

1. Scenario Preset

- (1) There are 10 areas with 1-phase Power System needed to be monitored
- (2) Each area has 20 circuits 1-phase needed to be monitored, circuits' rated voltage is 240Vac L-N , circuit's rated/max current is not more than 80A AC.
- (3) For the place that we gonna install energy meter and LoRaWAN node gateway, it was covered by the communication distance of main LoRaWAN gateway (Customer side).
- (4) All 1-phase energy meter will be of partial centralized installation in each area, which make it possible for 1 AWT100-LW868 IoT LoRaWAN node gateway to support 20 (max 25, recommend 20) ADL200/C 1-phase Energy Meters using RS485 wired communication in a close range within 300m.

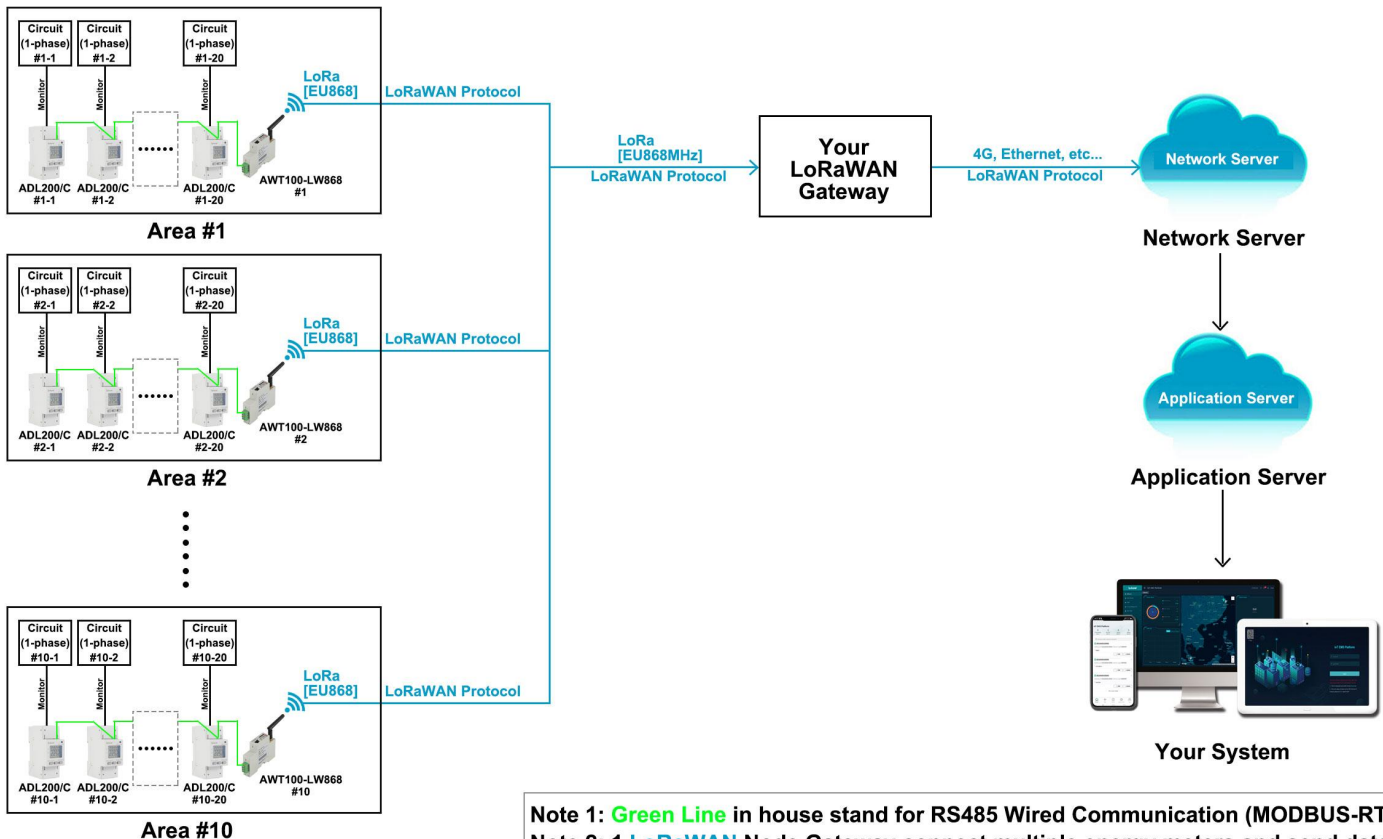
2. Devices Deployment Plan

Area #1: [For Circuit #1-1~Circuit #1-20]

- 1* AWT100-LW868 IoT LoRaWAN Gateway [paired with 20 ADL200/C for LoRaWAN upstreaming]
- 1* AWT100-POW Power Supply Module [paired with AWT100-LW868 for 85~265Vac power input]
- 20* ADL200/C 1-phase DIN-rail Energy Meter [For monitoring Circuit #1-1 to Circuit #1-20]

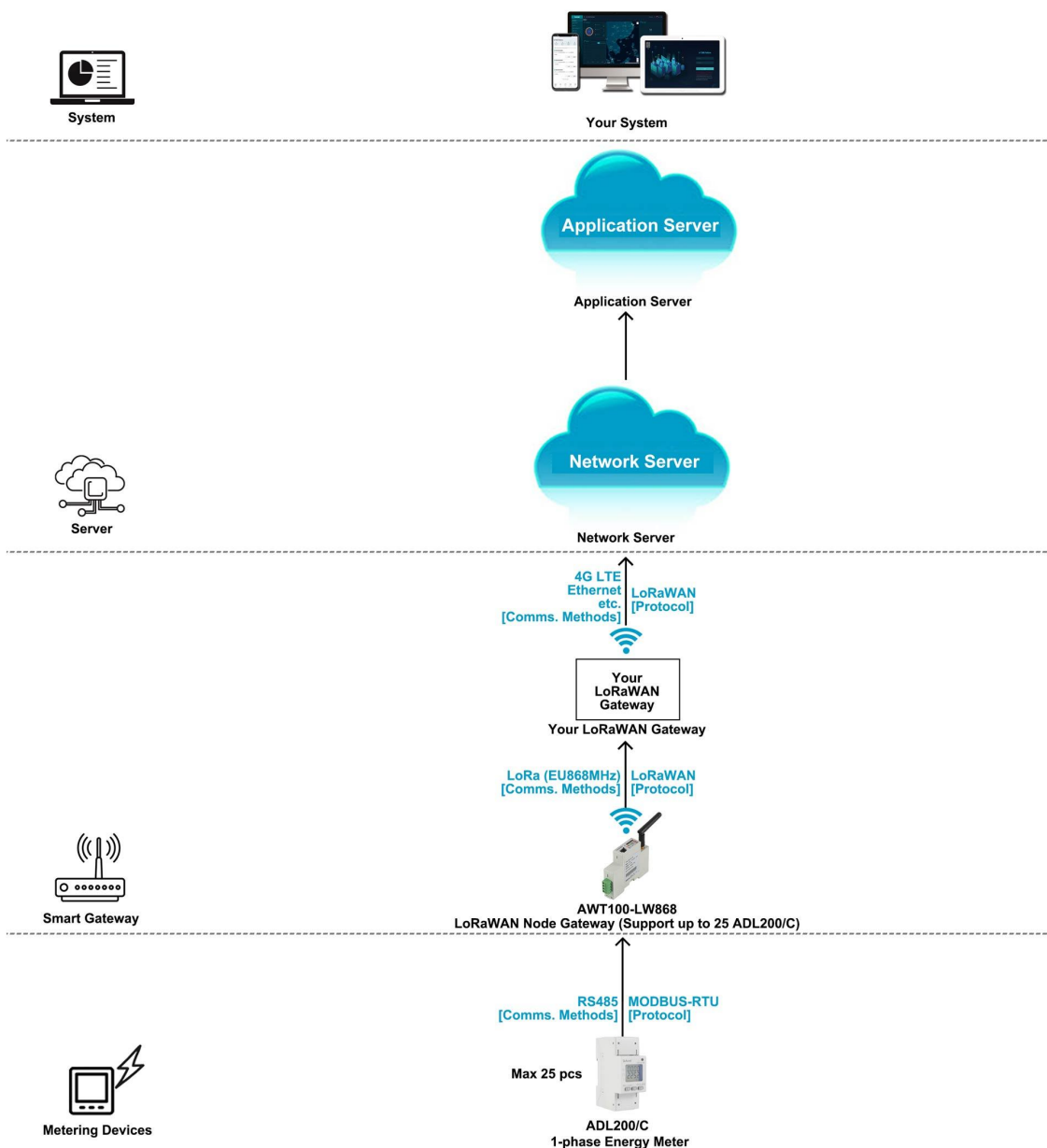
Area #10: [For Circuit #10-1~Circuit #10-20]

- 1* AWT100-LW868 IoT LoRaWAN Gateway [paired with 20 ADL200/C for LoRaWAN upstreaming]
- 1* AWT100-POW Power Supply Module [paired with AWT100-LW868 for 85~265Vac power input]
- 20* ADL200/C 1-phase DIN-rail Energy Meter [For monitoring Circuit #10-1 to Circuit #10-20]






3. Communication Structure&Logic

- (1) In this case, customer side already have their own main LoRaWAN gateway with downstream of LoRa comms. methods based on LoRaWAN protocol and upstream of either 4G, Ethernet etc.
- (2) AWT100-LW868 LoRaWAN node gateway support upstream of LoRa communication methods (EU868MHz frequency bands) based on LoRaWAN protocol and downstream of RS485 communication based on MODBUS-RTU protocol. ADL200/C support upstream communication of RS485 communication based on MODBUS-RTU protocol.
- (3) Based on the communication described in item (2), Acrel AWT100-LW868 gateway could receive the data from ADL200/C energy meter using RS485 communication while sending the data further to main LoRaWAN gateway which is belong to customer side using LoRaWAN upstream communication. Thus accomplish a complete communication from bottom metering devices to top system software.



4. Overall Model Selection&Quoation

(1) This Quotation doesn't include freight charge. To gain a complete quotation, please refer the actual quantity that you want to request for the actual order, once we receiving it. We will issue a Official Proforma Invoice with Acrel Stamps on it for later procedure.

| LoRaWAN Node Smart Gateway | | | | | |
|---|---|--|----------|----------------------|--------------|
| Overview Picture | USAGE&MODULE NAME | DESCRIPTION & SPECIFICATION | QUANTITY | FOB UNIT PRICE (USD) | AMOUNT (USD) |
|  | Smart Gateway AWT100-LW868 | Upstream: LoRa (EU868MHz frequency bands /LoRaWAN protocol) Downstream: RS485 (MODBUS-RTU) Support: up to 20-25 Energy Meters within 400m using RS485 Wired Communication Power Supply: 85~265Vac/Vdc (via AWT100-POW) Certification: CE-RED | 10 pcs | | |
|  | Power Supply Module AWT100-POW | Input: 85~265Vac/Vdc Output: 24Vdc Application: paired with AWT100 Series gateway for 85~265Vac/Vdc power supply input | 10 pcs | | |
| 1-phase Energy Meter | | | | | |
| Overview Picture | USAGE&MODULE NAME | DESCRIPTION & SPECIFICATION | QUANTITY | FOB UNIT PRICE (USD) | AMOUNT (USD) |
|  | 1-phase RS485 Energy Meter ADL200/C | Communication: RS485 (MODBUS-RTU) Accuracy: Class 1.0 Rated Voltage: 220~264Vac L-N (45~65Hz) Rated Current: 10(80)A AC (via direct connect) Certification: MID, CE | 200 pcs | | |