

Annexure - A

Following are main data received from meter:

Data	Details	Reference table
meter	Meter Nameplate information	Table-1
modem	Modem Details	Table-2
inst	Meter Instantaneous data	Table-3
load	Block Load Survey	Table-4
daily	Daily Load Profile Parameters	Table-5
bill	Billing Parameter	Table-6
pp	Programmable Parameters	Table-7
event	Event parameter	Table-8
	Capture parameter	Table-9

Table-1 : Data related to Meter

Parameter Details	Parameter Name to be added as following in string	Sample String
Meter serial number	serialNo	{"data": "meter", "serialNo": "TEST123", "manufacturer": "ABC", "firmware": "DLM2506", "type": "1", "ctratio": "1", "ptratio": "100", "year": "2012", "logName": "ABCxxxx", }
Manufacturer name	manufacturer	
Firmware version for meter	firmware	
Meter type (3P-3W/3P-4W) as per dlms standard	type	
Internal CT ratio	ctratio	
Internal PT ratio	ptratio	
Meter year of manufacture	year	
	logName	

Table-2 :Modem

Parameter Details	Parameter Name to be added as following in string	Sample String
Modem Manufacturer	Manufacturer	{"data": "modem", "manufacturer": "ABC", "id": "12345", "firmware": "DLM2506", "rssi": "11.1", "manuYear ": "2020", "imei ": "1xxx00", " imei2": "2xxxx012", "isp": "ABC", " isp2 ": "ABC", }
Modem Sr no	Id	
Modem firmware	Firmware	
Signal Strength rssi	rssi	
Modem Manufacture Year	manuYear	
IMEI NO 1	imei	
IMEI NO 2	imei2	
ISP 1	isp	
ISP 2	isp2	

Table-3 : Meter Instantaneous data

Parameter Details	Parameter Name to be added as following in string	Sample String
Real time clock, date and time	time	{"servertime": "2019-12-01 19:33:31","serialNo": "12345","data": "inst", "time ": "2019-12-01 19:33:31," il1": "1.203"," il2": "1.250", so on.....up to all parameter from table- 3}
Current, IR	il1	
Current, IY	il2	
Current, IB	il3	
Voltage, VRN	v11	
Voltage, VYN	v12	
Voltage, VBN	v13	
Signed power factor, R-phase	pf1	
Signed power factor, Y-phase	pf2	
Signed power factor, B-phase	pf3	
Three phase power factor, PF	Pf	
Frequency	F	
Apparent power, kVA	apa	
Signed active power, Kw (+ Forward; – Reverse)	act	
Signed reactive power, kvar (+ Lag; – Lead)	react	
Cumulative energy, kWh	kwh	
Cumulative energy, kWh (Export)	ekwh	
Cumulative energy, kvarh (Lag) Q1	q1	
Cumulative energy, kvarh (Lead) Q2	q2	
Cumulative energy, kvarh (Lag) Q3	q3	
Cumulative energy, kvarh (Lead) Q4	q4	
Cumulative energy, kVAh	kvah	
Cumulative energy, kVAh (Export)	ekvah	
Number of power-failures	pfcnt	
Cumulative power-failure duration	pfdur	
Cumulative tamper count	tmpcnt	
Cumulative billing count	bicnt	
Cumulative programming count	prgcnt	
Billing date	billtime	
Maximum demand, kW	mdkw	
Maximum demand, kVA	mdkva	
Net Kwh	nkwh	
Net Kvah	nkvah	

Table-4 :Block Load Survey

Parameter Details	Parameter Name to be added as following in string	Sample String
Real time clock — date and time	time	{"servertime": "2019-12-01 19:33:31","serialNo": "12345","data": "load", "time ": "2019-12-01 19:33:31," il1": "1.203"," il2": "1.250", so on.....up to all parameter from table- 4}
Current, IR	il1	
Current, IY	il2	
Current, IB	il3	
Voltage, VRN	v11	
Voltage, VYN	v12	
Voltage, VBN	v13	
Block energy, in kWh	kwh	
Energy — active export	ekwh	
Energy — net active energy	nkwh	
Energy, kvarH Quadrant I	q1	
Energy, kvarh, Quadrant II	q2	
Energy, kvarh, Quadrant III	q3	

Energy, kvarh Quadrant IV	q4	
Block energy, in kVAh	kvah	
Block energy, in kVAh EXPORT	ekvah	
Frequency	F	

Table-5 :Daily Load Profile Parameters

Parameter Details	Parameter Name to be added as following in string	Sample String
Real time clock, date and time	Time	{"servertime": "2019-12-01 19:33:31","serialNo": "12345","data": "daily", " time ": "2019-12-01 19:33:31," kwh": "1203","ekwh": "1250", so on.....up to all parameter from table- 5}
Cumulative energy, kWh (Import)	Kwh	
Cumulative energy, kWh (Export)	Ekwh	
Cumulative energy, kVAh while kW Import	Kvah	
Cumulative energy, kVAh while kW Export	Ekvah	
Reactive energy high (V > 103 per cent)	Hq	
Reactive energy low (V < 97 per cent)	Lq	
Cumulative energy, kvarh, Quadrant I	q1	
Cumulative energy, kvarh, Quadrant II	q2	
Cumulative energy, kvarh, Quadrant III	q3	
Cumulative energy, kvarh, Quadrant IV	q4	

Table-6: Billing Parameters

Parameter Details	Parameter Name to be added as following in string	String
Billing date	Time	{"servertime": "2019-12-01 19:33:31","serialNo": "12345","data": "bill", " time ": "2019-12-01 19:33:31," pf": "1203","pfex": "1250","kwh": "1250", so on.....up to all parameter from table- 6}
System power factor for billing period	Pf	
System power factor for billing period export	Pfex	
Cumulative energy, kWh	Kwh	
Cumulative energy, kWh for TZ1	kwhtz1	
Cumulative energy, kWh for TZ2	kwhtz2	
Cumulative energy, kWh for TZ3	kwhtz3	
Cumulative energy, kWh for TZ4	kwhtz4	
Cumulative energy, kWh for TZ5	kwhtz5	
Cumulative energy, kWh for TZ6	kwhtz6	
Cumulative energy, kWh for TZ7	kwhtz7	
Cumulative energy, kWh for TZ8	kwhtz8	
Cumulative energy, kWh export	Ekwh	
Cumulative energy, kWh for TZ1 export	ekwhtz1	
Cumulative energy, kWh for TZ2 export	ekwhtz2	
Cumulative energy, kWh for TZ3 export	ekwhtz3	
Cumulative energy, kWh for TZ4 export	ekwhtz4	
Cumulative energy, kWh for TZ5 export	ekwhtz5	
Cumulative energy, kWh for TZ6 export	ekwhtz6	
Cumulative energy, kWh for TZ7 export	ekwhtz7	
Cumulative energy, kWh for TZ8 export	ekwhtz8	
Cumulative energy, kvarh (Lag) Q1	q1	
Cumulative energy, kvarh (Lead) Q2	q2	
Cumulative energy, kvarh (Lag) Q3	q3	
Cumulative energy, kvarh (Lead) Q4	q4	
Cumulative energy, kVAh	kvah	
Cumulative energy, kVAh for TZ1	kvahtz1	
Cumulative energy, kVAh for TZ2	kvahtz2	
Cumulative energy, kVAh for TZ3	kvahtz3	
Cumulative energy, kVAh for TZ4	kvahtz4	

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Cumulative energy, kVAh for TZ5	kvahzt5
Cumulative energy, kVAh for TZ6	kvahzt6
Cumulative energy, kVAh for TZ7	kvahzt7
Cumulative energy, kVAh for TZ8	kvahzt8
Cumulative energy, kVAh (Export)	ekvah
Cumulative energy, kVAh for TZ1 export	ekvahzt1
Cumulative energy, kVAh for TZ2 export	ekvahzt2
Cumulative energy, kVAh for TZ3 export	ekvahzt3
Cumulative energy, kVAh for TZ4 export	ekvahzt4
Cumulative energy, kVAh for TZ5 export	ekvahzt5
Cumulative energy, kVAh for TZ6 export	ekvahzt6
Cumulative energy, kVAh for TZ7 export	ekvahzt7
Cumulative energy, kVAh for TZ8 export	ekvahzt8
MD, kW Import	mdKW
MD, kW Import DATE & TIME	mdKW time
MD, kw Import for TZ1	MdKW TZ1
MD, kW Import DATE & TIME	mdKW TZ1 time
MD, kw Import for TZ2	mdKW TZ2 time
MD, kW Import DATE & TIME	mdKW TZ2 time
MD, kw Import for TZ3	MdKW TZ3
MD, kW Import DATE & TIME	mdKW TZ3 time
MD, kw Import for TZ4	MdKW TZ4
MD, kW Import DATE & TIME	mdKW TZ4 time
MD, kw Import for TZ5	MdKW TZ5
MD, kW Import DATE & TIME	mdKW TZ5 time
MD, kw Import for TZ6	MdKW TZ6
MD, kW Import DATE & TIME	mdKW TZ6 time
MD, kw Import for TZ7	MdKW TZ7
MD, kW Import DATE & TIME	mdKW TZ7 time
MD, kw Import for TZ8	MdKW TZ8
MD, kW Import DATE & TIME	mdKW TZ8 time
MD, kW export	mdKWex
MD, kW Export DATE & TIME	mdKWex time
MD, kw Export for TZ1	mdKWex TZ1 time
MD, kW Export TZ1 DATE & TIME	mdKWex TZ1 time
MD, kw Export for TZ2	MdKWex TZ2
MD, kW Export TZ1 DATE & TIME	mdKWex TZ2 time
MD, kw Export for TZ3	MdKWex TZ3
MD, kW Export TZ1 DATE & TIME	mdKWex TZ3 time
MD, kw Export for TZ4	MdKWex TZ4
MD, kW Export TZ1 DATE & TIME	mdKWex TZ4 time
MD, kw Export for TZ5	MdKWex TZ5
MD, kW Export TZ1 DATE & TIME	mdKWex TZ5 time
MD, kw Export for TZ6	MdKWex TZ6
MD, kW Export TZ1 DATE & TIME	mdKWex TZ6 time
MD, kw Export for TZ7	MdKWex TZ7
MD, kW Export TZ1 DATE & TIME	mdKWex TZ7 time
MD, kw Export for TZ8	MdKWex TZ8
MD, kW Export TZ8 DATE & TIME	mdKWex TZ8 time
MD, kVA Import	mdKVA
MD, KVA Import DATE & TIME	mdKVA time
MD, kVA Import for TZ1	MdKVATZ1
MD, KVA Import TZ1 DATE & TIME	MdKVATZ1 time
MD, kVA Import for TZ2	MdKVATZ2
MD, KVA Import TZ2 DATE & TIME	MdKVATZ2 time
MD, kVA Import for TZ3	MdKVATZ3
MD, KVA Import TZ3 DATE & TIME	MdKVATZ3 time
MD, kVA Import for TZ4	MdKVATZ4
MD, KVA Import TZ4 DATE & TIME	MdKVATZ4 time

Interfacing with MDMSSystem: UGVCL/GUVNL

MD, kVA Import for TZ5	MdKVATZ5
MD, KVA Import TZ5 DATE & TIME	MdKVATZ5_time
MD, kVA Import for TZ6	MdKVATZ6
MD, KVA Import TZ6 DATE & TIME	MdKVATZ6_time
MD, kVA Import for TZ7	MdKVATZ7
MD, KVA Import TZ7 DATE & TIME	MdKVATZ7_time
MD, kVA Import for TZ8	MdKVATZ8
MD, KVA Import TZ8 DATE & TIME	MdKVATZ8_time
MD, kVA Export	mdKVAex
MD, KVA Export DATE & TIME	mdKVAex_time
MD, kVA Export for TZ1	mdKVAexTZ1
MD, KVA Export TZ1 DATE & TIME	mdKVAexTZ1_time
MD, kVA Export for TZ2	mdKVAexTZ2
MD, KVA Export TZ2 DATE & TIME	mdKVAexTZ2_time
MD, kVA Export for TZ3	mdKVAexTZ3
MD, KVA Export TZ3 DATE & TIME	mdKVAexTZ3_time
MD, kVA Export for TZ4	mdKVAexTZ4
MD, KVA Export TZ4 DATE & TIME	mdKVAexTZ4_time
MD, kVA Export for TZ5	mdKVAexTZ5
MD, KVA Export TZ5 DATE & TIME	mdKVAexTZ5_time
MD, kVA Export for TZ6	mdKVAexTZ6
MD, KVA Export TZ6 DATE & TIME	mdKVAexTZ6_time
MD, kVA Export for TZ7	mdKVAexTZ7
MD, KVA Export TZ7 DATE & TIME	mdKVAexTZ7_time
MD, kVA Export for TZ8	mdKVAexTZ8
MD, KVA Export TZ8 DATE & TIME	mdKVAexTZ8_time
Net Kwh	nkwh
Net Kvah	nkvah
Fundamental Kwh Import	fundKWh
Fundamental Kwh Export	fundKWhex
Billing type	causeOfBilling
Power on hours between billing	powOnDur

Table-7 :Programmable Parameters

Parameter Details	Parameter Name to be added as following in string	String
Real time clock, date and time	time	{"servertime": "2019-12-01 19:33:31", "serialNo": "12345", "data": "pp", "rtc ": "2019-12-01 19:33:31", "dip": "1203", "pcp": "1250", on.....up to all parameter from table-7} }
Demand integration period	Dip	
Profile capture period	pcp	
Single-action schedule for billing dates	sasbd	

Table-8 : Events

Parameter Details	Parameter Name to be added as following in string	Sample String
R-Phase — VT link missing (Missing potential) — Occurrence	1	{"servertime": "2019-12-01 19:33:31", "serialNo": "12345", "data": "event", "time": "2019-12-01 19:33:31", "i1": "1203", "i11": "1.250", on.....up to all parameter from table-7 & Table-8}
R-Phase — VT link missing (Missing potential) — Restoration	2	
Y-Phase — VT link missing (Missing potential) — Occurrence	3	
Y-Phase — VT link missing (Missing potential) — Restoration	4	
B-Phase — VT link missing (Missing potential) — Occurrence	5	
B-Phase — VT link missing (Missing potential) — Restoration	6	
Over voltage in any phase — Occurrence	7	
Over voltage in any phase — Restoration	8	
Low Voltage in any Phase — Occurrence	9	
Low voltage in any phase — Restoration	10	
Voltage unbalance — Occurrence	11	
Voltage unbalance — Restoration	12	
Phase — R CT reverse — Occurrence	51	
Phase — R CT reverse — Restoration	52	
Phase — Y CT reverse — Occurrence	53	
Phase — Y CT reverse — Restoration	54	
Phase — B CT reverse — Occurrence	55	
Phase — B CT reverse — Restoration	56	
Phase — R CT open — Occurrence	57	
Phase — R CT open — Restoration	58	
Phase — Y CT open — Occurrence	59	
Phase — Y CT open — Restoration	60	
Phase — B CT open — Occurrence	61	
Phase — B CT open — Restoration	62	
Current unbalance — Occurrence	63	
Current unbalance — Restoration	64	
CT bypass — Occurrence	65	
CT bypass — Restoration	66	
Over current in any phase — Occurrence	67	
Over current in any phase — Restoration	68	
Power failure (3 phase) — Occurrence	101	
Power failure (3 phase) — Restoration	102	
Real time clock, date and time	151	
Demand integration period	152	
Profile capture period	153	
Single-action schedule for billing dates	154	
Activity calendar for time zones, etc	155	
Influence of permanent magnet or ac/dc electromagnet — Occurrence	201	
Influence of permanent magnet or ac/dc electromagnet — Restoration	202	
Neutral disturbance — HF and dc — Occurrence	203	
Neutral disturbance — HF and dc — Restoration	204	
Very low PF — Occurrence	205	
Very low PF — Restoration	206	
Meter cover opening — Occurrence	251	
Meter load disconnected	301	
Meter load connected	302	

Table-9 :Capture Parameters

Parameter Details	Parameter Name to be added as following in string	String
Date and time of event	time	As per table 8
Event code	event	
Current, IR	il1	
Current, IY	il2	
Current, IB	il3	
Voltage, VRN (3 ø/4W)	v11	
Voltage, VYN (3 ø /4W)	v12	
Voltage, VBN (3 ø /4W)	v13	
Power factor, R-Phase	pf1	
Power factor, Y-Phase	pf2	
Power factor, B-Phase	pf3	
Cumulative energy, kWh	kwh	

Note:

1. Need to add list of mandatory data for each string e.g. servvertime, serialno, data
2. Fields for which there is no data available (null) keys for those should not be there in JSON string