

### Laison Split Type STS Prepaid Gas Meter System

Laison Split Type STS Prepaid Gas Meter System consists of two parts, Prepaid Gas Meter, either Steel body or Aluminum body, and separate Customer Interface Unit (CIU) with RF Wireless Communication and Dot Matrix Type LCD to support local language.

Tokens could be available in multiple ways, like LAPIS Vending System, LAISON Mobile Vending POS and SMS via Customer Self-service

The whole solution provides flexible ways on recharging the meter, which are most attractive feature of LAISON STS Prepayment Meter System. Moreover, it supports AMR/AMI Function, by which it could remotely collect meters' data and detect possible Gas Leakage & Tamper situation.



### Functionalities



#### Real Time Clock

Adopting separate Real Time Clock (RTC) chip on meter to make sure the accuracy.  
Error <0.5s/day

#### Step Tariff

Support max. 10 steps of Gas Tariff, realize the real time monetary calculation in meter.  
This function only be available for meters with measure mode of By Amount.

When consumed credit exceeds the fixed gas volume, the credit will be deducted according to the latest price multiply consumed volume. The billing is according to the monthly accumulated gas consumption on different steps.

#### Meter Recharge

Meter could be recharged via CIU by LoRa RF Wireless Communication or Infrared Communication through TWENTY (20) digits recharge token generated from either LAISON STS vending software or Mobile Vending POS with AquaMall Pro App..

#### Meter Parameters Query

Meters' corresponding parameters could be queried via CIU by LoRa RF Wireless Communication or Infrared Communication through TWO (2) digits Data Query Token Group provided by LAISON

#### Recharge Limitation

Anti-gas storage, if remaining gas+ current recharged gas> recharge limitation, it shall reject the recharge operation, to prevent gas storage.

#### Valve auto-clean

Meter's valve will be opened & closed or closed and opened once at defined time interval to prevent the valve from stuck and check whether the valve working status.

#### Overdraft Function

Emergency Gas, customers could still consume gas even if the balance credit in meter is used up if Overdraft Function is activated.

#### Insufficient Gas Warning

Low Credit Alarm, if remaining gas in meter reaches the alarm value, the buzzer should beep and the LCD shall give indication to remind the customers that the gas is about to used up.

## Smart Gas Meter Part (Diaphragm Type, Steel Body)



- Steel Body, Diaphragm Type Prepaid Gas Meter
- G1.6 - G4 available
- LoRa RF Wireless Com. & Infrared Com. Integrated in ONE (1)

## Technical Specifications

| Items                       | Unit                                                       | Parameters                               |       |       |
|-----------------------------|------------------------------------------------------------|------------------------------------------|-------|-------|
| Nominal flow Qn             | m3/h                                                       | 1.6                                      | 2.5   | 4.0   |
| Maximum flow Qmax           | m3/h                                                       | 2.5                                      | 4.0   | 6.0   |
| Minimum flow Qmin           | m3/h                                                       | 0.016                                    | 0.025 | 0.040 |
| Total Pressure Loss         | Pa                                                         | ≤250Pa                                   |       |       |
| Working Pressure            | kPa                                                        | 0.5kPa - 50kPa                           |       |       |
| Cyclic Volume               | dm3                                                        | 1.2                                      |       |       |
| Permissible Error           | Qmin≤Q≤0.1Qmax                                             | +3%                                      |       |       |
|                             | 0.1Qmax≤Q≤Qmax                                             | +1.5%                                    |       |       |
| Min. reading of the counter | dm3                                                        | 0.2                                      |       |       |
| Max. Reading of the counter | m3                                                         | 99999.999                                |       |       |
| Working Humidity            | %                                                          | ≤93%                                     |       |       |
| Working Temperature         | 0C                                                         | -200C ~ 500C                             |       |       |
| Storage Temperature         | 0C                                                         | -300C ~ 600C                             |       |       |
| Pulse Equivalent            | m3                                                         | Dual Pulse, each 1m3 equals to 100 pulse |       |       |
| Power Supply                | Lithium Battery, with Theoretical battery lifespan 6 years |                                          |       |       |

## Customer Interface Unit (CIU) for Meter Recharge & Data Query



- ⦿ AC Power and Dry Battery Power (4pcs AAA) Solution optional
- ⦿ Touchable Keypad for Token input
- ⦿ LoRa RF Wireless Com. & Infrared com. Integrated in ONE (1)
- ⦿ Firmware Upgrade Port reserved

## Technical Specifications

| Description                 | Technical Parameters                                                                                                                                    |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material                    | ABS for Main Case and PET for Nameplate                                                                                                                 |
| Maximum flow Qmax           | 8cm (Width) * 14cm (Length) * 3cm (Height)                                                                                                              |
| Minimum flow Qmin           | 200g                                                                                                                                                    |
| <b>Power Supply</b>         |                                                                                                                                                         |
| Power Supply                | <ul style="list-style-type: none"> <li>• AC Power with Adapter (Voltage 5V, Current &gt;500mA)</li> <li>• Dry Battery (4pcs AAA Dry Battery)</li> </ul> |
| <b>Communication Module</b> |                                                                                                                                                         |
| Communication Method        | <ul style="list-style-type: none"> <li>• LoRa RF Wireless Com.</li> <li>• Infrared Com.</li> </ul>                                                      |
| Working Distance            | <ul style="list-style-type: none"> <li>• 100-200m by LoRa RF Wireless Com.</li> <li>• 5m by Infrared Com.</li> </ul>                                    |
| Communication Protocol      | IEC62055-41,51                                                                                                                                          |
| <b>Working Environment</b>  |                                                                                                                                                         |
| Working Temperature         | 00C - 500C                                                                                                                                              |
| Working Humidity            | 10% - 90%                                                                                                                                               |
| <b>User Interface</b>       |                                                                                                                                                         |
| LCD                         | Dot Matrix LCD with Backlight for displaying                                                                                                            |
| Buzzer                      | Beep for indication & Alarm                                                                                                                             |
| LED                         | LED for indication of LoRa RF Wireless Com. Status                                                                                                      |

