

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, ODISHA



P.O: Engineering College Burla (Siddhi Vihar), Dist: Sambalpur
Odisha- 768018, India

Website : www.vssut.ac.in, E-mail: registrar@vssut.ac.in, Ph:(0663)2430573, Fax-2430592

No. VSSUT/ *ETC* / *2253*

Date: *13/08/2022*

TENDER CALL NOTICE

Sealed Tenders are invited from the intending reputed Original Equipment Manufacturers/Direct Importers/Registered Dealers for supply of Equipment for Underwater Exploration of **Electronics and Telecommunication Engineering Department of VSSUT, Burla under OURIIP- 2021 Seed Fund scheme, OSHEC**. Detailed information and the tender document are available in the University website www.vssut.ac.in.

REGISTRAR

Memo No. VSSUT/ *ETC* / *2254*

Date: *13/08/2022*

Copy to:

1. The Director, Department of I & PR, Govt. of Odisha, Bhubaneswar with request to publish the above advertisement in one issue of the all-Odisha daily edition of "THE SAMAJ" and English daily "THE NEW INDIAN EXPRESS (ALL ODISHA EDITION)" using minimum space at the I & PR approved/lowest rate. The bill may be sent in triplicate along with a copy of the paper in which the publication is made.
2. University Notice Board of VSSUT, Burla.
3. Comptroller of finance for information and necessary action.
4. PA to Vice Chancellor for information of the Hon'ble Vice Chancellor.
5. PA to Registrar for information and necessary action.
6. The Dean F&P with a request to display the advertisement in University website.
7. Dean, SRIC for information. This is as per the sanction of 21SF/EL/30, Letter no. 502/135/OSHEC/2021 dated 10/05/2022 under the project entitled "Seed Fund Research Projects under OURIIP-2021, OSHEC".

REGISTRAR

SECTION - I: INVITATION FOR BIDS (IFB)

Sealed Bids (properly stitched separately) in two separate covers (Technical Bid and Price Bid) are invited by the "The Registrar, Veer Surendra Sai University of Technology, Odisha" from the Original Equipment manufacturers/ Importers/ authorized distributors/ dealers for supply of Instruments, equipment, machineries etc. of reputed make for the VSSUT Burla, Odisha.

The Bidders may download the Tender Documents directly from the website available at <http://www.vssut.ac.in> and the Tender cost fee of Rs.500/- (Non-refundable) by way of separate Demand Draft drawn in favour of "The Registrar, Veer Surendra Sai University of Technology, Burla" payable at SBI, Burla should be enclosed along with the bid. The Tender cost fee and the EMD amount should be submitted separately in separate demand drafts. In case of any bid clarification, responsibility lies with the bidders to collect the same from the website and the purchaser shall have no responsibility for any delay/ omission on part of the bidder.

TIME SCHEDULE:

- a) Date of commencement of downloading bidding document: **16/08/2022 at 11.00 AM**
- b) Last date and time for Receipt of bids: **13/09/2022 up to 4.00PM**
- c) Time and date of opening of Tender & Technical and Financial bid: **16/09/2022 at 10.30 AM**
- d) PLACE OF OPENING OF TENDER and ADDRESS FOR COMMUNICATION AND RECEIPT OF BID DOCUMENTS:

**THE REGISTRAR
VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, ODISHA
At- Burla, PO-Burla Engineering College, Dist-Sambalpur-768018
Tel. No-0663-2430211 Fax No-0663-2430204**


**REGISTRAR
VSSUT Burla**

SECTION-II: GENERAL TERMS AND CONDITIONS

1. Document Establishing Bidder's Eligibility & Qualification

The Bidders shall furnish as part of the bid the following Documents establishing Bidder's eligibility and qualification to the Purchaser's satisfaction. Non-compliance of any of these conditions shall disqualify the eligibility.

1.1 Original Equipment manufacturers/ Importers/ authorized distributors/ dealers having valid license / certificates for the quoted item and the direct Importers holding valid Import License Manufacturer / Authorized Distributor / Dealer of the product are eligible to participate in the Bid.

1.2 The Bidder whether manufacturer/ distributor/ dealer must have experience of supply and installation of the quoted items in different Institutes of national repute.

1.3 The Bidder shall quote item of reputed Brand/model with all accessories in complete in all respect to perform functionality of Equipment/Machinery.

2. Document Establishing Goods Eligibility

The instruments and equipment offered against the schedule of requirement of instruments, equipment and Machineries should be in accordance with the stipulated specifications and of one reputed brand/model (N.B: Variation in specification is allowed upto $\pm 5\%$ in case of Machineries/Equipments)

2.1 The documentary evidence establishing the brand and the model may be in the form of literature, pamphlets, manuals, drawing, circuit diagram etc.

2.2 Detailed description of instruments and equipment with essential technical and performance characteristics may also be furnished.

3. Technical Bid (COVER - A)

The following document should be submitted in cover-A.

3.1 Earnest Money Deposit

3.2 Technical details of the equipment and machineries as per Annexure-V

3.3 Copy of the manufacturing license/ import license/ Authorized Distributor/ Dealer certificates

3.4 Copy of the authorization from the Manufacturing Company in case of Authorized Distributor /Dealer in Annexure-III along with Manufacturer Industry Registration and Tax Registration Certificate.

3.5 Copy of the IT PAN Card, GSTN.

3.6 The original bid document signed & sealed by authorized person in each page as a token of acceptance of all terms and conditions of the tender with original receipt.

3.7 Any deviation in the specification of the item including standard accessories / optional accessories in complete for functionality of Machine should be marked in bold letters.(N.B: Variation in specification is allowed upto $\pm 5\%$ in case of Machineries/ Equipment)

4. Price Bid (COVER – B)

4.1 The hard copy of price bid giving the rates for various instruments & equipment and other items should be submitted. Price Bid (Cover - B) of the bidders who qualify in Technical Bid (Cover – A) will only be opened.



4.2 The price of the each item shall be quoted as per the prescribed Price Schedule Format at Annexure-I along with price break up of Taxes admissible, Packing, Forwarding and Handling charges, Insurance charges, ET, Freight up to destination including unloading, commissioning including testing and training with total price per item at for VSSUT Burla. The bidders are required to submit the individual price of each instrument(s) and equipment(s) as indicated in the schedule of requirements. For imported equipments the quoted price should be in currency of the country of origin.

4.3 Tax clearance certificate up to date where applicable.

4.4 Each quoted item and all accessories should cover the warranty / guarantee for 1(One) year from the date of commissioning (Annexure-II).

5. BID CONDITIONS

5.1 The quoted rate shall not vary with the quantum of order placed or destination point.

5.2 A copy of the original bid conditions and the schedules should be signed by the bidder at the bottom of each page with the office seal duly affixed and returned along with the bid. Bid schedule should be duly filled in with an index and page number for the documents, enclosures & EMD etc. Paging must be done for all the documents submitted.

5.3 Bids should be type written or Computerized and every correction/ over writing in the bid should invariably be attested with signature of the bidder with date before submission of the bids to the authorities concerned. No revision of price upward or downward will be allowed once the bid is opened. However, the purchaser shall have the right for considering the exchange rate of foreign currencies on verification of documents.

5.4 Bid Price

- The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialling, dating and re-writing.
- All duties, taxes, and other levies payable on the raw materials and components, job contract shall be included in the total price.
- Taxes in connection with the sale shall be shown separately.
- The rates quoted by the bidders shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- The price shall be quoted in Indian Rupees only.

5.5 Tax clearance

Copies of valid Tax clearance Certificates shall be furnished by the Bidders and the originals of the above certificates shall be produced to the purchaser before placement of notification of award if asked for by the Purchaser.

5.6 EMD

All bidders are required to submit EMD not less than 2% of the quoted amount in shape of Demand draft drawn in favour of **"The Registrar, Veer Surendra Sai University of Technology, Burla"** payable at SBI, Burla only. The EMD shall be in Indian Rupees.

NOTE: Non-submission of EMD or submission of less EMD than the desired one or submission of EMD in any other form except Demand Draft shall result in rejection of Bid. The EMD deposited against other Bids cannot be adjusted or considered for this Bid. No interest is payable on EMD.

5.7 SUBMISSION OF BIDS

Sealing and Marking of Bids

Bid should be submitted only through REGISTERED POST /SPEED POST in two Bid system containing two parts as detailed below.

Sealed Cover-A: Technical Bid.

Sealed Cover-B: Price Bid

Both the sealed envelopes should then be put in one outer cover and each cover should have the following indication:

- i) Reference No of Bid _____
- ii) Due date & time for submission of the Bid _____
- ii) Name of the Firm _____

NOTE:

A. Bids submitted without following two bid system procedures as mentioned above will be summarily rejected.

B. Please Note that prices should not be indicated in the Technical Bid. The Prequalification document including EMD as required in the Bid document should invariable be accompanied with the Technical Bid (**Cover A**). The outer envelope shall indicate the name and address of the bidders to enable the bid to be returned unopened in case it is declared "late". If the cover containing the outer envelope is not sealed and marked as required, **Purchaser** will assume no responsibility for the bid's misplacement or premature opening.

The above procedure shall be adopted both for the technical bid and price bid separately. Telex, cable, email or facsimile bids and bids submitted by hand will not be entertained.

5.8 Deadline for Submission of Bids

Bids must be received by the **Purchaser** at the address specified not later than the time and date specified in the Invitation of Bids. In the event of the specified date for the submission of bids being declared a holiday for the **Purchaser**, the bids will be received up to the appointed time on the next working day. The **Purchaser** may, at its discretion, extend this deadline for submission of bids by amending the bid document, in which case all previous rights and obligations of the purchasers and bidders will remain same till the extended date.

5.9 Modification and Withdrawal of Bids

No Modification and Withdrawal of Bids is allowed between the interval of time of submission and the last date and time of the bids.

No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidders on the bid form.

5.10 BID OPENING

The **Purchaser will** open all bids, in the presence of bidder's representatives who choose to attend at **10.30 AM on dated 26/08/2022 at the Department of Electronics and Telecommunication Engineering, Veer Surendra Sai University of Technology, Burla**".

5.11 The bidder's representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of bid opening being declared a holiday for the **Purchaser**, the bids shall be opened at the appointed time and location on the next working day.

5.12 The bidder's names, and the presence or absence of the requisite EMD and such other details as the **Purchaser**, at its discretion, may consider appropriate will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the bidders.

5.13 Acceptance of the Bid



- Bidders submitting bids would be considered who have considered and accepted all terms and conditions. No enquiries, verbal or written, shall be entertained in respect of acceptance or rejection of the bid.
- Genuine equipment and instrument etc. should be supplied. Bidders should indicate the source of supply i.e. name and address of the manufacturers from whom the items are to be sourced.
- Supply of equipment means – Installation and Commissioning (except civil works), Demonstration as well as Training at site. No separate charges will be paid on this account.

5.14 Rejection of the Bid

The Bid document shall be out-rightly rejected under following stipulation and no correspondence will be entertained whatsoever.

- If the Bidders has not furnished the required Tender paper cost and EMD or EMD exemption certificate from competent authority.
- If the Bidders has not submitted the Price as per the prescribed format Annexure-I
- If the bid is not supplemented with breakup of standard accessories / Optional accessories & cost of AMC separately for three years after completion of warranty period (In case of major machinery only).
- Photo copy of the up-to-date valid manufacturing license/ import license (if it is imported) /dealership certificate/Distributor certificate of the product along with Tax registration Certificate of Manufacturer issued from competent authority.
- If the bidders, whether manufacturer or authorized distributor/ dealer have not supplied the required quantity for qualification as per the eligibility criteria and not submitted the performance statement at Annexure-IV with supporting documents.
- If the quoted product of the bidders not confirms to technical specification with complete accessories for functional Equipment/Machinery and standard of workmanship required by the Purchaser.
- If the bidder has not furnished technical details of the equipments and machinery with one make & model as per Annexure-V.
- If bidder will quote items of more than one make/model.
- If the bidder has not submitted the detailed catalogue, Foundation drawings & schedule of supply of items, if required.
- If the bidders have not agreed to give bid validity.
- Furnishing of wrong/ambiguous information in the compliance statement may lead to rejection of bid and further black listing of the bidder, if prima-facie it appears that the information in the compliance statement was given with a malafide/fraudulent intent.

5.15 Purchaser's Right to accept any Bid and to reject any Bid

The Purchaser reserves the right to accept or reject any bid and to annul the bidding process and reject all the bids without assigning any reason thereof at any time prior to award of Contract, without thereby incurring any liability to the affected Bidders or Bidders on the grounds of such action of the purchaser. In case no bidder qualifies as per qualifying criteria and standards, purchaser may at his discretion relax qualification criteria for award of contract.

5.16 Evaluation and Comparison of Bids

The comparison shall be of FOR destination price basis including the price of all costs wherever applicable as well as duties and taxes paid or payable on Machineries, instruments & equipment incorporated or to be incorporated in the items including the warrantee/guarantee period from the date of installation.



- The Purchaser's evaluation of a bid will take into account, in addition to the bid price and the price of incidental services.
- The purpose of bid evaluation is to determine substantially responsive bid with the lowest evaluated cost, but not necessarily the lowest submitted price, which should be recommended for award.
- Evaluation of bids should be made strictly in terms of the provisions in the bid document to ensure compliance with the commercial and technical aspects.
- The past performance of the suppliers will be taken into account while evaluating the bids.
- Cost of the inland transportation, insurance and other costs within the Purchaser's Country incidental to delivery of the goods to their final destination;
- Alternative options of offer shall not be allowed.
- Each Bidder shall submit only one quotation with one make & model.
- The quotation would be evaluated separately for each item
- Sales Tax in connection with sale of goods shall not be taken into account in evaluation.

6.0 Supply Conditions

6.1 Delivery of Goods

The delivery of goods shall be made by the supplier to the Consignee in accordance to the order placed as shall be detailed in the Schedule of requirements & technical specifications.

6.2 Warrantee Period (comprehensive)

The Bidders must quote for a minimum period of 01 (One) years of comprehensive warranty from the date of completion of the satisfactory commissioning as per (Annexure-II). This also includes all accessories related to instruments & equipment quoted for.

6.3 Payment Terms

No advance payment will be made by the Purchaser to the supplier for performance of the contract. 100% of the contract price shall be paid within 30 (thirty) days after satisfactory supply, installation, demonstration, Commissioning & training and stock entry of bills of the goods within due date of delivery.

6.4 Transportation

The Supplier shall be required to meet all transport and storage expenses until commissioning of the instrument(s) / equipment covered in the contract.

6.5 Taxes and Duties

The Supplier shall be entirely responsible for payment of all Taxes, Duties etc. incurred until delivery of the contract goods to the Consignee subject to recovery afterwards in the bill as claimed in the Bid offer. Income Tax as applicable shall be deducted at source.

6.6 Period of Validity of Bids

- The bid rates should be kept open/ valid for a period of 180 days from the date the Bids are opened.
- A bid valid for a shorter period i.e less than 180 days shall be rejected, as nonresponsive.
- In absence of any indication of the date of validity in the bid, it will be presumed that the offer will remain valid for the minimum period i.e. 180 days as prescribed above.

6.7 Penalty against Non-Supply

In case of non-supply of Stores within the due date i.e. within the date of delivery the EMD deposited by the bidder shall be forfeited.

6.8 Annual Maintenance Contract

The Cost of Annual maintenance contract for next 3 years after warranty period shall be submitted as per the **Annexure at I(b)**. The after sales service during and after the warranty / guarantee period should be available from companies own engineers.

6.9 Jurisdiction of the Court

The Purchaser and the Supplier shall agree that the competent Court at Sambalpur shall have the jurisdiction to try and decide anything between the parties and they may approach the Competent Court at Sambalpur if required at any time.

S/d-
REGISTRAR
VSSUT, Burla



SECTION – III: FORMS AND ANNEXURES
ANNEXURE-I (a)

PRICE SCHEDULE (ITEM WISE)

Name of the Firm: _____

Sl. No.	Name of the Instrument Make: Model No.: Country of origin	
01	(A1) Base Price/Unit	
02	(A2) All Taxes	
03	(A3) Freight Charge (if any)	
04	(A4) Any Other (If any, Mention Details)	
05	(A) Total= A1+A2+A3+A4 in INR	
06	IN WORDS	

Note- (i) Price Bid performa should be provided individually for all equipments.

(ii) Taxes like GST, Freight and or other taxes/ Charges, if any applicable must be explicitly mentioned in this price bid. Any type of correction/ addition in price schedule shall not be permissible. **Taxes mentioned elsewhere except this price bid will not be taken into consideration.**



ANNEXURE-I (b)**PRICE SCHEDULE (ITEM WISE) - B****PRICE SCHEDULE FOR ANNUAL MAINTANCE CONTRACT AFTER COMPLETION OF WARRANTY PERIOD.**

Sl.No	Brief description of Goods Total annual	Quantity in nos.				Annual Maintenance Contract cost 3 years i.e. 3x (4a+4b+4c)
1	2	3	4			5
			1st yr.	2nd yr.	3rd yr.	
			(a)	(b)	(c)	

Note:-

1. The cost of Annual Maintenance Contract (AMC) which includes preventive maintenance including testing & calibration as per technical/ service/ operational manual, labour and spares, after satisfactory completion of warranty period may be quoted for next 3 years on yearly basis for complete equipment and turnkey (if any).
2. The cost of AMC may be quoted along with taxes applicable on the date of bid opening. The taxes to be paid extra should be specifically stated. In absence of any such stipulation the price will be taken inclusive of all taxes and no claim for the same will be entertained later.
3. Cost of AMC will not be added for Ranking/Evaluation purpose. However, the cost of AMC for lowest evaluated bidder is subject to negotiation.
4. The payment of AMC will be made as per payment terms of the bid document.
5. The uptime warranty and down time penalty shall be as per the bid document.
6. All software update should be provided free of cost during AMC period.
7. The stipulations in Technical Specification will supersede above provisions.
8. The supplier shall keep sufficient stock of spares require during Annual comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.

Place:

Date:

Signature of Bidder
Business Address
Seal of the Bidder



ANNEXURE - II

WARRANTY MAINTENANCE CONTRACT AGREEMENT.

THIS AGREEMENT made the.....day of, 20___ between the "The Registrar, Veer Surendra Sai University of Technology, Burla" (hereinafter "the Purchaser") of the one part and M/s.....
.....(Hereinafter called "the Supplier") of the other part: WHEREAS the Purchaser invited bids for certain Goods & ancillary services viz, supply and commissioning of the instruments & equipment at Burla including Comprehensive Warranty Maintenance Services and has accepted a bid by the Supplier for the instruments & equipment specified below at the Consignee site including Comprehensive Warranty maintenance Services for a period of 2 (Two) year from the date of installation & commissioning of the instruments & equipment as per award of Contract No.....
Dated.....

Name of the Equipment & machineries Qty

(To be filled in as per details of goods in the award of Contract)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. Maintenance Services shall consist of Preventive and Corrective maintenance of equipment specified above & will include repair and replacement of parts free of cost.
2. Preventive maintenance, monthly once, which includes:
 - 2.1 Check-up to ensure that device connection is proper, cabling is at proper condition etc.
 - 2.2 Cleaning of the above instruments & equipments and checking the System Performance.
3. The Supplier is to furnish the tentative schedule of the preventive maintenance of Warranty Maintenance Contract (WMC) to be carried out.
- 4 The parts replaced must be new parts or equivalent in performance to new parts.
5. The Supplier will also provide the same maintenance service in case of the movement of equipment from the place of original installation to a different place or location, if the equipment is shifted by the Purchaser to another place or location at the cost and risk of the purchaser.
6. Any complaint informed through telephone must be acknowledged with a Complaint No. by the Supplier which will be noted by Consignee. All further contact with the Supplier on such complaint will be initiated through that Complaint No. Once rectification is done; that number will be cancelled by both parties. A register is to be maintained by the Supplier where complaints are to be noted along with Complaint No.
7. The maintenance shall normally be done at the earliest.



8. The Service Engineer of the Supplier will be allowed to handle the respective plant & machineries only in presence of the officer in charge at the Consignee site.
9. The Supplier should ensure that maintenance job is not hampered/delayed due to paucity of spares/inadequate manpower etc.
10. The Supplier should submit the services call report, to the Consignee for each and every service call without fail.
11. The Supplier evaluation data format for the WMC of Consignee systems may be filled up for necessary action.
12. All formats after filled up should be signed at the end of each page by the Supplier.
13. After completion of the work/repair/maintenance, the Purchaser shall issue a certificate of completion to the supplier to that effect.

Signature

For the Purchaser

Name:

Designation:

Address:

Telephone No:

Signature

For the Supplier

Name:

Designation:

Address:

Telephone No:

ANNEXURE-III

MANUFACTURES' AUTHORISATION FORM

No. _____ / Date _____ /

To
The Registrar,
VSSUT Odisha
Burla, Sambalpur.

Dear Sir, Bid No. _____

We _____ who are established and
reputable manufacturers of
_____ having factories at _____ (Address of Factory)
thereby authorize M/s. _____ (Name and address
of Agent) to submit a bid and sign the contract with you against the above bid.

* No company or firm or individual other than M/s. _____ are
authorized to bid and conclude the contract in regard to this business against this specific
invitation for bid.

We hereby extend our full guaranty and warranty as per general conditions of contract for
the goods and services offered by the above firm against this bid.

Yours faithfully,
(Signature for and on behalf of Manufacturers)

Note: This letter of authority should be on the letterhead of the manufacturer and should be
signed by a person, competent and having the power of attorney to bind the manufacturer.
It should be included original by the Bidders in its bid.

- This para should be deleted for simple items where manufacturers sell the product
through different stockiest.



ANNEXURE-IV

DETAILS OF THE BIDDERS

Bid Reference No.

Name and address of the Bidder:

01 Name of the bidder

a) Full postal address

b) Full address of the premises

c) Telegraphic address

d) Telephone number

e) Fax number

f) E mail:

g) PAN No

h) TIN No

i) GSTN

02 Total annual turn-over (value in Rupees)

03 Quality control arrangement details

04 Test certificate held

a) Type test

b) BIS/ISO certification

c) Any other

05 Details of staff

a) Technical

b) Skilled

c) Unskilled

06 Branch Office/ Contact Person/ Liaisoning Office in Odisha.

a) Address

b) Telephone No.

c) e-mail,

d) Fax

Signature and seal of the Bidder



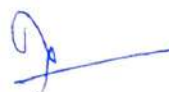
ANNEXURE-V

Technical details of the Machineries & Equipments to be supplied by the bidder

Bid SI No. of the item	Tender specification	Bidders Specification with make and model no (Enclose manufactures catalogue / brochure for each item)	Deviation if any With university specification

Signature and seal of the Bidder

(Signature of Authorized signatory of Bidder with seal)



SECTION-IV: SCHEDULE OF REQUIREMENTS AND TECHNICAL SPECIFICATIONS

Sl no	Name & Specification of articles/equipment	quantity
1	<div><div><div>PIXHAWK 2.4.8 Combo Kit</div><div><div>Specifications:</div><div>Pixhawk V2.4.8 Flight board:<ol style="list-style-type: none">The advanced 32-bit ARM CortexM4 high-performance processors can run NuttX RTOS real-time operating system.14 PWM / servo output.Bus interface (UART, I2C, SPI, CAN).The integrated backup power and backup controller fails, the primary controller fails over to the backup control is safe.Provide automatic and manual modes.Provide redundant power input and failover.Multicolor LED lights.Provide a multi-tone buzzer Interface.Micro SD recording flight data.</div><div>Processor:<ol style="list-style-type: none">32bit STM32F427 Cortex M4 core with FPU.168 MHz.128 KB RAM.2 MB Flash.32-bit STM32F103 failsafe co-processor.</div><div>Sensors:<ol style="list-style-type: none">ST Micro L3GD20H 16 bit gyroscope.ST Micro X4HBA 303H 14-bit accelerometer/magnetometer.Invensense MPU 6000 3-axis accelerometer/gyroscope.MEAS MS5607 barometer.</div><div>Interfaces:<ol style="list-style-type: none">5x UART (serial ports), one high-power capable, 2x with HW flow control.2x CAN (one with an internal 3.3V transceiver, one on expansion connector).Spektrum DSM / DSM2 / DSM-X® Satellite compatible Input.Futaba S.BUS® compatible input and output.PPM sum signal input.RSSI (PWM or voltage) input.I2C.SPI.3.3 and 6.6V ADC inputs.Internal micro USB port and external micro USB port extension.</div><div>PIXHAWK PPM Encoder Module:<ol style="list-style-type: none">Support the input channels: 8.Output: PPM SUM x 1 / MUX x 1.</div><div>Glass Fiber Flight Controller Anti-vibration/Shock absorber Set:<ol style="list-style-type: none">Color: BlackMaterial: Glass-fiberSuit for the different open-source flight controllers, like APM 2.5/2.6/2.8, KK, MWC, and Pixhawk 2.4</div></div><div><div>NEO-M8N GPS Module:<ol style="list-style-type: none">Receiver type 72-channel Ublox M8 engine.GPS/QZSS L1 C/A, GLONASS L10F, BeiDou B1.SBAS L1 C/A: WAAS, EGNOS, MSAS.Galileo-ready E1B/C (NEO-M8N).Nav. update rate1 Single GNSS: up to 18 HZ.Concurrent GNSS: up to 10 Hz.Position accuracy2 2.0 m CEP.Acquisition2 Cold start: 26 s.Aided starts: 2 s.Reacquisition: 1.5 s.Sensitivity2 Tracking & Nav: -167 dBm.Cold start: -148 dBm.Hot starts: -156 dBm.Assistance AssistNow GNSS Online.Assist Now GNSS Offline (up to 35 days)3.Assist Now Autonomous (up to 6 days).OMA SUPL & 3GPP compliantOscillator TCXO (NEO-M8N/Q).Crystal (NEO-M8M).RTC crystal Built-In.Noise figure On-chip LNA (NEO-M8M). Extra LNA for.lowest noise figure (NEO-M8N/Q).Anti-jamming Active CW detection and removal.An extra onboard SAW bandpass filter (NEO-M8N/Q).Memory ROM (NEO-M8M/Q) or Flash (NEO-M8N).Supported antennas Active and passive.Odometer Travelled distance.Data-logger For position, velocity, and time (NEO-M8N).</div><div>GPS Folding Base Antenna set:<ol style="list-style-type: none">Material: CNC Aluminum alloy, carbon glass fiber rodMounting rod diameter: 4mmlength of rod: 14 cm.GPS plate diameter: 40 mm.Base plate diameter: 35 mmMounting hole spacing: 16-35mmWeight: 20gColour: Anodised blackNote: Adhesive Pad is not included.</div><div>APM 2.5/2.6/2.8 Pixhawk Power Module V1.0:<ol style="list-style-type: none">Max input voltage: 28VMax current sensing: 90AVoltage and current measurement configured for 5V ADCSwitching regulator outputs 5.3V and 3A max6-pos DF13 cable plugs directly to APM 2.5's 'PM' connectorSupport 6S battery.</div></div></div><div>01 No</div></div>	
	2	<div><div><div>Raspberry Pi Pico</div><div><div>Specifications</div><div>Operating Voltage (VDC)1.8 ~ 5.5</div><div>ProcessorRP2040 (Dual-core Arm Cortex M0+) By Raspberry Pi</div><div>Interface2 x UART, 2 x I2C, 2 x SPI, up to 16 PWM channels</div></div></div></div> <div>02 Nos</div>

	RAM GPIO Clock Speed On Board Ports Operating Temperature Range (°C) Length (mm) Width (mm) Height (mm) Shipment Weight Shipment Dimensions	264 KB 26 Pins 133 MHz Micro-USB 5V/2.5A DC Power Input Port -20 to 85 51 21 4 0.01 kg 5 × 2 × 1 cm	
	Multi-Copter Brushless Speed Controller Programmable ESC with 5V/3A BEC (Original)		
3	Specifications: BEC Operating Voltage (VDC) Continuous Current (A) Color Dimensions (mm) LxWxH Weight (gm) Shipment Weight Shipment Dimensions	Yes (5V/3A) DC 6-22.2V(2-4S Lixx) 40 Blue 55 x 26 x 13 39 0.039 kg 6 × 1 × 1 cm	06 Nos
	5MP Raspberry Pi Zero W Camera Module W/ HBV FFC Cable		
4	Specifications: z Lens Focus Image Size(Pixels) Interface Type Sensors Length (mm) Width (mm) Height (mm) Weight (gm) Shipment Weight Shipment Dimensions	5 MP Fixed Focus 2592×1944 CSI(Camera Serial Interface) Omnivision 5647 fixed-focus 25 23 8 3 0.005 kg 10 × 5 × 3 cm	02 Nos
	Brushless DC Motor KV2280 (Original) – Red Cap (CCW Motor Rotation)		
5	Specifications: Motor KV (RPM/V) Framework Maximum Thrust (gm) Maximum Power (W) Rated Voltage(V) Compatible LiPO Batteries Shaft Diameter (mm) Compatible Propellers Size (inch) Length (mm) Width (mm)	2280 12N14P 460 115 11.1 2S ~ 3S 2 5 ~ 7 26.7 23	06 Nos

	Weight (gm)	18				
	Brand	EMAX				
	Shipment Weight	0.02 kg				
	Shipment Dimensions	20 × 5 × 3 cm				
6	Tri-Blade Flash Propellers 2CW+2CCW 2 Pair-Transparent			03 Nos		
	Specifications:					
	No. of Blades	3				
	Length (cm)	3 Inch (7.62 cm)				
	Shaft Hole Diameter	5				
	Pitch (mm)	5.2 Inch (132.08 mm)				
	Rotation	2 CW+2 CCW				
	Propeller Type	HD (Hyper Drive)				
	Material	Polycarbonate (PC)				
	Color	Transparent				
	Weight (gm)	12 (for 4 Props)				
	Shipment Weight	0.04 kg				
	Shipment Dimensions	20 × 10 × 1 cm				
7	T200 Thruster			06 Nos		
	Specifications:					
	Parameter	Value				
	Full Throttle FWD/REV Thrust @ Nominal (16 V)	5.25 / 4.1 kg f	11.6 / 9.0 lb f			
	Full Throttle FWD/REV Thrust @ Maximum (20 V)	6.7 / 5.05 kg f	14.8 / 11.1 lb f			
	Minimum Thrust	0.02 kg f*	0.05 lb f*			
	Electrical					
	Operating Voltage	7-20 volts				
	Full Throttle Current @ Nominal (16 V)	24 Amps				
	Full Throttle Current @ Maximum (20 V)	32 Amps				
	Full Throttle Power @ Nominal (16 V)	390 Watts				
	Full Throttle Power @ Maximum (20 V)	645 Watts				
	Physical					
	Length	113 mm	4.45 in			
	Diameter	100 mm	3.9 in			
	Weight in Air (with 1m cable)	0.76 lb	344 g			
	Weight in Water (with 1m cable)	0.34 lb	156 g			
	Propeller Diameter	76 mm	3.0 in			
	Mounting Hole Threads	M3 × 0.5				
	Mounting Hole Spacing	19 mm	0.75 in			
	Cable Length (Standard T200)	1.0 m	39 in			
	Cable Length (T200 BlueROV2 Spare)	0.71 m	28 in			
	Cable Diameter	6.3 mm	0.25 in			
	8	Raspberry Pi 4 Model-B with 8 GB RAM			01 No	
		Specifications:				
		Processor	Broadcom BCM2711, quad-core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz			
	RAM	8GB LPDDR4 SDRAM				

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