

- d) Customers will purchase only following credit transfer principles.
- e) For consecutive purchase in the same month, credit values without any fixed charge will be sent to the meter.
- f) Slab reset service charges, power factor penalty (PFC) should be monthly basis.
- g) The tender shall provide a detailed description of the algorithm including:
 1. All assumptions made.
 2. An explanation of how the averaging algorithm operates.
 3. Examples of how the algorithm works.
 4. Examples of how to explain the algorithm to customers.
 5. Examples of how to deal with customer's queries.
 6. Description of how the algorithm manages tariff rate and tariff structure change.
 7. Description to apply corrections
 8. Description to mechanisms to how to deal with the situation where a customer buys at two different locations between data transfers.
 9. Online data transfer is required so that customers can buy token from any vending system and different locations.

7.30 Data Format

Individual Meter Status

Column	Data Name	Data Type	Description
1	Meter No	String (12)	014012345678
2	Status	String (1)	0: offline 1: online
3	Reading Time	String (19)	YYYY-MM-DD_HH:mm:ss

7.31 Packing:

Meters must be export packed and properly protected for shipment, rough transportation and storage. Specific care shall be taken for protection in store and reference is made to the climatic condition prevailing in Bangladesh.

Each unit shall be sealed in waterproof polyethylene bag having a silica gel packet placed inside the unit and then packed in polystyrene foam gasket closed by self adhesive tape rating of the meter shall be marked by marker pen or label on the form for easy identification.

Maximum 10 (ten) nos. of complete metering units are allowed to pack into a wooden packaging box lined with heavy gauge polyethylene. Between metering units, a suitable packing material for protection and preventing their movement should be used. Silica gel should be provided inside each polyethylene wrapper. The packing case should be able to withstand accidental direct exposure to weather for reasonable period.

The supplier shall be responsible for damages due to inadequate packing. A packing list showing the contents of each packing shall be enclosed in a waterproof envelope secured outside of the packing case. A copy of the packing list shall also be enclosed inside the package.




All packages imported are liable to be opened for customs examination at the port of landing and packing shall therefore be designed to facilitate opening and repackaging thereafter.

A red band (20 cm wide) shall be painted all around each package. Each package shall have the following information printed on it bold letters.

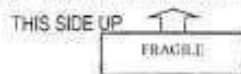
- Name of supplier.
- Port of loading.
- Port of destination.
- Name of consignee.
- Contract number.
- Brief description of stores.
- Number of packages. (total quantity)
- Gross and net weight.
- Dimension.

In addition, each package shall be clearly marked or stenciled in red on two sides, the shipping mark WZPDCL, BANGLADESH inscribed within a triangle marked shown below.

The shipping mark



On the other two sides, arrow marking with words "THIS SIDE UP" and "FRAGILE" shall be clearly marked or stenciled to indicate the face of the package to keep upward.



7.33 TECHNICAL ORIENTATION AND QUALITY TEST WITNESS:

A. FACTORY INSPECTION AND TEST WITNESS:

Witnessing of the manufacturing process and tests of the equipment at manufacturer's premises including transfer of technical know-how shall be required/held as detailed elsewhere in Particular Conditions of Contract (GCC 41.2) of tender document and other than this the following will be as follows:

The inspection team proposed by the purchaser or consignee (if consignee is Project Director) and approved by the competent authority shall have the right to inspect, examine and test the workmanship and performance of the goods/materials to confirm the conformity to the specification at all reasonable time before and during manufacture at the manufacturer's premises.

The manufacturer will allow inspection team to inspect the manufacturing process and quality control and progress of the work at any time need by inspection team. This team will witness the Factory/Technical orientation & Quality test at the manufacturer's plant. The Manufacturer shall have facilities to carry out all tests at its premises and shall provide free of charge such assistance, labor, materials, electricity, fuel, stores, apparatus and instruments as may be requisite and as may be reasonably demanded to carry out such test efficiently.

The inspection team maximum 2 (two) times may inspect (if required) the goods during the manufacturing process or after manufacture of Goods as required and shall also request to supplier for the purchase/ import/ shipping documents of major/key materials of Goods and shall check in accordance with Guaranteed Technical Particulars (GTP) and guarantees of the contract. All expenses for such tests shall be borne by the supplier.

Inspection Team will witness the routine test at the manufacturer's premises. Tests shall be performed in accordance with the relevant IEC/BS/ANSI/ASTM/BDS standards or any other standard mentioned in the contract document which shall be complied with the Guaranteed Technical Particulars (GTP) of the Contract. All expenses for such tests shall be borne by the Contractor.

At the time of Factory Test witness Inspection Team will check the calibration seal/certificate of the testing/measuring equipment, meters etc. issued by the competent authority. The contractor shall ensure that the Manufacturer shall complete the calibration of the testing/ measuring equipment, meters etc. before the inspection of team.

The Supplier shall, after consulting the consignee, give notice to the consignee in writing of the date and the place where the material or equipment will be ready for testing at least 15 days before schedule of inspection. The consignee shall give the supplier timely notice in writing of his intention to attend the test. As and when the consignee is satisfied that any materials/equipment shall have passed the tests referred to in this clause, consignee shall notify the contractor in writing to that effect.

Should any inspected/ tested goods fail to conform to the specification, the consignee shall have the right to reject any of the items or complete batch if necessary. In that case Supplier has to replace the equipment and to make good of them and the supplier shall conduct similar pre-delivery Inspection and factory tests without any financial involvement to the consignee. In case any of the Equipment/goods found not conforming to the specification at the time of post landing inspection, the supplier will in no way be relieved from the responsibility of replacing them or making them good at their own cost, despite the Equipment were found good at the time of Factory Acceptance Test in respect of quality and quantity. Nothing in this clause shall in any way release the supplier from any warranty or other obligations under the contract.

If the offered goods are manufactured outside the purchaser's country then Utility's Inspection Team shall have to conduct Technical Orientation and Quality Test Witness at the manufacturer's factory premises. The Purchaser's nominated "Engineering Team" consisting of at least 03 (Three) Engineers in each team shall take part in the witness of the QAT of the goods/ Technical Orientation on the manufacturer's premises for a period of 7 days (excluding journey time). All the cost regarding QAT witness by the Purchaser's "Engineering Team" i.e. the cost of Air Ticket from Dhaka to the place of inspection/training & return, internal transportation, Phone, Fax, E-mail, Health insurance, Hotel accommodation, Food etc. and pocket money of 150 USD per day per person for the period of 7 days (excluding journey time) shall be borne by the Contractor and the cost shall be included with the equipment's quoted price.

For any reason, if Purchaser's/ Employer's representative(s) cannot attend above mentioned "Witnessing of the manufacturing process and tests of the Goods at manufacturer's works including transfer of technical know-how" program, a Third-Party Inspection Company/Agency shall conduct/ witness Pre-shipment Inspections as well as Factory Acceptance Tests as per Contract and relevant standard at the manufacturer's Premises with the concurrence of WZPDCL. The Third-Party Inspector shall submit a comprehensive report to Purchaser with recommendation accompanied with photograph and video clips with date and time of the Equipment/ Materials/ Goods inspected within 7 days after completion of respective inspection/Test. After approval of Third-Party Inspection report by WZPDCL, Shipping advice shall be issued to Supplier/ Contractor. No Equipment/ Materials/ Goods shall be shipped without shipping advice.

The inspections/ Tests shall be performed on as-needed basis as per schedule provided by the respective manufacturers.

Manufacturer/ Supplier/ Contractor shall bear cost pertaining to third party inspection team/WZPDCL's representative(s). Manufacturer/ Supplier/ Contractor shall facilitate and provide full support for the Pre-Shipment Inspection/Witnessing of Factory Acceptance Test and transfer of technical know-how to WZPDCL representative(s).

The third-party inspection company/agency must not be involved in design, procurement, fabrication, construction and installation under this Contract.

WZPDCL will select any of the following companies/agencies as Third Party Inspector:

1. BUREAU VERITAS
2. SGS
3. Black and Veatch
4. TUV SUD
5. Lloyd Inspection Agency
6. Mott MacDonald
7. Intertek group

With the approval of WZPDCL, Contractor/Supplier shall engage Third Party Inspection company/agency. WZPDCL reserves the right to revise the above-mentioned list.

If the offered goods are manufactured within the purchaser's country, then the manufacturer/supplier shall have the testing facilities at manufacturer's/supplier's premises in accordance with the relevant IEC/BS/ANSI/ASTM/BDS Standards. The inspector(s) shall send the sample material (selected by the Inspection Team consisting of at least three engineers in each consignment) to Utility's own meter testing lab/BUET/CUET/KUET/RUET/DUET to carry out any test(s) pending due to lack of testing facilities or any reason at the manufacturer's/supplier's premises. All cost of testing including carrying, loading, un-loading etc. will be borne by the supplier and shall be deemed to be included in the offered price. If the sample(s) fails to confirm the specification, the full consignment will be rejected.

No goods shall be packed, prepared for shipment/delivery unless it has been approved and written instructions have been received from the consignee.

On successful completion of Pre-shipment inspection/quality test witness, delivery of goods will be made to the designated stores under contractor's/supplier's responsibility until Post-Landing Inspection is successfully completed without any obligation on part of utility. Quality and quantity of the delivered goods will be determined at the time of post-landing inspection at the designated stores in presence of the authorized representative of the contractor/supplier. After approval of the satisfactory Post-Landing Inspection, R&I Report will be issued following the contractual obligations.

B. RANDOM SAMPLE TEST DURING FACTORY INSPECTION AND WITNESS: Required

During Pre-Delivery Inspection & Factory Test Witnessing of the goods to be supplied under the Contract, the Inspection Team will witness the routine tests at the manufacturer's premises. The Inspection Team will select goods on random sampling basis. The Tests shall be performed in accordance with the relevant IEC/BS/ANSI/ASTM/BDS standards or any other standard mentioned in the contract document which shall be complied with the Guaranteed Technical Particulars (GTP) of the Contract. All expenses for such tests shall be borne by the Contractor.

C. ACCEPTANCE REPORT OF GOODS FOR DELIVERY:

If the test results of the tested sample(s) during factory test witness by the inspection team fail to confirm the specification and the Guaranteed Technical Particulars (GTP), the full consignment will be rejected. A formal delivery order will be issued after satisfactory pre-delivery inspection & test report by inspection team.



D. POST-DELIVERY INSPECTION & TESTING:

Post Landing Inspection shall be done after arrival of the goods at **Final destination** as detailed elsewhere in Particular Conditions of Contract (GCC 41.2) of Tender Document and other than this the following will be as follows:

The Supplier shall inform (within 5 (five) working days) the purchaser or consignee (if consignee is Project Director) immediately after arrival of the goods at the designated store of utility (as per delivery schedule). An inspection team (may be the previously or newly formed team) shall start to perform the post-landing inspection not beyond 10 (ten) working days in presence of supplier's representative after getting information from supplier about the delivery of goods at designated store. The Supplier shall arrange post-landing inspection as per program in consultation with the consignee. If any defect or damage has been found at post-landing inspection, the defective or damaged materials/ goods shall be replaced by the supplier at his own cost within the stipulated time.

The purchaser's or consignee's (if consignee is Project Director) right to inspect, test (where necessary) and reject the goods after delivery at the designated stores of utility shall in no way be limited or waived by reason of the goods having previously been inspected, tested and passed by the purchaser prior to the goods' delivery.

The inspection team will check the physical conditions and quantity of the goods delivered. The inspection team will select the sample of good(s) on random sampling basis and send the selected sample goods to utility's own meter testing lab/BUET/ CUET/ KUET /RUET/DUET (as selected by the inspection team) to carry-out the test(s) as per contract to confirm the conformity to the approved Technical Specifications, Guaranteed Technical Particulars (GTP), drawings and relevant standards. If the tested sample(s) fail to confirm the specifications in tests, the full consignment will be rejected. All cost of testing of Materials/ Goods including carrying, loading, un-loading etc. will be borne by the supplier.

7.34 Guaranteed Technical Particulars (GTP)

GTP of 230 Volt, 5(60)A Single-Phase Smart Prepayment Energy Meter

(To be filled up and signed by the Tenderer)

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1.	Reference Standard	-	IEC	
2.	Manufacturer's Name & address		To be mentioned	
3.	Year of Manufacturing		To be mentioned	
4.	Country of origin		To be mentioned	
5.	Firmware version for meter		To be mentioned	
6.	Firmware version for communications		To be mentioned	
7.	Meter parameterization software version		To be mentioned	
8.	Model of Meter	-	To be mentioned	
9.	Type of meter	-	Indoor/Outdoor	
10.	Connection	-	1- phase, 2-wire (unidirectional, programmable to bi-directional for net metering)	
11.	Rated voltage	Volt	230	
12.	Maximum voltage	Volt	260	



Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
13.	Basic Current (I_b)	Amp	≤ 5	
14.	Maximum Current (I_{max})	Amp	60	
15.	Frequency	Hz	50	
16.	Number of Terminal	No.	4	
17.	Diameter of Terminal, Bore	mm	6mm to accommodate 10 mm ² cable	
18.	No. of Element (minimum)	No.	2 (One in Phase & other in Neutral)	
19.	Voltage circuit loss at rated voltage	VA & W	5VA, 2 Watt	
20.	Current circuit loss at rated current	VA	2.5	
21.	Variation of Power factor		0.5 lag to 0.8 lead	
22.	Variation of voltage		+30% to -30%	
23.	Impulse withstand voltage	KV	6	
24.	Starting current	mA	$\leq 0.4\%$ of basic current	
25.	KWh register type	-	LCD Display	
26.	Meter constant	Impulse/ kWh	To be mentioned	
27.	Accuracy class	Class	1.0	
28.	Performance Curve		To be submitted	
29.	Type of Battery		Lithium Battery. It is to be noted here that without support of external battery, meter should operate at least six hours with the support of inbuilt super-capacitor. (Supported by Manufacturer's Authorization Letter)	
30.	Built in clock		Real Time Clock (RTC) as per IEC 62054-21 or updated version (Sample meter time and date shall be same as real time of Bangladesh)	
31.	Battery Reserve & life		10 (Ten) Years	
32.	No. of Digits for Credit Storage		6+2	
33.	Credit Transfer System		CTS	
34.	Tariff Structure		Utility's tariff structure	
35.	KWh dispensing register		Solid state LCD Display	
36.	Front Page Indications		- Credit Status, - Accept/Reject - Low credit warning - Consumption Rate - Tamper Indication	
37.	Disconnection Facility		- On credit expiry, - Decommissioning state - Exceeded Power threshold - When tampered	
38.	Provision for emergency Friendly		To be mentioned	

Sl. No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
	Credit			
39.	Time interval of re-calibration (minimum)	Year	10	
40.	Service life (minimum)	Year	10	
41.	Weight of meter	Kg	To be mentioned	
42.	Overall dimensions (height, width, depth)	mm	To be mentioned	
43.	Load Control		To be mentioned	
44.	Warranty	Years	3 Years	
45.	List of Recommended Spares		To be mentioned	
46.	Any other facility if any		To be mentioned	
47.	Meter body sealing condition		Fully Ultrasonic welded/ Hermetically Sealed	
48.	Latching relay		As per specification mentioned in Section- 7.6.3 (Supported by Manufacturer's Authorization Letter)	
49.	Number of latching relay	Nos.	One relay for phase and one relay for neutral Or A single integrated (having more than one contact) relay for phase and neutral	
50.	Communication		Plug and play type BPLC AND GPRS	
51.	Communication Protocol		DLMS/COSEM & IDIS	

Demonstration of the Prepayment Meter and DCU

1. The Employer shall invite Tenderer to demonstrate smart prepayment meters as part of the technical evaluation. The demonstration of the offered smart meters shall be mandatory to accept the Bids for detailed technical evaluation.

2. The demonstration shall be held in Utility Premises and the Employer shall provide a venue with projector.

3. The Tenderer shall arrange all equipment, software and logistics, included but not limited to, computers, printers and network equipment, communication links, smart prepayment meter prototypes, power supplies, test loads for the meters, all cables/wiring and consumables, transport including human resources required for the demonstration.

The contractor shall explain how the demonstration set-up differs from the production set-up required for this Bid and explains the data architecture of the system prior to the demonstration.

The key requirements for the demonstration shall be:

- A fully functional smart prepayment system with two single phase prepayment meters with BPLC and GPRS communication modules shall be demonstrated.

For demonstration purpose, the Tenderer has to submit fully functional offered type Two Single Phase Smart Pre-payment meters as Sample Meter(s) along with their bid. Bidders can apply for interfacing or interoperability test of meter with existing DCU/ Vending System/ HES/ MDM prior to demonstration and the utility must cooperate the potential bidders by providing necessary documents, test environment etc.

engaging own experts. During demonstration the tenderer shall demonstrate using offered type meters with emphasis on demonstrating key functionality. It is to be noted here that without support of external battery, meter should operate at least six hours with the support of inbuilt super-capacitor. The Tenderer shall have to present and demonstrate successfully the functionality of the offered type sample meters with HES as per Technical Specification of tender requirements. The Tenderer needs to demonstrate interfacing and interoperability of the offered type smart meter with existing DCU compliance to interoperability protocol. For each single device, proof of conformity for the chosen application standards (e.g., DLMS/COSEM) as well as communication standards (e.g., BPLC, etc.) is required.

Additional Key points

1. Utility incorporates the necessary API documents or procedural manual in the tender document for any kind of integration with existing vending system or MDM as well as interfacing with installed DCU.
2. The meter shall be programmable for special arrangements like Mother-Child Scheme and Net Metering implementation.
3. The meter must follow the guideline of BSTI and marked its logo on the meter body.
4. End to End data transfer shall be encrypted with AES-256. Communication devices shall support IPv6.
5. Hardware Security Module (HSM) can be used for security.

Justified Short Code

There are short code table, through this short code, user can get the information of meter.

Short code	Data meaning	Short code	Data meaning
Any code	Cancel audible alarm	00	Active emergency overdraft
800	Total positive active energy	801	Meter remaining balance
802	Current date	803	Current time
804	Meter serial No.	805	SGC No.
806	Reason of relay operation	807	Meter status words
808	Total instantaneous power	809	Tariff index number
810	Emergency Overdraft limit	811	Active emergency overdraft
813	Total forward active energy for yesterday	814	Total forward active energy for current month
815	Recharge date for last time	816	Recharge time for last time
817	Recharge amount for last time	818	Log out return code
819	Power outage No.	820	Total forward active energy for last month
821	Total forward active energy for last 2 nd month	822	Total forward active energy for last 3 rd month
823	Total forward active energy for last 4 th month	824	Total forward active energy for last 5 th month
825	Total forward active energy for last 6 th month	830	TOKEN code for last time recharging
831	TOKEN codes for last 2 nd time recharging	832	TOKEN codes for last 3 rd time recharging
833	TOKEN codes for last 4 th time recharging	834	TOKEN codes for last 5 th time recharging

835	TOKEN codes for last 6 th time recharging	836	TOKEN codes for last 7 th time recharging
837	TOKEN codes for last 8 th time recharging	838	TOKEN codes for last 9 th time recharging
839	TOKEN codes for last 10 th time recharging	865	Meter entering normal working mode
866	Measuring accuracy displays 3 decimals, automatically exit after 1 minute	868	Relay testing
869	Maximum power (Load Limit)	870	A phase voltage
871	B phase voltage (not support in single phase meter)	872	C phase voltage (not support in single phase meter)
873	Key version No.	874	A phase current
875	B phase current	876	C phase current (not support in single phase meter)
877	A phase power	878	B phase power
879	C phase power (not support in single phase meter)	880	Average value for daily power consumption
881	Average value for monthly power consumption	886	The price of current Tariff
887	Current step tariff	888	Recharging return code
889	Current TOKEN sequence No.	890	TOKEN rejected times
891	TOKEN accepted times	892	Relay connection times
893	Relay disconnection times	894	Max. overdraft amount under friendly mode
895	Allowed using days under friendly mode	896	Already used days under friendly mode
897	Start time of friendly hour	898	End time of friendly hour
899	Weekend	900	The status of friendly mode: 1: u:workday: No-friendly mode or friendly times is run out 2: F-Hour: Friendly hour 3: u:weekend: weekend 4: holiday: holiday 5: EnnErg: emergency mode 6: SpEcial: weekend or friendly day is finished but does not arrival next day 10 o'clock
901	kWh of Step 1/ kWh of Tariff 1	902	kWh of Step 2/ kWh of Tariff 2
903	kWh of Step 3/ kWh of Tariff 3	904	kWh of Step 4/ kWh of Tariff 4
905	kWh of Step 5/ kWh of Tariff 5	906	kWh of Step 6/ kWh of Tariff 6
907	kWh of Step 7/ kWh of Tariff 7	908	rate of Step 1/ price of Tariff 1
909	rate of Step 2/ price of Tariff 2	910	rate of Step 3/ price of Tariff 3
911	rate of Step 4/ price of Tariff 4	912	rate of Step 5/ price of Tariff 5
913	rate of Step 6/ price of Tariff 6	914	rate of Step 7/ price of Tariff 7
915	rate of Step 8/ price of Tariff 8	916	The average PF of last month
917	Level 1 alarm of balance low	918	Level 2 alarm of balance low
919	Level 3 alarm of balance low	920	Special step status word
921	Already used times of weekend	922	Consumption amount of current month
923	Consumption amount of last month	924	Consumption amount of last 2 nd month
925	Consumption amount of last 3 rd month	926	Consumption amount of last 4 th month
927	Consumption amount of last 5 th month	928	Consumption amount of last 6 th month
930 *	PFC of last month (not support in single phase meter)	931	PFC of last 2 nd month (not support in single phase meter)
932	PFC of last 3 rd month (not support in single phase meter)	933	PFC of last 4 th month (not support in single phase meter)
934	PFC of last 5 th month (not support in single phase meter)	935	PFC of last 6 th month (not support in single phase meter)
940	Reactive energy of last month	941	Reactive energy of last 2 nd month
942	Reactive energy of last 3 rd month	943	Reactive energy of last 4 th month
944	Reactive energy of last 5 th month	945	Reactive energy of last 6 th month
952	Prepay Mode or Post-pay mode indication	953	Neutral Current
954	Total tariff 1 active energy (KWh)	955	Total tariff 2 active energy (KWh)
956	Total tariff 3 active energy (KWh)	957	Total tariff 4 active energy (KWh)
958	Total tariff 5 active energy (KWh)	959	Total tariff 6 active energy (KWh)
960	Total tariff 7 active energy (KWh)	961	Total tariff 8 active energy (KWh)
962	Positive tariff 1 reactive energy	963	Positive tariff 1 reactive energy

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964	Positive tariff 3 reactive energy	965	Positive tariff 3 reactive energy
966	Total positive reactive energy	970	Negative tariff 1 reactive energy
971	Negative tariff 2 reactive energy	972	Negative tariff 3 reactive energy
973	Negative tariff 4 reactive energy	974	Total negative reactive energy
981	Emergency overdrift balance	985	Total consumption credit
986	Remaining energy (estimated value)	998	Average power factor of current month
420	The opening terminal cover time for last time	421	The opening terminal cover date for last time

Standard OBIS Information

NO.	Data Name	Standard OBIS	Standard CIM
1	A phase Current	3#1.0.31.7.0.255#2	0.0.0.12.0.1.4.0.0.0.0.0.0.128.0.5.0
2	A phase Power Factor	3#1.0.33.7.0.255#2	0.0.0.12.19.1.37.0.0.0.0.0.0.0.224.3.38.0
3	A phase Voltage	3#1.0.32.7.0.255#2	0.0.0.12.0.1.54.0.0.0.0.0.0.0.128.0.29.0
4	Active energy ((+A)-(-A)) Net tariff1	3#1.0.16.6.1.255#2	0.26.0.1.4.1.12.0.0.0.0.1.0.0.224.3.72.0
5	Active energy ((+A)-(-A)) Net tariff2	3#1.0.16.6.2.255#2	0.26.0.1.4.1.12.0.0.0.0.2.0.0.224.3.72.0
6	Active energy ((+A)-(-A)) Net tariff3	3#1.0.16.6.3.255#2	0.26.0.1.4.1.12.0.0.0.0.3.0.0.224.3.72.0
7	Active energy ((+A)-(-A)) Net tariff4	3#1.0.16.6.4.255#2	0.26.0.1.4.1.12.0.0.0.0.4.0.0.224.3.72.0
8	Active energy ((+A)-(-A)) Net total	3#1.0.16.6.0.255#2	0.26.0.1.4.1.12.0.0.0.0.0.0.0.224.3.72.0
9	Active energy ((+A)+(-A)) Combined tariff1	3#1.0.15.6.1.255#2	0.26.0.1.20.1.12.0.0.0.0.1.0.0.224.3.72.0
10	Active energy ((+A)+(-A)) Combined tariff2	3#1.0.15.6.2.255#2	0.26.0.1.20.1.12.0.0.0.0.2.0.0.224.3.72.0
11	Active energy ((+A)+(-A)) Combined tariff3	3#1.0.15.6.3.255#2	0.26.0.1.20.1.12.0.0.0.0.3.0.0.224.3.72.0
12	Active energy ((+A)+(-A)) Combined tariff4	3#1.0.15.6.4.255#2	0.26.0.1.20.1.12.0.0.0.0.4.0.0.224.3.72.0
13	Active energy ((+A)+(-A)) Combined total	3#1.0.15.6.0.255#2	0.26.0.1.20.1.12.0.0.0.0.0.0.0.224.3.72.0
14	Active energy export (-A)	3#1.0.2.6.0.255#2	0.26.0.1.19.1.12.0.0.0.0.0.0.0.224.3.72.0
15	Active energy export (-A) rate1	3#1.0.2.6.1.255#2	0.26.0.1.19.1.12.0.0.0.0.1.0.0.224.3.72.0
16	Active energy export (-A) rate2	3#1.0.2.6.2.255#2	0.26.0.1.19.1.12.0.0.0.0.2.0.0.224.3.72.0
17	Active energy export (-A) rate3	3#1.0.2.6.3.255#2	0.26.0.1.19.1.12.0.0.0.0.3.0.0.224.3.72.0
18	Active energy export (-A) rate4	3#1.0.2.6.4.255#2	0.26.0.1.19.1.12.0.0.0.0.4.0.0.224.3.72.0
19	Active energy export (-A) rate5	3#1.0.2.6.5.255#2	0.26.0.1.19.1.12.0.0.0.0.5.0.0.224.3.72.0
20	Active energy export (-A) rate6	3#1.0.2.6.6.255#2	0.26.0.1.19.1.12.0.0.0.0.6.0.0.224.3.72.0
21	Active energy export (-A) rate7	3#1.0.2.6.7.255#2	0.26.0.1.19.1.12.0.0.0.0.7.0.0.224.3.72.0
22	Active energy export (-A) rate8	3#1.0.2.6.8.255#2	0.26.0.1.19.1.12.0.0.0.0.8.0.0.224.3.72.0
23	Active energy import (+A)	3#1.0.1.6.0.255#2	0.26.0.1.1.1.12.0.0.0.0.0.0.0.224.3.72.0
24	Active energy import (+A) rate1	3#1.0.1.6.1.255#2	0.26.0.1.1.1.12.0.0.0.0.1.0.0.224.3.72.0
25	Active energy import (+A) rate2	3#1.0.1.6.2.255#2	0.26.0.1.1.1.12.0.0.0.0.2.0.0.224.3.72.0
26	Active energy import (+A) rate3	3#1.0.1.6.3.255#2	0.26.0.1.1.1.12.0.0.0.0.3.0.0.224.3.72.0
27	Active energy import (+A) rate4	3#1.0.1.6.4.255#2	0.26.0.1.1.1.12.0.0.0.0.4.0.0.224.3.72.0
28	Active energy import (+A) rate5	3#1.0.1.6.5.255#2	0.26.0.1.1.1.12.0.0.0.0.5.0.0.224.3.72.0
29	Active energy import (+A) rate6	3#1.0.1.6.6.255#2	0.26.0.1.1.1.12.0.0.0.0.6.0.0.224.3.72.0
30	Active energy import (+A) rate7	3#1.0.1.6.7.255#2	0.26.0.1.1.1.12.0.0.0.0.7.0.0.224.3.72.0



31	Active energy import (+A) rateB	3#1.0.1.8.8.255#2	0.26.0.1.1.1.12.0.0.0.0.0.0.224.3.72.0
32	Active MD (-)	4#1.0.2.6.0.255#2	0.8.2.6.19.1.8.0.0.0.0.0.0.224.3.38.0
33	Active MD (-) tariff1	4#1.0.2.6.1.255#2	0.8.2.6.19.1.8.0.0.0.0.1.0.0.224.3.38.0
34	Active MD (-) tariff2	4#1.0.2.6.2.255#2	0.8.2.6.19.1.8.0.0.0.0.2.0.0.224.3.38.0
35	Active MD (-) tariff3	4#1.0.2.6.3.255#2	0.8.2.6.19.1.8.0.0.0.0.3.0.0.224.3.38.0
36	Active MD (-) tariff4	4#1.0.2.6.4.255#2	0.8.2.6.19.1.8.0.0.0.0.4.0.0.224.3.38.0
37	Active MD ((QI+QIV)+[QII+QIII])	4#1.0.15.6.0.255#2	0.6.0.6.20.1.8.0.0.0.0.0.0.224.3.38.0
38	Active MD ((QI+QIV)+[QII+QIII]) tariff1	4#1.0.15.6.1.255#2	0.8.0.6.20.1.8.0.0.0.0.1.0.0.224.3.38.0
39	Active MD ((QI+QIV)+[QII+QIII]) tariff2	4#1.0.15.6.2.255#2	0.8.0.6.20.1.8.0.0.0.0.2.0.0.224.3.38.0
40	Active MD ((QI+QIV)+[QII+QIII]) tariff3	4#1.0.15.6.3.255#2	0.8.0.6.20.1.8.0.0.0.0.3.0.0.224.3.38.0
41	Active MD ((QI+QIV)+[QII+QIII]) tariff4	4#1.0.15.6.4.255#2	0.8.0.6.20.1.8.0.0.0.0.4.0.0.224.3.38.0
42	Active MD (+)	4#1.0.1.6.0.255#2	0.8.0.6.1.1.8.0.0.0.0.0.0.224.3.38.0
43	Active MD (+) tariff1	4#1.0.1.6.1.255#2	0.8.0.6.1.1.8.0.0.0.0.1.0.0.224.3.38.0
44	Active MD (+) tariff2	4#1.0.1.6.2.255#2	0.8.0.6.1.1.8.0.0.0.0.2.0.0.224.3.38.0
45	Active MD (+) tariff3	4#1.0.1.6.3.255#2	0.8.0.6.1.1.8.0.0.0.0.3.0.0.224.3.38.0
46	Active MD (+) tariff4	4#1.0.1.6.4.255#2	0.8.0.6.1.1.8.0.0.0.0.4.0.0.224.3.38.0
47	Tariff 5 Active MD(+)	4#1.0.1.6.5.255#2	0.8.0.6.1.1.8.0.0.0.0.5.0.0.224.3.38.0
48	Tariff 6 Active MD(+)	4#1.0.1.6.6.255#2	0.8.0.6.1.1.8.0.0.0.0.6.0.0.224.3.38.0
49	Tariff 7 Active MD(+)	4#1.0.1.6.7.255#2	0.8.0.6.1.1.8.0.0.0.0.7.0.0.224.0.1.0
50	Tariff 8 Active MD(+)	4#1.0.1.6.8.255#2	0.8.0.6.1.1.8.0.0.0.0.8.0.0.224.3.38.0
51	Angle of U(L1) - U(L2)	3#1.0.81.7.10.255#2	0.0.0.1.0.1.55.0.0.0.0.0.0.224.0.1.0
52	Angle of U(L1) - U(L3)	3#1.0.81.7.20.255#2	0.0.0.1.0.1.55.0.0.0.0.1.0.0.224.0.1.0
53	Apparent power+ (QI+QIV) Phase A	3#1.0.29.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.128.3.61.0
54	Apparent power+ (QI+QIV) Phase B	3#1.0.49.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.64.3.61.0
55	Apparent power+ (QI+QIV) Phase C	3#1.0.69.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.32.3.61.0
56	B phase Current	3#1.0.51.7.0.255#2	0.0.0.12.0.1.4.0.0.0.0.0.0.64.0.5.0
57	B phase Power Factor	3#1.0.53.7.0.255#2	0.0.0.12.19.1.37.0.0.0.0.0.0.224.3.63.0
58	B phase Voltage	3#1.0.52.7.0.255#2	0.0.0.12.0.1.54.0.0.0.0.0.0.64.0.29.0
59	C phase Current	3#1.0.71.7.0.255#2	0.0.0.12.0.1.4.0.0.0.0.0.0.32.0.5.0
60	C phase Power Factor	3#1.0.73.7.0.255#2	0.0.0.12.0.1.38.0.0.0.0.0.0.32.0.65.0
61	C phase Voltage	3#1.0.72.7.0.255#2	0.0.0.12.0.1.54.0.0.0.0.0.0.32.0.29.0
62	Current, neutral	3#1.0.91.7.0.255#2	0.0.0.1.0.1.4.0.0.0.0.0.0.224.0.5.0
63	Daily Freezing For Energy	7#0.0.98.2.0.255#2	11.26.0.1.0.1.12.0.0.0.0.0.0.224.3.72.0
64	Daily Freezing For Total Energy	7#0.0.98.5.128.255#2	11.0.0.1.0.1.12.0.0.0.0.0.0.224.3.72.0
65	Daily Freezing Prepaid Information	7#0.0.99.2.0.255#2	11.26.0.1.0.1.12.0.0.0.0.1.0.0.224.3.72.0
66	Daily Frozen Forward Active Energy Block	7#0.0.98.1.128.255#2	11.26.0.1.0.1.12.0.0.0.0.2.0.0.224.3.72.0
67	Instantaneous active export power (-A)	3#1.0.2.7.0.255#2	0.0.0.12.19.1.37.0.0.0.0.0.0.224.3.38.0

66	Instantaneous active import power (+A)	3#1.0.1.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.224.3.38.0
69	Instantaneous active import power (+A) L1	3#1.0.21.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.128.3.38.0
70	Instantaneous active import power (+A) L2	3#1.0.41.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.64.3.38.0
71	Instantaneous active import power (+A) L3	3#1.0.61.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.32.3.38.0
72	Instantaneous net frequency	3#1.0.14.7.0.255#2	0.0.0.12.0.1.15.0.0.0.0.0.0.224.0.33.0
73	Instantaneous Power factor (+A/+VA)	3#1.0.13.7.0.255#2	0.0.0.12.0.1.38.0.0.0.0.0.0.0.65.0
74	Instantaneous reactive export power (-R)	3#1.0.4.7.0.255#2	0.0.0.12.19.1.37.0.0.0.0.0.0.224.3.63.0
75	Instantaneous reactive import power (+R)	3#1.0.3.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.224.3.63.0
76	Meter Log Off Return Token	1.0.129.129.11.255	0.0.0.12.0.0.0.0.0.0.128.0.211.0
77	Monthly Freezing For Active MD Import Register Package	7#0.0.98.7.128.255#2	13.0.0.1.0.1.8.0.0.0.0.0.0.224.3.72.0
78	Monthly Freezing For Energy	7#0.0.98.1.0.255#2	13.0.0.1.0.1.12.0.0.0.0.1.0.0.224.3.72.0
79	Monthly Freezing For Total Energy	7#0.0.98.6.128.255#2	13.0.0.1.0.1.12.0.0.0.0.5.0.0.224.3.72.0
80	Monthly Freezing Prepaid Information	7#0.0.99.1.0.255#2	13.0.0.1.0.1.12.0.0.0.0.2.0.0.224.3.72.0
81	Monthly Frozen Forward Active Energy Block	7#0.0.98.3.128.255#2	13.0.0.1.0.1.12.0.0.0.0.3.0.0.224.3.72.0
82	Monthly Frozen Special Block	7#0.0.98.9.0.255#2	13.0.0.1.0.1.12.0.0.0.0.4.0.0.224.0.72.0
83	Reactive energy export (-R)	3#1.0.4.8.0.255#2	0.26.0.1.13.1.12.0.0.0.0.0.0.224.3.73.0
84	Reactive energy export (-R) rate1	3#1.0.4.8.1.255#2	0.26.0.1.13.1.12.0.0.0.0.1.0.0.224.3.73.0
85	Reactive energy export (-R) rate2	3#1.0.4.8.2.255#2	0.26.0.1.13.1.12.0.0.0.0.2.0.0.224.3.73.0
86	Reactive energy export (-R) rate3	3#1.0.4.8.3.255#2	0.26.0.1.13.1.12.0.0.0.0.3.0.0.224.3.73.0
87	Reactive energy export (-R) rate4	3#1.0.4.8.4.255#2	0.26.0.1.13.1.12.0.0.0.0.4.0.0.224.3.73.0
88	Reactive energy export (-R) rate5	3#1.0.4.8.5.255#2	0.26.0.1.13.1.12.0.0.0.0.5.0.0.224.3.73.0
89	Reactive energy export (-R) rate6	3#1.0.4.8.6.255#2	0.26.0.1.13.1.12.0.0.0.0.6.0.0.224.3.73.0
90	Reactive energy export (-R) rate7	3#1.0.4.8.7.255#2	0.26.0.1.13.1.12.0.0.0.0.7.0.0.224.3.73.0
91	Reactive energy export (-R) rate8	3#1.0.4.8.8.255#2	0.26.0.1.13.1.12.0.0.0.0.8.0.0.224.3.73.0
92	Reactive energy import (+R)	3#1.0.3.8.0.255#2	0.26.0.1.5.1.12.0.0.0.0.0.0.224.3.73.0
93	Reactive energy import (+R) rate1	3#1.0.3.8.1.255#2	0.26.0.1.1.1.12.0.0.0.0.1.0.0.224.3.73.0
94	Reactive energy import (+R) rate2	3#1.0.3.8.2.255#2	0.26.0.1.1.1.12.0.0.0.0.2.0.0.224.3.73.0
95	Reactive energy import (+R) rate3	3#1.0.3.8.3.255#2	0.26.0.1.1.1.12.0.0.0.0.3.0.0.224.3.73.0
96	Reactive energy import (+R) rate4	3#1.0.3.8.4.255#2	0.26.0.1.1.1.12.0.0.0.0.4.0.0.224.3.73.0
97	Reactive energy import (+R) rate5	3#1.0.3.8.5.255#2	0.26.0.1.1.1.12.0.0.0.0.5.0.0.224.3.73.0
98	Reactive energy import (+R) rate6	3#1.0.3.8.6.255#2	0.26.0.1.1.1.12.0.0.0.0.6.0.0.224.3.73.0
99	Reactive energy import (+R) rate7	3#1.0.3.8.7.255#2	0.26.0.1.1.1.12.0.0.0.0.7.0.0.224.3.73.0
100	Reactive energy import (+R) rate8	3#1.0.3.8.8.255#2	0.26.0.1.1.1.12.0.0.0.0.8.0.0.224.3.73.0
101	Reactive MD (-)	4#1.0.4.8.0.255#2	0.8.0.6.19.1.8.0.0.0.0.0.0.224.3.63.0

102	Reactive MD (-)tariff1	4#1.0.4.6.1.255#2	0.8.0.6.19.1.8.0.0.0.0.1.0.0.224.3.63.0
103	Reactive MD (-)tariff2	4#1.0.4.6.2.255#2	0.8.0.6.19.1.8.0.0.0.0.2.0.0.224.3.63.0
104	Reactive MD (-)tariff3	4#1.0.4.6.3.255#2	0.8.0.6.19.1.8.0.0.0.0.3.0.0.224.3.63.0
105	Reactive MD (-)tariff4	4#1.0.4.6.4.255#2	0.8.0.6.19.1.8.0.0.0.0.4.0.0.224.3.63.0
106	Reactive MD (+)	4#1.0.3.6.0.255#2	0.8.0.6.1.1.8.0.0.0.0.0.0.0.224.3.63.0
107	Reactive MD (+) tariff1	4#1.0.3.6.1.255#2	0.8.0.6.1.1.8.0.0.0.0.1.0.0.224.3.63.0
108	Reactive MD (+) tariff2	4#1.0.3.6.2.255#2	0.8.0.6.1.1.8.0.0.0.0.2.0.0.224.3.63.0
109	Reactive MD (+) tariff3	4#1.0.3.6.3.255#2	0.8.0.6.1.1.8.0.0.0.0.3.0.0.224.3.63.0
110	Reactive MD (+) tariff4	4#1.0.3.6.4.255#2	0.8.0.6.1.1.8.0.0.0.0.4.0.0.224.3.63.0
111	Reactive power(+), Phase A	3#1.0.23.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.0.128.3.63.0
112	Reactive power(+), Phase B	3#1.0.43.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.0.64.3.63.0
113	Reactive power(+), Phase C	3#1.0.63.7.0.255#2	0.0.0.12.1.1.37.0.0.0.0.0.0.0.32.3.63.0
114	Relay Control Mode	70#0.0.96.3.10.255#4	0.0.0.12.0.0.0.0.0.0.0.5.0.211.0
115	Relay Control Status	70#0.0.96.3.10.255#3	0.0.0.12.0.0.0.0.0.0.0.4.0.211.0
116	Relay Output Status	70#0.0.96.3.10.255#2	0.0.0.12.0.0.0.0.0.0.0.3.0.211.0
117	Remaining balance	3#1.0.140.129.0.255#2	0.0.0.12.0.0.0.0.1.0.0.0.0.0.0
118	Tariff 1 Active billing energy+	3#1.0.1.9.1.255#2	13.0.0.1.1.1.12.0.0.0.0.1.0.0.224.3.72.0
119	Tariff 1 Active MD(-) occurring time	4#1.0.2.6.1.255#5	0.8.0.6.19.1.7.0.0.0.0.1.0.0.224.0.1.0
120	Tariff 1 Active MD(+) occurring time	4#1.0.1.6.1.255#5	0.8.0.6.1.1.7.0.0.0.0.1.0.0.224.0.1.0
121	Tariff 1 apparent energy-	3#1.0.10.8.1.255#2	0.0.0.1.19.1.12.0.0.0.0.1.0.0.224.3.71.0
122	Tariff 1 apparent energy+	3#1.0.9.8.1.255#2	0.0.0.1.1.1.12.0.0.0.0.1.0.0.224.3.71.0
123	Tariff 1 apparent MD(-)	4#1.0.10.6.1.255#2	0.8.0.6.19.1.8.0.0.0.0.1.0.0.224.0.61.0
124	Tariff 1 apparent MD(+) occurring time	4#1.0.10.6.1.255#5	0.8.0.6.19.1.7.0.0.0.0.1.0.0.224.0.1.0
125	Tariff 1 apparent MD(+)	4#1.0.9.6.1.255#2	0.8.0.6.1.1.8.0.0.0.0.1.0.0.224.0.61.0
126	Tariff 1 apparent MD(+) occurring time	4#1.0.9.6.1.255#5	0.8.0.6.1.1.7.0.0.0.0.1.0.0.224.0.1.0
127	Tariff 1 reactive billing energy+	3#1.0.3.9.1.255#2	13.0.0.1.1.1.12.0.0.0.0.1.0.0.224.3.73.0
128	Tariff 1 reactive MD(-) occurring time	4#1.0.4.6.1.255#5	0.8.0.6.19.1.7.0.0.0.0.1.0.0.224.0.1.0
129	Tariff 1 reactive MD(+) occurring time	4#1.0.3.6.1.255#5	0.8.0.6.1.1.7.0.0.0.0.1.0.0.224.0.61.0
130	Tariff 2 Active billing energy+	3#1.0.1.9.2.255#2	13.0.0.1.1.1.12.0.0.0.0.2.0.0.224.3.72.0
131	Tariff 2 Active MD(-) occurring time	4#1.0.2.6.2.255#5	0.8.0.6.19.1.7.0.0.0.0.2.0.0.224.0.1.0
132	Tariff 2 Active MD(+) occurring time	4#1.0.1.6.2.255#5	0.8.0.6.1.1.7.0.0.0.0.2.0.0.224.0.1.0
133	Tariff 2 apparent energy-	3#1.0.10.8.2.255#2	0.0.0.1.19.1.12.0.0.0.0.2.0.0.224.3.71.0
134	Tariff 2 apparent energy+	3#1.0.9.8.2.255#2	0.0.0.1.1.1.12.0.0.0.0.2.0.0.224.3.71.0
135	Tariff 2 apparent MD(-)	4#1.0.10.6.2.255#2	0.8.0.6.19.1.8.0.0.0.0.2.0.0.224.0.61.0
136	Tariff 2 apparent MD(-) occurring time	4#1.0.10.6.2.255#5	0.8.0.6.19.1.7.0.0.0.0.2.0.0.224.0.1.0
137	Tariff 2 apparent MD(+)	4#1.0.9.6.2.255#2	0.8.0.6.1.1.8.0.0.0.0.2.0.0.224.0.61.0
138	Tariff 2 apparent MD(+) occurring time	4#1.0.9.6.2.255#5	0.8.0.6.1.1.7.0.0.0.0.2.0.0.224.0.1.0
139	Tariff 2 reactive billing energy+	3#1.0.3.9.2.255#2	13.0.0.1.1.1.12.0.0.0.0.2.0.0.224.3.73.0
140	Tariff 2 reactive MD(-) occurring time	4#1.0.4.6.2.255#5	0.8.0.6.19.1.7.0.0.0.0.2.0.0.224.0.1.0
141	Tariff 2 reactive MD(+) occurring time	4#1.0.3.6.2.255#5	0.8.0.6.1.1.7.0.0.0.0.2.0.0.224.0.61.0
142	Tariff 3 Active billing energy+	3#1.0.1.9.3.255#2	13.0.0.1.1.1.12.0.0.0.0.3.0.0.224.3.72.0
143	Tariff 3 Active MD(-) occurring time	4#1.0.2.6.3.255#5	0.8.0.6.19.1.7.0.0.0.0.3.0.0.224.0.1.0
144	Tariff 3 Active MD(+) occurring time	4#1.0.1.6.3.255#5	0.8.0.6.1.1.7.0.0.0.0.3.0.0.224.0.1.0
145	Tariff 3 apparent energy-	3#1.0.10.8.3.255#2	0.0.0.1.19.1.12.0.0.0.0.3.0.0.224.3.71.0

146	Tariff 3 apparent energy+	3#1.0.9.8.3.255#2	0.0.0.1.1.1.12.0.0.0.0.3.0.0.224.3.71.0
147	Tariff 3 apparent MD(-)	4#1.0.10.8.3.255#2	0.8.0.6.19.1.8.0.0.0.0.3.0.0.224.0.61.0
148	Tariff 3 apparent MD(-) occurring time	4#1.0.10.8.3.255#5	0.8.0.6.19.1.7.0.0.0.0.3.0.0.224.0.1.0
149	Tariff 3 apparent MD(+)	4#1.0.9.6.3.255#2	0.8.0.6.1.1.8.0.0.0.0.3.0.0.224.0.61.0
150	Tariff 3 apparent MD(+) occurring time	4#1.0.9.6.3.255#5	0.8.0.6.1.1.7.0.0.0.0.3.0.0.224.0.1.0
151	Tariff 3 reactive billing energy+	3#1.0.3.9.3.255#2	13.0.0.1.1.1.12.0.0.0.0.3.0.0.224.3.73.0
152	Tariff 3 reactive MD(-) occurring time	4#1.0.4.6.3.255#5	0.8.0.6.19.1.7.0.0.0.0.3.0.0.224.0.1.0
153	Tariff 3 reactive MD(+) occurring time	4#1.0.3.6.3.255#5	0.8.0.6.1.1.7.0.0.0.0.3.0.0.224.0.61.0
154	Tariff 4 Active billing energy+	3#1.0.1.9.4.255#2	13.0.0.1.1.1.12.0.0.0.0.4.0.0.224.3.72.0
155	Tariff 4 Active MD(-) occurring time	4#1.0.2.6.4.255#5	0.8.0.6.19.1.7.0.0.0.0.4.0.0.224.0.1.0
156	Tariff 4 Active MD(+) occurring time	4#1.0.1.6.4.255#5	0.8.0.6.1.1.7.0.0.0.0.4.0.0.224.0.1.0
157	Tariff 4 apparent energy-	3#1.0.10.8.4.255#2	0.0.0.1.19.1.12.0.0.0.0.4.0.0.224.3.71.0
158	Tariff 4 apparent energy+	3#1.0.9.8.4.255#2	0.0.0.1.1.1.12.0.0.0.0.4.0.0.224.3.71.0
159	Tariff 4 apparent MD(-)	4#1.0.10.6.4.255#2	0.8.0.6.19.1.8.0.0.0.0.4.0.0.224.0.61.0
160	Tariff 4 apparent MD(-) occurring time	4#1.0.10.6.4.255#5	0.8.0.6.19.1.7.0.0.0.0.4.0.0.224.0.1.0
161	Tariff 4 apparent MD(+)	4#1.0.9.6.4.255#2	0.8.0.6.1.1.8.0.0.0.0.4.0.0.224.0.61.0
162	Tariff 4 apparent MD(+) occurring time	4#1.0.9.6.4.255#5	0.8.0.6.1.1.7.0.0.0.0.4.0.0.224.0.1.0
163	Tariff 4 reactive billing energy+	3#1.0.3.9.4.255#2	13.0.0.1.1.1.12.0.0.0.0.4.0.0.224.3.73.0
164	Tariff 4 reactive MD(-) occurring time	4#1.0.4.6.4.255#5	0.8.0.6.19.1.7.0.0.0.0.4.0.0.224.0.1.0
165	Tariff 4 reactive MD(+) occurring time	4#1.0.3.6.4.255#5	0.8.0.6.1.1.7.0.0.0.0.4.0.0.224.0.61.0
166	Tariff 5 Active MD(+) occurring time	4#1.0.1.6.5.255#5	0.8.0.6.1.1.7.0.0.0.0.5.0.0.224.0.1.0
167	Tariff 6 Active MD(+) occurring time	4#1.0.1.6.6.255#5	0.8.0.6.1.1.7.0.0.0.0.6.0.0.224.0.1.0
168	Tariff 7 Active MD(+) occurring time	4#1.0.1.6.7.255#5	0.8.0.6.1.1.7.0.0.0.0.7.0.0.224.0.1.0
169	Tariff 8 Active MD(+) occurring time	4#1.0.1.6.8.255#5	0.8.0.6.1.1.7.0.0.0.0.8.0.0.224.0.1.0
170	Total Active billing energy+	3#1.0.1.9.0.255#2	0.26.0.1.0.1.12.0.0.0.0.0.0.0.224.3.72.0
171	Total Active MD(-) occurring time	4#1.0.2.6.0.255#5	0.8.0.6.19.1.7.0.0.0.0.0.0.0.224.0.1.0
172	Total Active MD(+) occurring time	4#1.0.1.6.0.255#5	0.8.0.6.1.1.7.0.0.0.0.0.0.0.224.0.1.0
173	Total apparent energy-	3#1.0.10.8.0.255#2	0.0.0.1.19.1.12.0.0.0.0.0.0.0.224.3.71.0
174	Total apparent energy+	3#1.0.9.8.0.255#2	0.0.0.1.1.1.12.0.0.0.0.0.0.0.224.3.71.0
175	Total apparent MD(-)	4#1.0.10.6.0.255#2	0.8.0.6.19.1.8.0.0.0.0.0.0.0.224.0.61.0
176	Total apparent MD(-) occurring time	4#1.0.10.6.0.255#5	0.8.0.6.19.1.7.0.0.0.0.0.0.0.224.0.1.0
177	Total apparent MD(+)	4#1.0.9.6.0.255#2	0.8.0.6.1.1.8.0.0.0.0.0.0.0.224.0.61.0
178	Total apparent MD(+) occurring time	4#1.0.9.6.0.255#5	0.8.0.6.1.1.7.0.0.0.0.0.0.0.224.0.1.0
179	Total average power factor	3#1.0.13.15.0.255#2	0.2.0.1.0.1.38.0.0.0.0.0.0.0.224.0.65.0
180	Total average power factor, tariff 1	3#1.0.13.15.1.255#2	0.2.0.1.0.1.38.0.0.0.0.1.0.0.224.0.65.0
181	Total average power factor, tariff 2	3#1.0.13.15.2.255#2	0.2.0.1.0.1.38.0.0.0.0.2.0.0.224.0.65.0
182	Total average power factor, tariff 3	3#1.0.13.15.3.255#2	0.2.0.1.0.1.38.0.0.0.0.3.0.0.224.0.65.0
183	Total average power factor, tariff 4	3#1.0.13.15.4.255#2	0.2.0.1.0.1.38.0.0.0.0.4.0.0.224.0.65.0
184	Total reactive billing energy+	3#1.0.3.9.0.255#2	13.0.0.1.1.1.12.0.0.0.0.0.0.0.224.3.73.0
185	Total reactive MD(-) occurring time	4#1.0.4.6.0.255#5	0.8.0.6.19.1.7.0.0.0.0.0.0.0.224.0.1.0
186	Total reactive MD(+) occurring time	4#1.0.3.6.0.255#5	0.8.0.6.1.1.7.0.0.0.0.0.0.0.224.0.61.0
187	Vector sum of current in all Phases	3#1.0.128.7.0.255#2	0.0.0.1.0.1.4.0.0.0.0.0.0.0.224.0.5.0

7.35 GTP of Optical Communication Cable

(To be filled up and signed by the Tenderer)

Sl No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1.	Brand		Any International reputed brand operating in the recognized continental markets for decades.	
2.	Model		To be mentioned by the supplier/tenderer.	
3.	Country of Origin		To be mentioned by the supplier/tenderer.	
4.	Mode		Multimode and single mode as required	
5.	Length		5M	
6.	Compatibility		Compatible with selected storage system and HBAs	
7.	Warranty Period	Calendar Year	Full 03(Three) years replacement and instant service warranty. Replacement time maximum 07(Seven) days.	

7.36 GTP of Router (8-port switch integrated) for UVS & UCC

(To be filled up and signed by the Tenderer)

Sl No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand		Any International Reputed Brand. To be mentioned by Tenderer	
2	Model		To be mentioned by Tenderer	
3	Country of origin		USA, EU, Japan	
4	Country of Assemble		To be mentioned by Tenderer	
5	Interfaces		WAN : 1 x Ethernet 1000Base-T - RJ-45 LAN : 8 x Ethernet 1000Base-T - RJ-45 Management : 1 x Console - RJ-45, Peripheral : Min. 1 x USB	
6	Capacity		IPSec VPN tunnels : 50	
7	Remote Management Protocol		HTTPS, Telnet, SNMP 3, HTTP, SSH	
	Encryption Algorithm		256-bit AES, 192-bit AES, PKI, PEAP, 128-bit AES, TKIP, DES, Triple DES, SSL, LEAP	
	Features		DHCP server, DNS proxy, Traffic shaping, Bidirectional Forwarding Detection (BFD), IPv6 support, Content filtering, VLAN support, URL filtering, Intrusion Prevention System (IPS), High Availability, Stateful Failover, Dynamic Multipoint VPN (DMVPN), Weighted Fair Queuing (WFQ), Class-Based Weighted Fair Queuing (CBWFQ), Link Fragmentation and Interleaving (LFI), DiffServ support, IGMP snooping, Stateful Packet Inspection (SPI), NAT support, WAN failover, VPN support, Virtual Route Forwarding-Lite (VRF-Lite), Access Control List (ACL) support, Spanning Tree Protocol (STP) support, Quality of Service (QoS), Load balancing, Auto-uplink (auto MDI/MDI-X), MAC address filtering	
	RAM		512 MB (installed) / 768 MB (max)	
8	Flash Memory		256 MB (installed) / 256 MB (max)	



SI No	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
9	Connectivity Technology		Wired	
10	Network / Transport Protocol		L2TPv3, DHCPv6, IPSec, FTP, L2TP, DDNS	
11	Routing Protocol		EIGRP, BGP, RIP-1, RIP-2, VRRP, NHRP, GRE, HSRP, PIM-SM, OSPF	
12	Power Supply / Device		Power adapter External	
13	Voltage Required		AC 120/230 V	
14	Data Link Protocol		Fast Ethernet, Ethernet	
15	Enclosure Type		Desktop	
16	Warranty		Full 03 (Three) years replacement and instant service warranty from the date of commissioning.	

7.37 GTP of Work Station

(To be filled up and signed by the Tenderer)

SI No.	Name of Item	Unit	Required Specification	Full Technical Specification & Standard (to be mentioned)
1	Brand		Any International reputed brand operating in the recognized continental markets for decades.	
	Model		To be mentioned by the supplier/tenderer.	
2	Country Of Origin		North America / EU / Japan	
3	Country of Manufacture		To be mentioned by the supplier/tenderer.	
4	Processor		Intel core i7-12C-13 th generation or higher	
5	Clock Speed	GHz	To be mentioned	
5	Cache Memory	MB	Minimum 25 MB	
6	Chipset		Intel 600 series or higher	
7	Bus Speed	Mhz	Minimum 3200 MHz	
8	RAM	GB	Minimum 16 GB	
9	HDD	GB	2000 GB (1024 RPM)	
10	Mouse		Same Brand USB Scroll Optical (V-Track) Mouse	
11	Keyboard		Same brand USB Multimedia Keyboard	
12	Graphics		Integrated UHD or Higher	
13	Monitor	inch	Same brand LED 18.5" Monitor	
14	DVD ROM Drive		DVD RW Drive	
15	Hard disk controller	gbps	Serial ATA 3.0 Gbps or Latest	
16	Audio		Integrated sound card	
17	I/O Ports		8 USB 3.0 (2 front, 6 rear, 1 internal), Serial, Parallel, RJ-45 Etc., + Display port 1.2, Mic in & Headphone out (front)	
18	NIC		Integrated/Built in Gigabit LAN or higher	
	Wireless NIC		Integrated/Built in wireless Wi-Fi + Bluetooth V4.0 or higher	
19	Slots		At least 3, 2 PCI, 1 PCIe x1	



20	OS Support		Any version of Windows, Linux, etc.	
21	OS		License with recovery kit	
22	Software		Licensed Anti-Virus Software	
23	Brochure and CDs		All brochure, instructions, manual and driver CDs to be supplied with the product	
24	Connection Cables		All necessary power and data connection cables to be supplied along with the product, power cables (3 pin flat)	
25	Warranty Period	Calendar Year	Full 03(Three) years replacement and instant service warranty. Replacement time maximum 07(Seven) days.	

7.38 GTP of Laptop

(To be filled up and signed by the Tenderer)

Sl No.	Name of Item	Unit	Required Specification	Full Technical Specification & Standard (to be mentioned)
1	Brand		Any International reputed brand operating in the recognized continental markets for decades.	
2	Model		To be Mentioned by the supplier/tenderer.	
3	Country of Origin		North America / EU/ Japan	
4	Country of Manufacturer		To be Mentioned by the supplier/tenderer.	
5	Processor	GHz	Intel core i7-10C-13th generation or higher	
	Clock speed		To be mentioned	
	Cache Memory	MB	Minimum 12 MB	
6	RAM	GB, MHz	Minimum 16 GB 3200 MHz DDR4 or higher	
7	Hard Disk Drive	GB, TB	Minimum 512GB M.2 PCIe NVMe internal SSD with 2 TB External portable HDD	
9	Combo Drive		To be mentioned (if any)	
10	Graphics		Integrated UHD or higher	
11	Monitor	inch	To be mentioned	
	Display Technology		FHD, LED Display	
12	Port & Connector		Min 2 USB 3.0 port, 1 X RJ 45 port for LAN, 1 X RJ, External Micro phone, Head Phone + Media Card Reader, Audio Jacks	
	NIC		Integrated/Built in Gigabit LAN or higher	
13	Keyboard		Integrated standard Keyboard	
14	Pointing Device		Both Touch Pad and one additional USB mouse	
15	Webcam		HD Webcam	
16	Speaker		Integrated Internal Speaker	
17	Wireless Technology		Wireless LAN and Bluetooth	
18	Battery		6 cell lithium ion battery	
19	Battery Backup		4 hours or higher with A/C Adapter	
20	Weight & Colour	kg	To be mentioned	
21	Operating System		Windows 10 with Original License and recover CD	
22	Carrying Case		Original Standard Carrying Case: Same brand.	
23	Software		License Anti-Virus Software (Kaspersky/Norton/Semantic)	
24	Bangla software		Licensed Software with CD (Preferably Lekhori)	
25	Certification		FCC class B, ISO 9001: 2000	

Sl No.	Name of Item	Unit	Required Specification	Full Technical Specification & Standard (to be mentioned)
26	Warranty Period	Calendar Year	Full 03(Three) years replacement and instant service warranty. Replacement time maximum 07(Seven) days.	

7.39 GTP of Network Laser Duplex Printer

(To be filled up and signed by the Tenderer)

Sl No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand		Any International reputed brand operating in the recognized continental markets for decades.	
2	Model		To be mentioned by the supplier/tenderer.	
3	Country of Origin		North America / EU / Japan	
4	Country of Manufacturer		To be mentioned by the supplier/tenderer.	
5	Toner type		Pre-installed original laser jet toner cartridge, No starter toner.	
6	Fuser Unit		Instant on fuser technology with ceramic heating elements.	
7	Resolution	dpi	1200 x 1200 dpi (Minimum)	
8	Processor	MHz	Minimum 1200 MHz	
9	Printing Speed	ppm	62-Page-per Minute (Letter), 35 PPM (A4) (min.)	
10	First Page Print Out	second	As fast as 8 seconds	
11	Duplex Printing		Automatic	
12	Mobile Printing		Yes	
13	Memory	MB	256 MB (Minimum) Expandable to 1 GB	
14	Memory Slots		2 DIMM Slots Minimum	
15	Interface		USB, LAN, Wi-Fi	
16	Languages		PCL 6, PCL 5e, POST Script 3 emulation	
17	Duty Cycle	page	2, 75,000 Pages per Month	
18	Trays		100 sheet multi-purpose input tray, 2 x 500 sheet input tray 50-sheet face up output tray, 250-sheet face down output tray	
19	Media Sizes		Letter, Legal, A4, A5, B5 and custom sizes	
20	Media Types		Paper (Plain, Preprinted, Letterhead, Bond, Color, Recycled, Rough), Transparencies, Labels	
21	Power Requirements		220-240 V / 50Hz +	
22	Client Operating System Supported		Any version of Windows, Linux etc.,	
23	Network Operating System Supported		Via HP Jetdirect print server: Me, NT 4.0, 2000, XP, XP 64-bit, Server 2003, Red Hat Linux 6 and later.	
24	Network Protocols Supported		TCP/IP, UDP, HTTP etc.	
25	Weight and color		To be mentioned	
26	Warranty Period	Calendar Year	Full 03(Three) years replacement and instant service warranty. Replacement time maximum 07 (Seven) days.	





7.40 GTP of Air-conditioner (AC)

(To be filled up and signed by the Tenderer)

Sl No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand		Any International reputed brand operating in the recognized continental markets for decades like General, Hitachi, LG, Sharp etc.	
2	Model		To be mentioned by the supplier/tenderer.	
3	Country of Origin		To be mentioned by the supplier	
4	Country of Manufacturer		To be mentioned by the supplier/tenderer.	
5	Type		Split	
6	Capacity	Tonnage	2	
7	Compressor Type		To be mentioned by the supplier/tenderer.	
8	Cooling Capacity	Watts	To be mentioned by the supplier/tenderer.	
9	Noise Level Indoor (High/medium/Low)	Db	To be mentioned by the supplier/tenderer.	
10	Moisture Removal	(Ltrs/Hr)	To be mentioned by the supplier/tenderer.	
11	Star Rating		3/4/5	
12	Energy Efficiency Rating (EER)	W/W	>= 3.10	
13	Power Input	Watts	To be mentioned by the supplier/tenderer.	
14	Running Current	Amps	To be mentioned by the supplier/tenderer.	
15	Voltage/ Frequency	Volt/ Hz	230V/ 50/60 Hz±0.5%	
16	Timer		Yes/ No (Shall be mentioned)	
17	Sleep		Yes/ No (Shall be mentioned)	
18	Indicator		Yes/ No (Shall be mentioned)	
19	Auto Restart		Yes/ No (Shall be mentioned)	
20	Remote Control Type		To be mentioned by the supplier/tenderer.	
21	Air Direction (Up/Down):		Yes/ No (Shall be mentioned)	
22	Anti-Bacteria Filter		Yes/ No (Shall be mentioned)	
23	Dimensions (Indoor unit/ Outdoor unit)	mm	To be mentioned by the supplier/tenderer.	
24	Weight (Indoor unit/ Outdoor unit)	Kg	To be mentioned by the supplier/tenderer.	
25	Warranty Period	Calendar Year	Full 03(Three) years replacement and instant service warranty. Replacement time maximum 03 (Three) days.	

7.41 GTP of GPRS/EDGE/EVDO/CDMA Modem

(To be filled up and signed by the Tenderer)

Sl No.	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand		Any International reputed brand operating in the recognized continental markets for decades.	
2	Model		To be mentioned by the supplier/tenderer.	
3	Country of Origin		To be mentioned by supplier/tenderer.	

4	Country of Manufacture		To be mentioned by the supplier/tenderer.	
5	Band		UMTS 850/1900/2100/900 MHz. EGPRS/GSM 850/900/1800/1900 MHz	
6	SIM		Internal SIM interface, Push-push SIM holder.	
7	Data		EDGE Circuit Switched data.	
8	APN		Support for multiple APNs.	
9	Interface		Data interface: USB specification 2.0 compliant full-speed.	
10	Display		LED display, simple integration via plug & play.	
11	Power		USB bus-powered, requires no external power supply.	
12	Size		Highly compact, light and powerful.	
13	OS Support		Any version of windows.	
14	Upload/Download Speed	Mbps	50/150 Mbps	
15	SIM Support		Must support EDGE Network and SIM.	
16	Warranty Period	Calendar Year	Full 03(three) years replacement and instant service warranty. Replacement time maximum 07(Seven) days.	

7.42 GTP of Slip Printer

(To be filled up and signed by the Tenderer)

SINo	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
01	Brand		Any international reputed brand operating in the recognized continental markets for decades.	
02	Model		To be mentioned by supplier/tenderer.	
03	Country of Origin		To be mentioned by supplier/tenderer.	
04	Country of Manufacturer		To be mentioned by supplier/tenderer.	
05	Print Method		Thermal line printing	
06	Print Speed		To be mentioned	
07	Data Buffer	KB	4KB.	
08	Inked Ribbon		To be mentioned by supplier/tenderer.	
09	Interface		USB interface (Mandatory) Serial, Parallel, LAN, Wi-fi etc. (Optional)	
10	Power Supply (Adapter)	Volt	AC 120 ~240V DC 24V, 1.5A.	

SlNo	Name of Item	Unit	Required specifications	Full Technical Specification & Standard (to be mentioned)
11	Auto Cutter		Yes.	
12	Paper		Roll Paper.	
13	Driver/Manual	nos.	All Manual, Driver CD/DVD, Power Cable (3 Pin Flat), USB Cable have to be provided.	
14	OS Supported		Any version of Windows, Linux etc.	
	Warranty Period	Calendar Year	Full 03(three) years replacement and instant service warranty. Replacement time maximum 07(Seven) days.	

7.43 GTP for Hand Held Units

(To be filled up and signed by the Tenderer)

Item No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
01.	Manufacturer Name	To be mentioned	
02.	Manufacturer Address	To be mentioned	
03.	Operating System	Android (Updated version)	
04.	Model no.	To be mentioned	
05.	Country of Origin	To be mentioned	
06.	Type	To be mentioned	
07.	Transaction capacity	500	
08.	Rechargeable Battery	Minimum 8 hours	
09.	Communications Interface	IEC 1107	
10	Feature	Energy: Current values of energy. Billing Data: Monthly and daily frozen energy and credit data. Instantaneous Values: Instantaneous values of meters, such as voltage, current, frequency, active power, and so on. Event: There are three types of events in total. Select each type to read the relevant events. Prepayment: prepay information. Parameter: meter basic parameters that can only be read out. Billing parameters. Basic	

		parameters, configuration, Power parameters, Token, RTC	Display holiday, GPRS watch,	
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7.44 GTP of DCU (Data Concentrator Unit) for prepaid meters

(To be filled up and signed by the Tenderer)

SI No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any International Reputed Brand: To be mentioned by Tenderer	
2	Model	To be mentioned by Tenderer	
3	Country of origin	To be mentioned by Tenderer	
4	Country of Assemble	To be mentioned by Tenderer	
5	Metering Accuracy	Active energy: Class 1 Reactive energy: Class 2	
6	Data collection	Provide collection of real-time data, historical data, event data, and status data. The data collection process complies with IEC 62056 (IDIS & DLMS/COSEM). DC shall have provision of energy measurement of transformer and conduct scheduled meter reading function.	
7	Data storage	Provide cyclic storage for minor and major events and historical data, including the load curve, hour frozen data, daily frozen data, and monthly frozen data.	
8	Network communication	Provide connect to downstream smart meters through BROADBAND PLC/ GPRS, RS485. For BROADBAND PLC/GPRS Communication, provide connect to upstream front-end processors through 4G (which will also support all other available bands in Bangladesh) Network Communication module (BPLC and GPRS) shall be plug and play type.	
9	Maximum Power	≤30W	
10	Power Supply	AC:90-290V power supply, support three-phase four-wire and single-phase power supply	
11	Dimensions (HxWxD)	To be mentioned: GPRS: BPLC:	
12	Operating Temperature	-25°C to +65°C	
13	Ingress Protection Level	IP54 or better	

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Sl No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
14	Security	Support AES256 and ECC192 Encryption Support SSL Protocol	
15	Industrial Environment	Provide IP54 or better protection level Work at the temperature of -40°C to +60°C	
16	Remote upgrade	Support upgrade software package stored locally, and dispatch the package to all connected meters by multicast. Support OTA (Over the Air) technology	
17	RAM	128 MB/256 MB	
18	Feeding phase monitor	The concentrator should be able to identify the feeding phase of each meter (for single-phase meters) via PLC communication. The concentrator should be able to detect changing of feeding phase of meter (for single-phase meters) via PLC communication.	
19	Last gasp	When power off, the concentrator will send the alarm to Master Station.	
20	Transformer Monitoring and Protection	Overload detection and alarm. Low power factor detection and alarm.	
21	Type of External CT	Split Core Clamp type CT Minimum accuracy class: 0.5 Current Measurement Capacity: Min. 400 A Secondary Current output: Compatible with DCU	
22	Other features	-Plug and play communication module -Easy and friendly UI -Automatically detect meter -Remote and local firmware upgrade -On demand read/write -Remote configuration -Scheduled Reading -Concentrator Firmware upgrade -Meter firmware upgrade -Alarm -Meter Data Management -Network Clock Management -Web service Management	