



▲ Billion SG3150-P

Pre-paid Smart Meter



▲ Billion SG3150-CR

Smart Card Reader

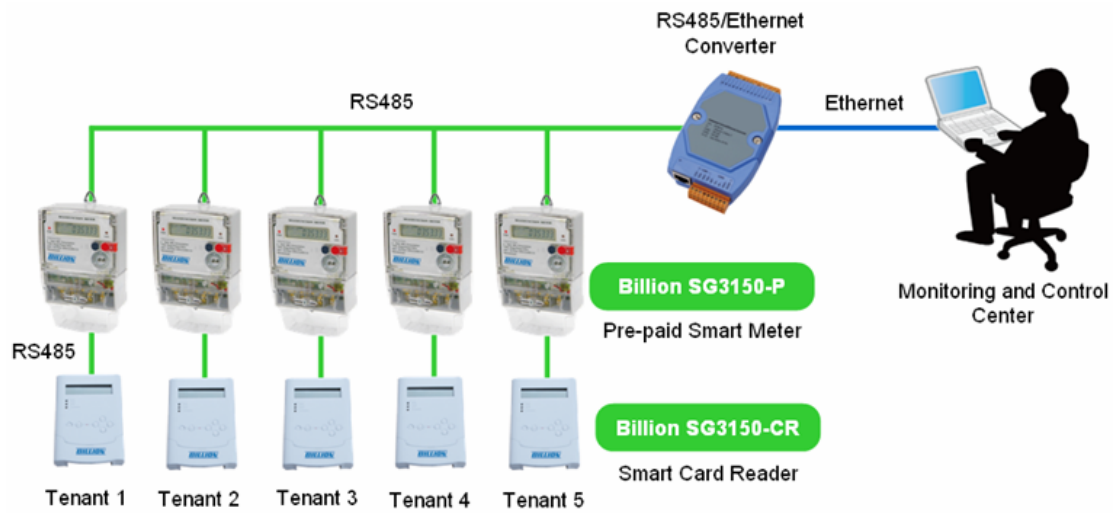
Billion SG3150 Series

Pre-paid Smart Meter and Smart Card Reader

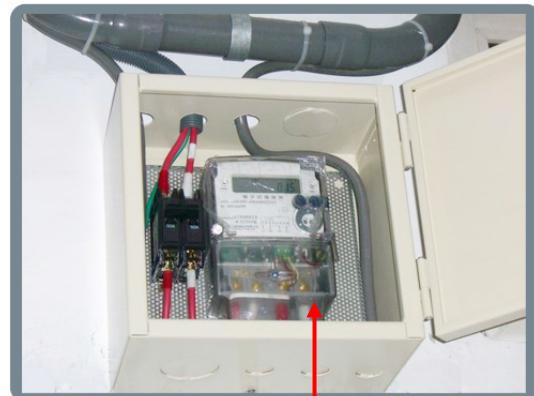
The Billion SG3150 Series is an intelligent prepayment system designed for the school dormitory, commercial and residential building. With its revenue-class accuracy, extended I/O flexibility and standard communication ability, the Billion SG3150 series is suitable for the applications such as the prepaid services, security integrations, and remote control managements. The built-in field control (LonTalks) and Internet access protocol (with router option) enable the Billion SG3150 to integrate with most of commercial Supervisory Control and Data Acquisition (SCADA) / Man Machine Interface (MMI) systems easily and economically.

- < 0.5% Wh accuracy with IEC-62053-21, IEC62053-22, and CNS14607 standard
- Time-of-Use (ToU) measurement with 4 tariff, configurable season and holiday settings
- Double RS-485 port for up-link and Card Reader
- Remote connect and disconnect
- 10 years certified life
- Built-in RTC with long life battery
- Internet management with router (RT option)
- Smart card prepayment and management with Card Reader (CR option) and Card Manager (SW options)

Application Diagrams



Application Cases



Billion SG3150-P



Billion SG3150-CR

Specifications

► Pre-Paid Smart Meter

Meter type	1P2W, 1P3W
Base current Ib	Ib 10 A
Max-current	1P2W for 80 A, 1P3W for 60A
Starting current	0.001 Ib
Voltage/frequency rating	110/220 Vac, max in 470V. 50/60 Hz
Accuracy	0.5% compliant with IEC-62053-21, IEC62053-22 and CNS14607
Temperature	Operation: -20 to 60°C, RH ≤ 90% Storage: -20 to 70°C, RH ≤ 90%
Display	8 digits LED
kWh pulse	LED display
Connect/disconnect	Holding relay rating up to 80A
Extend communication	RS485 port
Up-Link communication	RS485
Power consumption	< 3VA
Surge protection	6 kV
TOU	4 tariff with season and day type settings
Mounting type	Surface mounting
Size	134.5mm(L) x 215.95mm(W) x 66.5mm(H)

► Smart Card Reader

The Billion SG3150-CR is fully compatible with the Billion SG3150-P and it can support various kinds of smart card standards to provide operation and setting interface.

Standards	Support ISO7816 T=1, T=0 protocol, compliant with ISO7816-1/2/3
Display	2x16 text mode LCD to display residual money, rate type, SG3150-P kWh
Communication	RS485 compatible with SG3150-P meter
Power supply	DC 5V directly from SG3150-P meter
Card holder	> 100,000 smart card access
Buzzer	Alert card insufficient money and meter setting
Keypad	6 key to enter date, time and other settings
Setting functions	Can program SG3150-P tariff rate, Time-of-Use and stored in SG3150-P
Mounting	Surface mountings with tamper proof seal
Size	131mm(L) x 93mm(W) x 34mm(H)

Display

► Pre-Paid Smart Meter

1. Display Item

kWh
Current Rate (A/B/C/D)
Rate A kWh
Rate B kWh
Rate C kWh
Rate D kWh
Year/Month/Day
Hour/Minute/Second
Meter Address

2. LED

PWR	Power: Relay on (LED stay-on), Relay off (Led blink)
kWh	kWh Pulse output

3. Communication

com1 : Up-link communication

com2 : Card Reader communication

► Smart Card Reader

1. Display Item

SG3150-P kWh
Balance
Rate type/ Rate
Year/Month/Day
Hour/Minute/Second

2. LED

BAL	Under Balance
OFF	Status of Power off/on
COMM	SG3150-P communication status

Register Table (for RS485 Option)

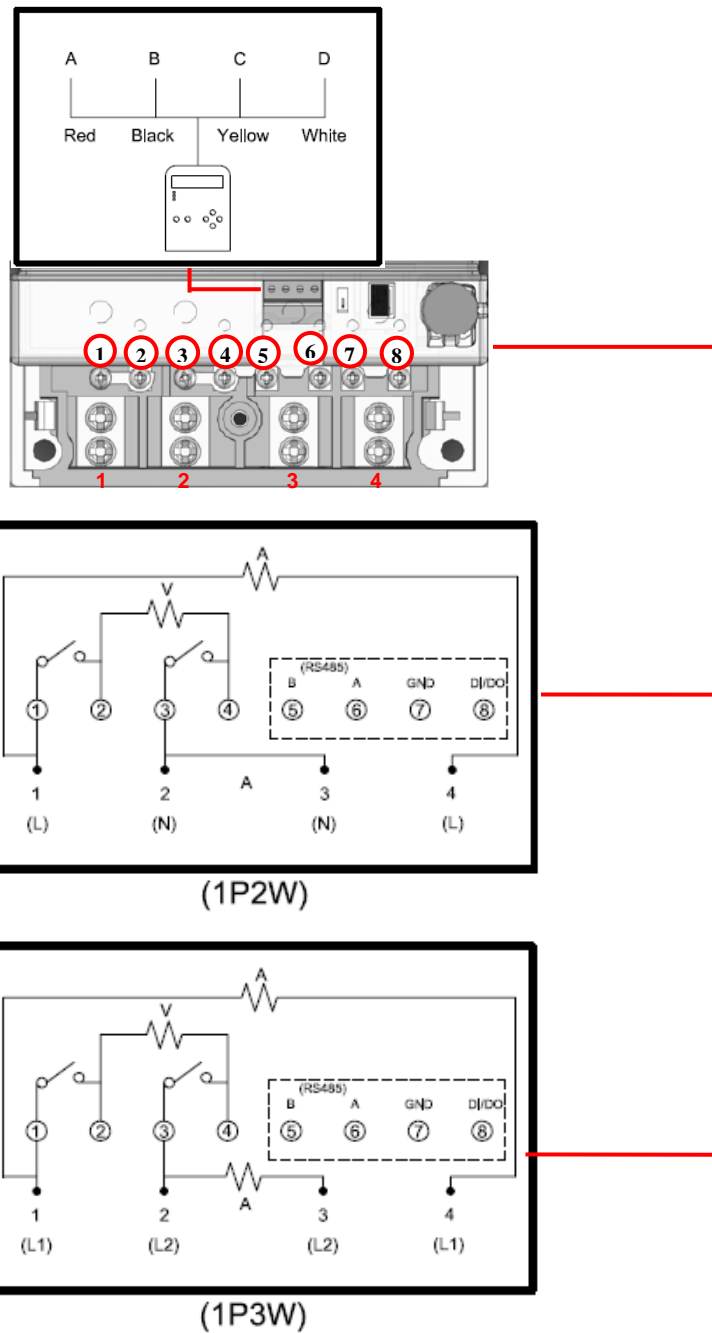
► Holding Registers

Start Address	No. of Registers	Description
0000	1	Meter Address
0001	4	Year/Month/Day Hour/Minute/Second
0005	1	Relay
0006	1	Reserved
0007	2	TOU Version
0009	104	TOU Data

► Input Registers

Start Address	No. of Registers	Description
0000	2	Realtime kWh
0002	2	kWh per 15 minutes
0004	4	Year/Month/Day Hour/Minute/Second
0008	1	Relay
0009	1	Reserved
000a	1	Reserved
000b	1	Card Reader
000c	1	Rate Type
000d	2	Rate A kWh
000f	2	Rate B kWh
0011	2	Rate C kWh
0013	2	Rate D kWh
0015	2	Accumulated sum deducted from card (0.001 currency unit)
0017	1	Software version
0018	1	Master (1) / Slave (0) Mode
0019	1	Meter mode for card deduction or deposit : 0x0000 : Deduction from card 0x0001 : Deposit from system
001A	1	Relays status when meter power on : 0x0000 : on 0x0001 : of
001B	1	Alarm for low balance (0.001 currency unit)
001C ~ 001F	4	Series No. of card
0020	2	Balance of card (0.001 currency unit)

Wiring



Note: All the specifications are subject to change without prior notice.
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