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# SEITECH G7M MULTI DEVICES PAYLOAD

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## 1. Architecture

### 1.1. Multi-Device Systems

- Inverters (1-5)
  - FlowMeters (1-2)
  - EnergyMeters (1-5)
- 

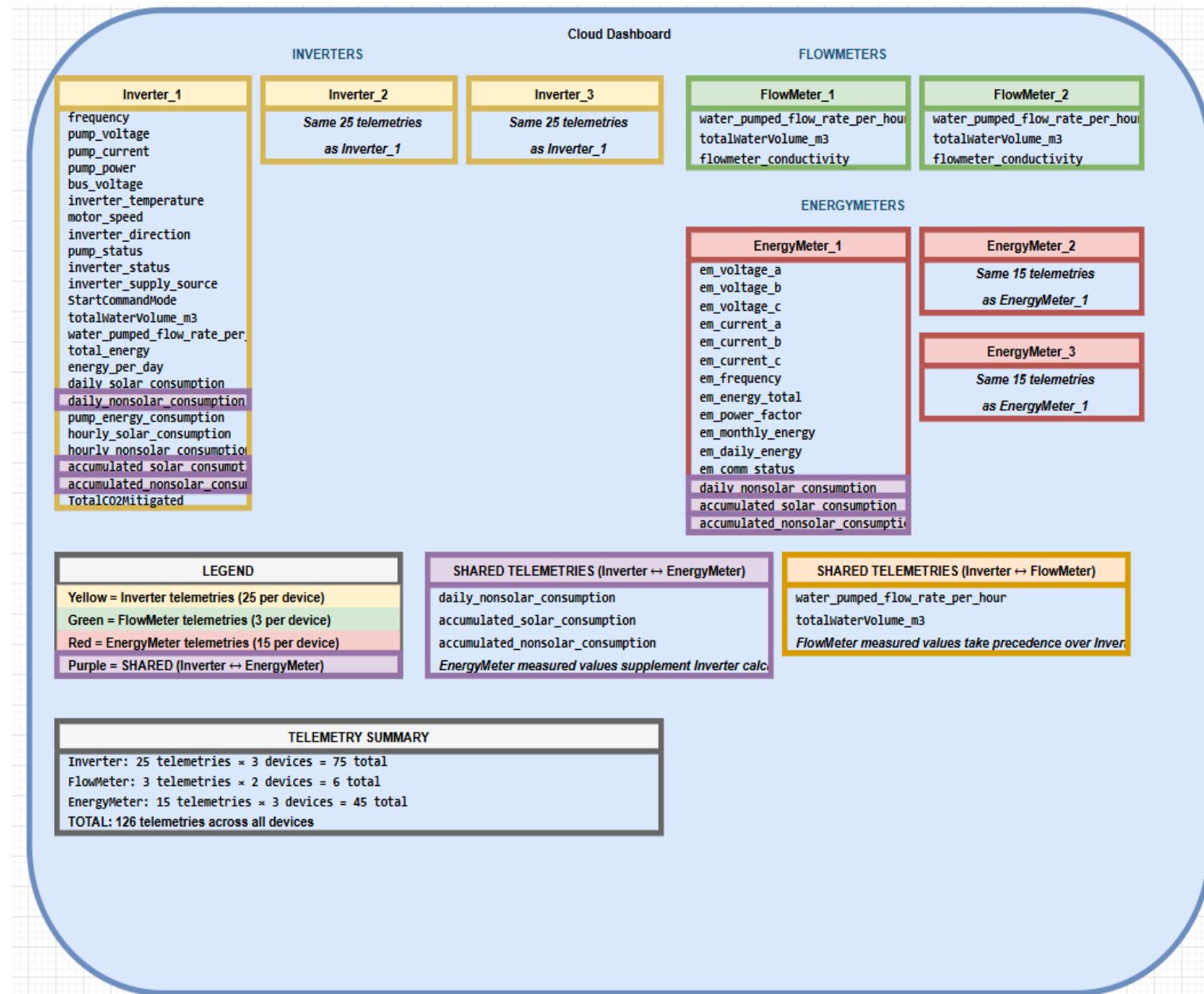
**Each device type has its own identity**

Device Type	Cloud Device Names
Inverters	Inverter_1, Inverter_2, Inverter_3...
FlowMeters	FlowMeter_1, FlowMeter_2
EnergyMeters	EnergyMeter_1, EnergyMeter_2...

**Total Devices in Cloud:** Up to 12 separate entities

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Cloud Dashboard		
Inverter_1	Inverter_2	Inverter_3
<ul style="list-style-type: none"> <li>frequency</li> <li>pump_voltage</li> <li>pump_current</li> <li>pump_power</li> <li>bus_voltage</li> <li>inverter_temperature</li> <li>motor_speed</li> <li>inverter_direction</li> <li>pump_status</li> <li>inverter_status</li> <li>inverter_supply_source</li> <li>StartCommandMode</li> <li>totalWaterVolume_m3</li> <li>water_pumped_flow_rate</li> <li>total_energy</li> <li>energy_per_day</li> <li>daily_solar_consumption</li> <li>daily_nonsolar_consumption</li> <li>pump_energy_consumption</li> <li>hourly_solar_consumption</li> <li>hourly_nonsolar_consumption</li> <li>accumulated_solar</li> <li>accumulated_nonsolar</li> <li>TotalCO2Mitigated</li> <li>money_saved</li> </ul>	<ul style="list-style-type: none"> <li>frequency</li> <li>pump_voltage</li> <li>pump_current</li> <li>pump_power</li> <li>bus_voltage</li> <li>inverter_temperature</li> <li>motor_speed</li> <li>inverter_direction</li> <li>pump_status</li> <li>inverter_status</li> <li>inverter_supply_source</li> <li>StartCommandMode</li> <li>totalWaterVolume_m3</li> <li>water_pumped_flow_rate</li> <li>total_energy</li> <li>energy_per_day</li> <li>daily_solar_consumption</li> <li>daily_nonsolar_consumption</li> <li>pump_energy_consumption</li> <li>hourly_solar_consumption</li> <li>hourly_nonsolar_consumption</li> <li>accumulated_solar</li> <li>accumulated_nonsolar</li> <li>TotalCO2Mitigated</li> <li>money_saved</li> </ul>	<ul style="list-style-type: none"> <li>frequency</li> <li>pump_voltage</li> <li>pump_current</li> <li>pump_power</li> <li>bus_voltage</li> <li>inverter_temperature</li> <li>motor_speed</li> <li>inverter_direction</li> <li>pump_status</li> <li>inverter_status</li> <li>inverter_supply_source</li> <li>StartCommandMode</li> <li>totalWaterVolume_m3</li> <li>water_pumped_flow_rate</li> <li>total_energy</li> <li>energy_per_day</li> <li>daily_solar_consumption</li> <li>daily_nonsolar_consumption</li> <li>pump_energy_consumption</li> <li>hourly_solar_consumption</li> <li>hourly_nonsolar_consumption</li> <li>accumulated_solar</li> <li>accumulated_nonsolar</li> <li>TotalCO2Mitigated</li> <li>money_saved</li> </ul>
FlowMeter_1	FlowMeter_2	
<ul style="list-style-type: none"> <li>water_pumped_flow_rate</li> <li>totalWaterVolume_m3</li> <li>flowmeter_conductivity</li> </ul>	<ul style="list-style-type: none"> <li>water_pumped_flow_rate</li> <li>totalWaterVolume_m3</li> <li>flowmeter_conductivity</li> </ul>	
EnergyMeter_1	EnergyMeter_2	EnergyMeter_3
<ul style="list-style-type: none"> <li>em_voltage_a</li> <li>em_voltage_b</li> <li>em_voltage_c</li> <li>em_current_a</li> <li>em_current_b</li> <li>em_current_c</li> <li>em_frequency</li> <li>em_energy_total</li> <li>em_power_factor</li> <li>em_monthly_energy</li> <li>daily_nonsolar_consumption</li> </ul>	<ul style="list-style-type: none"> <li>em_voltage_a</li> <li>em_voltage_b</li> <li>em_voltage_c</li> <li>em_current_a</li> <li>em_current_b</li> <li>em_current_c</li> <li>em_frequency</li> <li>em_energy_total</li> <li>em_power_factor</li> <li>em_monthly_energy</li> <li>daily_nonsolar_consumption</li> </ul>	<ul style="list-style-type: none"> <li>em_voltage_a</li> <li>em_voltage_b</li> <li>em_voltage_c</li> <li>em_current_a</li> <li>em_current_b</li> <li>em_current_c</li> <li>em_frequency</li> <li>em_energy_total</li> <li>em_power_factor</li> <li>em_monthly_energy</li> <li>daily_nonsolar_consumption</li> </ul>
TDS_Sensor	Pressure_Sensor	Level_Sensor
<ul style="list-style-type: none"> <li>tds_sensor (ppm)</li> <li>Range: 0-1000 ppm</li> <li>Input: ADC</li> </ul>	<ul style="list-style-type: none"> <li>pressure_sensor (bar)</li> <li>Range: 0-16 bar</li> <li>Input: 4-20mA (AI1)</li> </ul>	<ul style="list-style-type: none"> <li>level_sensor (m)</li> <li>Range: 0-5 m</li> <li>Input: 4-20mA (AI0)</li> </ul>



## Device Details

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### Inverter Telemetry (per device) - 25 Telemetries

#	Telemetry	JSON Key	Description	Update Rate
1	Frequency	frequency	Running frequency (Hz)	Real-time
2	Pump Voltage	pump_voltage	Motor output voltage (V)	Real-time
3	Pump Current	pump_current	Motor output current (A)	Real-time
4	Pump Power	pump_power	Motor output power (kW)	Real-time
5	Bus Voltage	bus_voltage	DC bus voltage (V)	Real-time
6	Temperature	inverter_temperature	Inverter temperature (°C)	Real-time
7	Motor Speed	motor_speed	Estimated RPM	Real-time
8	Direction	inverter_direction	RunForward / RunBackward	On change
9	Pump Status	pump_status	Running / Stopped / Unknown / Overload	On change
10	Inverter Status	inverter_status	Power & Communication / Locked / Power OFF	On change
11	Supply Source	inverter_supply_source	Solar / Grid / Diesel	On change
12	Start Command Mode	StartCommandMode	KeypadControl / TerminalControl / CommunicationControl	On change
13	Total Water Volume	totalWaterVolume_m3	Calculated water pumped (m³)	5 min
14	Hourly Pump Rate	water_pumped_flow_rate_per_hour	Flow rate (m³/h)	1 hour
15	Total Energy	total_energy	Total energy consumed (kWh)	On change
16	Daily Energy	energy_per_day	Daily energy consumption (kWh)	Daily

17	Daily Solar	daily_solar_consumption	Daily solar energy (kWh)	Daily
18	Daily NonSolar	daily_nonsolar_consumption	Daily non-solar energy (kWh)	Daily
19	Hourly Energy	pump_energy_consumption	Hourly consumption (kWh)	1 hour
20	Hourly Solar	hourly_solar_consumption	Hourly solar (kWh)	1 hour
21	Hourly NonSolar	hourly_nonsolar_consumption	Hourly non-solar (kWh)	1 hour
22	Accum Solar	accumulated_solar_consumption	Total solar energy (kWh)	On change
23	Accum NonSolar	accumulated_nonsolar_consumption	Total non-solar energy (kWh)	On change
24	CO2 Mitigated	TotalCO2Mitigated	Total CO2 saved (kg)	On change
25	Money Saved	money_saved	Cumulative money saved (EGP)	On change

#### FlowMeter Telemetry (per device) - 3 Telemetries

#	Telemetry	JSON Key	Register ID	Description	Update Rate
1	Flow Rate	water_pumped_flow_rate_per_hour	0x030A	Current flow rate (m³/h)	1 min
2	Total Volume	totalWaterVolume_m3	0x0304	Accumulated flow (m³)	5 min
3	Conductivity	flowmeter_conductivity	0x032C	Water conductivity (µS/cm)	30 min

#### EnergyMeter Telemetry (per device) - 11 Telemetries

#	Telemetry	JSON Key	Register ID	Description	Update Rate
1	Voltage A	em_voltage_a	0x0800	Phase A voltage (V)	1 min
2	Voltage B	em_voltage_b	0x0802	Phase B voltage (V)	1 min

3	Voltage C	em_voltage_c	0x0804	Phase C voltage (V)	1 min
4	Current A	em_current_a	0x080C	Phase A current (A)	1 min
5	Current B	em_current_b	0x080E	Phase B current (A)	1 min
6	Current C	em_current_c	0x0810	Phase C current (A)	1 min
7	Frequency	em_frequency	0x0834	Grid frequency (Hz)	1 min
8	Total Energy	em_energy_total	0x0842	Cumulative energy (kWh)	5 min
9	Power Factor	em_power_factor	0x0832	Total power factor	5 min
10	Monthly Energy	em_monthly_energy	0x7002	Monthly consumption (kWh)	5 min
11	Daily NonSolar	daily_nonsolar_consumption	-	Daily non-solar usage (kWh)	5 min

### Shared Telemetry

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The following telemetries can be published from **both** Inverter and FlowMeter:

Telemetry	JSON Key	Inverter Source	FlowMeter Source
Flow Rate	water_pumped_flow_rate_per_hour	Calculated from energy	Measured (0x030A)
Total Volume	totalWaterVolume_m3	Calculated from energy	Measured (0x0304)

**Note:** When a FlowMeter is connected, its measured values take precedence over Inverter calculated values.

### Telemetry Summary

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Device	Count	Instances	Total
<b>Inverter</b>	25	5	125
<b>FlowMeter</b>	3	2	6
<b>EnergyMeter</b>	11	5	55
<b>TDS Sensor</b>	1	1	1
<b>Pressure Sensor</b>	1	1	1
<b>Level Sensor</b>	1	1	1
<b>TOTAL</b>			189

## 2. Device Telemetries

### 2.1. Topic

devices/<device\_id>/telemetry

### 2.2. Inverter related parameters

All telemetry data are related to inverters **except** those listed below:

```
"SW_VERSION"
"HW_VERSION"
"HW_TARGET"
"lifebox_code"
"contract_ref_number"
"commissioning_date"
"system_components"
"subscription_type"
"client_tier"
"location"
"installation_date"
"Device_ID"
```

### 2.3. Payload

*Current:*

```
{
  "data": {
    "PowerSourceOfBox": {
      "id": "0x000",
      "value": "Battery"
    }
  }
}
```

*Proposed:*

Adding a string obj “DeviceName”

```
{
  "DeviceName": <STRING>,
  "data": {
    "PowerSourceOfBox": [
      {
        "id": "0x000",
        "value": "Battery"
      }
    ]
  }
}
```

## 2.4.Example

```
{
  "DeviceName": "Inverter_1",
  "data": {
    "frequency": {"id": "0x1001", "value": "50.00"},
    "pump_voltage": {"id": "0x1002", "value": "380"},
    "pump_current": {"id": "0x1003", "value": "15.5"},
    "pump_power": {"id": "0x1004", "value": "8.75"},
    "bus_voltage": {"id": "0x1005", "value": "540"},
    "inverter_temperature": {"id": "0x1006", "value": "45.2"},
    "motor_speed": {"id": "0x1007", "value": "1450"},
    "inverter_direction": "RunForward",
    "pump_status": "Running",
    "inverter_status": "Power & Communication",
    "inverter_supply_source": "Solar",
    "StartCommandMode": "CommunicationControl",
    "totalWaterVolume_m3": {"id": "0x000", "value": "12500.50"},
    "water_pumped_flow_rate_per_hour": {"id": "0x000", "value": "25.5"},
    "total_energy": {"id": "0x000", "value": "45678.90"},
    "energy_per_day": {"id": "0x000", "value": "125.50"},
    "daily_solar_consumption": {"id": "0x000", "value": "95.25"},
    "daily_nonsolar_consumption": {"id": "0x000", "value": "30.25"},
    "pump_energy_consumption": {"id": "0x000", "value": "5.25"},
    "hourly_solar_consumption": {"id": "0x000", "value": "4.15"},
    "hourly_nonsolar_consumption": {"id": "0x000", "value": "1.10"},
    "accumulated_solar_consumption": {"id": "0x000", "value": "35420.50"},
    "accumulated_nonsolar_consumption": {"id": "0x000", "value": "10258.40"},
    "TotalCO2Mitigated": {"id": "0x000", "value": "28500.75"},
    "money_saved": {"id": "0x000", "value": "125000.50"}
  }
}
```

## 3. Device Alarms

### 3.1. Topic

device/<device\_id>/alarm

### 3.2. Inverter related parameters

All alarms data are related to inverters **except** those listed below:

**SMS service error**

**BMS over-voltage**

**BMS under-voltage**

### 3.3. Payload

**Inverter temperature pre-alarm**

*Current:*

```
{
  "type": "temperature",
  "title": "Pre-Alarm Inverter temperature is rising",
  "status": 1,
  "severity": 3,
  "propagate": true
}
```

*Proposed:*

```
{
  "DeviceName": <STRING >,
  "type": "temperature",
  "title": "Pre-Alarm Inverter temperature is rising",
  "status": 1,
  "severity": 3,
  "propagate": true
}
```

## 4. Device Events

### 4.1. Topic

device/<device\_id>/event

### 4.2. Inverter related parameters

*Inverter task with SW version*

*Inverter is unlocked*

*Inverter input scource*

*Supply of the box in case of inverter*

*Connection with the inverter*

*Start command mode*

*Temperature setpoint*

### 4.3. Payload

*Inverter input scource*

*Current:*

{

```
"type": "Inverter_input_source",
"title": "The inverter's input source is Diesel",
"propagate": true
```

}

*Proposed:*

{

```
"DeviceName": <STRING >,
"type": "Inverter_input_source",
"title": "The inverter's input source is Diesel",
"propagate": true
```

}

### 4.4. Examples

- 1- {"DeviceName":"Inverter\_1","type": "ConnectionWithInverter","title": "Communication With Inverter Is back"}
- 2- {"DeviceName":"Inverter\_1","type": "Inverter\_input\_source","title": "The inverter's input source is Diesel"}
- 3- {"DeviceName":"Inverter\_1","type": "InverterUnLocked","title": "Inverter is Unlocked"}

## 5. Device Commands

### 5.1. Topic

devices/<device\_id>/commands

### 5.2. Inverter related parameters

```

Control Pump Forward1:
    direction: <value>
Select Start Command Mode:
    SelectStartCommandMode: <value>
Change Inverter Temperature SetPoint:
    InvTempSetPoint: <value>
Pre-alarm Temperature Setpoint:
    TempTH:<value>
Inverter Cancel pass:
    InvCancelPass: <value>
Inverter Change Password:
    InvPassWord: <value>
Inverter_Reg_Addr:
    {frequency_addr: <value>,pump_voltage_addr: <value>,pump_current_addr:
     <value>,pump_power_addr: <value>,motor_speed_addr: <value>,bus_volt_addr:
     <value>}
Inverter_Reg_Addr2:
    {inverter_temp_addr:
     <value>,pump_energy_consump:<value>,control_pump_addr:<value>}
Inverter_Remote_AlarmReset:
    AlarmReset: <value>
Control Pump:
    control: <value>
control_master:
    master: <value>
device_code:
    device_code:<value>

```

### 5.3. Payload

*Current:*

- 1- **Control Pump Forward1:**  
direction: InvFwd
- 2- **TDS\_RANGE:**  
InvPassWord: <value>

*Proposed:*

- 1- **Control Pump Forward1:**  
{

```

"DeviceName": <STRING >,
"Command": "direction: InvFwd"

```

```
}
```

**2- Inverter Change Password:**

```
{
    "DeviceName":<STRING >,
    "Command ":" InvPassWord: <value>"
```

```
}
```

## 5.4.Example

- 1- {"DeviceName":"Inverter\_1", "Command":"direction: InvFwd"}
- 2- {"DeviceName":"Inverter\_1", "Command":"control: 1"}
- 3- {"DeviceName":"Inverter\_1", "Command":"master: false"}

## 6. Energy Meter:

### 6.1. Telemetries

```

1- {"DeviceName":"EnergyMeter_1","data":{"em_voltage_a":{"id":"0x0061","value":"221.60"}}}
2- {"DeviceName":"EnergyMeter_1","data":{"em_voltage_b":{"id":"0x0062","value":"0.00"}}}
3- {"DeviceName":"EnergyMeter_1","data":{"em_voltage_c":{"id":"0x0063","value":"0.00"}}}
4- {"DeviceName":"EnergyMeter_1","data":{"em_current_a":{"id":"0x080C","value":"0.00"}}}
5- {"DeviceName":"EnergyMeter_1","data":{"em_current_b":{"id":"0x080E","value":"0.00"}}}
6- {"DeviceName":"EnergyMeter_1","data":{"em_current_c":{"id":"0x0810","value":"0.00"}}}
7- {"DeviceName":"EnergyMeter_1","data":{"em_energy_total":{"id":"0x081A","value":"12345.6"}}}
8- {"DeviceName":"EnergyMeter_1","data":{"em_power_factor":{"id":"0x0832","value":"0.95"}}}
9- {"DeviceName":"EnergyMeter_1","data":{"em_frequency":{"id":"0x0834","value":"50.02"}}}
10- {"DeviceName":"EnergyMeter_1","data":{"daily_nonsolar_consumption":{"id":"0x0000","value":"156.78"}}}
11- {"DeviceName":"EnergyMeter_1","data":{"hourly_nonsolar_consumption":{"id":"0x0000","value":"6.54"}}}
12- {"DeviceName":"EnergyMeter_1","data":{"em_monthly_energy":{"id":"0x7002","value":"4523.45"}}}

```

#### ➤ Grouped

```

{
  "DeviceName": "EnergyMeter_1",
  "data": {
    "em_voltage_a": {"id": "0x0800", "value": "230.5"}, 
    "em_voltage_b": {"id": "0x0802", "value": "231.2"}, 
    "em_voltage_c": {"id": "0x0804", "value": "229.8"}, 
    "em_current_a": {"id": "0x080C", "value": "15.25"}, 
    "em_current_b": {"id": "0x080E", "value": "14.98"}, 
    "em_current_c": {"id": "0x0810", "value": "15.10"}, 
    "em_frequency": {"id": "0x0834", "value": "50.02"}, 
    "em_energy_total": {"id": "0x0842", "value": "12345.6"}, 
    "em_power_factor": {"id": "0x0832", "value": "0.95"}, 
    "em_monthly_energy": {"id": "0x7002", "value": "4523.45"}, 
    "daily_nonsolar_consumption": {"id": "0x0000", "value": "156.78"}
  }
}

```

### 6.2. Alarms

```

1- {"DeviceName":"EnergyMeter_1","title":"Energy Meter Phase Loss", "type":"EnergyMeter_PhaseLoss","severity":3,"status":1,"propagate":true}
2- {"DeviceName":"EnergyMeter_1","title":"Energy Meter Communication Lost", "type": "EnergyMeter_CommLost", "severity":3,"status":1,"propagate":true}
3- {"DeviceName":"EnergyMeter_1","title":"Energy Meter Over voltage", "type": "EnergyMeter_Ovvoltage", "severity":3,"status":1,"propagate":true}
4- {"DeviceName":"EnergyMeter_1","title":"Energy Meter Under voltage", "type": "EnergyMeter_Undervoltage", "severity":3,"status":1,"propagate":true}
5- {"DeviceName":"EnergyMeter_1","title":"Energy Meter Over current", "type": "EnergyMeter_Overcurrent", "severity":3,"status":1,"propagate":true}

```

### 6.3. Events

- 1- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"[EnergyMeter]: CT/PT Changed - PT:2, CT:100","type":"EnergyMeter\_1\_CT\_PT\_ConfigUpdate "}
- 2- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"[EnergyMeter] Setting frozen time daily by hour: , "type":"EnergyMeter\_1 Frozen Time daily ConfigUpdate"}
- 3- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"[EnergyMeter] Setting frozen time Monthly by day: %d and Hour : %d","type":"EnergyMeter\_1 Frozen Time monthly ConfigUpdate"}
- 4- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"[EnergyMeter]: Overvoltage threshold set successfully %.2fV","type":"EnergyMeter\_1 Overvoltage Threshold ConfigUpdate"}
- 5- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"[EnergyMeter]: Undervoltage threshold set successfully %.2fV","type":"EnergyMeter\_1 Undervoltage Threshold ConfigUpdate"}
- 6- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"[EnergyMeter]: Overcurrent threshold set successfully %.2fA","type":"EnergyMeter\_1 Overcurrent Threshold ConfigUpdate"}
- 7- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"EnergyMeter Count Updated","type":"1"}
- 8- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"EnergyMeter Count Update Failed - Out of Range","type":"1"}
- 9- {"DeviceName":"EnergyMeter\_1","propagate":true,"title":"EnergyMeter Count Update Failed - Invalid Digits","type":"1"}

### 6.4. Commands

- 1- {"DeviceName":"EnergyMeter\_1", "Command":"EnergyMeter\_SetParameters: CT\_Ratio= 2"}
- 2- {"DeviceName":"EnergyMeter\_1", "Command":"EnergyMeter\_SetParameters: PT\_Ratio= 2"}
- 3- {"DeviceName":"EnergyMeter\_1", "Command":"EnergyMeter\_SetParameters: Over\_Voltage\_th= 100"}
- 4- {"DeviceName":"EnergyMeter\_1", "Command":"EnergyMeter\_SetParameters: Under\_Voltage\_th= 100"}
- 5- {"DeviceName":"EnergyMeter\_1", "Command":"EnergyMeter\_SetParameters: Over\_Current\_th= 100"}
- 6- {"DeviceName":"EnergyMeter\_1", "Command":"EnergyMeter\_SetParameters: Frozen\_Time\_Daily= 15"}
- 7- {"DeviceName":"EnergyMeter\_1", "Command":"EnergyMeter\_SetParameters: Frozen\_Time\_Monthly= H/D"}
- 8- {"DeviceName":"EnergyMeter\_2", "Command":"EnergyMeter\_SetParameters: Set\_EnergyMeter\_Time= (SEC: 10,MIN: 30,HOUR: 12,DAY: 1,MONTH: 10,YEAR: 26)"}

## 7. Flow Meter

### 7.1. Telemetries

```
{"DeviceName":"FlowMeter_1",
"data":
{"totalWaterVolume_m3":{"id":"0x0304","value":"1077936128.00"},  

"water_pumped_flow_rate_per_hour":{"id":"0x030A","value":"2.00"},  

"flowmeter_conductivity":{"id":"0x032C","value":"600.22"}}}
```

### 7.2. Alarms

- 1- {"DeviceName":"FlowMeter\_1","type":"EmptyPipe","title":"Flow Meter Empty Pipe Detected","status":1,"severity":2,"propagate":true}
- 2- {"DeviceName":"FlowMeter\_1","type":"Excitation","title":"Flow Meter Excitation Error","status":1,"severity":2,"propagate":true}
- 3- {"DeviceName":"FlowMeter\_1","type":"HighFlow","title":"Flow Meter High Flow Alarm","status":1,"severity":2,"propagate":true}
- 4- {"DeviceName":"FlowMeter\_1","type":"LowFlow","title":"Flow Meter Low Flow Alarm","status":1,"severity":2,"propagate":true}
- 5- {"DeviceName":"FlowMeter\_1","type":"CommLost","title":"Flow Meter Communication Lost","status":3,"severity":3,"propagate":true}

### 7.3. Events

- 1- {"DeviceName":"FlowMeter\_1","type":"FlowMeter\_1 ConfigUpdate","title":"Range:424.00 AlarmHigh:100.00 AlarmLow:10.00 Unit:m3","propagate":true}
- 2- {"DeviceName":"FlowMeter\_1","type":"Water FlowStart","title":"FlowMeter\_1 Flow Started","propagate":true}
- 3- {"DeviceName":"FlowMeter\_1","type":"Water FlowStop","title":"FlowMeter\_1 Flow Stopped","propagate":true}
- 4- {"DeviceName":"FlowMeter\_1","type":"1","title":"FlowMeter Count Updated","propagate":true}
- 5- {"DeviceName":"FlowMeter\_1","type":"0","title":"FlowMeter Count Update Failed - Out of Range","propagate":true}

### 7.4. Commands

- 1- InverterCount: <value>,FlowMeterCount: <value>,EnergyMeterCount: <value>

## 8. Note:

- 1- In Telemetries, Alarms, Events or Commands  
"DeviceName":<STRING>  
  <STRING> would be "Inverter\_1", "Inverter\_2", "Inverter\_3", "Inverter\_4", "  
  "Inverter\_5", "FlowMeter\_1", "EnergyMeter\_1" And "System" for generic  
  data not related to inverters or sensors.
- 2- TDS, level and Pressure sensors are treated as System
- 3- device\_code is used in both telemetry and commands

**Incoming Command (from Cloud):**

```
{"DeviceName": "Inverter_2", "Command": "device_code: 17"}
```

**Outgoing Telemetry (to Cloud) - Published per Inverter:**

```
{ "DeviceName": "Inverter_2", "data": { "device_code": { "id": "0", "value": "17" } } }
```