



PURCHASE ORDER

Procurement Unit

Tel. No.: 045-606-8142/606-0157

DELIVERY DUE DATE: 4/26/21

Supplier: **HYTEC POWER, INC.**
 Address: #2 T. Cruz St., Cruzville, Zabarte Rd., Novaliches, Quezon City
 Type of Business: Merchandising
 TIN No.: 229-283-188-000
 Tel. No.: (02) 417-4333/ 417-5435/ 418-7079/ 419-9138/ 419-9166

PR No.: 2020-06-126
 PO No.: 2020-448
 Date: 12/9/2020
 Mode of Procurement: Public Bidding

Gentlemen:

Please furnish this office the following articles subject to the terms and conditions contained herein:

Place of Delivery: **TARLAC STATE UNIVERSITY** Delivery Term: 120 Calendar Days
 Date of Delivery: Payment Term: N/30

Item No.	Unit	Description	Quantity	Unit Cost	Total Cost
1	set	LOT A SERVO ROBOT ASSEMBLY STATION , Consisting of: 1. Mobile Work station (1 set)- This workstation shall be constructed of heavy-duty steel, braced, welded, and powder coat painted. All components shall be mounted to the workstation in a manner that permits students to easily reposition the components 2. Operator station (1 set)- This station shall be constructed of heavy-duty steel, silkscreened and painted. The operator station shall contain manual electrical pilot devices with industrial quality contacts. These pilot devices shall be mounted to an angled console that is part of the operator station. 3. Electrical distribution module (1 set)- This module shall consist of a 14-gauge steel enclosure mounted flush to the rear section of the workstation, 1 power distribution cable, and 1 power supply cable. The module shall include two electrical power outlets that are interconnected to each other and the power distribution cable. The power distribution cable shall be wired to the main power switch on the operator station. The power supply cable shall be grounded. 4. Pneumatic distribution module (1 set)- This module shall provide connections for the compressed air supply to various control devices on the workstation. It shall consist of a relieving type pressure regulator; filter; pressure gauge; pneumatic, relieving lockout/tagout valve with hasp, tagout, and lock; power air distribution unit with Tee fitting connected to female quick-connect fitting 5. Digital I/O Interface module (1 set)- This module shall be DIN rail mounted on the workstation. It shall have 72 input/output control terminals and 72 separate terminal sets for power to IO. A.I control and power terminals shall be internally connected to one of three DB25 connectors and connected to all IO devices on the workstation. The three DB connectors shall connect to plug-in cables.	1	4,200,000.00	4,200,000.00
<i>Sub-Total</i>					4,200,000.00

Warranty shall be for a period minimum of three (3) months for expendable supplies, or a minimum period of one (1) Year for non-expendable supplies. In case of failure to make full delivery within the time specified above, a penalty of one-tenth (1/10) of one percent for every day of delay shall be imposed

Conforme:
 12/17/20
HYTEC POWER, INC.
 (Signature over printed name & date)

Bank Account Name: _____
 Bank Account Number: _____
 Bank Name: _____
 Bank Address: _____

Funds Available:

ELENA M. TEOFILO
 Head, Budget Office

Very truly yours,

DR. MYRNA Q. MALLARI
 President
 Authorized Official



ALOBS No.: _____
 Amount: _____



PURCHASE ORDER

Procurement Unit
Tel. No.: 045-606-8142/ 606-8157

DELIVERY DUE DATE: 4/26/21

Supplier: **HYTEC POWER, INC.**
Address: #2 T. Cruz St., Cruzville, Zabarte Rd., Navaliches, Quezon City
Type of Business: Merchandising
TIN No.: 229-283-188-000
Tel. No.: (02) 417-4333/ 417-5435/ 418-7079/ 419-9138/ 419-9166

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		<i>Balance forwarded</i>			4,200,000.00
		6. Electro Pneumatic Valve Manifold (1 set)- The valve manifold shall include a 6-station manifold with 5 single-solenoid 24VDC, 2-position, directional control valves and 1 double-solenoid, 24VDC, 2-position, detent directional control valve. The manifold shall be connected via push-lock connectors and flexible, polyurethane tubing to all pneumatic devices and the main air preparation unit. The manifold shall be mounted to the top of the workstation and wired to the digital IO interface module. All valves shall have manual overrides.			
		7. Spool Insertion Module (1 set)- This module shall provide a powered material feed sequence that can feed one of two types of spools from two inventory storage units to the manufacturing process. It shall consist of 1 single-acting pneumatic cylinder, 1 double-acting pneumatic cylinder, 3 flow control valves, 2 8-component storage units, 4 cylinder-mounted magnetic sensors, and 2 inductive parts-empty sensors with PNP output. The unit will consist of aluminum structural components that can be adjusted.			
		8. Spring/knob feed module (1 set)- This module shall provide a material feed device that feeds manual button-type operators and springs from an inventory storage unit to the manufacturing process via a servo robot. It shall consist of gravity feeder and fixtures to interact with the robot.			
		9. Screw/knob engagement module (1 set)- This module shall perform final assembly of screw, operator, spring, spool and valve body. It shall consist of 1 double-acting pneumatic cylinder, 1 flow control valve, 2 cylinder-mounted magnetic sensors, and a screw engagement motor. This motor shall be a D.C. motor with foot mount, precision gearbox reduction unit, and friction engagement tool. The motor shall be powered using a motor starter control. The motor starter shall use 3-pole motor contactor with 24VDC coil, manual override, IEC60947 rated, and protected terminals.			
		<i>Sub-Total</i>			4,200,000.00

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Very truly yours,

DR. MYRNA G. MALLARI

President

Authorized Official

Confirmer: 12/17/20

HYTEC POWER, INC.

(Signature over printed name & date)

Bank Account Name: _____

Bank Account Number: _____

Bank Name: _____

Bank Address: _____



Funds Available:

ELENA MAE T. TEOFILO
Head, Budget Office

ALOBS No.:

Amount:



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Type of Business: Merchandising
TIN No.: 229-283-188-000
Tel. No.: (02) 417-4333/417-5435/418-7079/419-9338/419-9166

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2	set	<p>10. Assembly shuttle module (1 set)- This module shall provide a powered material handling sequence that transports part assemblies between two assembly positions. It shall consist of 1 double-acting rodless pneumatic cylinder, 2 flow control valves, and 2 cylinder-mounted magnetic sensors. Two powered clamps shall also be provided. These clamps will include fixtures, 2 single-acting pneumatic cylinders, 2 flow control valves, and 2 cylinder-mounted magnetic sensors.</p> <p>11. Finished parts storage module (1 set)- This module shall consist of a molded plastic storage container that mounts to an extruded aluminum arm. The container shall be able to hold at least 10 completed components. The container shall be removable without use of tools when station is used in a multi-station application.</p> <p>12. Parts presentation module (1 set)- This module shall consist of an extruded aluminum structure and fixture for part presentation to the system. The module shall be able to be adjustable vertically and horizontally.</p> <p>13. Parts set (1 set)- The parts set shall consist of directional control valve parts. When combined with parts from other stations, the parts shall be capable of being assembled by an automatic process and result in a working, industrial-quality pneumatic directional control valve that is rated for at least 100psi/ 690kPa. The parts set shall include: 8 3-way valve spools, 8 4-way valve spools, 8 manual operators, 8 bolts and 8 spool return springs.</p> <p>MECHATRONICS LEARNING SYSTEM, Consisting of: 1. PLC Programming languages: LAD, FBD, STL, SCL (1 set)- memory: Integrated (for program) 250Kbyte, Integrated (for data) 1Mbyte Discrete inputs: sinking type, 32 inputs total, 24VDC Discrete outputs: sourcing type, 32 outputs total, 24VDC Analog</p>			4,200,000.00
		<i>Sub-Total</i>			4,200,000.00

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Conforme: 12/17/20
HYTEC POWER, INC.
[Signature over printed name & date]

Bank Account Name: _____
Bank Account Number: _____
Bank Name: _____
Bank Address: _____

Very truly yours,

DR. MYRNA O. MALLARI
President
Authorized Official

COMMISSION ON AUDIT - TSU
RECEIVED
By: Date: 22 DEC 2020 Time: _____

Funds Available:

ELENA MAY TEOFILO
Head, Budget Office

A.OBS No.: _____
Amount: _____



PURCHASE ORDER

Procurement Unit
Tel. No.: 045-606-8142/ 606-8157

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		inputs: 4 total for voltage or current, 0 to +10V, 1V to 5V, -10V to +10V, -5V to +5V, 0 to 20mA, -20mA to +20mA, 4mA to 20mA Resistance Temperature Detector (R/RTD) in the following ranges: Ni100, Pt100, 0 to 150ohms, 0 to 300ohms, and 0 to 600ohms Analog outputs: 2 total for voltage or current, 0 to 10V, 1V to 5V, -10V to +10V, 0 to 20mA, -20mA to +20mA, and 4mA to 20mA Mounting type: DIN-rail mounted 2. PLC Programming software (1 set)- The software shall use IEC 61131 programming languages and have all standard programming functions. It shall provide both online and offline programming, upload and download of programs, and hardcopy documentation. The software shall be supported with an operation and programming manual. 3. I/O connector kit (1 set)- To consist of 3 wiring arms with plug-in DB25 connectors on one end and pre-wired to the PLC I/O on the other end. The cables shall carry a total of at least 24 inputs, 16 outputs, 4 analog inputs and 2 analog outputs. 4. 24VDC power supply (1 set)- To consist of 3 wiring arms with plug-in DB25 connectors on one end and pre-wired to the PLC I/O on the other end. The cables shall carry a total of at least 24 inputs, 16 outputs, 4 analog inputs and 2 analog outputs. 5. Master control relay module (1 set)- A master control relay shall be mounted to the training console and wired to the PLC so that only the power to the outputs of the PLC are de-energized when the master control relay is de-energized. The reversing motor starter shall use a 3-pole motor contactor with 24VDC coil, manual override, IEC60947rated, and protected terminals. Terminal connections shall be wired to a DIN rail mounted terminal blocks.			
		<i>Sub-Total</i>			4,200,000.00

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Conformer: 12/17/20

HYTEC POWER, INC.
[Signature over printed name & date]

Bank Account Name: _____
Bank Account Number: _____
Bank Name: _____
Bank Address: _____

Very truly yours,

DR. MYRNA Q. MALHARI
President

Authorized Official



Funds Available:

ELENA KAY T. TEOFILO
Head, Budget Office

ALOS No. :
Amount:



PURCHASE ORDER

Procurement Unit

Tel No.: 045-806 8142 / 606-8157

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3	set	<p>6. Portable mounting console (1 set)- The portable console shall consist of a sloped, painted, steel-gauge panel mounted on a steel base with rubber feet that makes it free standing and suitable for table top training use. The PLC, power supply, master control relay and other components shall be mounted to this console and wired together to form a functioning circuit that can be connected to a Mechatronics workstation or training module. The console shall include raceways to neatly run all wiring in the system. It shall also be designed so that it can be removed without special tools from the Mechatronics workstation.</p> <p>7. Communications cable set- A cable shall be supplied to connect the PLC PROFINET communications port with an Ethernet port on a personal computer.</p> <p>MECHATRONICS TROUBLE SHOOTING LEARNING SYSTEM, Consisting of:</p> <p>1. Fault Controller- Shall include computer-based controller enclosure with 48 fault relays, internal power supply, 120/230 VAC 50/60 Hz. Example Faults include: Opened Stop pushbutton, Opened Output Power pushbutton, Interrupted handshakes, Opened and shorted output devices, Opened input module points, Opened and shorted input sensors, Shorted Output module points, Opened Power Supply</p> <p>2. Modification to PLC- The supplier shall modify a separately-supplied Siemens S7-1500 to create at least 4 internal PLC input/output module faults, which are controlled through the fault controller and fault-insertion software. The modifications shall be wired through a cable that connects to the fault controller.</p> <p>3. Fault-Insertion software- A Windows-based software program shall be supplied which provides an on-line interface for student troubleshooting and database recordkeeping of student responses.</p>			
		<i>Sub-Total</i>			4,200,000.00

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DR. MYRNA Q. MALLARI

President

Authorized Official

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Bank Account Number: _____

Bank Name: _____

Bank Address: _____



Funds Available:

ELINA M. T. TEOFILO

Head, Budget Office

ALOPS No.:

Amount:



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4	set	4. Cable set- The cable set shall include cables for host power supply faults, PLC internal faults, operator panel connection, and I/O and USB ports. PLC LEARNING SYSTEM , Consisting of: PLC Simulator module; 8 Inputs: Four Pushbuttons (4 Inputs), Two Two-position selector switch (2 Inputs), Three-position selector switch (2 Inputs); 8 Outputs: Indicator lights 8, connector set, Power cable MULTI-TECHNOLOGY DESIGN AND SIMULATION SOFTWARE SINGLE USER LICENSE DONGLE , This software contain libraries and modules for: Hydraulics, Pneumatics, components sizing-energy, bill of material and report, catalogue manager, Manufacturers' catalogues, Control panels and 2D-3D/HMI, Teach ware-workflow, Didactic support SFC Compilers, Sequential function chart, Digital electronics, APISs/, Script language, PLC ladder logic, CAN bus, Block diagram-Math, Electrical Controls, Electro technical One-line, Electro technical, Mechanical <i>Note: With Installation and training; 3 years product warranty; annual calibration</i>			
5	set	LOT B PORTABLE AC/DC ELECTRICAL LEARNING SYSTEM , Features: Portable solution when training space is limited but comprehensive knowledge and skill building cannot be sacrificed. Supported by the multi-technology interactive e-learning platform, Can be placed on a conference room table, shop floor desk, or practically anywhere due to its small footprint, its compact size and durable case also provide for safe storage when available training space must be used to teach other topics, Workstation combined with a highly engaging interactive multimedia teaches the fundamentals of AC and DC electrical systems used for power and control in industrial, commercial, agricultural, and residential applications, Using a	1	800,000.00	800,000.00
		<i>Sub-Total</i>			5,000,000.00

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President
Authorized Official

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HYTEC POWER, INC.
(Signature over printed name & date)

Bank Account Name: _____
Bank Account Number: _____
Bank Name: _____
Bank Address: _____

COMMISSION ON AUDIT - TSU
RECEIVED
By: Date: _____
Time: _____

22 DEC 2020

Funds Available:

ELENA MAY T. TEOFILO
Head, Budget Office

ALOBS No.:
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		variety of input, output, and other electrical components, it offers industry-relevant skills including how to operate, install, design, and troubleshoot basic AC and DC electrical circuits, Provides the knowledge and skills you need with unmatched flexibility. Consisting of: Portable case suitcase: 28.8"x20.1"x14.8" Durable ABS plastic, Mounted Panel, Push button switch, Selector switch, Circuit breaker switch, DPDT Knife switch, 24VDC DPDT, Buzzer, Transformer Lamps 28V (3), Fan- 24VDC, Solenoid, Compass, Circuit tester, Fuse 25ohm resistors, 10ohm resistors, Rheostat, Electrolytic capacitors- 80-106MF, 220ohm, 5W transformer load resistors, Powercord- 14/3 15A, 24" Stackable banana leads, Neon Circuit tester, Digital multimeter spare fuse- 10A, Fuses 3A Fast acting, Multimedia curriculum, Instructor guide, Installation guide, Student reference guide <i>Note: With training; 3 years warranty</i>			<u>5,000,000.00</u>

(Total Amount in Words) Five Million Pesos Only

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Very truly yours,

[Signature]
DR. MYRNA Q. MALLARI
President
Authorized Official

Conforme:

[Signature] 12/17/2020
HYTEC POWER, INC.
(Signature over printed name & date)

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Bank Account Number: _____
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Bank Address: _____



Funds Available:

[Signature]
ELENA MA. L. TEOFILO
Head, Budget Office

ALOPS No. : 04-308603-2020-12-0006
Amount: ₱5,000,000-