
- Supply voltage: 5 to 24V DC ± 10% Ripple P•P 10% or less
- Current: 100mA
- NPN, Normally Open (sink)

**Lead screw:**
- Lead screw with a nut is connected to the motor output shaft by means of a coupling
- Lead screw converts rotary motion of the DC motor into linear motion of nut
- Travel distance of nut is measured on panel
- Nut detection: mechanical limit switch, inductive proximity sensor

**Output lamps:**
- Light up when 24VDC is connected to the panel Input socket
- Supply voltage: 24 VDC
- Power: 2 W
- Current: 83 mA

**Buzzer:**
- Buzzer sounds when 24VDC is connected to the panel
  - Buzzer socket
  - Supply voltage: 24 Vdc
  - Current: 10mA
  - Solenoid
  - Tubular solenoid housed in a mild steel case
  - Coil is energized when solenoid input socket is connected to 24VDC

**Pushbutton/Toggle Switches:**
- When pushed to one side, these three switches are activated momentarily; then they return to the middle position (pushbutton function)
- When pushed to the other side, these switches remain activated (toggle function). They must be manually toggled back to the middle position.
- Operating voltage: 0-250 V
- Current: 10A
OFFER CONTINUED:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):

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<td>PLC BENCHTOP PANEL (PLC Trainer with Content) Continued:</td>
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<td>Limit Switch, Small:</td>
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<td>• The switch is activated when the nut on the lead screw applies force to the limit switch’s actuator (the roller lever)</td>
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<td>• Normally open</td>
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<td>Limit Switch, Large:</td>
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<td>• This switch is activated when the stroke of the solenoid plunger applies force to the actuator (hinge lever)</td>
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<td>• Normally open</td>
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<td>Inductive Proximity Sensor:</td>
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<td>• This sensor can be moved horizontally within the bracket slot. It can also be adjusted vertically.</td>
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<td>• The switch is activated when the sensor detects an electrically conductive material (such as the ferrous nut on the lead screw)</td>
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<td>• When the electrically conductive material is removed from the sensor’s field, the switch reverts to its initial state</td>
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<td>• Supply Voltage: 10-30 Vdc</td>
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<td>• Maximum Consumption: 200mA</td>
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<td>• NPN, Normally Open (sink)</td>
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<td>• M12 thread</td>
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<td>• Length: 50 mm</td>
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<td>• Normal Operating distance: 6 mm</td>
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<td>PLC</td>
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<td>• Manufacturer: Allen Bradley</td>
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<td>• Model: MicroLogix 1000</td>
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<td>• 10 inputs, 24 VDC sink/source</td>
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<td>• 6 relay outputs</td>
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<td>• RS232 and DH485 communication</td>
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<td>• Power supply 20.4-26.5 VDC</td>
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<td>• 1K EEPROM Memory</td>
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MAKE: __________________________
MODEL: __________________________
ITEM #: __________________________

Please enclose product literature and specifications of your substitution

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1   EA   PLC 2 CONTENT FOR MICROLOGIX TRAINING STATION-
Advanced Ladder Logic to contain:

LearnMate Content to include the following Activities for use with the lab Hardware. Each Activity is designed for self-paced and estimated to be an hour in length.

**PLC Technology 2: Advanced Ladder Logic MicroLogix:**
- Activity 1: Getting Started
- Activity 2: Bits and Words
- Activity 3: Counter Up and Reset
- Activity 4: Counter Down
- Activity 5: Project – Implementing CTU and CTD
- Activity 6: The Equal (EQU) Instruction
- Activity 7: The Not Equal (NEQ) Instruction
- Activity 8: Project; Applying Equal and Not Equal
- Activity 9: The Less Than (LES) Instruction
- Activity 10: The Greater Than (GRT) Instruction
- Activity 11: Project: Implementing GRT and LES
- Activity 12: The Move (MOV) Instruction
- Activity 13: The Add (ADD) Instruction
OFFER CONTINUED:
Successful bidder hereby offers to sell the required items to the Community College System of NH at the following price(s):
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<td><strong>PLC BENCHTOP PANEL TRAINER CONTINUED:</strong></td>
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**Output Lamps:**
- Light up when 24VDC is connected to the panel Input socket
- Supply voltage: 24 VDC
- Power: 2 W
- Current: 83 mA

**Buzzer:**
- Buzzer sounds when 24VDC is connected to the panel Buzzer socket
- Supply voltage: 24 Vdc
- Current: 10mA
- Solenoid
- Tubular solenoid housed in a mild steel case
- Coil is energized when solenoid input socket is connected to 24VDC

**Pushbutton/Toggle Switches:**
- When pushed to one side, these three switches are activated momentarily; then they return to the middle position (pushbutton function)
- When pushed to the other side, these switches remain activated (toggle function). They must be manually toggled back to the middle position.
- Operating voltage: 0-250 V
- Current: 10A

**Limit Switch, Small:**
- The switch is activated when the nut on the lead screw applies force to the limit switch’s actuator (the roller lever).
- Normally open

**Limit Switch, Large:**
- This switch is activated when the stroke of the solenoid plunger applies force to the actuator (hinge lever)
- Normally open

**Inductive Proximity Sensor:**
- This sensor can be moved horizontally within the bracket slot. It can also be adjusted vertically.
- The switch is activated when the sensor detects an electrically conductive material (such as the ferrous nut on the lead screw)
- When the electrically conductive material is removed from the sensor’s field, the switch reverts to its initial state
- Supply Voltage: 10-30 Vdc
- Maximum Consumption: 200mA
- NPN, Normally Open (sink)
- M12 thread
- Length: 50 mm
- Normal Operating distance: 6 mm
OFFER CONTINUED:
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<td>• Manufacturer: Allen Bradley or equivalent</td>
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<td>• Model: SLC-500 or equivalent</td>
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<td>• 10 inputs, 24 VDC sink/source</td>
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<td>• 6 relay outputs</td>
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<td>• RS232 and DH485 communication</td>
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<td>• Power supply 20.4-26.5 VDC</td>
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<td>• 1K EEPROM Memory</td>
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Please enclose product literature and specifications of your substitution

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LearnMate Content to include the following Activities for use with the lab Hardware. Each Activity is designed for self-paced and estimated to be an hour in length.

1  EA  PLC TECHNOLOGY 1: Fundamentals of Ladder Logic with A/B SLC 500 (Lab) to include:
• Activity 1: Getting Started
• Activity 2: Examining Input/Output Relationships
• Activity 3: PLC Monitoring Tools
• Activity 4: Writing and Simulating a Basic Ladder Diagram
• Activity 5: Project: Controlling a Sorting System
• Activity 6: NOT Logic
• Activity 7: AND Logic
• Activity 8: OR Logic
• Activity 9: Project: Arsenic Filling Station
• Activity 10: Latching and Unlatching Outputs
• Activity 11: Improving Elevator Control
• Activity 12: One Shot Rising
• Activity 13: Timer On Delay
• Activity 14: Timer Off Delay
• Activity 15: Conclusion
OFFER CONTINUED:
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MAKE: __________________________  MODEL: __________________________  ITEM #: __________________________

Please enclose product literature and specifications of your substitution

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1 EA  PLC 2 CONTENT FOR SLC-500 TRAINING STATION: Advanced Ladder Logic

LearnMate Content to include the following Activities for use with the lab Hardware. Each Activity is designed for self-paced and estimated to be an hour in length.

**PLC Technology 2: Advanced Ladder Logic SLC-500 to include:**

- Activity 1: Getting Started
- Activity 2: Bits and Words
- Activity 3: Counter Up and Reset
- Activity 4: Counter Down
- Activity 5: Project: Implementing CTU and CTD
- Activity 6: The Equal (EQU) Instruction
- Activity 7: The Not Equal (NEQ) Instruction
- Activity 8: Project: Applying Equal and Not Equal
- Activity 9: The Less Than (LES) Instruction
- Activity 10: The Greater Than (GRT) Instruction
- Activity 11: Project: Implementing GRT and LES
- Activity 12: The Move (MOV) Instruction
- Activity 13: The Add (ADD) Instruction
- Activity 14: The Subtract (SUB) Instruction
- Activity 15: Conclusion

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OFFER CONTINUED:
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LearnMate Content to include the following Activities for use with the lab Hardware. Each Activity is designed for self-paced and estimated to be an hour in length.

PLC Technology 1: Fundamentals of Ladder Logic –
- Activity 1: Getting Started
- Activity 2: Examining Input/Output Relationships
- Activity 3: PLC Monitoring Tools
- Activity 4: Writing and Simulating a Basic Ladder Diagram
- Activity 5: Project: Controlling a Sorting System
- Activity 6: NOT Logic
- Activity 7: AND Logic
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- Activity 10: Latching and Unlatching Outputs
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1   EA   PLC 2 CONTENT FOR PLC TRAINING: Advanced Ladder Logic to include:

LearnMate Content to include the following Activities for use with the lab Hardware. Each Activity is designed for self-paced and estimated to be an hour in length.

PLC Technology 2: Advanced Ladder Logic:
- Activity 1: Getting Started
- Activity 2: Bits and Words
- Activity 3: Counter Up and Reset
- Activity 4: Counter Down
- Activity 5: Project: Implementing CTU and CTD
- Activity 6: The Equal (EQU) Instruction
- Activity 7: The Not Equal (NEQ) Instruction
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<td>- Activity 8: Project; Applying Equal and Not Equal</td>
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Please enclose product literature and specifications of your substitution

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1 EA PLC 3 CONTENT FOR PLC TRAINING: PLC-Controlled Pneumatic Systems to include:

LearnMate Content to include the following Activities for use with the lab Hardware. Each Activity is designed for self-paced and estimated to be an hour in length.

PLC Technology 3: PLC-Controlled Pneumatic Systems:
- Activity 1: Getting Started
- Activity 2: The Pneumatic HMI
- Activity 3: Manual Control of a Pneumatic Piston
- Activity 4: Semi-Automatic Control Systems
- Activity 5: Semi-Automatic Action Using a 5/2 Spring-Return Valve
- Activity 6: Fully Automatic Operation
- Activity 7: Fully Automatic Operation with Spring
- Activity 8: Timers
- Activity 9: Counters
- Activity 10: Sequential Operation with Two Double-Acting Cylinders
- Activity 11: Sequential Operation with Three Double-Acting Cylinders
- Activity 12: Solving Opposing Control Signals
- Activity 13: Solving Opposing Control Signals in a Three Cylinder System
- Activity 14: Controlling a System with a Variable Timer
OFFER CONTINUED:
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1 EA PLC 4 CONTENT FOR PLC TRAINING: PLC-Controlled Hydraulic Systems to include:

LearnMate Content to include the following Activities for use with the lab Hardware. Each Activity is designed for self-paced and estimated to be an hour in length.

PLC Technology 4: PLC-Controlled Hydraulic Systems:
- Activity 1: Getting Started
- Activity 2: Using a 4/2 Sol-Sol Valve to Control a Double-Acting Cylinder
- Activity 3: Using a 4/2 Sol-Spring Valve to Control a Double-Acting Cylinder
- Activity 4: Using a 4/3 Sol-Sol Valve to Control a Double-Acting Cylinder
- Activity 5: Using a Fully Automatic Hydraulic Circuit
- Activity 6: Using a Fully Automatic Hydraulic Circuit with a Timer
- Activity 7: Using a 4/3 Sol-Sol Valve with a Counter
- Activity 8: Using a Fully Automatic Hydraulic Circuit with an OSR Instruction
- Activity 9: Sequential Operation with Two Double-Acting Cylinders
- Activity 10: Sequential Operation with Three Double-Acting Cylinders
- Activity 11: Sequential Operation with Two Double-Acting Cylinders and a Delay
- Activity 12: Sequential Operation with Three Double-Acting Cylinders and a Delay
- Activity 13: Variable Timers
- Activity 14: Variable Counters
- Activity 15: Project: Port Soil Removal System
OFFER CONTINUED:
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Please enclose product literature and specifications of your substitution

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1 EA  PLC BENCHTOP PANEL TRAINER TO INCLUDE:
Manufacturer: Siemens
Model: S7-1200

Panel:
- Aluminum, table-top training panel
- Dimensions: W=600 mm, H=560 mm (W=23.6", H=22")
- Panel can be laid flat, raised to any angle, or wall-mounted
- Components are permanently mounted on the panel
- Components are easily coupled, activated and controlled in numerous configurations.

DC Servo Motor:
- 24 VDC servo motor
- Drives lead screw
- Direction of motor revolution determined by polarity of the operating voltage

Optical Encoder Unit:
- One-slot rotating disk with photoelectric sensor
- Supply voltage: 5 to 24V DC ± 10% Ripple P•P 10% or less
- Current: 100mA
- NPN, Normally Open (sink)

Lead Screw:
- Lead screw with a nut is connected to the motor output shaft by means of a coupling
- Lead screw converts rotary motion of the DC motor into linear motion of nut
- Travel distance of nut is measured on panel
- Nut detection: mechanical limit switch, inductive proximity sensor
OFFER CONTINUED:
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<td>PLC BENCHTOP PANEL TRAINER TO INCLUDE, CONTINUED:</td>
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Manufacturer: Siemens or equivalent
Model: S7-1200 or equivalent

Output Lamps:
- Light up when 24VDC is connected to the panel input socket
- Supply voltage: 24 VDC
- Power: 2 W
- Current: 83 mA

Buzzer:
- Buzzer sounds when 24VDC is connected to the panel buzzer socket
- Supply Voltage: 24 Vdc
- Current: 10mA
- Solenoid
- Tubular solenoid housed in a mild steel case
- Coil is energized when solenoid input socket is connected to 24VDC

Pushbutton/Toggle Switches:
- When pushed to one side, these three switches are activated momentarily; then they return to the middle position (pushbutton function)
- When pushed to the other side, these switches remain activated (toggle function). They must be manually toggled back to the middle position.
- Operating voltage: 0-250 V
- Current: 10A

Limit Switch, Small:
- The switch is activated when the nut on the lead screw applies force to the limit switch’s actuator (the roller lever).
- Normally open

Limit switch, Large:
- This switch is activated when the stroke of the solenoid plunger applies force to the actuator (hinge lever)
- Normally open

Inductive Proximity Sensor:
- This sensor can be moved horizontally within the bracket slot. It can also be adjusted vertically.
- The switch is activated when the sensor detects an electrically conductive material (such as the ferrous nut on the lead screw)
- When the electrically conductive material is removed from the sensor’s field, the switch reverts to its initial state
- Supply Voltage: 10-30 Vdc
- Maximum Consumption: 200mA
- NPN, Normally Open (sink)
OFFER CONTINUED:
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<td>- M12 thread</td>
<td></td>
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<td></td>
<td></td>
<td>- Length: 50 mm</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- Normal Operating distance: 6 mm</td>
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|     |      | PLC: |      |           |
|     |      | - Siemens PLC Simatic |      |           |
|     |      | - S7-1200 DC/DC/DC |      |           |
|     |      | - Simatic Basic HMI panel |     |           |
|     |      | - 10 inputs, 24 VDC sink/source |     |           |
|     |      | - 6 relay outputs |      |           |
|     |      | - RS232 and DH485 communication |     |           |
|     |      | - Power supply 20.4-26.5 VDC |     |           |
|     |      | - 1K EEPROM Memory |      |           |

|     |      | Banana Plug Cables: |      |           |
|     |      | - Universal flexible lines with 4 mm banana plugs |     |           |
|     |      | - Supply voltage: 24 VDC |     |           |
|     |      | - Current: 10A |      |           |

|     |      | Power Supply Unit: |      |           |
|     |      | - Output voltage: 24 VDC |     |           |
|     |      | - Output current max.: 2A |     |           |

MAKE:________________________ MODEL:________________________ ITEM #:_______________________

Please enclose product literature and specifications of your substitution

$__________

1 EA ON-SITE INSTALLATION AND PLACEMENT OF EQUIPMENT: $__________

1 EA ON-SITE TRAINING: 1 day, 8 hours for up to 3 faculty $__________

PLEASE PROVIDE YOUR COMPANY DUNS NUMBER: ____________________________

DISCOUNT: If there is an educational discount, please apply

Any and all charges must be built into your bid price at the time of the bid. Bid is FOB Destination.

BID TOTAL: $__________

The above listed manufacturers and product numbers are representative of the type and quality required. You may bid a different manufacturer and product number, providing that your offer is materially similar to the one indicated. The Community College System of NH-Manchester Community College shall be the sole determining factor of what is materially similar to the required items.
**BIDDER CONTACT INFORMATION:**
The following information is for this office to be able to contact a person knowledgeable of your bid response, and who can answer questions regarding it:

<table>
<thead>
<tr>
<th>Contact Person</th>
<th>Local Telephone Number</th>
<th>Toll Free Telephone Number</th>
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<table>
<thead>
<tr>
<th>Fax Number</th>
<th>E-mail Address</th>
<th>Company Website</th>
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**DELIERY TIME:**
Delivery is to be accomplished no later than 30 days ARO from purchase date or manufacturer’s minimum lead time, whichever is less. However delivery will be accepted sooner.

Please list estimated delivery date after receiving order: ________________________________

**BID RESULTS:**
Bid results may be viewed on our web site at: [http://www.ccsnh.edu/closed-bids](http://www.ccsnh.edu/closed-bids)

Bid results will be mailed to you if you include a self-addressed envelope with the correct amount of postage on it. Bid results will not be given by telephone.

**ATTACHMENTS:**
The following attachments are an integral part of this bid invitation:

There are no attachments

Note: To be considered, bid must be signed on front cover sheet in the space provided.