



# Smart Metering Product

**XJ Metering CO., Ltd.**

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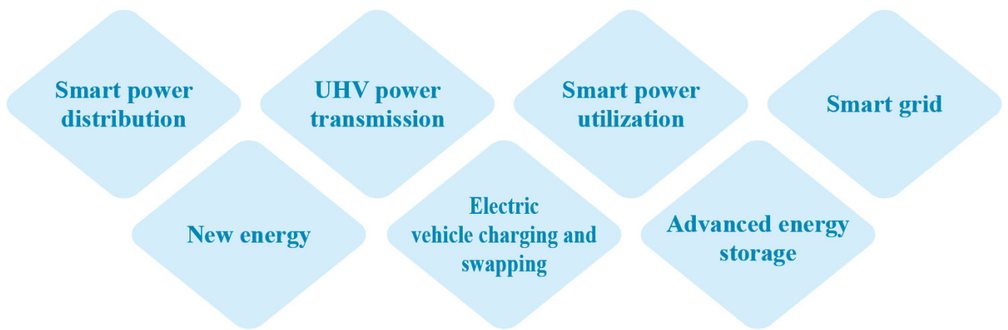
XJ Electric CO., LTD, subsidiary of China Electrical Equipment Group Co., Ltd, is a leading high-tech modern industrial group. It is committed to providing top-level power equipment for worldwide economic and social development.

## Core Businesses




XJ Metering Co., Ltd, one of core subsidiaries of XJ Electric CO., LTD, is specializing in Standard Formulation, Intelligent Metering, Data Acquisition and Communication, Test and Inspection and Energy Management System. Equipped with advanced logistics and warehousing systems, the whole process of intelligent testing system and manufacturing information management system, XJ Metering can provide comprehensive and reliable solutions for the whole chain and life cycle of the metering system.

Enabling Smart Measuring
Creating Green Energy

# DDS566

## Single Phase Electronic Energy Meter


DDS566 series adopts the V9811B scheme of Vango SOC single chip microcomputer and resistance capacitance step-down. It can measure the positive and negative active power of single-phase active power (the negative power is included in the positive power). At the same time, the LCD can also cycle the data such as voltage, current, power factor and meter number. Its performance indicators comply with IEC62052-11 and IEC62053-21 standards.

## Highlights

- High measurement accuracy
- Low power consumption
- Anti-tamper ability
- Simple and convenient installation

## Main function

### Measurement

- Active/ reactive measurement
- Forward/inverse measurement
- Class 1.0 meter (IEC62053-21)

### Instantaneous parameter

- Voltage
- Current
- Power factor

### Display

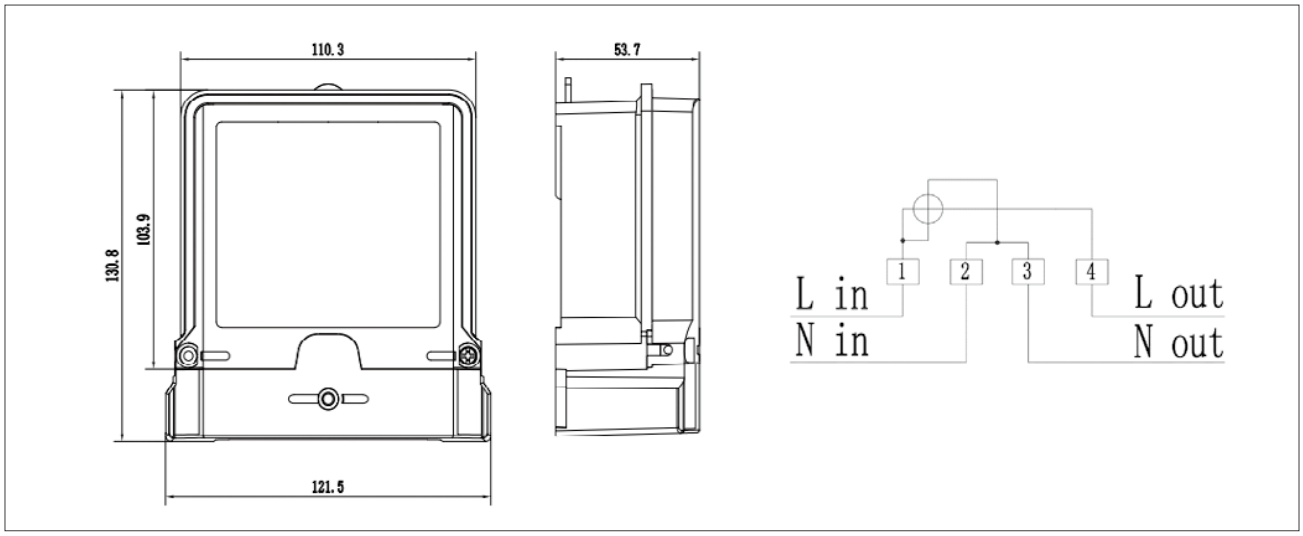
- LCD
- Display the first row of electricity
- Displays the second row of instantaneous values

## Certification

## Specification

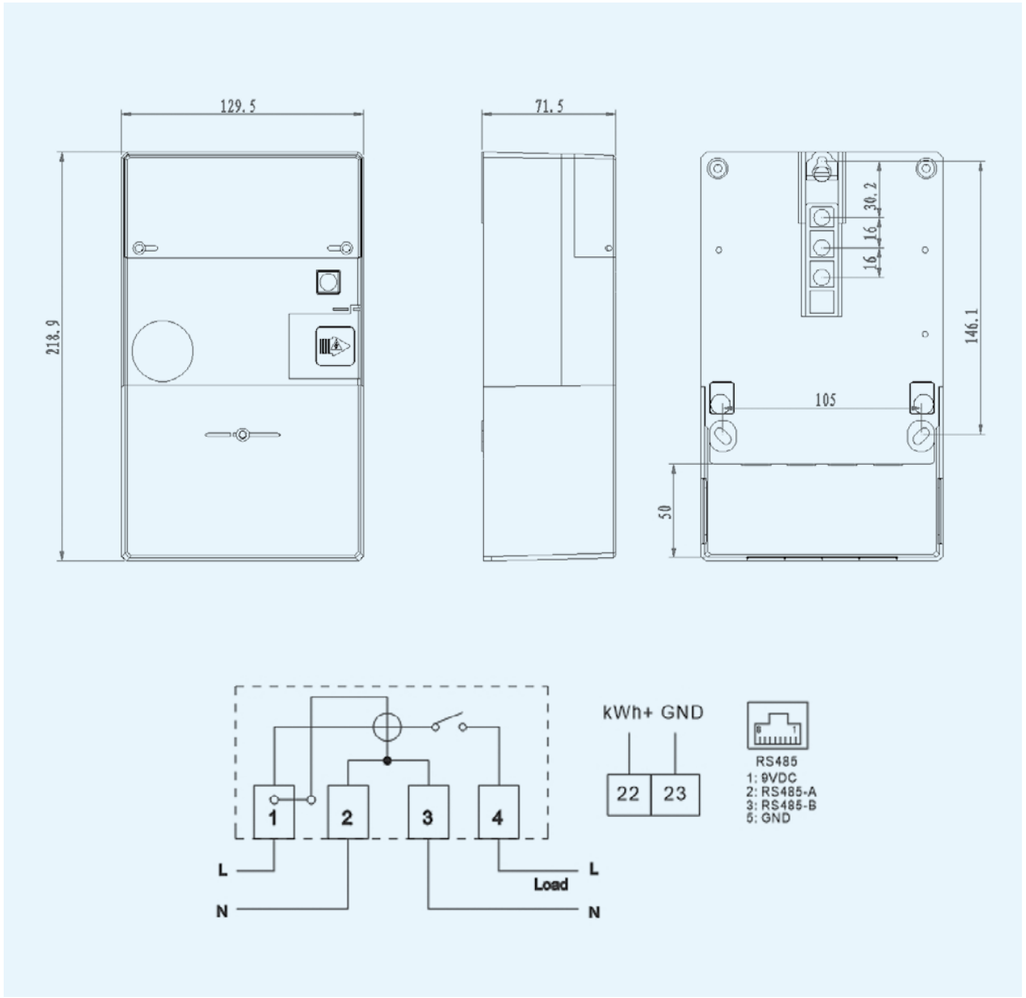
| Specification | | |
|---|---|---|
| Application | | |
| Accuracy | Active 1.0<br>Reactive 2.0 | |
| Rate voltage | 220V | |
| Frequency | 50 Hz | |
| Rate Current | 5(100) A | |
| Constant | 1600imp/kWh | |
| Power consumption | Voltage circuit | <2W, <10VA |
| | Current circuit | <4VA |
| Temperature Range | Operation | -25°C+55°C |
| | Storage | -40°~+70°C |
| | Limit | -40°~+70°C |
| Humidity Range | Up to 85% | |
| Protection Degree | IP54 | |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs |
| | AC voltage | 4kV 1min |
| Standards | IEC62052-11<br>IEC62053-21 | |
| Connection hole | Terminal | 9mm*9mm |
| Dimension | 130.8*121.5*53.7mm (L*W*H) | |

## Dimension & Connection



## Certification

## Dimension & Connection





# DDZY566-M

Single Phase Two Wires Electronic Meter

# DDZY566-M

**Single Phase Two Wires Electronic Meter**

DDZY566-M meter is single phase two wire multifunctional energy meter. It adopts the advanced technology of LSI (Large Scale Integrated circuit) and digital signal processing. It supports active & reactive energy, demand measurement, instantaneous measurement for voltage, current, frequency, power factor and power, optical port, TTL interface with module communication, TOU, anti-tamper protection and event record, relay operation, power quality detection, load profile, pulse output for test, self-check.

## Highlights

- Optical communication, open protocol: DLMS/ COSEM
- PLC/ RF/GPRS plug-and play communication module
- Internal relay for load demand control by configuration or remote communication
- Remote firmware upgrade via PLC/ RF/ GPRS/ RS485 (optional)

## Main Function

### Measurement

- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Event & Alarms

- Load and power grid events detection
- Under & over voltage
- Power down
- Event date and time
- Up to 1000 event records
- Event & alarm of tamper
- Low & out of credit alarm
- Alarms indicator (LED & Buzzer)

### Display

- Large digit LCD display, backlight (optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Load Profile (optional)

- Up to 2 megabytes of non-volatile memory
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Replaceable lithium battery (10 years)

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### Anti-Tamper

- 4 sealing positions (terminal, body)
- Meter & terminal cover open detection
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Communication

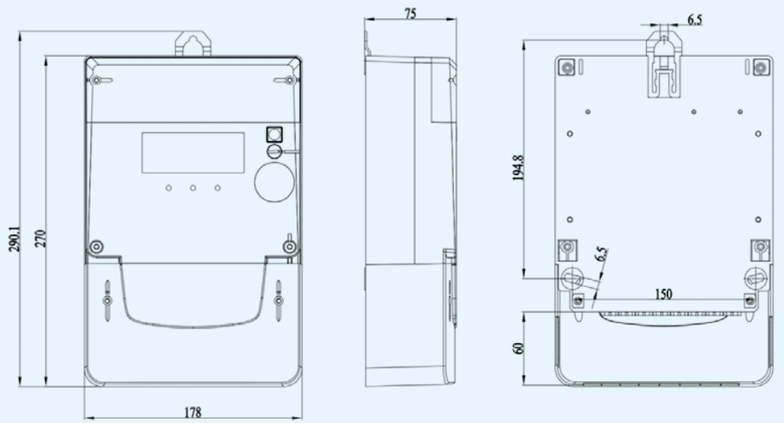
- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

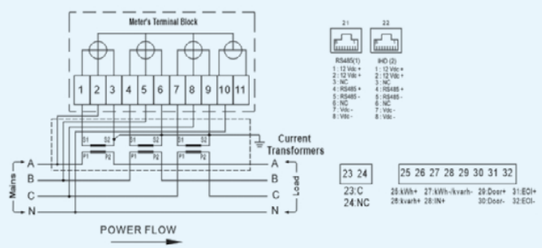
## Specification

| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | 1P2W | 220V,230V, 240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 40A, 60A, 80A, 100A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | <2W, <10VA | |
| | Current circuit | <4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-31, IEC 62055-41<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1,EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/ UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 9mm*9mm | |
| Dimension | | 218.9*129.5*71.5 mm (L*W*H) | |

## Certification

## Dimension & Connection




| Terminal | Name | Function |
|---|---|---|
| 1 | Current L1 IN | Phase L1 current input; |
| 2 | Voltage L1 | Phase L1 voltage Input |
| 3 | Current L1 OUT | Phase L1 current output |
| 4 | Current L2 IN | Phase L2 current input; |
| 5 | Voltage L2 | Phase L2 voltage input |
| 6 | Current L2 OUT | Phase L2 current output |
| 7 | Current L3 IN | Phase L3 current input; |
| 8 | Voltage L3 | Phase L3 voltage input |
| 9 | Current L3 OUT | Phase L3 current output |
| 10 | Neutral (N) in | Neutral line input |

| Terminal | Name | Function |
|---|---|---|
| 11 | Neutral (N) out | Neutral line output |
| 21 | RS485-1 | RS485 port of meter, can be used to connect to external modem or local reading device. |
| 22 | RS485-2 | RS485 port of meter , can be used to connect to local reading device. |
| 23~32 | Signal terminal | Signal terminal is used to connect other device to transfer signal (like pulse, alarm..) |


# DTZY566-M

Three Phase Four Wires Electronic CT and CT-VT Meter

# DDZY566-M

**Three Phase Four Wires Electronic CT and CT-VT Meter**

DTZY566-M is a new type of three-phase smart meter of 0.5S Class. This meter is designed for electric energy metering of industry, commerce, large users and transformers. It has pluggable communication modules PLC/GPRS / RF).The meter is designed to keep working in a complicated environment by selecting suitable communication module. DTZY566-M complies with the latest international standards and requirements for power industry, and is key metering equipment for construction of smart grid.

## Highlights

- Optical port communication based on DLMS / COSEM protocol
- Pluggable communication modules (PLC / GPRS / RF)
- Remote firmware upgrade By PLC / RF / GPRS / RS485 (optional)
- Flexible load control with external switch relay
- Replaceable battery

## Main Function

### Measurement

- Active and reactive (import and export)
- Cumulative & delta energy
- Tariff control & step tariff are available

### Event & Alarms

- Anti-tampering
- Under & over voltage
- Power off / on
- Remote relay control
- Losing phase
- Low & out of credit alarm
- 1000 event records

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Lithium battery (10 years)

### Communication

- Optical port: IEC62056-21
- PLC /RF /GPRS /RS485

### Load Profile (optional)

- Maximum non-volatile memory of 2M
- Over 360 days' storage (2 channels, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency, etc.

### Instantaneous Values

- Power, Voltage, Current
- Power factor
- Frequency, Phase angles

### Display

- Large digit LCD display
- Backlights
- Configurable scrolling display and button display
- Display readable without main power (RWP)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Remote firmware upgrade

- Remote firmware upgrade through PLC / RF / GPRS /RS485

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### Anti-Tamper

- Meter & terminal cover open
- Bypass / reverse /unbalance current
- Strong magnetic field detection (optional)
- Ultrasonic sealing (optional)

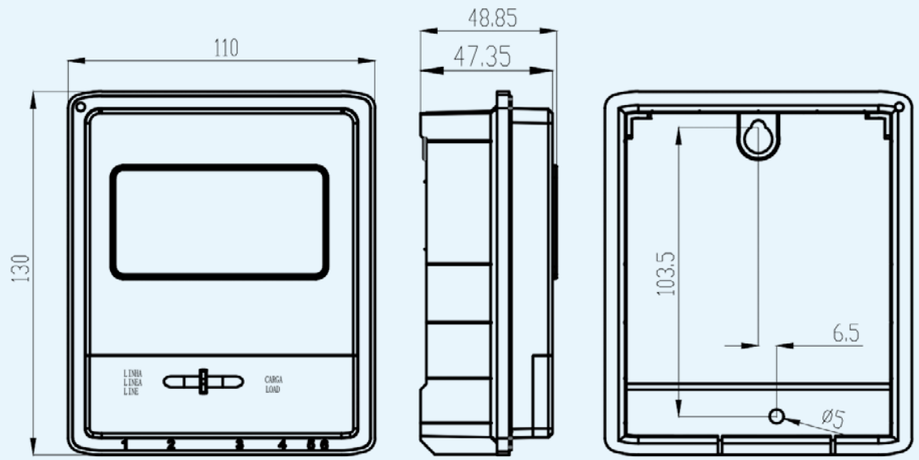
## Specification

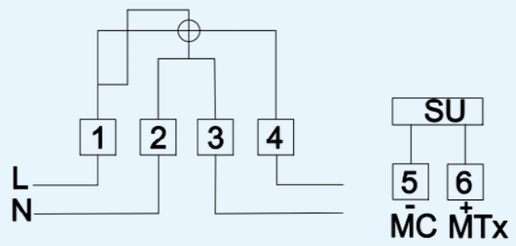
| Specification | | | |
|---|---|---|---|
| Application | | Mutual inductance connection | |
| Accuracy | Active | Class 0.5S | |
| | Reactive | Class 2 | |
| Nominal voltage | 3P3W, 3P4W | 3*57.7V~3*240V | |
| Current Range | Ib/ Iref | 1A | |
| | Imax | 5A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | ≤2W, 5VA | |
| | Current circuit | <0.2VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| | Radio interference (peak value) | 30Mhz ~1GHz | < 30dB |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV | |
| RTC | Clock accuracy | < 0.5s/d | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-41, IEC 62055-51<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1, EN 54070-3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 11mm*11mm | |
| Dimension | | 290.1*178*75 mm (L*W*H) | |

## Certification

INMETRO

## Dimension & Connection





# DDS566

Single-Phase Two-Wire LCD Meter

# DDS566

**Single-Phase Two-Wire LCD Meter**

DDS566 series electronic watt-hour meter can accurately measure one circuits of active import and export energy, and the export energy is included in the import energy. It can measure the real-time electrical parameters, such as current, voltage, power, and frequency. It adopts segmented LCD and has LED power prompt function. This watt-hour meter is a high-tech product manufactured with advanced ultra-low-power large-scale integrated circuit technology and SMT process. Its key components are long-life devices of international famous brands, which improves its reliability and extends its life.

## Highlights

- Optimized compact design
- High measurement accuracy
- Low power consumption
- Anti-tamper
- Simple and convenient installation

## Main Function

### Energy Metering

- Import and export active energy metering
- Displayed in 6+0 format by default
- The range of electric energy data is 0 ~ 999999 kwh

### Security Protection

- Communication design password verification
- Case protection grade: IP52

### Standby Power Supply Processing (optional)

- 1.5F/5.5V farad capacitors
- Supporting LCD for 48 hours without power
- Service life of 15 years

### Communication Function

- TTL-UART communication interface
- PIMA interface, support PIMA protocol

### Alarms

- Error alarm display

### Measurement and Monitoring Functions

- Voltage, current, power factor, frequency, active power, class 1.0 accuracy

### Signal Output

- Total active pulse LED optical detection output

### Display Function

- Full-screen LCD
- Double LED lights: power light, pulse light

### Setting function

- Set/read meter serial number
- Clear total energy
- Set total energy
- Read total energy value
- Set/read number of integer digits and decimals
- Read firmware version
- Set LCD display mode
- Adjust the error (accuracy)

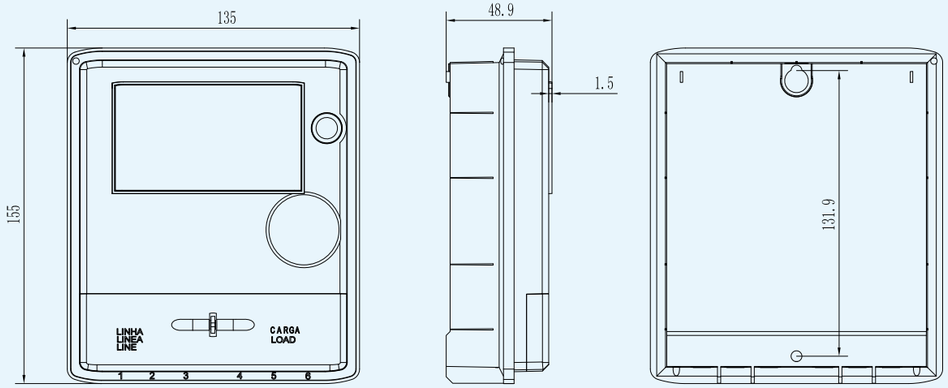
## Specification

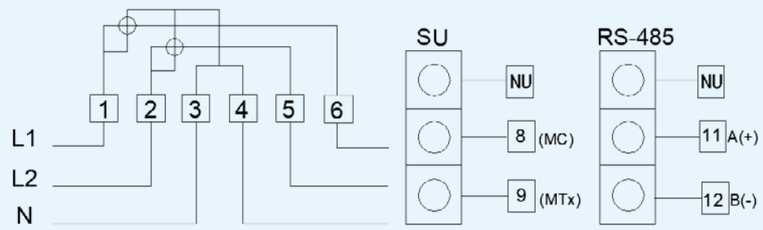
| Specification | |
|---|---|
| Items | Specification |
| Model | DDS566 |
| Reference Voltage, Un | 120V/240V AC |
| Rated Current, Ib | 15(100)A |
| Pulse Constant | 1600imp/kWh |
| Type | 1P2W |
| Accuracy Class | Active class 1.0 |
| Rated Frequency | 50Hz/60Hz |
| Starting Current | Active: 0.004 Ib |
| Running with No Load | Preventing no-load operation |
| Normal operating voltage | 96VAC~288VAC |
| Operating voltage limit | 0.8Un~1.20Un |
| Voltage circuit power consumption | ≤ 2W and 10VA |
| Current circuit power consumption | < 4VA |
| Data storage time after power outage | ≥ 10 years |
| Static power consumption of backup power supply | ≤ 20uA |
| Normal operating temperature | -25℃~+55℃ |
| Operating temperature limit | -40℃~+70℃ |
| Storage and transportation temperature | -40℃~+70℃ |
| Storage and operating humidity | ≤ 85% |
| Standards | IEC62052-11:2003<br>IEC62053-21:2003 |
| Dimension | 130*110*48.85 mm (L*W*H) |

## Certification

INMETRO

## Dimension & Connection





# DTS566-2P3W

Two-Phase Three-Wire LCD Meter

# DTS566-2P3W

**Two-Phase Three-Wire LCD Meter**

DTS566 electronic active energy meter adopts advanced ultra-low power consumption solid-state integration technology and SMT process to manufacture, so that its measurement accuracy and stability are reliably guaranteed. The product shall comply with the international standard IEC62052-11:2003 "Metering equipment" and IEC62053-21:2003 "Static meters for active energy (classes 1 and 2)", which are related to the class 1 two-phase common electronic energy meter. This product is a multifunctional energy meter based on the new RN8213C+ RN8207C solution.

## Highlights

- Optimized compact design
- High measurement accuracy
- Low power consumption
- Anti-tamper
- Simple and convenient installation

## Main Function

### Electricity metering function

- Accumulative electric quantity
- Positive and reverse active electric quantity
- Four quadrant reactive electric quantity

### Measurement and monitoring functions

- The combined phase active power
- The split phase active power
- The combined phase reactive power
- The split phase reactive power
- Inductive reactive power, capacitive reactive power
- Reverse inductive reactive power
- The instantaneous voltage of each phase
- The instantaneous current of each phase
- Grid frequency
- The power factor of the combined phase and each phase
- Current is reversed

### LED Display

- 4 LEDs

### Event detection function

- Phase failure detection
- Open meter cover detection
- Loss of voltage detection
- Reverse power detection and alarm

### Signal output function

- Total active energy pulse LED output
- Reactive energy pulse LED output

### Standby Power Supply Processing (optional)

- Adopts 3.6V lithium battery

### Communication functions

- 2P3W + PIMA:
- 2P3W + PULSE OUTPUT:
- 2P3W + RS-485:
- 2P3W + PIMA + RS-485(default):
- 2P3W + PULSE OUTPUT + RS-485:

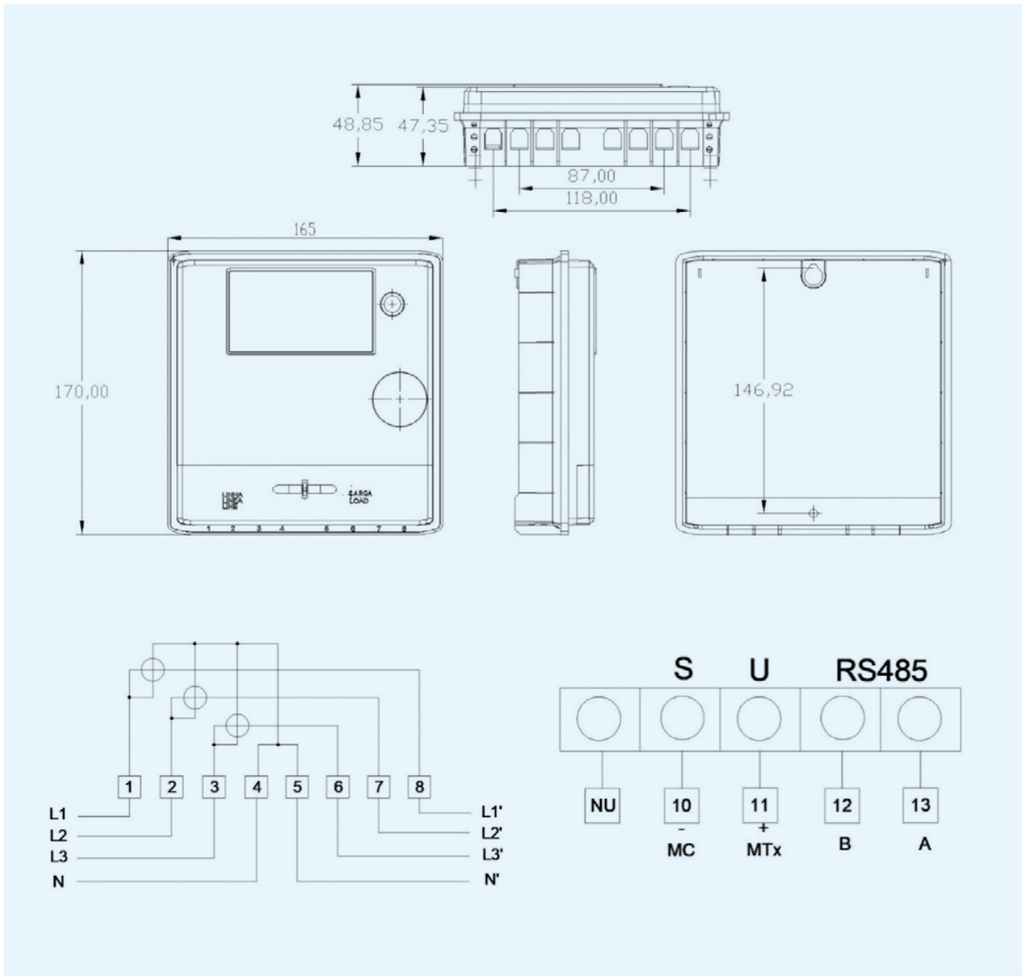
## Specification

| Specification | | |
|---|---|---|
| Items | Specification | |
| Model | DTS566-2P3W | |
| Accuracy class | Active1.0<br>Reactive2.0 | |
| Reference voltage | 120V/240V*2 | |
| Basic current (maximum current) | 15(120)A | |
| Pulse constants | 800imp/kWh, 800imp/kvarh | |
| Frequency | 60Hz | |
| Normal operating temperature | -25℃ ~ +55℃ | |
| Ultimate working temperature | -40℃ ~ +70℃ | |
| Storage and transport temperature | -40℃ ~ +70℃ | |
| Storage and working humidity | ≤85% | |
| Protection Degree | IP54 | |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs |
| | AC voltage | 4kV 1min |
| Standards | IEC62052-11:2003<br>IEC62053-21:2003 | |
| Connection hole | Terminal | 9mm*9mm |
| Dimension | 155*135*48.9mm (L*W*H) | |

## Certification

INMETRO

## Dimension & Connection





# DTS566-3P4W

Three-Phase Four-Wire LCD Meter

# DTS566-3P4W

**Three-Phase Four-Wire LCD Meter**

DTS566 electronic active energy meter adopts advanced ultra-low power consumption solid-state integration technology and SMT process to manufacture, so that its measurement accuracy and stability are reliably guaranteed. The product shall comply with the international standard IEC62052-11:2003 "Metering equipment" and IEC62053-21:2003 "Static meters for active energy (classes 1 and 2)", which are related to the class 1 three-phase common electronic energy meter.

## Highlights

- Optimized compact design
- High measurement accuracy
- Low power consumption
- Anti-tamper
- Simple and convenient installation

## Main Function

### Energy Metering Function

- Accumulative electric quantity
- Measuring positive and reverse active electric quantity
- Four quadrant reactive electric quantity.
- The default energy display format is 6+0

### Measurement and monitoring functions

- The combined phase active power
- The split phase active power
- The combined phase reactive power
- The split phase reactive power
- Inductive reactive power
- Capacitive reactive power
- Reverse inductive reactive power
- Instantaneous voltage of each phase
- Instantaneous current of each phase
- Grid frequency.
- The combined phase and each phase
- Current reversed alarm

### Signal output function

- Total active energy pulse LED output
- Reactive energy pulse led output.

### Indicator light function

### Standby Power Supply Processing (optional)

- Adopts 3.6v lithium battery

### LED Display

- 4 LEDs: power, active, reactive power, no-load

### Event and alarm functions

- Phase failure detection
- Open meter cover detection
- Loss of voltage detection
- Reverse power detection and alarm

### Communication functions

- Read and write meter number
- Clear energy (factory mode only)
- Set energy
- Read power register value
- Set energy display decimal digits
- Read software version
- Set display mode, support 5+0, 5+1, 5+2, 6+0, 6+1, 7+0
- Error calibration
- Set up PIMA data items
- Support RS485 or PIMA communication

### Fault Analysis and Troubleshooting

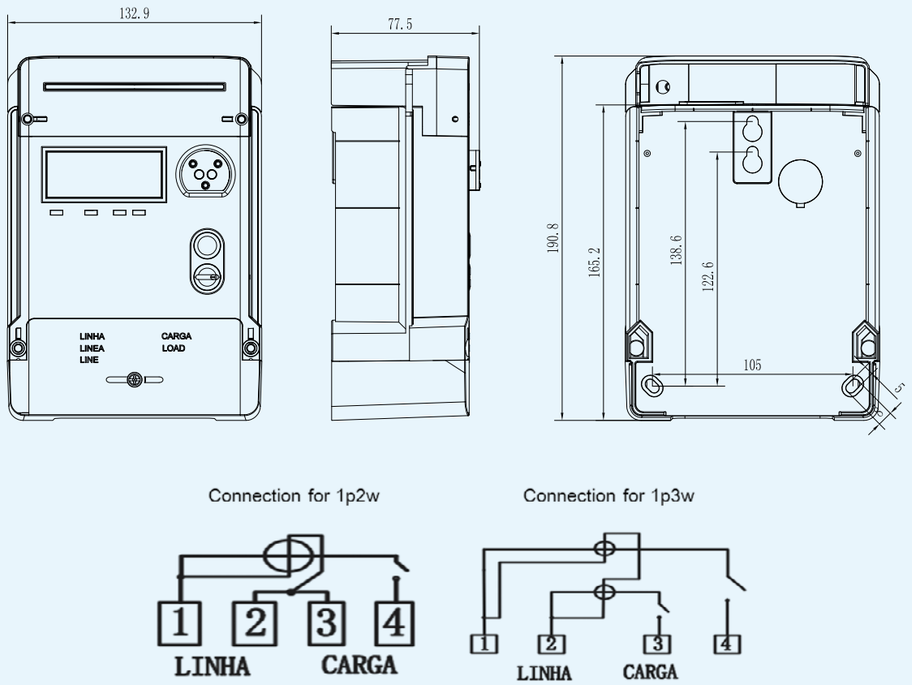
## Specification

| Specification | | |
|---|---|---|
| Model | DTS566-3P4W | |
| Accuracy class | Active1.0<br>Reactive2.0 | |
| Reference voltage | 120V/240V*3 | |
| Basic current (maximum current) | 15(120)A | |
| Pulse constants | 800imp/kWh, 800imp/kvarh | |
| Frequency | 60Hz | |
| Normal operating temperature | -25℃□+70℃ | |
| Ultimate working temperature | -40℃□+70℃ | |
| Storage and transport temperature | -40℃□+70℃ | |
| Storage and working humidity | ≤85% | |
| Protection Degree | IP54 | |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs |
| | AC voltage | 4kV 1min |
| Standards | IEC62052-11:2003<br>IEC62053-21:2003 | |
| Connection hole | Terminal | 9mm*9mm |
| Dimension | 170*165*49mm (L*W*H) | |

## Certification

DLMS® INMETRO Wi SUN

## Dimension & Connection




| No. | Connection for 1p2w | Connection for 1p3w |
|---|---|---|
| 1 | L in | L1 in |
| 2 | N in | L2 in |
| 3 | N out | L2 out |
| 4 | L out | L1 out |


# DDZY566-M

Single Phase Smart Meter

# DDZY566-M

**Single Phase Smart Meter**

DDZY566-M meter is single phase two wire multifunctional energy meter. It adopts the advanced technology of LSI (Large Scale Integrated circuit) and digital signal processing. It supports active & reactive energy, demand measurement, instantaneous measurement for voltage, current, frequency, power factor and power, optical port, TTL interface with module communication, TOU, anti-tamper protection and event record, relay operation, power quality detection, load profile, pulse output for test, self-check.

## Highlights

- Optical communication, open protocol: DLMS/ COSEM
- PLC/ RF/GPRS plug-and play communication module
- Internal relay for load demand control by configuration or remote communication
- Remote firmware upgrade via PLC/ RF/ GPRS/ RS485 (optional)

## Main Function

### Measurement

- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Event & Alarms

- Load and power grid events detection
- Under & over voltage
- Power down
- Event date and time
- Up to 1000 event records
- Event & alarm of tamper
- Low & out of credit alarm
- Alarms indicator (LED & Buzzer)

### Display

- Large digit LCD display, backlight (optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Load Profile (optional)

- Up to 2 megabytes of non-volatile memory
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Replaceable lithium battery (10 years)

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### Anti-Tamper

- 4 sealing positions (terminal, body)
- Meter & terminal cover open detection
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

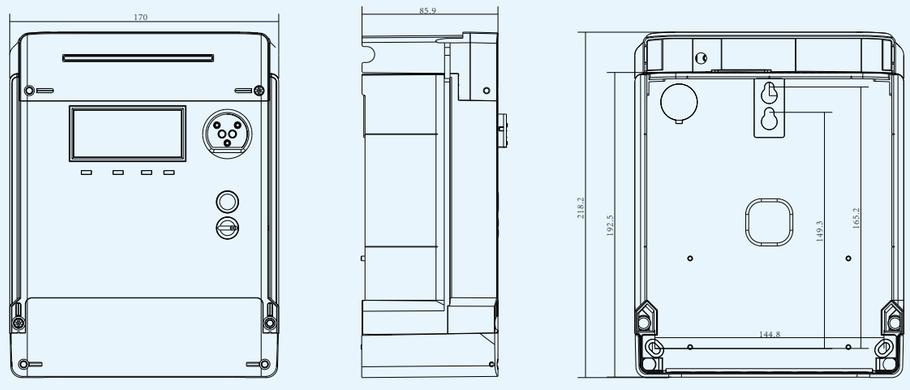
## Specification

| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | 1P2W | 220V,230V, 240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 40A, 60A, 80A, 100A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | <2W, <10VA | |
| | Current circuit | <4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-31, IEC 62055-41<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1,EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/ UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 9mm*9mm | |
| Dimension | | 190.8*132.9*77.6mm (L*W*H) | |

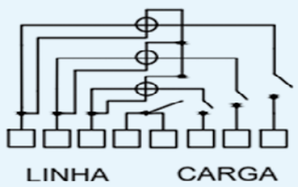
## Certification

DLMS®  INMETRO  Wi SUN

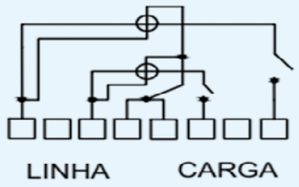
## Dimension & Connection




Connection for 3p4w




Connection for 2p3w




| No. | Connection for 3p4w | Connection for 2p3w |
|---|---|---|
| 1 | L1 in | L1 in |
| 2 | L2 in | NC |
| 3 | L3 in | L2 in |
| 4 | N in | N in |
| 5 | N out | N out |
| 6 | L3 out | L2 out |
| 7 | L2 out | NC |
| 8 | L1 out | L1 out |


# DTZY566-M

Three-Phase Smart Meter

# DTZY566-M

**Three-Phase Smart Meter**

DTZY566-M three-phase smart prepayment meter is a new generation of smart energy meter, which is equipped with STS prepayment function. This meter is mainly used for accurately electric energy metering of commercial, industrial and residential users. Remote and local credit recharge is available through optional PLC /RF / GPRS pluggable communication modules. This meter is able to be applied to the complicated AMI system and the electricity sale system.

## Highlights

- Optical port communication based on DLMS /COSEM protocol
- Pluggable communication modules (PLC /GPRS / RF)
- Remote firmware upgrade through PLC / RF / GPRS / RS48 (optional)
- Internal relay for local load demand control (configurable) and remote communication control

## Main Function

### Measurement

- Active and reactive (import and export)
- Cumulative & delta energy
- Tariff control & step tariff are available

### Event & Alarms

- Anti – tampering
- Under & over voltage
- Power off / on
- Remote relay control
- Losing phase
- Low & out of credit alarm
- 1000 event records

### Display

- Large digit LCD display
- Backlight
- Configurable scrolling display and button display
- Display readable without main power (RWP)

### Load Profile (optional)

- Maximum non-volatile memory of 2M
- Over 360 days' storage (2 channels, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency, etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Anti-Tamper

- Meter & terminal cover open detection
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)
- Ultrasonic seal (optional)

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency, Phase angles

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Lithium battery (10 years)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

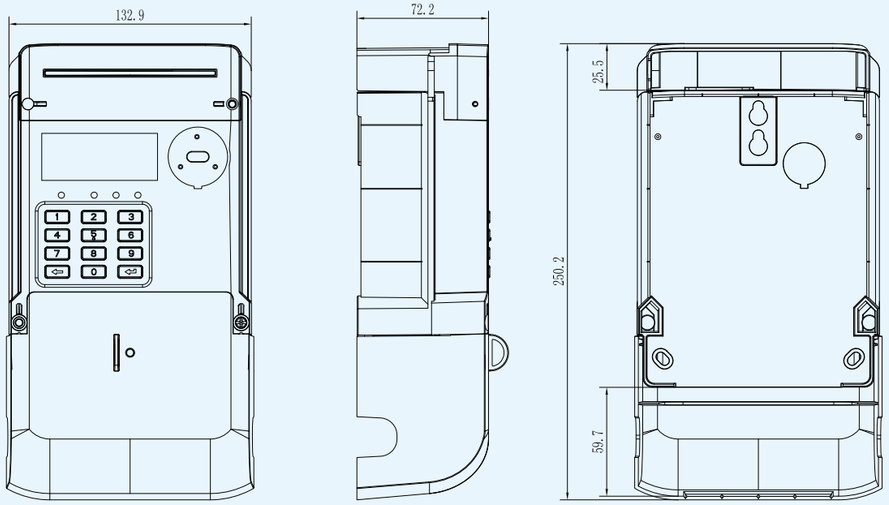
## Specification

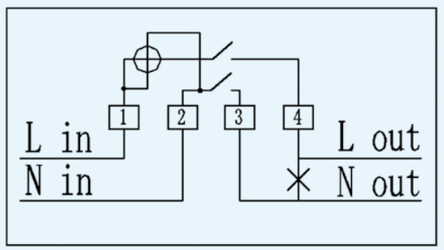
| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | 3P4W | 3*220V~3*240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 60A, 80A, 100A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | ≤2W, <5VA | |
| | Current circuit | <0.2VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| | Radio interference(peak value) | 30Mhz~1GHz | < 30dB |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV | |
| RTC | Clock accuracy | < 0.5s/d | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-31, IEC 62055-41<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1,EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/ UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 11mm*11mm | |
| Dimension | | 218.2*170*85.9mm (L*W*H) | |

## Certification

DLMS® KEMA Labs IDIS THE STS ASSOCIATION

## Dimension & Connection





# DDZY566-M II

Single-Phase Prepayment Smart Meter

# DDZY566-M II

**Single-Phase Prepayment Smart Meter**

DDZY566-M II Single Phase Prepayment Smart Meter is a new generation of single phase smart prepayment meter with STS prepayment functionality. It supports active & reactive energy measurement and instantaneous measurement, relay disconnection and reconnection management. With an optional plug-and-play PLC/RF/GPRS communication module and meter keypad, credit can be charged both remotely and locally. The meter can be used in sophisticated AMI & vending system.

## Highlights

- Optical communication, open protocol: DLMS /COSEM
- PLC /RF /GPRS plug-and-play communication module
- Internal relay for load demand control by configuration or remote communication
- Remote firmware upgrade via PLC /RF /GPRS/ RS485 (optional)

## Main Function

### Measurement

- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Event & Alarms

- Load and power grid events detection
- Under & over voltage
- Power down
- Event date and time
- 1000 event records
- Event & alarm of tamper
- Alarms indicator (LED & Buzzer)

### Display

- Large digit LCD display, backlight (optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Load Profile (optional)

- Up to 2 megabytes of non-volatile memory
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Anti-Tamper

- 4 sealing positions (terminal, body)
- Meter & terminal cover open detection
- Bypass / Reverse/Unbalance Current
- Strong magnetic field detection (optional)

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Replaceable lithium battery (10 years)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

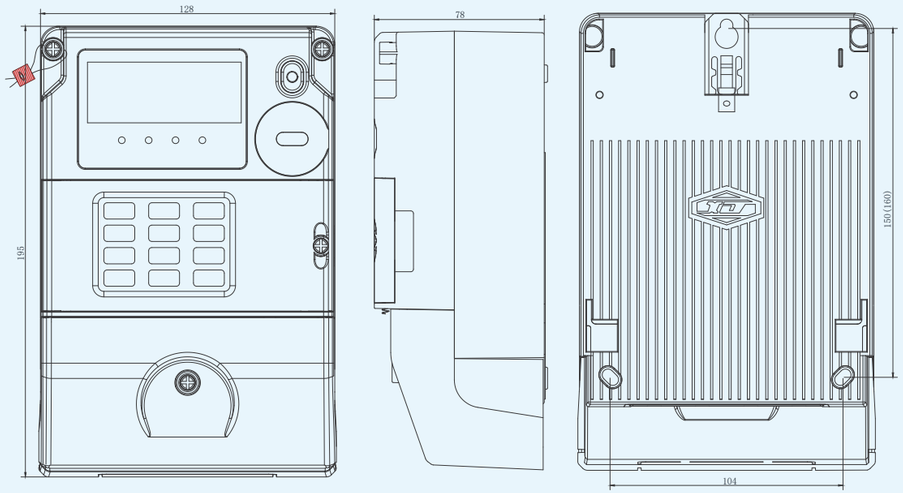
## Specification

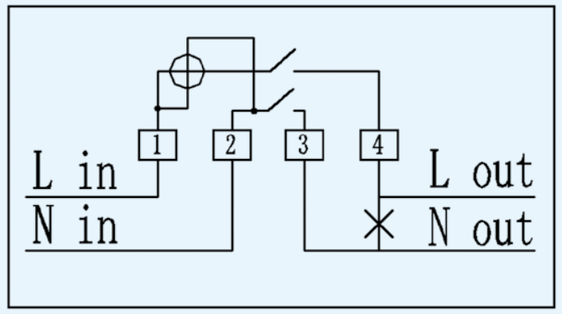
| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | | 220V,230V, 240V | |
| Current Range | Ib/ Iref | 5A, 10A | |
| | Imax | 40A, 60A, 80A, 100A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | <2W, <10VA | |
| | Current circuit | <4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| RTC | Clock accuracy | < 0.5s/d | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-41, IEC 62055-51<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1, EN 54070-3 | |
| Data storage | Load profile (optional) | 2 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | φ9mm | |
| Dimension | | 250.2*132.9*72.2mm (L*W*H) | |

## Certification

DLMS® KEMA Labs iDIS THE STS ASSOCIATION

## Dimension & Connection





# DDZY566-M I

Single-Phase Prepayment Smart Meter

# DDZY566-M I

**Single-Phase Prepayment Smart Meter**

DDZY566-M I Single Phase Prepayment Smart Meter is a new generation of single phase smart prepayment meter with STS prepayment functionality. It supports active & reactive energy measurement and instantaneous measurement, relay disconnection and reconnection management. With an optional plug-and-play PLC/RF/GPRS communication module and meter keypad, credit can be charged both remotely and locally. The meter can be used in sophisticated AMI & vending system.

## Highlights

- Optical communication, open protocol: DLMS /COSEM
- PLC /RF /GPRS plug-and-play communication module
- Internal relay for load demand control by configuration or remote communication
- Remote firmware upgrade via PLC /RF /GPRS/ RS485 (optional)

## Main Function

### Measurement

- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Event & Alarms

- Load and power grid events detection
- Under & over voltage
- Power down
- Event date and time
- 1000 event records
- Event & alarm of tamper
- Alarms indicator (LED & Buzzer)

### Display

- Large digit LCD display, backlight (optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Load Profile (optional)

- Up to 2 megabytes of non-volatile memory
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Anti-Tamper

- 4 sealing positions (terminal, body)
- Meter & terminal cover open detection
- Bypass / Reverse/Unbalance Current
- Strong magnetic field detection (optional)

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Replaceable lithium battery (10 years)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

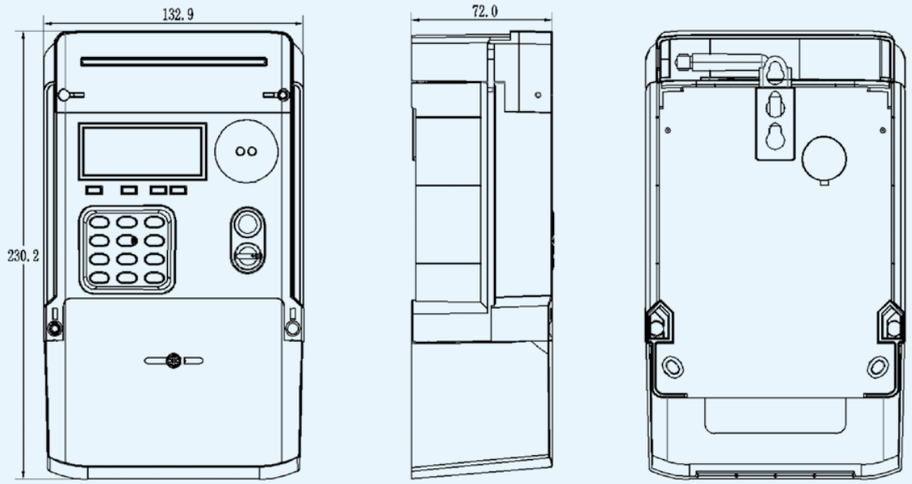
## Specification

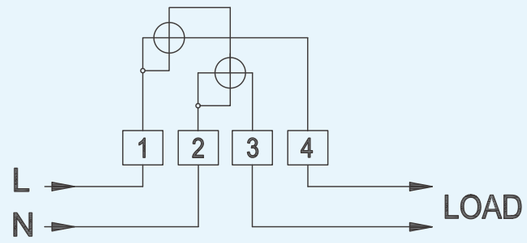
| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | | 220V,230V, 240V | |
| Current Range | Ib/ Iref | 5A, 10A | |
| | Imax | 40A, 60A, 80A, 100A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | <2W, <10VA | |
| | Current circuit | <4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| RTC | Clock accuracy | < 0.5s/d | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-41, IEC 62055-51<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1, EN 54070-3 | |
| Data storage | Load profile (optional) | 2 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | φ9mm | |
| Dimension | | 195*128*78mm (L*W*H) | |

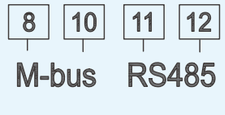
## Certification

DLMS® KEMA Labs THE STS ASSOCIATION NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection





# DDZY566-M

Single-Phase Keypad Prepayment Smart Meter
(With Module Case)

# DDZY566-M

**Single-Phase Keypad Prepayment Smart Meter (With Module Case)**

DDZY566-M Single Phase Prepayment Smart Meter is a new generation of single phase smart prepayment meter with STS prepayment functionality. It supports active & reactive energy measurement and instantaneous measurement, relay disconnection and reconnection management. With an optional plug-and-play PLC/RF/GPRS communication module and meter keypad, credit can be charged both remotely and locally. The meter can be used in sophisticated AMI & vending system.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical communication, open protocol: DLMS /COSEM
- PLC /RF /GPRS plug-and-play communication module
- Internal relay for load demand control by configuration or remote communication
- Prepayment and post-payment mode switchable
- Remote firmware upgrade via PLC /RF /GPRS/ RS485 (optional)

## Main Function

### Measurement

- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Event & Alarms

- Load and power grid events detection
- Under & over voltage
- Power down
- Event date and time
- 1000 event records
- Event & alarm of tamper
- Alarms indicator (LED & Buzzer)

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

### Display

- Large digit LCD display, backlight (optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Load Profile (optional)

- Up to 2 megabytes of non-volatile memory
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Anti-Tamper

- 4 sealing positions (terminal, body)
- Meter & terminal cover open detection
- Bypass / Reverse/Unbalance Current
- Strong magnetic field detection (optional)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Replaceable lithium battery (10 years)

### Prepaid

- STS /CTS standard (optional)
- Emergency credit
- Friendly mode
- Local and remote charge
- Prepaid / post- paid
- CIU (Customer interface unit) (optional)

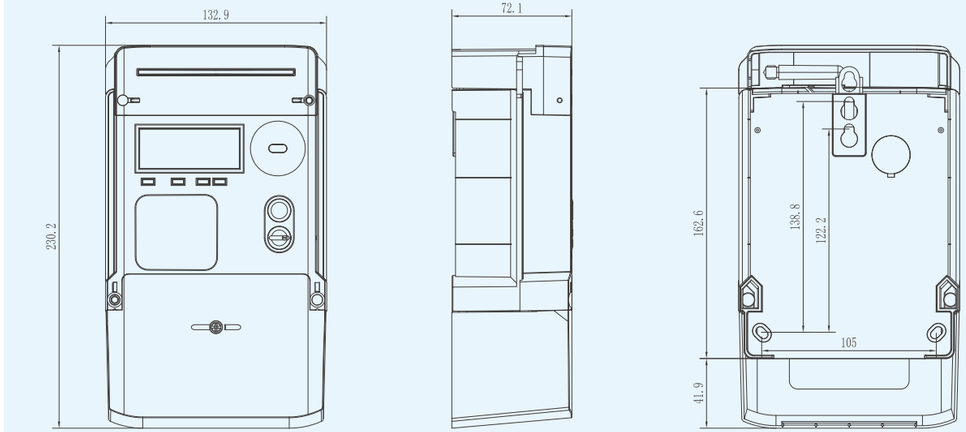
## Specification

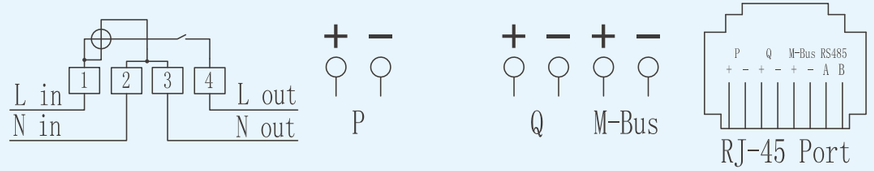
| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | | 220V,230V, 240V | |
| Current Range | Ib/ Iref | 5A, 10A | |
| | Imax | 40A, 60A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | <2W, <10VA | |
| | Current circuit | <4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| RTC | Clock accuracy | < 0.5s/d | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-41, IEC 62055-51<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1, EN 54070-3 | |
| Data storage | Load profile (optional) | 2 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | φ9mm | |
| Dimension | | 230*132.9*72mm (L*W*H) | |

## Certification

DLMS® KEMA Labs THE STS ASSOCIATION NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection





# DDZY566-M

Single-Phase Prepayment Smart Meter
(With Module Case)

# DDZY566-M

**Single-Phase Prepayment Smart Meter (With Module Case)**

DDZY556-M series single phase smart prepayment meter is a series of modular intelligent prepayment meters developed and produced for overseas prepayment market and AMI smart meter market. Through the modularized and standardized design of software and hardware, the product can quickly respond to the flexible customized needs of the market and users. It has the characteristics of good reliability, small size, light weight, beautiful appearance, easy installation, etc., and can be widely used in various electricity metering scenarios.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical communication, open protocol: DLMS/ COSEM
- PLC/ RF/GPRS plug-and play communication module
- Internal relay for load demand control by configuration or remote communication
- Prepayment and post-payment mode switchable for users' convenience
- Remote firmware upgrade via PLC/ RF/ GPRS/ RS485 (optional)

## Main Function

### Measurement

- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Event & Alarms

- Load and power grid events detection
- Under & over voltage
- Power down
- Event date and time
- Up to 1000 event records
- Event & alarm of tamper
- Low & out of credit alarm
- Alarms indicator (LED & Buzzer)

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

### Display

- Large digit LCD display, backlight (optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Load Profile (optional)

- Up to 2 megabytes of non-volatile memory
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Replaceable lithium battery (10 years)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### Anti-Tamper

- 4 sealing positions (terminal, body)
- Meter & terminal cover open detection
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)

### Prepaid

- STS / CTS standard (optional)
- Emergency credit
- Friendly mode
- Remote charge
- Prepaid / post- paid
- CIU (Customer interface unit) (optional)

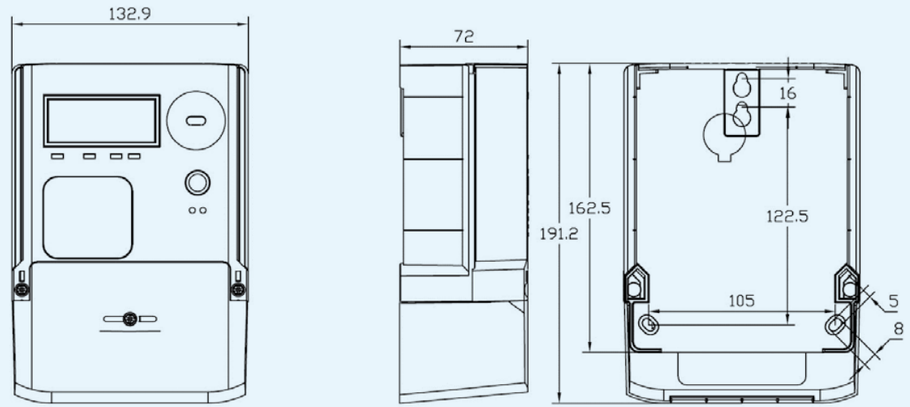
## Specification

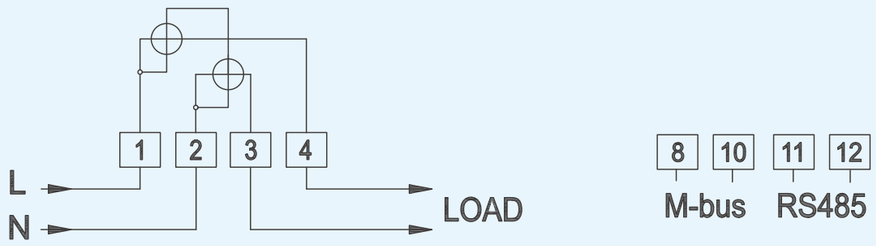
| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | 1P2W | 220V,230V, 240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 40A, 60A, 80A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | <2W, <10VA | |
| | Current circuit | <4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-31, IEC 62055-41<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1,EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/ UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 9mm*9mm | |
| Dimension | | 230.2*132.9*72.1 mm (L*W*H) | |

## Certification

DLMS® KEMA Labs THE STS ASSOCIATION NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection





# DDZY566-M

Single-Phase Prepayment Smart Meter
(Without Module Case)

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## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical communication, open protocol: DLMS/ COSEM
- Communication with the CIU via PLC/ MBus
- Internal relay for load demand control by configuration or remote communication
- Prepayment and post-payment mode switchable for users' convenience
- Remote firmware upgrade via PLC/ RF/ GPRS/ RS485 (optional)

## Main Function

### Measurement

- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Event & Alarms

- Load and power grid events detection
- Under & over voltage
- Power down
- Event date and time
- Up to 1000 event records
- Event & alarm of tamper
- Low & out of credit alarm
- Alarms indicator (LED & Buzzer)

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

### Display

- Large digit LCD display, backlight (optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Load Profile (optional)

- Up to 2 megabytes of non-volatile memory
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Replaceable lithium battery (10 years)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### Anti-Tamper

- 4 sealing positions (terminal, body)
- Meter & terminal cover open detection
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)

### Prepaid

- STS / CTS standard (optional)
- Emergency credit
- Friendly mode
- Remote charge
- Prepaid / post- paid
- CIU (Customer interface unit) (optional)

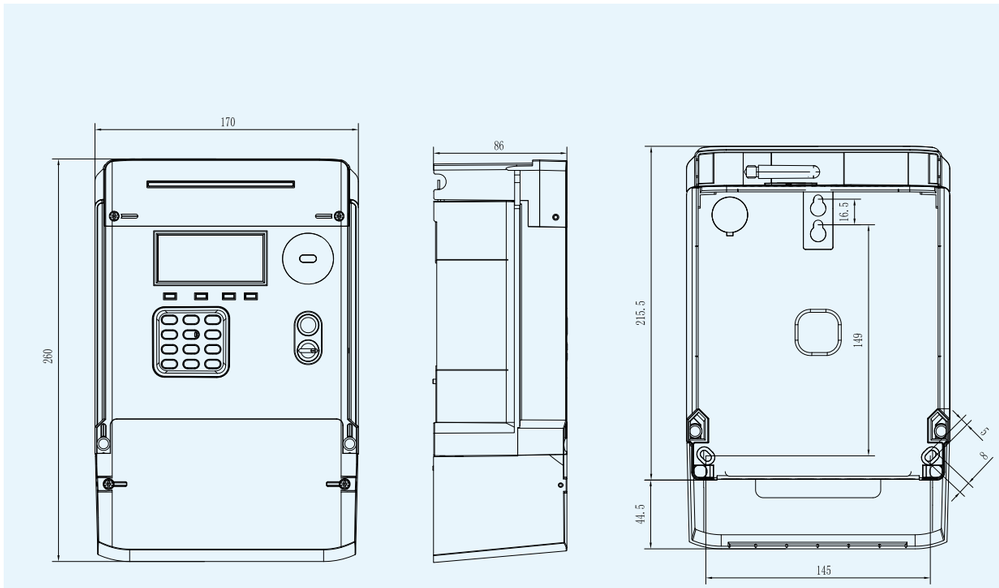
## Specification

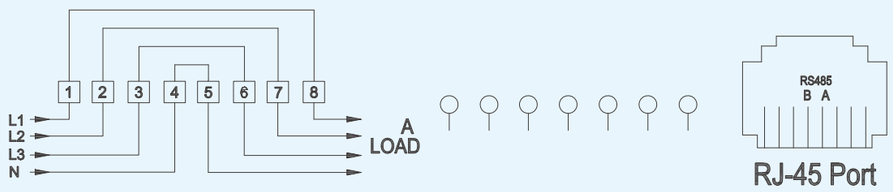
| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | | 220V,230V, 240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 40A, 60A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | <2W, <10VA | |
| | Current circuit | <4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-31, IEC 62055-41<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1,EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/ UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 9mm*9mm | |
| Dimension | | 191.2*132.9*72 mm (L*W*H) | |

## Certification

DLMS® KEMA Labs THE STS ASSOCIATION NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection





# DTZY566-M

Three-Phase Keypad Prepayment Smart Meter

# DTZY566-M

**Three-Phase Keypad Prepayment Smart Meter**

DTZY566-M three-phase prepayment energy meter with keypad is a new generation of smart meter which is equipped with STS prepayment function. This meter is mainly used for accurately electric energy metering of commercial, industrial and residential users. Remote and local credit recharge is available through optional PLC / RF / GPRS pluggable communication modules and meter keypad. This meter is able to be applied to the complicated AMI system and the electricity sale system.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical port communication based on DLMS/ COSEM protocol
- Pluggable communication modules (PLC /GPRS /RF)
- Remote firmware upgrade through PLC / RF /GPRS / RS485 (optional)
- Internal relay for local load demand control (configurable) and remote communication control
- Prepayment and post-payment mode switchable

## Main Function

### Measurement

- Active and Reactive (import and export)
- Cumulative & Delta energy
- Tariff control & Step tariff are available

### Event & Alarms

- Anti – tampering
- Under & over voltage
- Power off / on
- Remote relay control
- Losing phase
- Low & out of credit alarm
- 1000 event records

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

### Display

- Large digit LCD display
- Backlight
- Configurable scrolling display and button display
- Display readable without main power (RWP)

### Load Profile (optional)

- Maximum non-volatile memory of 2M
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Anti-Tamper

- Meter & terminal cover open detection
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)
- Ultrasonic sealing (optional)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency, Phase angles

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Lithium battery (10 years)

### Prepaid

- STS / CTS standard (optional)
- Emergency credit
- Friendly mode
- Local and remote charge
- Prepaid / Post- paid
- CIU (Customer interface unit) (optional)

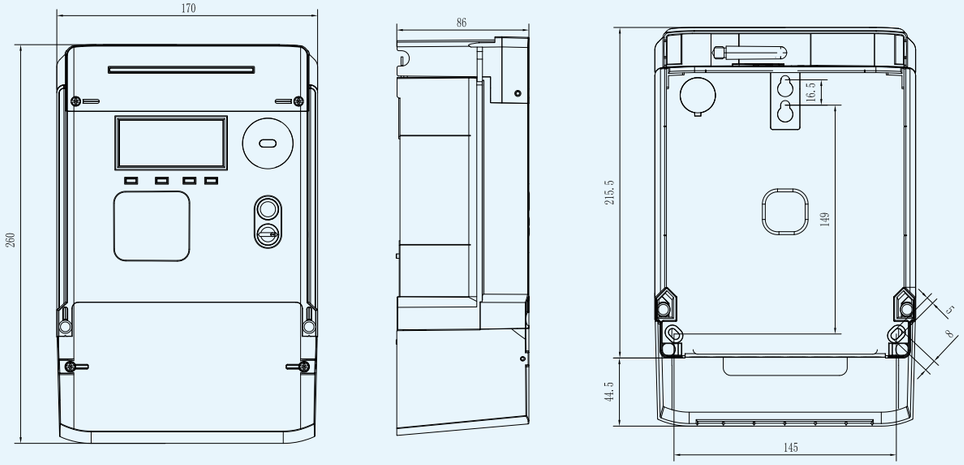
## Specification

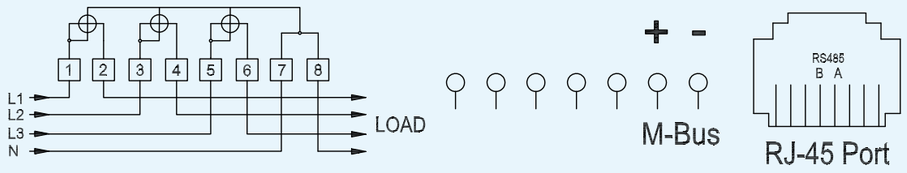
| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | | 3*220V, 3*230V, 3*240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 60A, 80A, 100A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | < 2W, 10VA | |
| | Current circuit | < 4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| | Radio interference(peak value) | 30Mhz~1GHz | < 30dB |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-31, IEC 62055-41<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1,EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/ UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 11mm*11mm | |
| Dimension | | 260*170*86mm (L*W*H) | |

## Certification

DLMS®  KEMA Labs  THE STS ASSOCIATION  NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection





# DTZY566-M

Three Phase Prepayment Smart Meter
(Without Keypad)

# DTZY566-M

**Three Phase Prepayment Smart Meter (Without Keypad)**

DTZY566-M three-phase smart prepayment meter is a new generation of smart energy meter, which is equipped with STS prepayment function. This meter is mainly used for accurately electric energy metering of commercial, industrial and residential users. Remote and local credit recharge is available through optional PLC /RF / GPRS pluggable communication modules. This meter is able to be applied to the complicated AMI system and the electricity sale system.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical port communication based on DLMS /COSEM protocol
- Pluggable communication modules (PLC /GPRS / RF)
- Remote firmware upgrade through PLC / RF / GPRS / RS485 (optional)
- Internal relay for local load demand control (configurable) and remote communication control
- Prepayment and post-payment mode switchable

## Main Function

### Measurement

- Active and reactive (import and export)
- Cumulative & delta energy
- Tariff control & step tariff are available

### Event & Alarms

- Anti – tampering
- Under & over voltage
- Power off / on
- Remote relay control
- Losing phase
- Low & out of credit alarm
- 1000 event records

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

### Display

- Large digit LCD display
- Backlight
- Configurable scrolling display and button display
- Display readable without main power (RWP)

### Load Profile (optional)

- Maximum non-volatile memory of 2M
- Over 360 days' storage (2 channels, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency, etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Anti-Tamper

- Meter & terminal cover open detection
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)
- Ultrasonic sealing (optional)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency, Phase angles

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Lithium battery (10 years)

### Prepaid

- STS / CTS standard (optional)
- Emergency credit
- Friendly mode
- Local and remote charge
- Prepaid / Post- paid
- CIU (Customer interface unit) (optional)

## Specification

| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | 3P4W | 3*220V, 3*230V, 3*240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 60A, 80A, 100A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | < 2W, 10VA | |
| | Current circuit | < 4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
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| | Fast transient burst | 4kV | |
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| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| | Radio interference(peak value) | 30Mhz~1GHz | < 30dB |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV | |
| RTC | Clock accuracy | < 0.5s/d | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-31, IEC 62055-41<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1,EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/ UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 11mm*11mm | |
| Dimension | | 260*170*86mm (L*W*H) | |

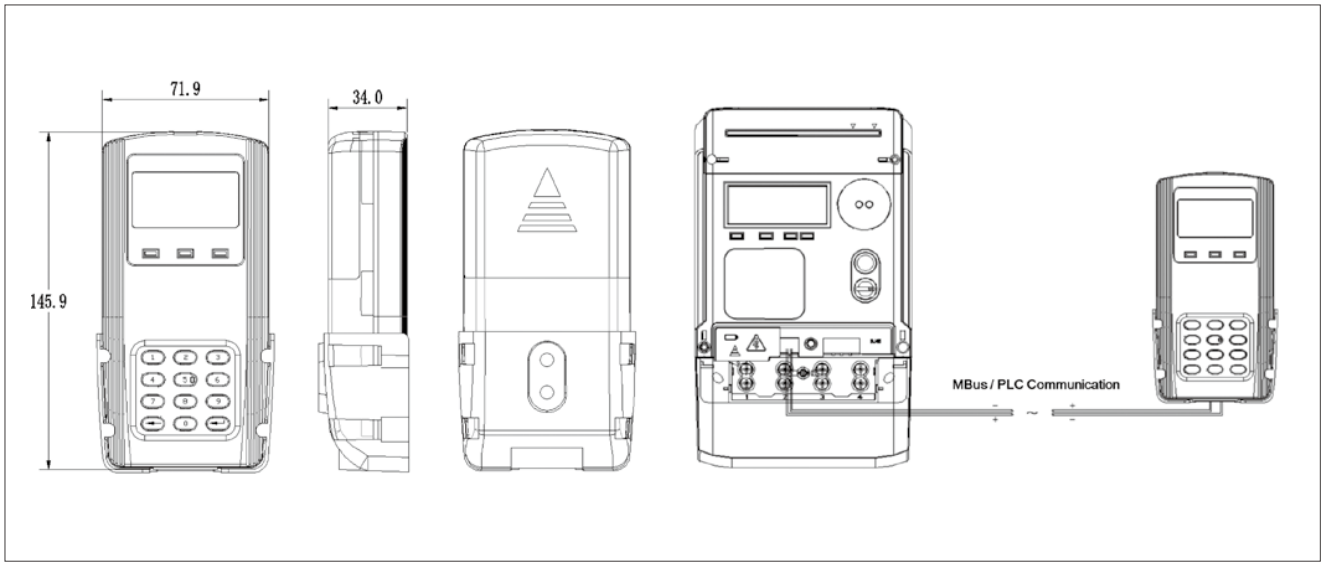
# Customer Interface Unit (CIU) (M)


The CIU is a residential and commercial customer inter face unit with prepayment function. It complies with STS (Standard Transfer Specification) protocol and accepts 20-bits STS code input. It communicates by PLC or MBUS and adopts internationalIEC62055 IEC62056.ISO9001 standards.

## Highlights

- 20-bit TOKEN code as a transmission medium, to realize electricity consumption control with prepayment
- Display total active power; the minimum unit is 0.01kWh
- Current and voltage display function
- Communication between CIU and meter via Cable
- Alarm mode: sound and light alarm, LCD message prompts
- 3*4 number and function keypad easy to operate
- Large digit LCD display, easy for reading
- CIU key trigger reading meter data and display
- Residual power alarm threshold, to remind users to purchase electricity in time

## Dimension & Connection



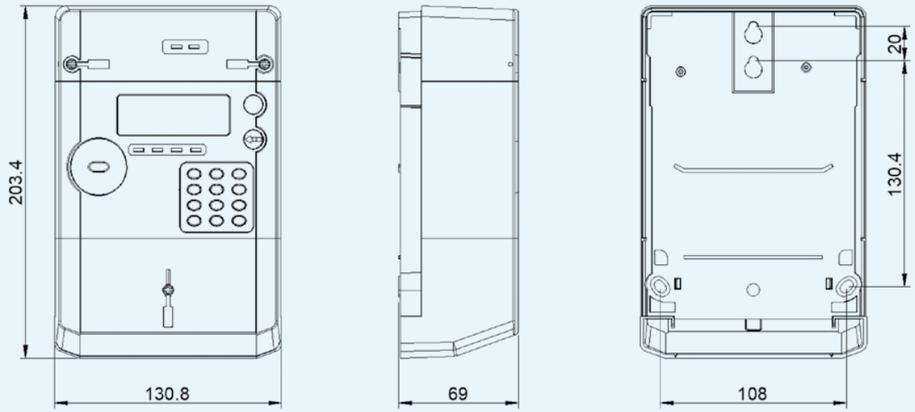
## Specification

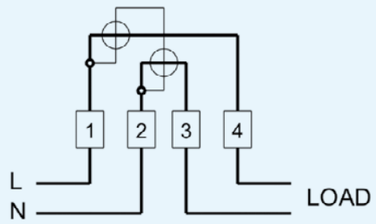
| Specification | | |
|---|---|---|
| Reference voltage | | 110V ~ 127V, 220V ~ 240V |
| Operating voltage range | | 70% ~ 120%Un |
| Frequency | | 50/60Hz |
| Total power consumption | | < 10VA, 2W |
| Electrical fast transient burst | | 4kV |
| Electrostatic protection | Air discharge | 15kV |
| | Contact discharge | 8kV |
| Temperature | Operation range | -25°C ~ + 55°C |
| | Limit range for storage and transport | -40°C ~ + 70°C |
| Humidity | | 30% ~ 95%, no coagulation cream |
| Housing | Protection degree | IP51 (IEC60529 ) |
| | Meter cover | Opaque PC + fiber glass with a transparent window |
| | Meter base | Opaque PC + fiber glass |
| Display | Size | 70mm*30mm |
| | Number of digits | 8 |
| Communication Interface | | MBUS |
| Case material | | Polycarbonate + Fiber glass |
| Dimension | | 145.9*71.9*34mm (L*W*H) |

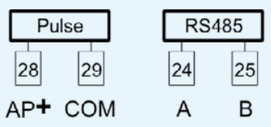
## Certification

DLMS® KEMA Labs THE STS ASSOCIATION NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection





# DDZY566-M

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**Single-Phase Keypad Prepayment Smart Meter**

DDZY566-M Single Phase Keypad Prepayment Smart Meter is a new generation of single phase smart prepayment meter with STS prepayment functionality. It supports active & reactive energy measurement and instantaneous measurement, relay disconnection and reconnection management. With an optional plug-and-play PLC/RF/ GPRS communication module and meter keypad, credit can be charged both remotely and locally. The meter can be used in sophisticated AMI & vending system.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical communication, open protocol: DLMS /COSEM
- PLC /RF /GPRS plug-and-play communication module
- Internal relay for load demand control by configuration or remote communication
- Prepayment and post-payment mode switchable
- Remote firmware upgrade via PLC /RF /GPRS/ RS485 (optional)

## Main Function

### Measurement

- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Event & Alarms

- Load and power grid events detection
- Under & over voltage
- Power down
- Event date and time
- 1000 event records
- Event & alarm of tamper
- Alarms indicator (LED & Buzzer)

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

### Display

- Large digit LCD display, backlight (optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Load Profile (optional)

- Up to 2 megabytes of non-volatile memory
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Anti-Tamper

- 4 sealing positions (terminal, body)
- Meter & terminal cover open detection
- Bypass / Reverse/Unbalance Current
- Strong magnetic field detection (optional)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Replaceable lithium battery (10 years)

### Prepaid

- STS /CTS standard (optional)
- Emergency credit
- Friendly mode
- Local and remote charge
- Prepaid / post- paid
- CIU (Customer interface unit) (optional)

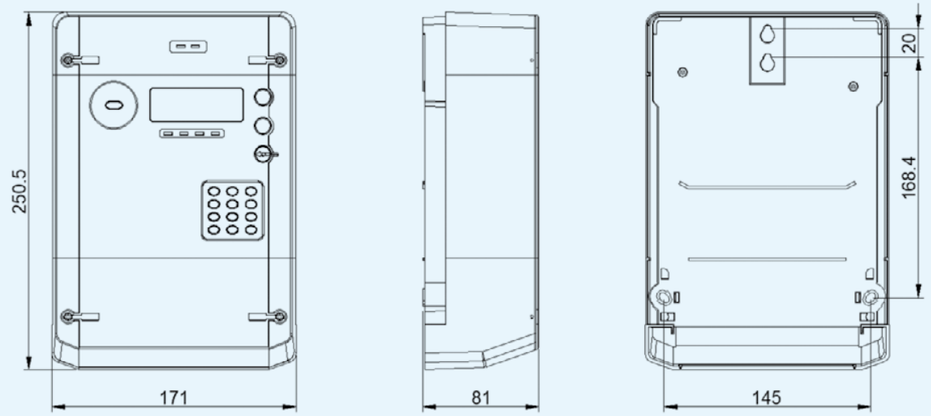
## Specification

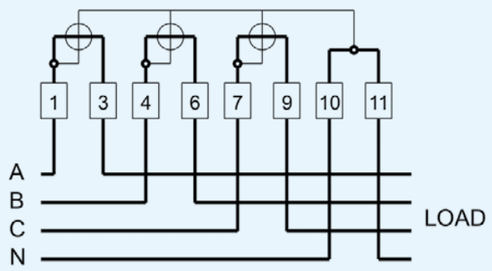
| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC) / Class B(MID) | |
| Nominal voltage | | 220V,230V, 240V | |
| Current Range | Ib/ Iref | 5A, 10A | |
| | Imax | 40A, 60A, 80A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50 / 60Hz | |
| Power consumption | Voltage circuit | < 2W, < 10VA | |
| | Current circuit | < 4VA | |
| Temperature Range | Operation | - 25°C +55°C | |
| | Storage | - 40° ~ +70°C | |
| | Limit | - 40° ~ +70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| RTC | Clock accuracy | < 0.5s/d | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-41, IEC 62055-51<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1, EN 54070-3 | |
| Data storage | Load profile (optional) | 2 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | φ9mm | |
| Dimension | | 203.4*130.8*69mm (L*W*H) | |

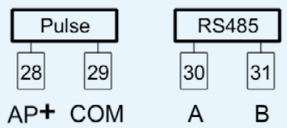
## Certification

DLMS® KEMA Labs THE STS ASSOCIATION NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection





# DTZY566-M

Three-Phase Smart Prepayment Meter

# DTZY566-M

**Three-Phase Smart Prepayment Meter**

DTZY566-M three-phase prepayment energy meter with keypad is a new generation of smart meter which is equipped with STS prepayment function. This meter is mainly used for accurately electric energy metering of commercial, industrial and residential users. Remote and local credit recharge is available through optional PLC / RF / GPRS pluggable communication modules and meter keypad. This meter is able to be applied to the complicated AMI system and the electricity sale system.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical port communication based on DLMS/ COSEM protocol
- Pluggable communication modules (PLC /GPRS /RF)
- Remote firmware upgrade through PLC / RF /GPRS / RS485 (optional)
- Internal relay for local load demand control (configurable) and remote communication control
- Prepayment and post-payment mode switchable

## Main Function

### Measurement

- Active and Reactive (import and export)
- Cumulative & Delta energy
- Tariff control & Step tariff are available

### Event & Alarms

- Anti – tampering
- Under & over voltage
- Power off / on
- Remote relay control
- Losing phase
- Low & out of credit alarm
- 1000 event records

### Communication

- Optical port: IEC62056-21
- PLC/ RF/ GPRS/ RS485

### Display

- Large digit LCD display
- Backlight
- Configurable scrolling display and button display
- Display readable without main power (RWP)

### Load Profile (optional)

- Maximum non-volatile memory of 2M
- Over 360 days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Anti-Tamper

- Meter & terminal cover open detection
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)
- Ultrasonic sealing (optional)

### Tariffs (optional)

- Single /TOU
- Step configurable

### Instantaneous values

- Power, Voltage, Current
- Power factor, Frequency, Phase angles.

### Demand Monitoring

- Block / slide mode
- Demand interval configurable
- Maximum demand with timestamp
- Historical value (optional)

### RTC

- Clock accuracy (daily deviation): 0.5s (23°C)
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read without Power)
- Lithium battery (10 years)

### Prepaid

- STS / CTS standard (optional)
- Emergency credit
- Friendly mode
- Local and remote charge
- Prepaid / Post- paid
- CIU (Customer interface unit) (optional)

## Specification

| Specification | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class 1(IEC)/Class B(MID) | |
| Nominal voltage | | 3*220V, 3*230V, 3*240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 60A, 80A, 100A | |
| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | < 2W, 10VA | |
| | Current circuit | < 4VA | |
| Temperature Range | Operation | -25°C~55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz~ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz~ 80MHz |
| | | Voltage level | 10V |
| | Radio interference (peak value) | 30Mhz to 1GHz | < 30dB |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV | |
| Standards | IEC | IEC 62052-11, IEC 62053-21,IEC 62053-23<br>IEC 62055-41, IEC 62055-51<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1,EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/ UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 11mm*11mm | |
| Dimension | | 250.5*171*81mm (L*W*H) | |

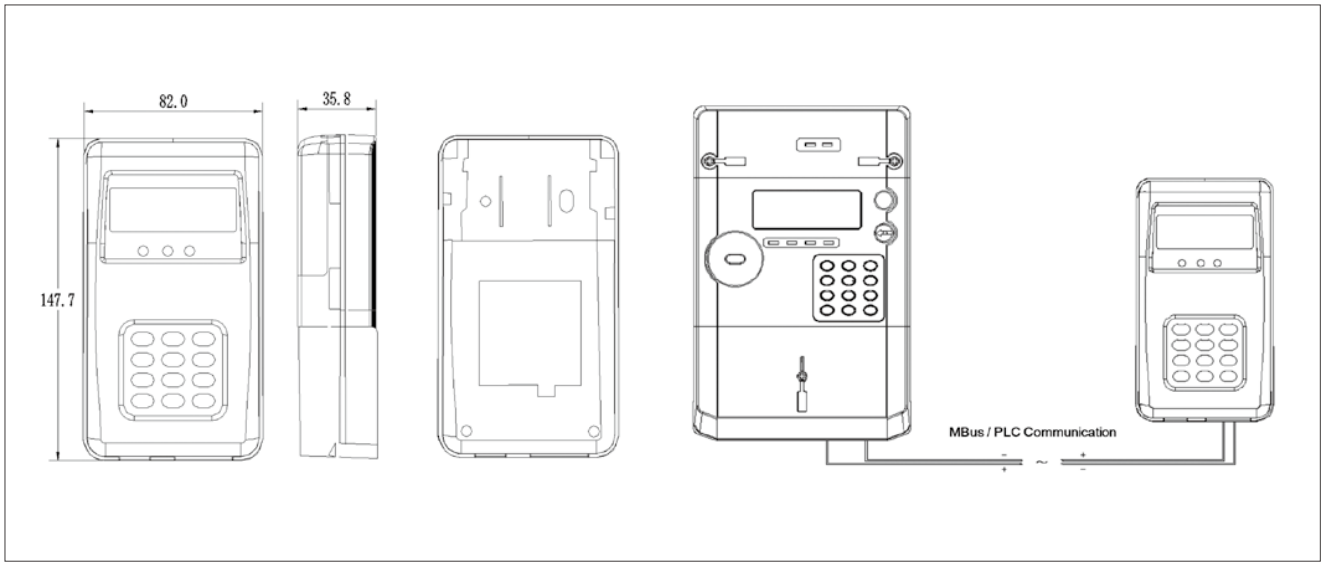
# Customer Interface Unit (CIU) (M)


The CIU is a residential and commercial customer inter face unit with prepayment function. It complies with STS (Standard Transfer Specification) protocol and accepts 20-bits STS code input. It communicates by PLC or MBUS and adopts internationalIEC62055 IEC62056.ISO9001 standards.

## Highlights

- 20-bit TOKEN code as a transmission medium, to realize electricity consumption control with prepayment
- Display total active power; the minimum unit is 0.01kWh
- Current and voltage display function
- Communication between CIU and meter via Cable
- Alarm mode: sound and light alarm, LCD message prompts
- 3*4 number and function keypad easy to operate
- Large digit LCD display, easy for reading
- CIU key trigger reading meter data and display
- Residual power alarm threshold, to remind users to purchase electricity in time

## Dimension & Connection



## Specification

| Specification | | |
|---|---|---|
| Reference voltage | | 110V ~ 127V, 220V ~ 240V |
| Operating voltage range | | 70% ~ 120%Un |
| Frequency | | 50/60Hz |
| Total power consumption | | < 10VA, 2W |
| Electrical fast transient burst | | 4kV |
| Electrostatic protection | Air discharge | 15kV |
| | Contact discharge | 8kV |
| Temperature | Operation range | -25°C ~ + 55°C |
| | Limit range for storage and transport | -40°C ~ + 70°C |
| Humidity | | 30% ~ 95%, no coagulation cream |
| Housing | Protection degree | IP51 (IEC60529 ) |
| | Meter cover | Opaque PC + fiber glass with a transparent window |
| | Meter base | Opaque PC + fiber glass |
| Display | Size | 70mm*30mm |
| | Number of digits | 8 |
| Communication Interface | | PLC |
| Case material | | Polycarbonate + Fiber glass |
| Dimension | | 147.7*82*35.8mm (L*W*H) |

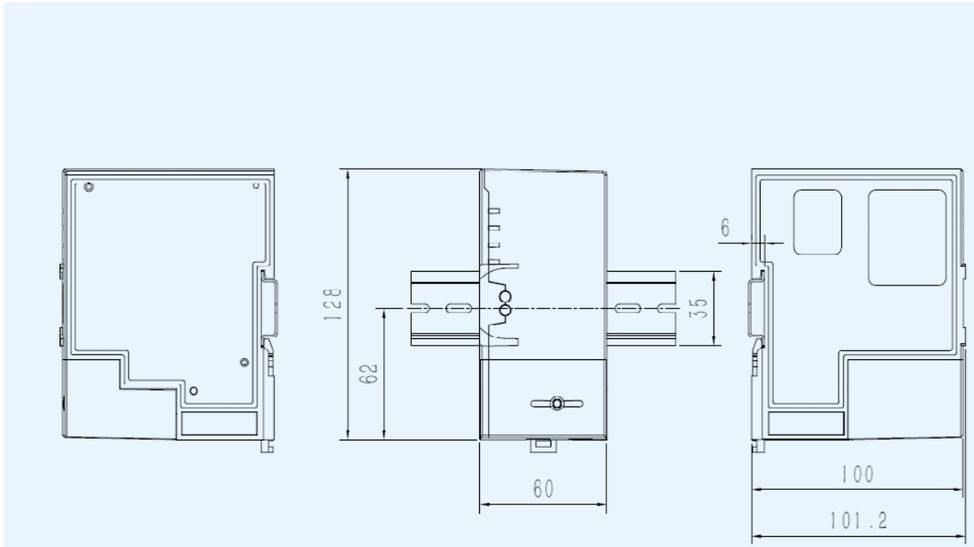
## Certification

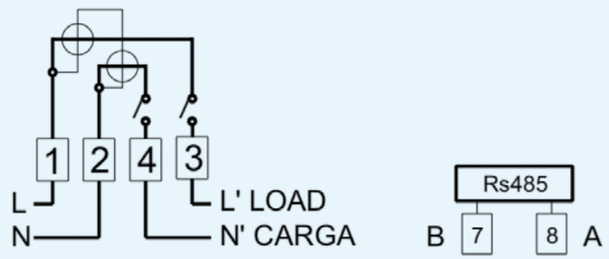
DLMS®

THE STS ASSOCIATION

UNBS

## Dimension & Connection








# DDSY566-191

Single Phase DIN Rail Prepayment Meter

# DDSY566-191

**Single Phase DIN Rail Prepayment Meter**

DDSY566-191 Single Phase Din-Rail Split Prepayment Meter is a new generation of single phase smart prepayment meter with STS prepayment functions. It supports active energy measurement and instantaneous measurement, optical & PLC communication, relay disconnection and reconnection management. It is used in XJ's sophisticated vending system with CIU and charge TOKEN may be applied to meters via CIU keypad. Besides charge records and technical TOKEN events records, the meter supports events of open cover and magnetic influence. Its compact design enables cost-effective installation.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical communication, open protocol: DLMS /COSEM
- PLC or RF communication with CIU (customer interface unit)
- Internal relay for load demand control by configuration
- Prepayment and post-payment mode switchable
- Optimized compact design
- Low tamper's rate and installation cost

## Main Function

### Measurement

- 1 elements
- Import & Export kWh
- Total & per tariff (optional)
- Cumulative & Delta energy
- Absolute

### CIU

- LCD display
- Keypad
- Backlight (optional)
- Exchangeable battery
- Credit indicator
- LED & buzzer alarm
- PLC / RF communication

### Tariffs (optional)

- Up to 4 tariffs, 8 day table, 12 week tables, 12 season tables, 100 holiday & special days tables
- Passive TOU
- Up to 4 step tariffs

### Demand Monitoring (Optional)

- Block/ Slide mode
- Programmable integration period (typically5, 10, 15, 30 or 60 minutes)
- Import & Export kW
- Maximum value
- Historical value (optional)
- Pre-set time (automatic)/ Remote reset

### Load Profile (optional)

- Maximum non-volatile memory of 2M
- Over 360 days' storage (2channels, 30 minutes)
- Up to 8 channels
- 8 captured registers per channel
- Capture periods (15, 30, 60 1440min)
- Energy power, Voltage, Current, Frequency & Etc.

### Power quality monitoring

- Under-voltage and over-voltage
- Power down
- Reverse current

### RTC

- Quartz crystal time resource
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read Without Power)
- Lithium battery (10 years)

### Local and Remote Access

- PC software
- XJ Central System (optional)
- HHU
- CIU

### Load Control

- One 100A ( Imax) relay integrated (≥10000 times under nominal current)
- Load control according to power threshold
- Max power threshold programmable
- Relay status indicator (Display in CIU)
- Relay malfunction indicator (Display in CIU)

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### Instantaneous parameter

- Power, Voltage, Current Power Factor, Frequency, Phase Angles

### Billing Data

- 12 billing periods
- Automatic reset

### Prepaid

- STS / CTS standard (optional)
- Emergency Credit
- Friendly mode
- Local and remote charge
- Prepaid / Post- paid

### Events and Alarms

- Load and grid event detection
- Customizable event list
- 200 event records
- Internal self-test
- Alarm and communication indicators (LED)
- Event date and time
- Buzzer alarm

### Anti-Tamper

- 3 sealing positions (terminal, body)
- Meter cover, tail cover open detection
- Reverse current
- Strong magnetic detection (optional)
- Ultrasonic sealing (optional)

### Communication

- 3 independent communication ports
- Simultaneous individual operation
- Optical port: IEC62056-21 E
- MC171 port (optional)
- PLC/RF/RS485 communication: IEC62056-21

## Specification

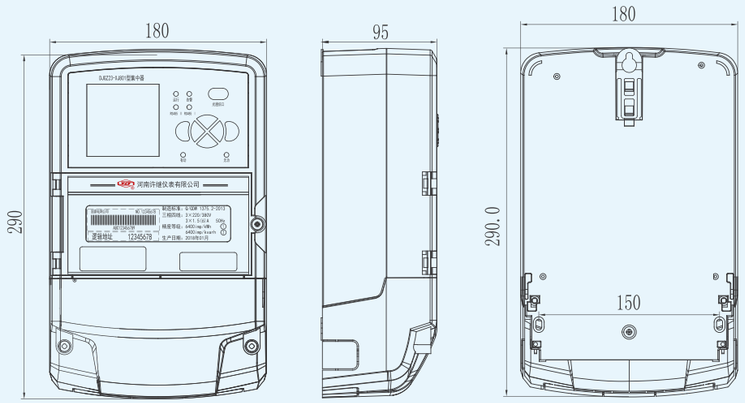
| Specification | |
|---|---|
| Accuracy | Active: Class 1 (IEC 62053-21)<br>Reactive: Class 2 (IEC 62053-23) |
| Nominal voltage | 230V |
| Operating voltage range | 0.8Un ~ 1.2Un |
| Frequency | 50Hz±5% |
| Current specification | 5(100)A |
| Starting current | 4‰Ib |
| Pulse constant | Active: 1000 imp/kWh<br>Reactive: 1000 imp/kvarh |
| Pulse voltage | 6kV |
| AC voltage | 4kV |
| Power consumption | Current line: active power consumption <0.5VA |
| | Voltage line: active power consumption <2.0W, apparent power consumption <6VA |
| Operating temperature range | -25℃ ~ +60℃ |
| Storage temperature range | -40℃ ~ +70℃ |
| Humidity Range | 5% ~ 95%RH |
| Battery voltage | 3.6V |
| Precision of clock | ≤0.5 s/day (reference temperature: 23℃) |
| Level of protection against water and dust | IP54 |
| Structural materials | Polycarbonate |
| Dimensions (L*W*H) | 128*101.2*60mm |

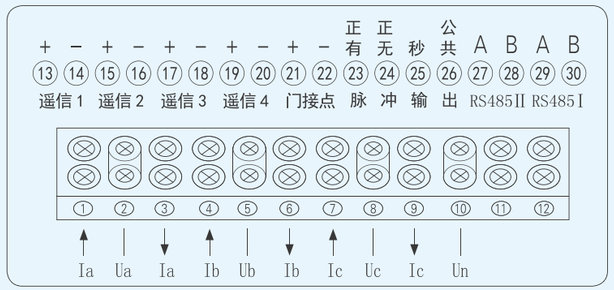
## Certification

DLMS®

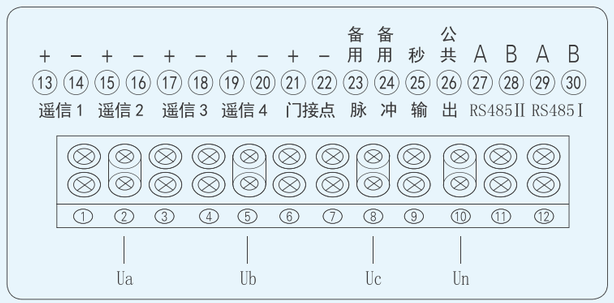
SICEM®

## Dimension & Connection




集中器接线端子图（带交采）




集中器接线端子图（不带交采）


# DJGZ23-801

## Data Concentrator Unit (DCU)

# DJGZ23-801

**Data Concentrator Unit (DCU)**

DJGZ23-801 concentrator is the core equipment of centralized meter reading system for low-voltage electricity users. It is designed with the latest 32-bit embedded ARM and real-time multi-task operating system with the latest computer technologies, communication technologies and power automation control technologies. Installed on the LV side of the LV distribution transformer, it is highly reliable equipment integrating the functions of data acquisition, process, real-time monitoring and control, being the preferred choice of electricity users in field data acquisition and remote meter reading management.

## Highlights

- Automatically search meter and load, automatically count the results of the load
- Massive data collection and processing, support access to not less than 1,000 user meters, 8 master meters
- Rich communication interface, plug-and-play communication module, support GPRS / GSM / 4G / PLC / RF / infrared /LAN / optical fiber, etc.
- Communication protocol compatibility, IEC102/DLMS COSEM /IEC1107 /ANSI etc.
- AC sampling function, can be used as a master meter, precision level: active power 1.0, reactive power 2.0
- Support remote control, remote upgrade, U disk upgrade
- Active report in case of power outage

## Main Function

### Acquisition

- Collect objects: user meter, master meter, analog, status, etc.
- Key user settings and acquisition
- Real-time acquisition, timed acquisition and automatic supplementary meter reading
- Acquisition data content can be configured

### Anti - Tamper

- 4 lead sealing positions (terminal and body)
- Meter & terminal cover open detection
- Bypass / reverse current
- Strong magnetic field detection (optional)

### Condition monitoring

- Meter reading, communication status real-time monitoring
- Fault, alarm real-time recording and reporting

### Storage

- Not less than 1000 household meters and 8 master meters
- 62 sets of daily frozen power data and 24 sets of monthly frozen power data
- 10 key users and 96 sets of power data in 10 days
- Advanced Gzip log compression technology, massive log storage
- Retention of data after power outage not less than 10 years

### Data transmission

- Communication with the main station
- Communication with energy meter
- Data forwarding
- Relay forwarding

### Event recording and alarm

- Event category: Important / General
- Number of event records 500
- Active report in case of power outage
- Event record content can be configured

### Safety

- Safety certification
- Security measures for authority and password management

### Set and query

- File management
- Communication parameter setting and maintenance
- Clock calling and timing commands

### Communication

- GPRS / GSM / 4G /Infrared interface /Ethernet / Optical fiber
- PLC / RF / RS485 / Serial port
- IEC102 /DLMS / COSEM / IEC1107 /ANSI
- Two-way interaction

### Local features

- Local maintenance /expansion interface
- Self-diagnosis and self-recovery
- Remote initialization
- USB upgrade

### Statistics

- Communication traffic
- Statistics of centralized meter reading
- Time of power supply, accumulative reset times and control times
- Statistics of voltage and current, maximum demand and it occurrence, time of unbalanced out-of-limit

### RTC

- Clock accuracy (daily deviation): 0.5s
- Gregorian calendar, DST (Daylight Saving Time)
- RWP (Read Without Power)
- Lithium battery (10 years)

### Remote instruction

- Meter remote control
- Remote upgrade

### Display

- LCD, query or setting of data, parameters and events
- LED, indication of operation, communication and module status

## Specification

| Specification | | | |
|---|---|---|---|
| Voltage | Three-phase four-wire | AC ( 220/380V) ±20% | |
| Rated frequency | | 50Hz | |
| Power consumption | Apparent power | < 30VA | |
| | Active power | <10w | |
| Temperature | Operating status | -25°C~+55°C | |
| | Storage status | -40°C~+70°C | |
| | Ultimate temperature | -40°C~+70°C | |
| Humidity | | 10%~ 100% | |
| Degree of protection | | IP51 / 54 | |
| EMC | Electrostatic discharge | Harsh level | 4 |
| | | Electrostatic voltage test | 8kV ( contact ) 15kV ( Air gap ) |
| | Fast transient burst | 4kV 5/100kHZ | |
| | Surge immunity | 4kV | |
| | RF electromagnetic field immunity | Frequency Range | 80~1000 MHz1000~2000MHz |
| | | Experimental field strength | 10V / m，30V / m |
| | Conducted disturbance immunity | Frequency Range | 150kHz ~ 80MHz |
| | | Experimental voltage | 10V |
| | Oscillating wave disturbance immunity | Oscillation frequency | 100kHz ( Repeat rate 40Hz)<br>1MHz ( Repeat rate 400Hz ) |
| | | Experimental voltage | Common model 2.5kV<br>Differential model 1.0kV |
| | Power frequency magnetic field immunity | Frequency | 50Hz |
| | | Magnetic field strength | 400A / m |
| Dielectric strength | Pulse voltage | 5kV | |
| | AC voltage | 2kV | |
| Safety performance | Impact voltage | 6kV | |
| | Power frequency voltage | Power terminal- Ground, RS485 | 4kV |
| | | Power terminal- Other terminals | 2kV |
| | 485 output terminals A, B | 380V AC voltage ( Lasted 5 minutes ) | |
| Clock | Clock accuracy | ±0.5s/d | |
| Standard specification | | IEC102 / DLMS / COSEM /IEC1107 / ANSI | |
| Communication | Default | GPRS /GSM/PLC /RF /LAN /RS485 /Infrared | |
| Indicator | Power light | Power indicator, red | |
| | Warning light | Abnormal work light, red | |
| | Meter reading 485 | Meter reading 485 data communication indicator, red and green color | |
| | Cascade 485 | Cascading 485 data communication indicator, red and green colors | |
| Data storage | Household meter | 62 sets of daily frozen data and 24 sets of monthly frozen data | |
| | Key users | 10 days 10 key users 96 power data | |
| | Data retention time | Not less than 10 years | |
| Shell material | | Polycarbonate - GF | |
| Wiring hole | | φ8mm | |
| Dimension | | 290*180*95mm (L*W*H) | |
| Service life | average | ≥10 years | |
| MTBF | | $\geq 7.6*10^4$h | |

# C5000W HHU ( Hand-held Unit )

## Highlights

- Rich interface features. With USB, Bluetooth, WIFI and other communication interfaces, it can achieve RF,RS485,PLC, Optical port meter reading functions with peripherals
- Meter power on/off, parameter debugging, extensible laser alignment, it supports external expansion of IC card reader and printer
- All data can be copied and parameter configuration, Abnormal fault diagnosis and treatment, Manual / automatic export to OLEDB / ODBC / XML, DBF Database for storage and management
- Time synchronization through local and remote communication, automatic alarm when the battery fails, service life over 10 years
- Automatic storage and data uploading via USB and Bluetooth or wireless connection to the PC
- Compatible with Andriod system, Compatible programming tools: Microsoft Visual Studio and SQL CE

## Specification

| Main Parameter | | |
|---|---|---|
| **Model** | | **C5000W** |
| Display | LCD size | six inch |
| | Maximum Resolution | 1920×1080 |
| | Touch Screen | Capacitive, 5 point touch |
| System | CPU | 1.7GHz Eight-core processor |
| | Operating System | Android 4.2 |
| | RAM | 2G |
| | Storage | 16G, Scalable to 64G |
| Communication | Wi-Fi | IEEE 802.11a / b / g / n / ac |
| | Bluetooth | Bluetooth 4.0 + EDR |
| | Modem | WCDMA/HSPA 900 / 1900 / 2100<br>GSM/GPRS/EDGE 850 / 900 / 1800 / 1900 |
| | GPS | Support GPS、Beidou system |
| Data Acquisition | Electricity infrared | Support |
| | NFC | Support |
| | Camera | The primary camera: 13 million pixels;<br>the secondary camera: 2 million pixels;<br>auto focus |
| Sensor | Magnetometer | Support |
| | Gravity sensor | Support |
| | Gyro sensor | Support |
| Battery | Battery | 5000mAh |
| Condition | Drop test | Multiple drop tests from 1.2 meters above concrete ground |
| | Protection grade | IP68 |
| Others | Dimensions | 158mm×80mm×17.5mm |
| | Weight | 300g |

# XJD34-PC-W1

## Single Phase Meter Enclosure

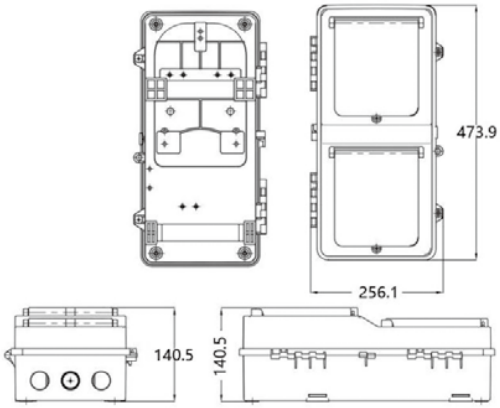
## Brief Introduction

XJD34-PC-W1 Single phase meter enclosure is specially designed for the purpose of anti-tamper and protection of meter. One BS type meter or two DIN rail type meters can be mounted with bottom connection. The enclosure with two separated transparent windows, non-transparent/transparent top cover and non-transparent base. The material of enclosure is polycarbonate with UV resistance and V0 frame resistance degree. Pole mounted or wall mounted or lock and key protection are based on project demand. Alarm sensor for enclosure opening is reserved function.

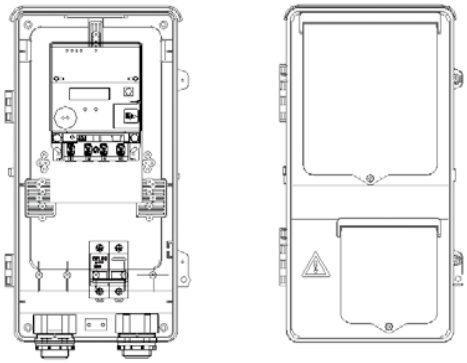
## Specification

| Items | Parameters |
|---|---|
| Dimension | L473.9mm*W256.1mm*H140.50mm |
| Material of top cover | PC+10%GF non-transparent/PC transparent |
| Material of turnover window | PC transparent |
| Material of base | PC+10%GF non- transparent |
| Protection degree | IP54, IK9 |
| Anti-UV | Yes |
| Flame resistance degree | V0 |
| Anti-tamper protection | Seal and padlock for cover and seal for windows |
| Method of production | Injection |
| Temperature | -30℃ to 80℃ |
| Installation provision for MCB | Yes |
| Mounting methods | Pole mounted by stainless steel strap or wall mounted by screw |
| Thickness | Top cover 2mm, base 2mm, window 2.2mm |

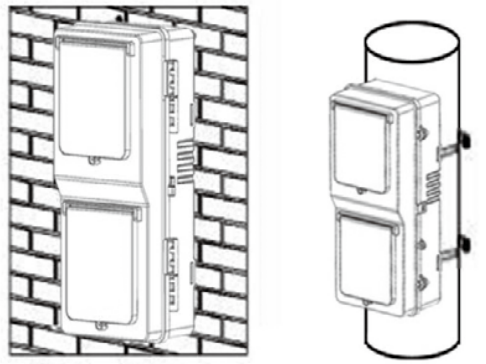
## Dimension




## Components



## Installation Methods



Wall installation

Pole installation

## Installation Accessories

Option installation accessories (cost will be different based on the accessories):

| | |
|---|---|
|  | Single-phase straight-through smart meter |
|  | Single-phase electrical energy metering junction box |
|  | 2PCS PG19/M25 |
|  | 2PCS Rubber plug |
|  | 4PCS M8*40mm<br>Expand plug<br>4PCS ST5*35mm<br>Self-tapping screw |
|  | 3PCS ST4*12mm<br>Self-tapping screw |
|  | 2PCS 800*12*0.25mm<br>Stainless steel strap |

## Quantity in Different Containers

| Containers | Quantity |
|---|---|
| 20GP | 1692 |
| 40HQ | 5184 |

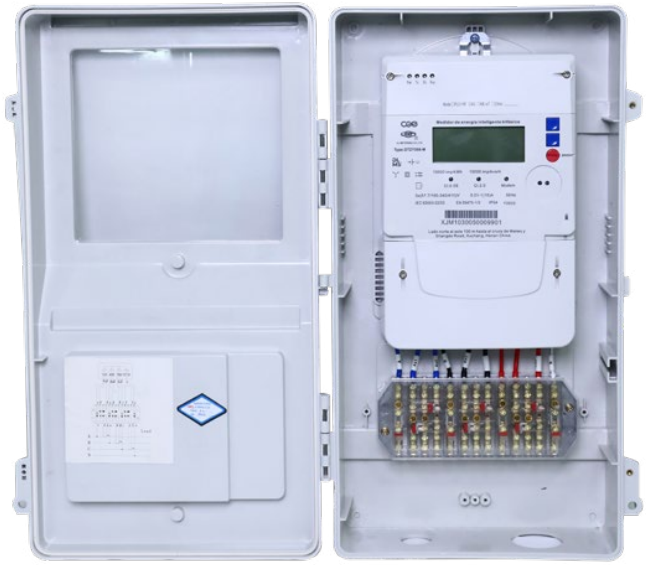
Each meter enclosure is packed in a plastic bag, then in a carton, the carton is sealed by tape and tie.

# XJS-PC-W1

## Three Phase Meter Enclosure

## Brief Introduction

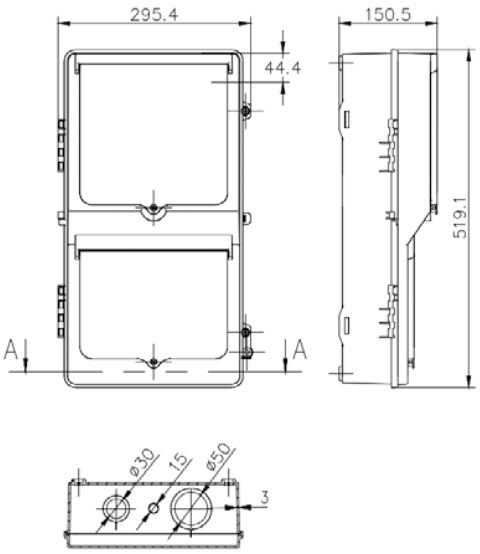
XJS-PC-W1 three phase meter enclosure is specially designed for the purpose of anti-tamper and protection of meter. 1(One) pcs BS type CT meter and Terminal box can be mounted with bottom connection. The enclosure with two separated transparent windows, non-transparent top cover and non-transparent base. The material of enclosure is polycarbonate with UV resistance and V0 frame resistance degree. Pole Steel Crossarm mounted or wall mounted or lock and key protection are based on project demand and PG9 connector. Alarm sensor for enclosure opening is reserved function.



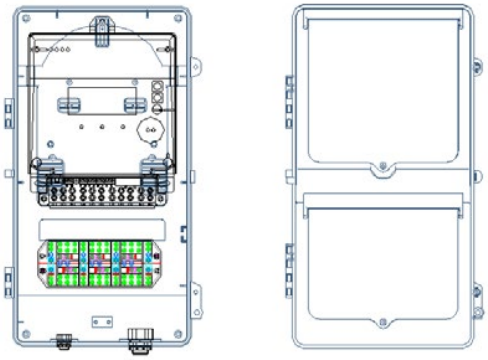
## Specification

| Items | Parameters |
|---|---|
| Dimension | L519.1mm*W295.4mm*H150.5mm |
| Material of top cover | PC+5%GF non-transparent |
| Material of turnover window | PC transparent |
| Material of base | PC+5%GF nontransparent |
| Protection Degree | IP54, IK9 |
| Anti-UV | Yes |
| Flame resistance degree | V0 |
| Installation provision for MCB | Yes |
| Anti-tamper protection option | Seal and padlock for cover, and seal for windows and Door sensor reserved |
| Temperature | -30℃ to 80℃ |
| Method of production | Injection |
| Mounting methods | Pole crossarm mounted with 4(Four) set M6*40 stainless steel bolt, nut and washer. |
| Thickness | Top cover 3mm, base 3mm |

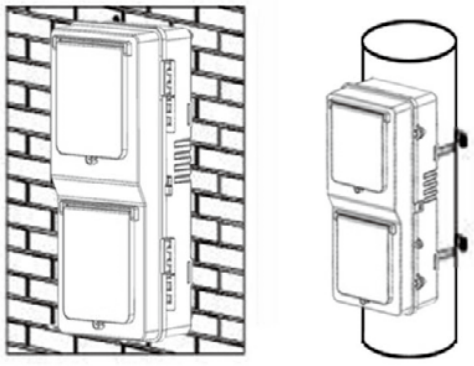
## Dimension




## Components



## Installation Methods



## Packing

Each meter enclosure is packed in a plastic bag, then in a carton, the carton is sealed by tape and tie.

## Installation Accessories

Option installation accessories (cost will be different based on the accessories) :

| | |
|---|---|
|  | Three-phase smartmeter mutual inductance type |
|  | Three-phase JunctionBox |
|  | 2PCS PG19/M25 |
|  | 2PCS Rubber plug |
|  | 4PCS M8*40mm<br>Expand plug<br>4PCS ST5*35mm<br>Self-tapping screw |
|  | 3PCS ST4*12mm<br>Self-tapping screw |

## Quantity in Different Containers

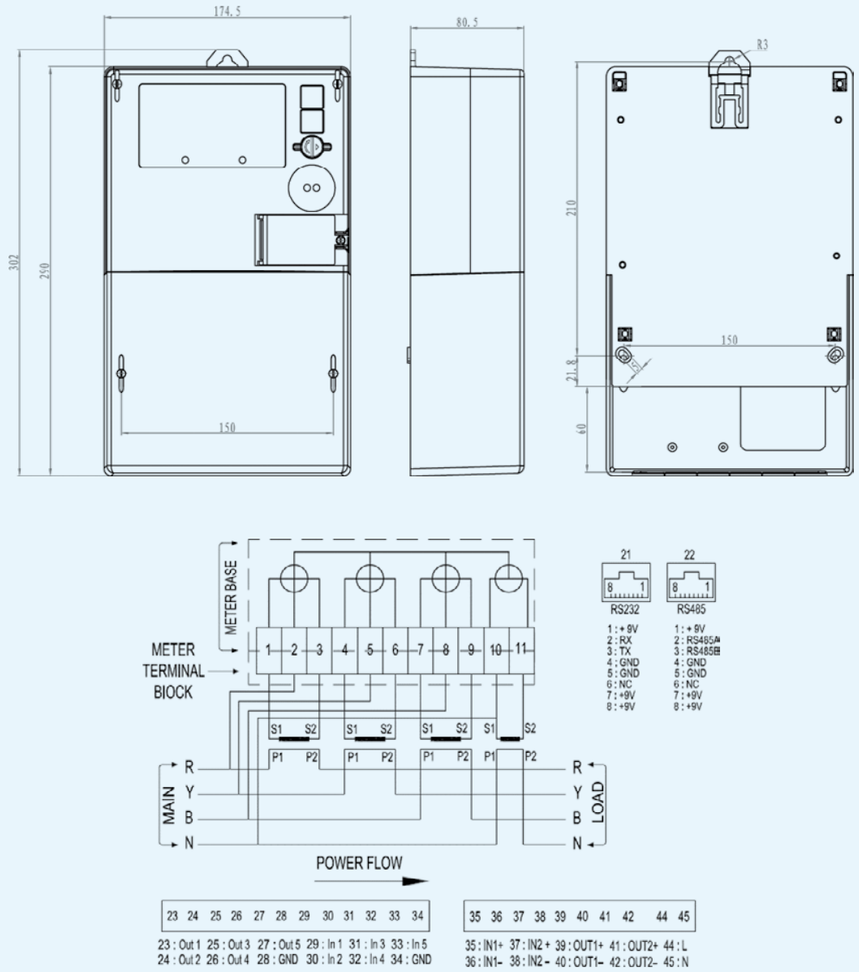
| Containers | Quantity |
|---|---|
| 20GP | 1692 |
| 40HQ | 5184 |

Each meter enclosure is packed in a plastic bag, then in a carton, the carton is sealed by tape and tie.

## Certification

DLMS® KEMA Labs THE STS ASSOCIATION CE

## Dimension & Connection





# DTZ568

Three Phase LV/CT Meter

# DTZ568

**Three Phase LV/CT Meter**

DTZ568 is a new generation of three phase LV/CT meter which migrating AMI functions. This meter is used to measure energy accurately for commercial, industries and residential customers. It has a plug-and-play module for communication in the meter. The craftwork of our product is exquisite and the functions provided are comprehensive and client-oriented. The meter is an intelligent instrument equipped with leading technology.

## Highlights

- Active and reactive energy, active and reactive demand;
- Optical communication, open protocol: DLMS/COSEM;
- Uplink GPRS plug-and-play communication module;
- Rs485/Rs232 communication for reading meter data directly;
- Remote communication with AMI system by GPRS module;
- Anti-tamper protection: anti-tamper events, alarm status, self-check, anti-tamper energy.

## Main Function

### Measurement & BILLING

- Active and reactive(import and export)
- Cumulative & delta energy
- Tariff control is available
- 12 billing periods
- Automatic reset

### Event & Alarms

- Anti-tampering
- Under & over voltage
- Power off/ on
- Losing phase
- Low & out of credit alarm
- Event records
- 2 relay control output port

### Display

- Large digit LCD display, easy for reading
- Large backlights to increase readability in low light conditions
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### RTC

- Clock accuracy (daily deviation): ≤ 0.5s (23℃)
- DST (Daylight Saving Time)
- RWD (Read Without Power)
- Lithium battery (15 years)

### Anti- Tamper

- Meter & terminal cover open
- Bypass/ reverse/ unbalance current
- Strong magnetic field detection (optional)

### Instantaneous Values

- Power, Voltage, Current
- Power Factor, Frequency, Phase Angles

### Local and Remote Access

- PC software
- XJ Central System (optional)
- HHU

## Specification

| Specification | | | |
|---|---|---|---|
| Application | | Indirect connection | |
| Accuracy | Active/Reactive | Active: Class 0.2, Reactive: Class 2.0 | |
| Nominal voltage | 3P 4W | 3x57.7/100V~3x230/400V | |
| Current Range | Ib/Iref | 5A | |
| | Imax | 6A | |
| Starting current | IEC | 0.1%Ib | |
| Frequency | | 50Hz | |
| Power consumption | Phase voltage | 230V | |
| | Voltage circuit: | ≤2W/10VA at Un | |
| | Current circuit: | <0.5W | |
| Temperature Range | Operation | -25˚C to +75˚C | |
| | Storage | -40˚C to +75˚C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 6kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz to 2GHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz to 80MHz |
| | | Voltage level | 10V |
| | Radio interference (peak value) | 30Mhz~1GHz | <30dB |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV | |
| RTC | Clock accuracy | <0.5s/d | |
| Dimension | | 302mm x 174.5mm x 80.5mm | |
| Standards | IEC | IEC62052-11, IEC62053-21, IEC62053-23<br>IEC62055-41, IEC62055-51<br>IEC62056-46, IEC62056-47<br>IEC62056-53, IEC62056-61, IEC62056-62 | |

# XJ Advanced Metering Infrastructure(AMI)

AMI is a complete network combing system for measuring, collecting, storing, analyzing and using user power information. It consists of smart meters installed on the user side and data management system located in the power company, and the communication system connecting them. The AMI system is the infrastructure of the smart grid, supporting the functions of two-way communication, real time electricity price, prepayment and so on. It is the trend of the future development of intelligent measurement.

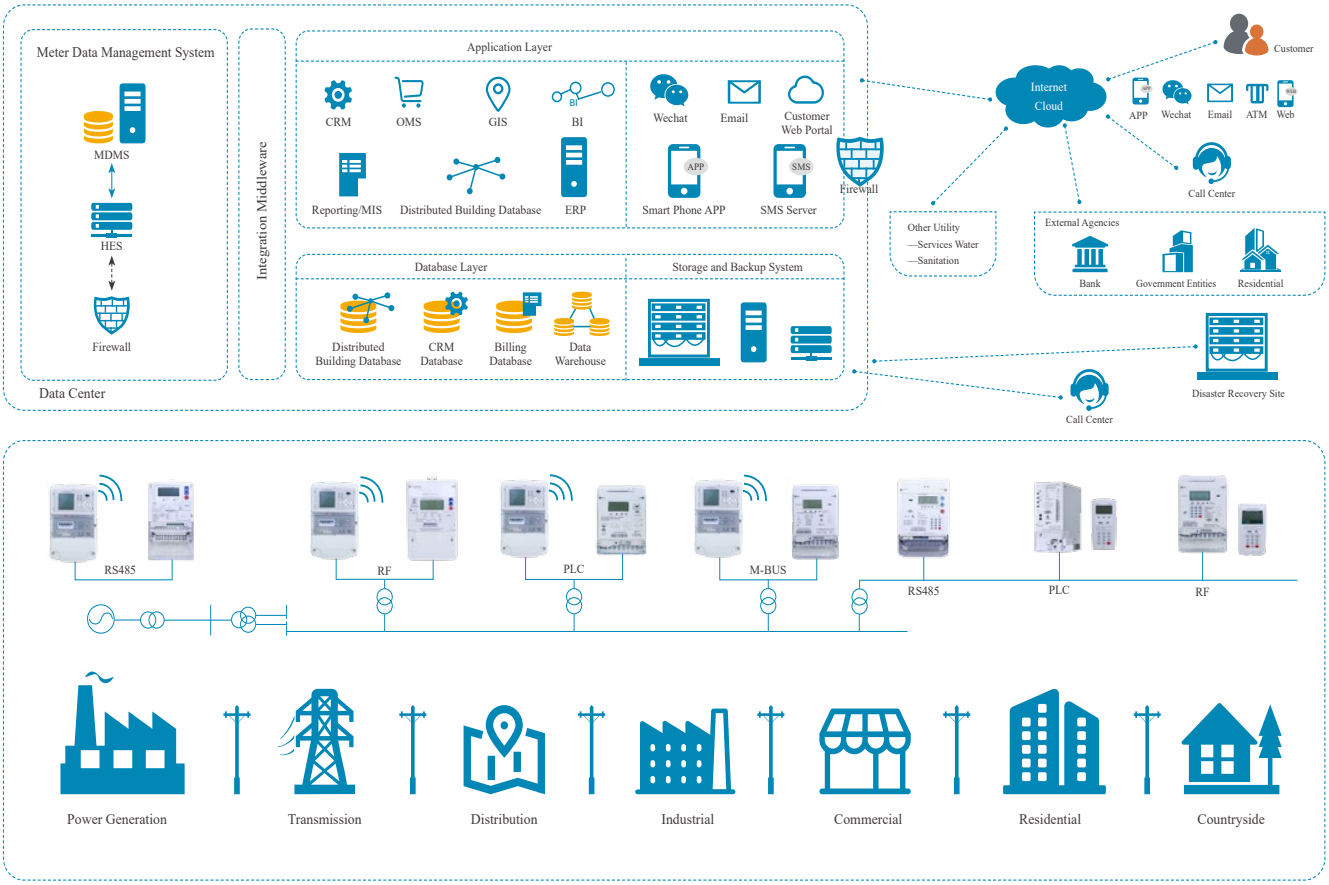
## System characteristics

- An application system based on network architecture, user friendly graphical user interface
- powerful role management and authority management
- Powerful data storage capacity; effectively recording all kinds of electrical energy related data (electricity, voltage, current, power, power factor, etc.) collected
- Support multiple protocol connections (DLMS / COSEM, ANSI, DLT, 376.1)
- Provide an open interface for the third party system
- Support the access of other suppliers
- High performance design can support 100 thousand acquisition terminals online at the same time
- Support remote reading meter data, parameter update, load management
- Support remote connect / disconnect
- Support the active report and display of events and alarm information
- Support online line loss analysis and anti-tamper analysis
- Support the payment and prepayment function

## System function structure

| | | |
|---|---|---|
| Report and analysis | Authentication and security | Alarm and event management |
| Data analysis and line loss management | Load control | Customer information management |
| Task management | Online reading | Meter and communication management |

The AMI system solution is shown in the diagram：



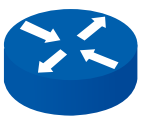

The AMI solution uses a variety of communication technologies: PLC、RF、GPRS、3G、4G、RS485、Ethernet etc；These communication technologies will be different in different application environments, and a combination of a variety of communication technologies can be used for some application environments.

Revenue Protection

High secure

Flexibility

High Performance



Support Multi Protocol

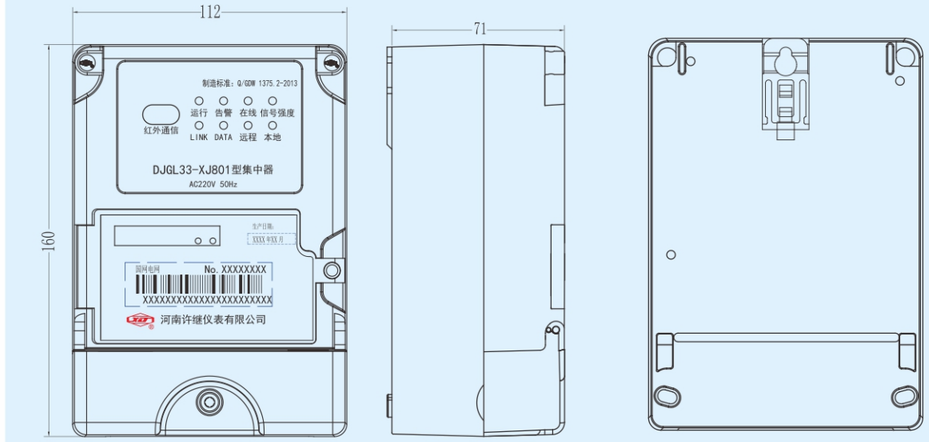
Multi Communication

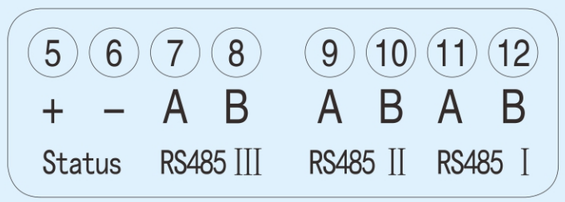
## Certification

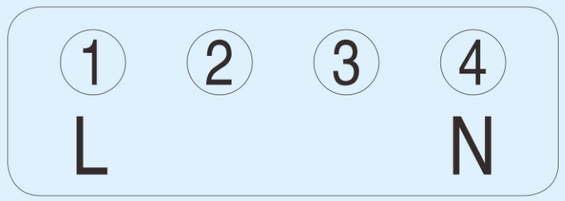
dlms device language message specification

SICEM®

## Dimension & Connection





# DJGL33-XJ801

Low Voltage User Data Acquisition Unit

AMI system core equipment

# DJGL33-XJ801

## Low Voltage User Data Acquisition Unit
## AMI system core equipment

The terminal is a new-generation product for electricity data acquisition developed based on Renesas high-performance embedded CPU hardware platform, real-time embedded μC/OS operating system and mobile communication technologies. The product features powerful functions, simple and stable operation and easy maintenance, meeting the application requirements of voltage monitoring, remote meter reading. Such advantages of high acquisition precision, high reliability, mass storage capacity, compatibility and high performance-price ratio make it an ideal accessory product for electricity data acquisition.

## Highlights

- Automatically search meter and load, automatically count the results of the load
- Massive data collection and processing, support access to not less than 192 user meters, 8 master meters
- Rich communication interface, plug-and-play
- communication modules, support GPRS / GSM / 4G / infrared / LAN / optical fiber, etc.
- Communication protocol compatibility, IEC102 / DLMS /COSEM / IEC1107 / ANSI etc.
- Support remote control, remote upgrade, U disk upgrade
- Active report in case of power outage

## Main Function

### Acquisition

- Collect object user meter and master meter
- Key user settings and acquisition
- Real-time acquisition, timed acquisition and automatic supplementary meter reading
- Acquisition data content can be configured

### Statistics

- Communication traffic
- Statistics of centralized meter reading
- Time of power supply, accumulative reset times and control times
- Statistics of voltage and current, maximum demand and it occurrence, time of unbalanced out-of-limit

### RTC

- Clock accuracy (daily deviation): ⩽ 0.5s
- Gregorian calendar、DST (Daylight Saving Time)
- Lithium battery (10 years support)

### Communication

- GPRS / GSM / 4G / Infrared interface / Ethernet
- RS485
- IEC102 / DLMS / COSEM / IEC1107 / ANSI
- Two-way interaction

### Display

- LED, indication of operation, alarm, local condition and module status

### Data transmission

- Communication with the main station
- Communicate with energy meter
- Data forwarding

### Anti – Tamper

- 4 lead sealing positions (terminal and body)
- Meter & Terminal cover open detection
- Strong magnetic field detection (optional)

### Safety

- Safety certification
- Security measures for authority and password management

### Storage

- Not less than 192 household meters and 8 master meters
- 31 sets of daily frozen power data and 12 sets of monthly frozen power data
- 10 key users and 96 sets of power data in 10 days
- Advanced Gzip log compression technology, massive log storage
- Retention of data after power outage not less than 10 years

### Local features

- Local maintenance
- Self-diagnosis and self-recovery
- Remote initialization
- USB upgrade

### Event recording and alarm

- Event Category: Important / General
- Number of event records 500
- Active report in case of power outage
- Event record content can be configured

### Remote instruction

- Meter remote control
- Remote upgrade

### Set and query

- File management
- Communication parameter setting and maintenance
- Clock calling and timing commands

### Condition monitoring

- Meter reading, communication status real-time monitoring
- Fault, alarm real-time recording and reporting

## Specification

| | | | |
|---|---|---|---|
| Voltage | single-phase | AC 220±20% | |
| Rated frequency | | 50Hz | |
| Power consumption | Apparent power | ⩽ 15VA | |
| | Active power | ⩽ 3W | |
| Temperature | Operating status | − 25℃ ～ + 55℃ | |
| | Storage status | − 40℃ ～+ 70℃ | |
| | Ultimate temperature | − 40℃ ～+ 70℃ | |
| Humidity | | 10% ～ 100% | |
| Degree of protection | | IP51 / 54 | |
| EMC | Electrostatic discharge | Harsh level | 4 |
| | | Electrostatic voltage test | 8kV（contact） 15kV（Air gap） |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | RF electromagnetic field immunity | Frequency Range | 80 ～ 1000 MHz<br>1000 ～ 2000MHz |
| | | Experimental field strength | 10V / m， 30V / m |
| | Conducted disturbance immunity | Frequency Range | 150kHz ～ 80MHz |
| | | Experimental voltage | 10V |
| | Oscillating wave disturbance immunity | Oscillation frequency | 100kHz（Repeat rate 40Hz）<br>1MHz（Repeat rate 400Hz） |
| | | Experimental voltage | Common model 2.5kV，<br>Differential model 1.0kV |
| | Power frequency magnetic field immunity | frequency | 50Hz |
| | | Magnetic field strength | 400A / m |
| Dielectric strength | Pulse voltage | 5kV | |
| | AC voltage | 2kV | |
| Safety performance | Impact voltage | 6kV | |
| | Power frequency voltage | Power terminal- Ground、RS485 | 4kV |
| | | Power terminal- Other terminals | 2kV |
| | 485 output terminals A, B | 380V AC voltage（Lasted 5 minutes） | |
| Clock | Clock accuracy | < ±0.5s/d | |
| Standard specification | | IEC102 / DLMS / COSEM / IEC1107 / ANSI | |
| Communication | Default | GPRS / GSM / LAN / RS485 / Infrared | |
| Indicator | Running light | Power indicator, red | |
| | Warning light | Abnormal work light, red | |
| | Online light | Remote channel online, green | |
| | Signal strength | From strong to weak, red—red and green—green | |
| | LINK | Ethernet status indication, green | |
| | DATA | Ethernet data indication, red | |
| | Remote | Remote communication status, red and green | |
| | local | Local communication status, red and green | |
| Data storage | Household meter | 31 sets of daily frozen data and 12 sets of monthly frozen data | |
| | Key users | 10 days 10 key users 96 power data | |
| | Data retention time | Not less than 10 years | |
| Shell material | | Polycarbonate + GF | |
| Wiring hole | | Φ8mm | |
| Weight | | 0.7kg（With communication module） | |
| Dimension | | 112×71×160mm（W×H×D） | |
| Service life | average | ⩾ 10 years | |
| MTBF | | ⩾ $7.6\times10^4$ h | |

## Certification

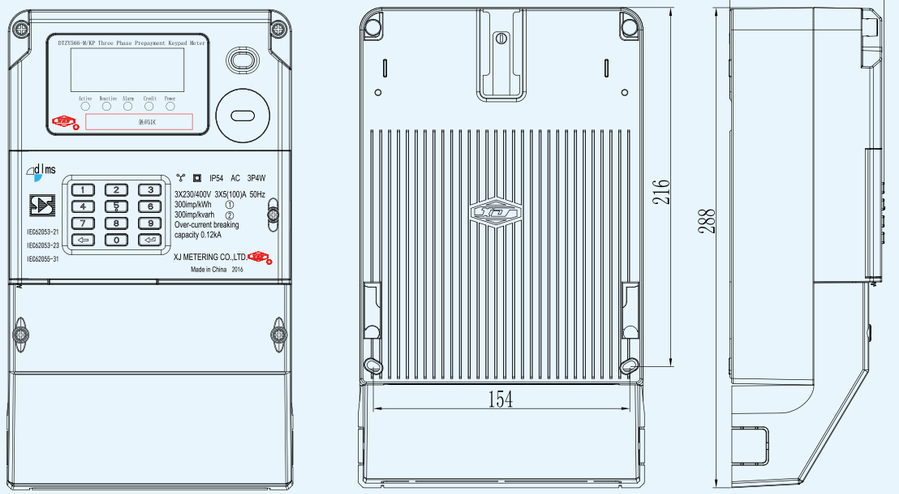
KEMA Labs

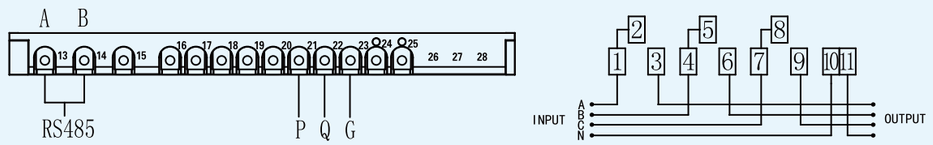
DLMS®

THE STS ASSOCIATION

NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA AGENCY

## Dimension & Connection








# DTZY566-M/KP

Three-Phase Prepayment
Keypad Smart Meter

# DTZY566-M/KP

**Three-Phase Prepayment Keypad Smart Meter**

DTZY566-M/KP three-phase prepayment energy meter with smart keyboard is a new generation of smart meter which is equipped with STS prepayment function. This meter is mainly used for accurately electric energy metering of commercial, industrial and residential users. Remote and local credit recharge is available through optional PLC / RF / GPRS pluggable communication modules and meter keyboard. This meter is able to be applied to the complicated AMI system and the electricity sale system.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical port communication based on DLMS / COSEM protocol
- Pluggable communication modules (PLC / GPRS / RF)
- Remote firmware upgrade through PLC / RF / GPRS / RS485 (optional)
- Internal relay for local load demand control (configurable) and remote communication control
- Prepayment and post-payment mode switchable for users' convenience

## Main Function

### Measurement

- Active and Reactive(import and export)
- Cumulative & Delta energy
- Tariff control & Step tariff are available

### Load Profile (optional)

- Maximum non-volatile memory of 2M
- Over 360 days' storage (2 channels, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency, etc.

### Demand Monitoring

- Block / Slide mode
- Demand interval configurable
- Maximum demand with time stamp
- Historical value (optional)

### Prepaid

- STS / CTS standard (optional)
- Emergency Credit
- Friendly mode
- Local and remote charge
- Prepaid / Post- paid
- CIU (Customer interface unit) (optional)

### Instantaneous Values

- Power, Voltage, Current
- Power Factor, Frequency, Phase Angles

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all ports
- Metrology data protection

### RTC

- Clock accuracy (daily deviation): ≤ 0.5s (23℃ )
- DST (Daylight Saving Time)
- RWP (Read Without Power)
- Lithium battery (10 years support)

### Anti – Tamper

- Meter &Terminal cover open
- Bypass/Reverse/Unbalance Current
- Strong magnetic field detection (optional)
- Ultrasonic sealing (optional)

### Events & Alarms

- Anti - Tampering
- Under & Over voltage
- Power off / on
- Remote relay control
- Losing phase
- Low & Out of credit alarm
- 1000 event records

### Communication

- Optical port: IEC62056-21
- PLC / RF / GPRS / RS485

### Display

- Large digit LCD display
- Backlights to increase readability under low brightness conditions
- Configurable scrolling display and button display
- Display readable without main power (RWP)

### Tariffs (optional)

- Single / TOU
- Step configurable

## Specification

| | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active | Class1 (IEC) / Class B (MID) | |
| Nominal voltage | 3P4W | 3×220V ～ 3×240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 60A, 80A, 100A | |
| Starting current | IEC | 0.4%Ib | |
| Frequency | | 50 / 60Hz | |
| Power consumption | Voltage circuit | ≤ 2W, 5VA | |
| | Current circuit | <0.2VA | |
| Temperature Range | Operation | − 25℃ ～ + 55℃ | |
| | Storage | − 40℃ ～ + 70℃ | |
| | Limit | − 40℃ ～ + 70℃ | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz ～ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz ～ 80MHz |
| | | Voltage level | 10V |
| | Radio interference(peak value) | 30Mhz ～ 1GHz | < 30dB |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV | |
| RTC | Clock accuracy | < 0.5s/d | |
| Standards | IEC | IEC 62052-11, IEC 62053-21, IEC62053-23<br>IEC62055-41, IEC62055-51<br>IEC62056-46, IEC62056-47<br>IEC62056-53, IEC62056-61, IEC62056-62 | |
| | MID standard | EN54070-1, EN54070-3 | |
| Relay | | IEC 62055-31 UC2/UC3 | |
| Data storage | Load profile | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate ＋ Fiber glass | |
| Connection hole | Terminal | 11mm×11mm | |
| Weight | | Approx. 1.5kg (without communication module)<br>Approx. 1.8kg (with PLC / RF / GPRS communication module) | |
| Dimension | | 288×171×93 (H×W×D) | |

## Certification

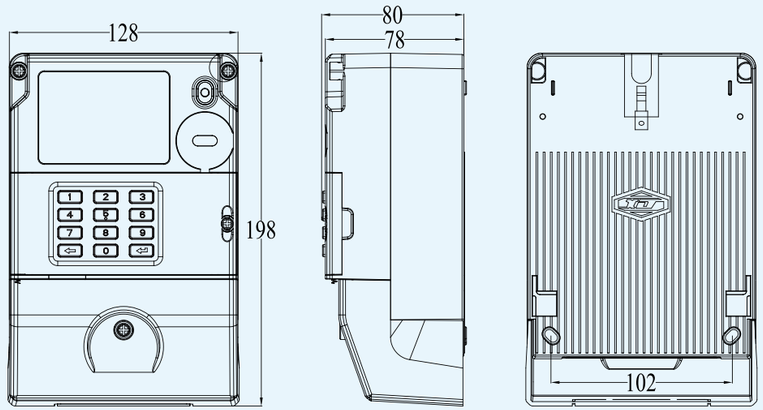
KEMA Labs

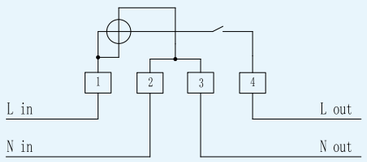
DLMS®

THE STS ASSOCIATION

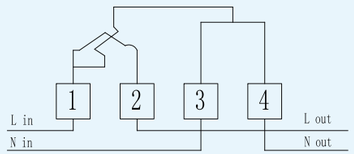
NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection

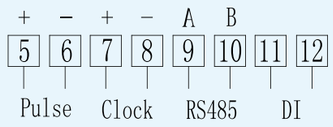



Symmetric Connection




Asymmetric Connection




Auxiliary terminals


# DDZY566-M/KP

Single-Phase Smart Keypad Prepayment Meter

# DDZY566-M/KP

## Single-Phase Smart Keypad Prepayment Meter

DDZY566-M/KP Single Phase Smart Keypad Prepayment Meter is a new generation of single phase smart prepayment meter with STS prepayment functionality. It supports active & reactive energy measurement and instantaneous measurement, relay disconnection and reconnection management. With an optional plug-and-play PLC/RF/GPRS communication module and meter keypad, credit can be charged both remotely and locally. The meter can be used in sophisticated AMI & vending system.

## Highlights

- STS standard protocol ensures an open and secure operating system
- Optical communication, open protocol: DLMS / COSEM
- PLC / RF / GPRS plug-and-play communication module
- Internal relay for load demand control by configuration or remote communication
- Prepayment and post-payment mode switchable for users' convenience
- Remote firmware upgrade via PLC / RF / GPRS / RS485(optional)

## Main Functionalities

### Measurement

- Unidirectional or Bi-directional Measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

### Load Profile (optional)

- Up to 2 Megabytes of Non-Volatile memory
- Over 360 Days storage (2 channel, 30 minutes)
- Up to 8 channels
- Energy power, voltage, current, frequency & Etc.

### Demand Monitoring

- Block / Slide mode
- Demand interval configurable
- Maximum demand with time stamp
- Historical value (optional)

### Prepaid

- STS / CTS standard (optional)
- Emergency Credit
- Friendly mode
- Local and remote charge
- Prepaid / Post- paid
- CIU (Customer interface unit) (optional)

### Instantaneous Values

- Power, Voltage, Current
- Power Factor, Frequency

### Security

- 3 data access levels (lowest, LLS and HLS)
- Data access management for all port
- Metrology data protection

### RTC

- Clock accuracy (daily deviation): ≤ 0.5s (23℃ )
- Gregorian calendar
- DST (Daylight Saving Time)
- RWP (Read Without Power)
- Replaceable Lithium Batter (10 years support)

### Anti – Tamper

- 4 Sealing positions (terminal, body)
- Meter & Terminal cover open detection
- Bypass / Reverse / Unbalance Current
- Strong magnetic field detection (optional)

### Event & Alarms

- Load and Power grid events detection
- Under & Over voltage
- Power down
- Event date and time
- 1000 event records
- Event & Alarm of tamper
- Low & Out of credit alarm
- Alarms indicator (LED & Buzzer)

### Communication

- Optical port: IEC62056-21
- PLC / RF / GPRS / RS485

### Display

- Large digit LCD display, backlight(optional)
- Scrolling display and key display configurable
- Display readable without main power (RWP)

### Tariffs (optional)

- Single / TOU
- Step configurable

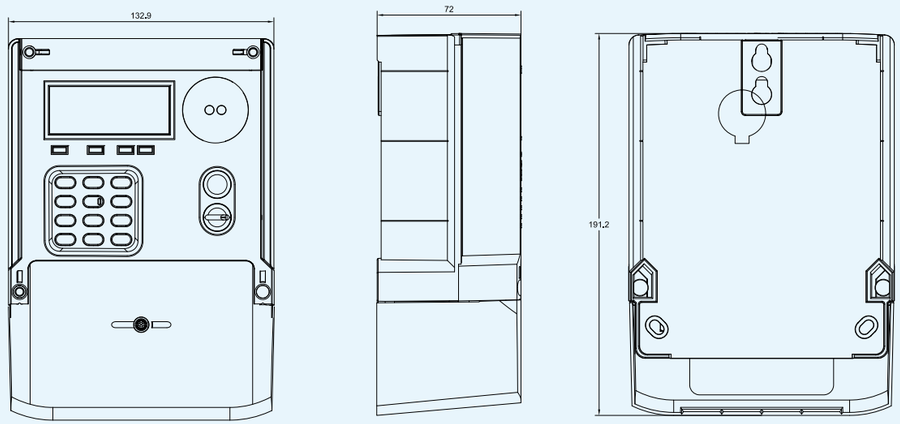
## Specification

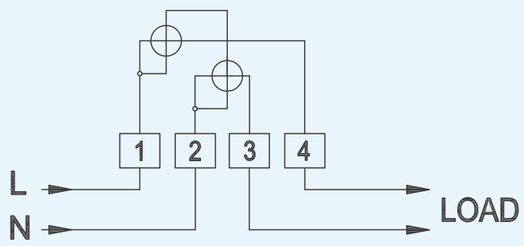
| | | | |
|---|---|---|---|
| Application | | Direct connection | |
| Accuracy | Active: | Class 1 (IEC) / Class B (MID) | |
| Nominal voltage | 1 P 2W | 220V, or 230V, or 240V | |
| Current Range | Ib/Iref | 5A, 10A | |
| | Imax | 40A, 60A, 80A,100A | |
| Starting current | IEC | 0.4%Ib | |
| Frequency | | 50 / 60Hz | |
| Power consumption | Voltage circuit: | < 2W, < 10VA | |
| | Current circuit: | < 4VA | |
| Temperature Range | Operation | − 25℃ ～ + 55℃ | |
| | Storage | − 40℃ ～ + 70℃ | |
| | Limit | − 40℃ ～ + 70℃ | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
| | | Air discharge | 15kV |
| | Fast transient burst | 4kV | |
| | Surge immunity | 4kV | |
| | Electromagnetic RF fields | Frequency range | 80kHz ～ 2000MHz |
| | | With current | 10V/m |
| | | Without current | 30V/m |
| | Conducted disturbance | Frequency range | 150kHz ～ 80MHz |
| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2 / 50μs | |
| | AC voltage | 4kV 1min | |
| Standards | IEC | IEC 62052-11, IEC 62053-21, IEC 62053-23<br>IEC 62055-31, IEC 62055-41, IEC 62055-51<br>IEC 62056-46, IEC 62056-47<br>IEC 62056-53, IEC 62056-61, IEC 62056-62 | |
| | MID standard | EN 54070-1, EN 54070-3 | |
| Relay | | IEC 62055-31 UC2/UC3 | |
| Data storage | Load profile (optional) | 8 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | 9mm×9mm | |
| Weight | | Approx. 0.9kg (without communication module)<br>Approx. 1.0kg (with PLC/RF/GPRS communication module) | |
| Dimension | | 198*128*80 mm (L*W*H) | |

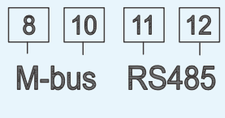
## Certification

DLMS® KEMA Labs THE STS ASSOCIATION NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY NEMSA

## Dimension & Connection





# DDZY566-M

Single-Phase Keypad Prepayment Smart Meter
(Without Module Case)

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- Optical communication, open protocol: DLMS /COSEM
- Internal relay for load demand control by configuration or remote communication
- Prepayment and post-payment mode switchable
- Firmware upgrade via RS485

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- Unidirectional or bi-directional measurement
- Cumulative energy
- Record active & reactive energy (optional) in tariffs

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- Load and power grid events detection
- Under & over voltage
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### Communication

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### Tariffs (optional)

- Single /TOU
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### Instantaneous values

- Power, Voltage, Current
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- Clock accuracy (daily deviation): 0.5s (23°C)
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- Emergency credit
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| Starting current | IEC | 0.4% Ib | |
| Frequency | | 50/ 60Hz | |
| Power consumption | Voltage circuit | <2W, <10VA | |
| | Current circuit | <4VA | |
| Temperature Range | Operation | -25°C+55°C | |
| | Storage | -40°~+70°C | |
| | Limit | -40°~+70°C | |
| Humidity Range | | Up to 95% | |
| Protection Degree | | IP54 | |
| EMC | Electrostatic discharge | Contact discharge | 8kV |
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| | | Voltage level | 10V |
| Insulating Strength | Impulse voltage | 6kV 1.2/50μs | |
| | AC voltage | 4kV 1min | |
| RTC | Clock accuracy | < 0.5s/d | |
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| | MID standard | EN 54070-1, EN 54070-3 | |
| Data storage | Load profile (optional) | 2 channels | |
| | Billing data | 12 billing periods | |
| Case Material | | Polycarbonate + Fiber glass | |
| Connection hole | Terminal | φ9mm | |
| Dimension | | 191.2*132.9*72mm (L*W*H) | |