

Single Phase Smart Meter with Bluetooth Communication

Multifunctional meter with enhanced meter reading and anti-tamper features

- ✓ Enable accurate and efficient meter reading using BLE (Bluetooth Low Energy) communication
- ✓ Protect revenue by various anti-tamper features
- ✓ Ensure safe meter installation when performing construction work





Smart Meter



Efficient meter reading system can be built easily by BLE communication.

Conventional meter reading work is time consuming and requires visual inspection and manual input.

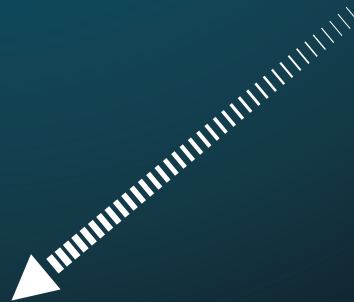
It also presents challenges in terms of accuracy due to misreading and input errors.

Fuji Electric's Smart Meter makes it easy to transmit meter reading information to a mobile device reliably via Bluetooth and then transfer the data from the mobile device to a PC for further management.

It also makes it easy to build a efficient and reliable meter reading system.



Mobile device (Android)



PC





F5NWF

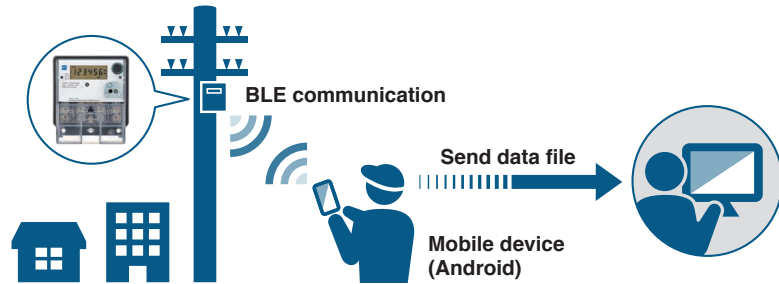
Features and benefits

Enable accurate and efficient meter reading using BLE communication

Meter and mobile device interact with each other with built-in BLE (Bluetooth Low Energy) and prevent human error of reading and writing meter date.

Also electricity bill data can be sent to PC via mobile device.

■ Meter reading system (Simple and easy)



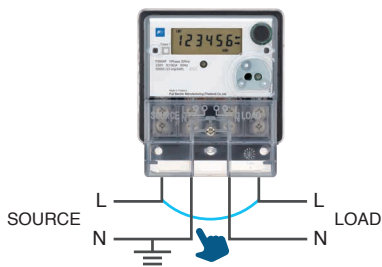
Protect revenue by various anti-tamper features

Various anti-tamper features such as current un-balance, missing neutral, line and neutral interchange, current reversal and magnetic interference can reduce the electricity theft.

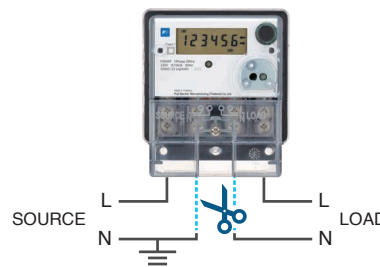
LCD shows alarms and event logs are recorded in a internal memory when tampering detected.

■ Examples of tampering

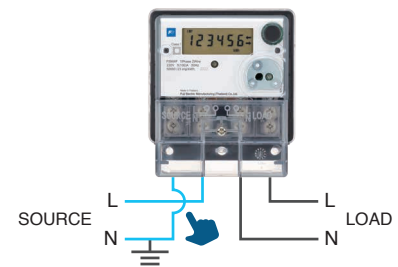
Current un-balance



Missing neutral



Line and neutral interchange



Ensure safe meter installation when performing construction work

It ensures safety during construction work by using a terminal structure that prevents electric shock and loss of terminal screws when installing the meter.

■ Safe terminal design



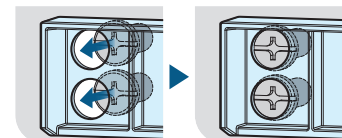
Prevent electric shock

The small holes in the meter cover prevent electric shock by making it impossible to insert fingers.



Prevent terminal screw drop and loss

The small holes in the meter cover prevent screw drop and loss during construction work.



Technical specifications

Standard and compliance

- IEC 62052-11, IEC 62053-21
- Accuracy class : Class 1

Electrical

- Direct connected
- Single phase and two wire
(with neutral current measurement)
- Nominal voltage : 220V/230V/240V
- Rated current : 5 (100)A
- Frequency : 50Hz/60Hz
- Power consumption
Voltage circuit : < 10VA, 2W
Current circuit : < 2.5VA

Meter constant

- 50000/23 imp/kWh
(LED pulse output. Programmable)

Mechanical

- Dimensions : W103×H117.9×D57.1
(Approx.)
- Enclosure : Engineering plastic
- Protection design for terminal screw loss and electrical shock
- Sealing : Permanent sealing (Meter cover)
Wire sealing (Terminal cover)

Measured value

- Total kWh (Import/Export/Absolute/Net)
- Active Power, Voltage, Current (Line Neutral), Power factor

Billing reset

- Manual billing reset (Communication)
- Auto billing reset
- Storage of last 18 monthly billing data

Demand measurement

- Maximum demand (Import/Export)
- LCD showing last maximum demand

Load profile function

- Up to 5 channels
(Date and time/Status/Ave. voltage/
Import block demand/Export block demand)
- 4,320 records (15 min interval)

Display

- Programmable showing items in each mode (Normal/Manual/Power outage)

Push button

- Button for LCD control

Real-time clock and calendar

- Built in calendar
- Clock accuracy : ±2 sec/day

Buck up power supply

- Internal battery buck up
for real-time clock and LCD display

Anti-tamper features

- Current un-balance detection
- Current reversal detection
- Missing neutral detection
- Line and neutral interchange detection
- Magnetic interference detection
- LCD alarm and tamper event logs
(Up to 255 events)

Communications

- Optical interface (IEC 62056-21)
- Built in BLE (Bluetooth Low Energy) module with mobile application support (GATT profile)

Firmware

- Upgradable firmware

Meter data security

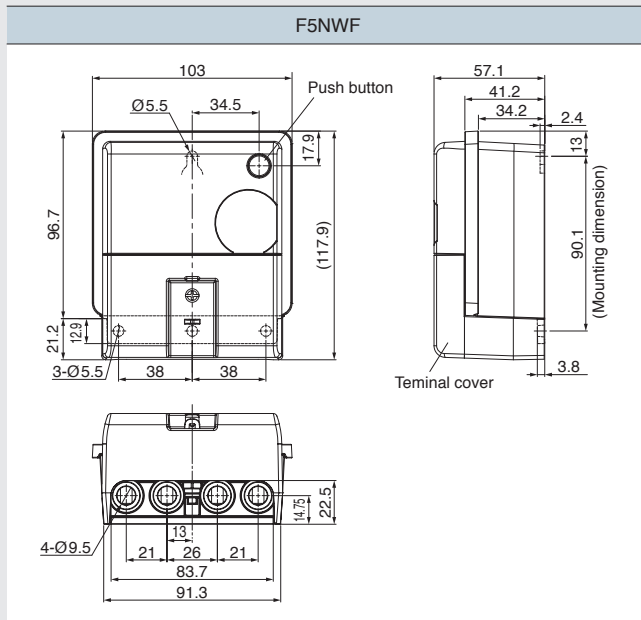
- Standard DLMS security

Environmental

- Ingress protection : IP54
- Temperature : -25°C to 60°C (Operating)
: -40°C to 85°C (Storage)
- Humidity : Up to 95% non condensing

Dimensions

(unit:mm)



Connection diagram

| Phase and wire | | Single phase - two wire |
|--------------------|--------------------------|-----------------------------|
| Connection diagram | | |
| Conductor | Cross section area | Ø2.6mm to 50mm ² |
| | Conductor diameter | 2.6mm to 9.1mm |
| | Diameter over insulation | 4.6mm to 12.1mm (Approx.) |
| Terminal screw | Screw size | M6 |
| | Tightening torque | 2.94 ± 0.12 N·m |

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