

1. Scenario Preset

- (1) There are 10 areas with 3-phase Power System needed to be monitored
- (2) Each area has 20 circuits 3-phase needed to be monitored, circuits' rated voltage is 3x240Vac L-N & 3x415Vac L-L, circuit's rated/max current is not more than 3x80A 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 3-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) ADL400/C 3-phase Energy Meters using RS485 wired communication in a close range within 300m.

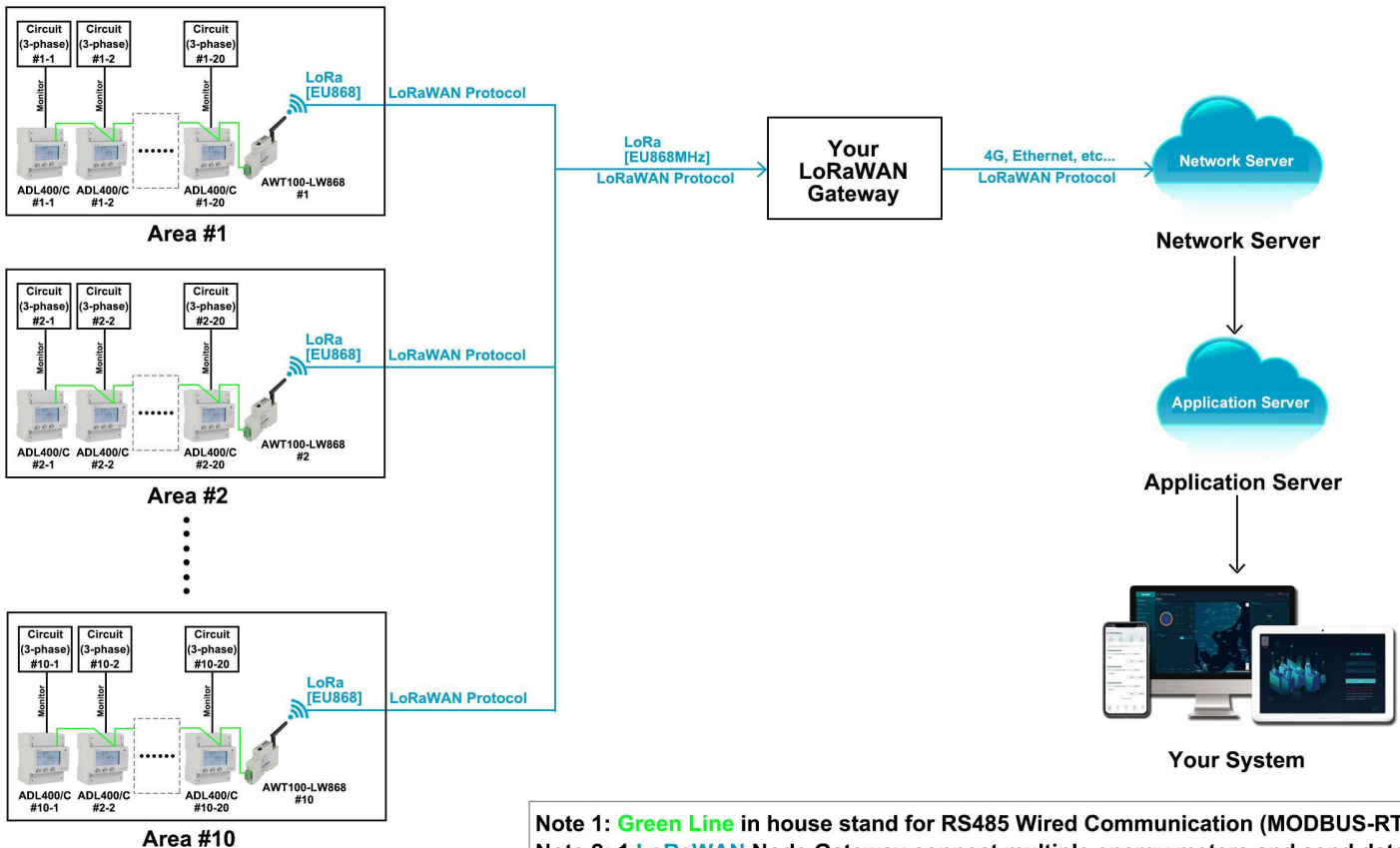
2. Devices Deployment Plan

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* ADL400/C 3-phase DIN-rail Energy Meter [For monitoring Circuit #1-1 to Circuit #1-20]

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

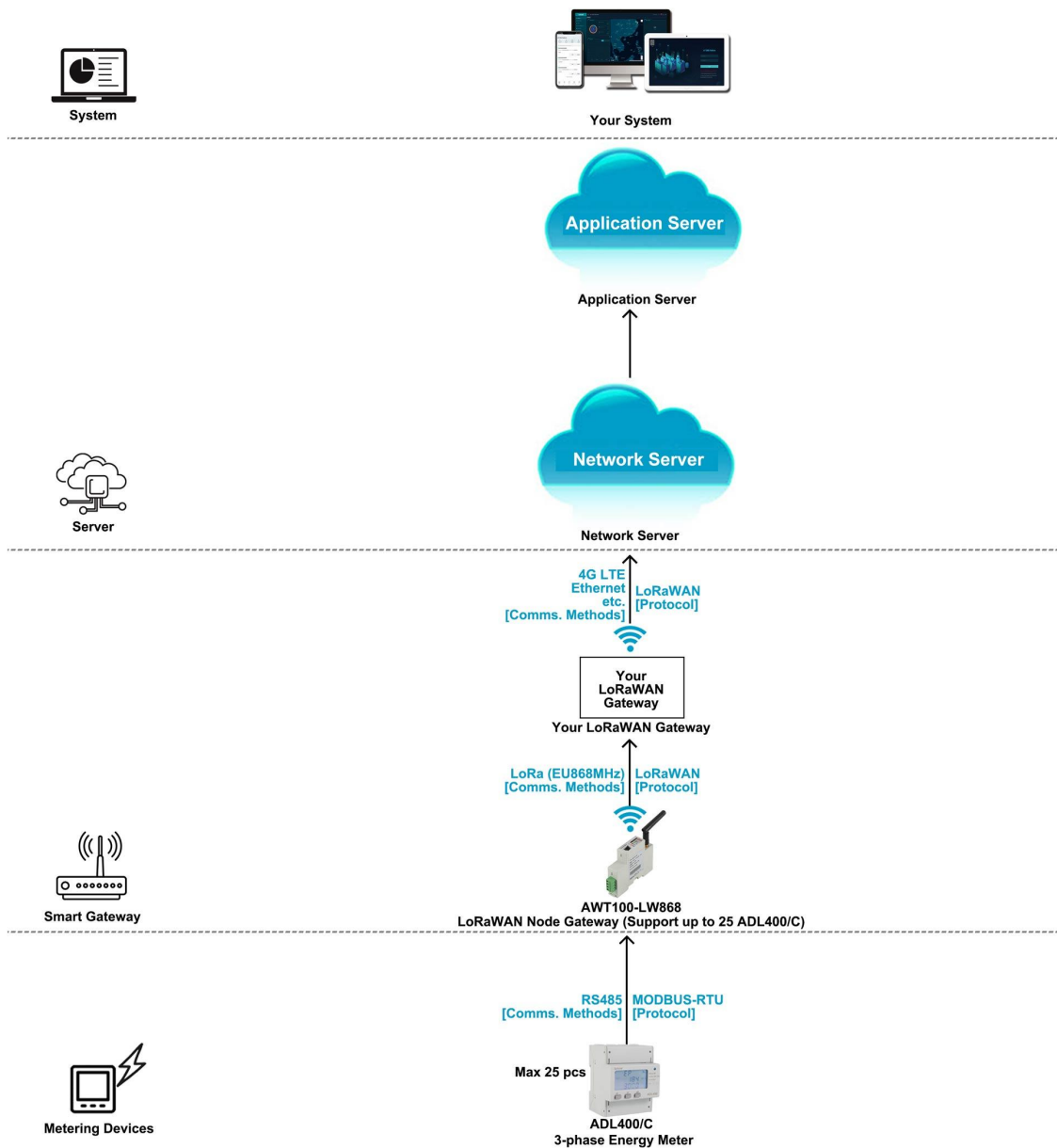
- 1* AWT100-LW868 IoT LoRaWAN Gateway [paired with 20 ADL200/C for LoRaWAN upstreaming]
- 1* AWT100-POW Power Supply Module [paired with AWT100-LW868 for 85~265Vac power input]
- 20* ADL400/C 3-phase DIN-rail Energy Meter [For monitoring Circuit #10-1 to Circuit #10-20]



Note 1: Green Line in house stand for RS485 Wired Communication (MODBUS-RTU)
Note 2: 1 LoRaWAN Node Gateway connect multiple energy meters and send data further by LoRa Comms Methods based on LoRaWAN protocol




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. ADL400/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 ADL400/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		
3-phase Energy Meter					
Overview Picture	USAGE&MODULE NAME	DESCRIPTION & SPECIFICATION	QUANTITY	FOB UNIT PRICE (USD)	AMOUNT (USD)
	3-phase DIN-rail Energy Meter ADL400/C	Communication: RS485 (MODBUS-RTU) Harmonic: Total and 2nd-31st harmonic Rated Voltage: 3x380~456Vac L-L & 3x220~264Vac L-N (45~65Hz) Rated Current: or 3x1(80)A AC (via CTs)	200 pcs	/	/