# KW1850 Smart Metering System

## User's Manual

**Automation Components, Inc.**

[*Engineering a Better Sensor Solution*]

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The information contained in this document is believed to be accurate at the time of publication, however, ACI assumes no responsibility for any errors which may appear here and reserves the right to make changes without notice. Please ask the local representative for latest product specifications before ordering.

Please read this manual carefully before installation, operation and maintenance of the KW1850 Series Power Meter. The following symbols in this manual are used to provide warning of danger or risk during the installation and operation of the meters.

Electric Shock Symbol: Carries information about procedures which must be followed to reduce the risk of electric shock and danger to personal health.

Safety Alert Symbol: Carries information about circumstances which if not considered may result in injury or death.

Prior to maintenance and repair, the equipment must be de-energized and grounded. All maintenance work must be performed by qualified, competent accredited professionals who have received formal training and have experience with high voltage and current devices. ACI shall not be responsible or liable for any damages or injuries caused by improper meter installation and/or operation.

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# Chapter 1: Introduction

# Chapter 1.0: Introduction

## 1.1 Meter Overview

The KW1850 series meter performs real-time metering, measures energy consumption and monitors power quality for up to 18 single phase circuits (or 6 three phase circuits) in one unit. It is an advanced intelligent power meter that ACI developed and manufactured for the next generation smart power distribution networks. The main features include multi-tenant sub metering, cyclic display, and tamper proof, which make it highly suitable for large commercial facilities, residential apartments and industrial environments.  The KW1850 series has RS485, Ethernet  and wireless (WIFI) communication options as well which can be easily be connected to intelligent power distribution monitoring systems.  The KW1850 also supports several I/O options (e.g. Pulse Counting from water or gas meters), making it useful in energy management systems. Due to its communication capability, ease of installation and use, this product can be easily integrated into new and existing energy management systems.

## 1.2 Areas of Application

- Multi-tenant sub metering/billing
  - Commercial Complex/Mall
  - Apartment/Condominiums
  - Hospitals/Public Services
  - Hotels/Office Buildings
  - Data Centers
  - LEED Projects
- Branch circuit monitoring
- Railway and Subway Systems
- Energy Management Systems
- Industrial & Utilities Applications

**WARNING:** *This product shall be installed in an full enclosed industrial cabinet, the access to which is strictly limited to professional personnel.*

## 1.3 KW1850 Series Features

### Multi-function Multi-Tenants

KW1850 multi-function intelligent power meter utilizes powerful data acquisition and processing functions, which implements real-time metering and monitoring for up to 18 single phase circuits (or 6 three phase circuits) in one unit. It will also record system events, over/under limit alarming and data logging functions.

### Innovative Display and Installation

Multi-tenant energy information is cycled through on the high-resolution display. Current transformer installation is made simple with plug in connector to meter.

### Flexible Wiring

Users can choose measuring circuits and wiring methods. Measuring circuit can be selected as 18 single phases, or 6 three phase or 6 single phase three wire.

### Features

KW1850 features and functionality are listed in the table below.

| Function | Parameters Supported | Details | Accuracy |
|---|---|---|---|
| Energy | Real Energy | • Combined energy total for all circuits<br><br>• Real, reactive, and apparent energy for each circuit | Class 0.5 S |
| | Reactive Energy | | |
| | Apparent Energy | | |
| Time of Use (TOU) | 4 Tariffs, 14 Schedules | • Supports 14 Seasons, 14 Schedules, 4 Tariffs, supporting weekend and holiday settings.<br><br>• Supports daylight saving time and 10-year holidays with automatic switching. | |
| | Daylight Savings Time | | |
| | Holidays | | |

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| Function | Parameters Supported | Details | Accuracy |
|---|---|---|---|
| Demand | Active Power Demand | • Combined demand total for all circuits<br><br>• Active power demand, reactive power demand, apparent power demand and current demand for each circuit. | 0.5% |
| | Active Power Demand Max | | |
| | Reactive Power Demand | | |
| | Reactive Power Demand Max | | |
| | Apparent Power Demand | | |
| | Apparent Power Demand Max | | |
| | Current Demand | | |
| | Current Demand Max | | |
| Real Time | Voltage | • System Line Voltage<br><br>• System Phase Voltage | 0.5% |
| | Current | • Combined average current for circuits being monitored<br><br>• Current readings for each circuit being monitored | |
| | Active Power | • Combined power for all circuits<br><br>• Active Power, Reactive Power, Apparent Power, Power Factor and Load Characteristic for each circuit being monitored | |
| | Reactive Power | | |
| | Apparent Power | | |
| | Power Factor | | |
| | Load Characteristic | | |
| | Frequency | • System Frequency | |

| Function | Parameters Supported | Details | Accuracy |
|---|---|---|---|
| Power Quality | THD | • Voltage and current THD, odd THD, even THD <br><br> • Individual Harmonics (2~31), Current K-factor (KF), crest factor (CF), telephone interference factor (THFF), <br><br> • Voltage and current unbalance | 1% |
| | Individual Harmonics (2~31) | | |
| | Current K Factor | | |
| | Crest Factor | | |
| | Voltage Unbalance | | |
| | Current Unbalance | | |
| | Voltage Telephone Interference Factor (THFF) | | |
| Clock | Year/Month/Day/ Hour/Minute/Second | • Real time configurable clock, <br><br> • Supports NTP via WEB2 communications module | |
| Alarming | Over/Under Limit Alarming | • Users can select parameters and configure the set point threshold over/under. <br><br> • The time and reason of an alarm event will be recorded. | |
| Data Logging | Up to 8MB via meters onboard <br><br> Up to 8GB via WEB2 communications module | • Log real-time metering parameters, I/O status, and energy measurement. <br><br> • Built in WEB2 communications module provides an additional 8GB of memory that can be used for logging locally on the communication module. | |

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| Function | Parameters Supported | Details | Accuracy |
|---|---|---|---|
| Communication | RS485 | • Modbus TCP, WiFi WPA, WPA2 Enterprise security protocol, HTTP/HTTPS, FTP, SMTP, NTP, SNMP, BACnet IP, MQTT | |
| | Ethernet/WIFI | | |
| I/O | 18 Digital Inputs | • Monitors Digital Status (ON/OFF) <br> • Digital Counter | |
| | 6 Digital Outputs | • Energy Pulse Output <br> • Alarm Pulse Output | |
| | 2 Relay Outputs | • Latch control relay <br> • Alarm controlled relay | |

# Chapter 2: Installation
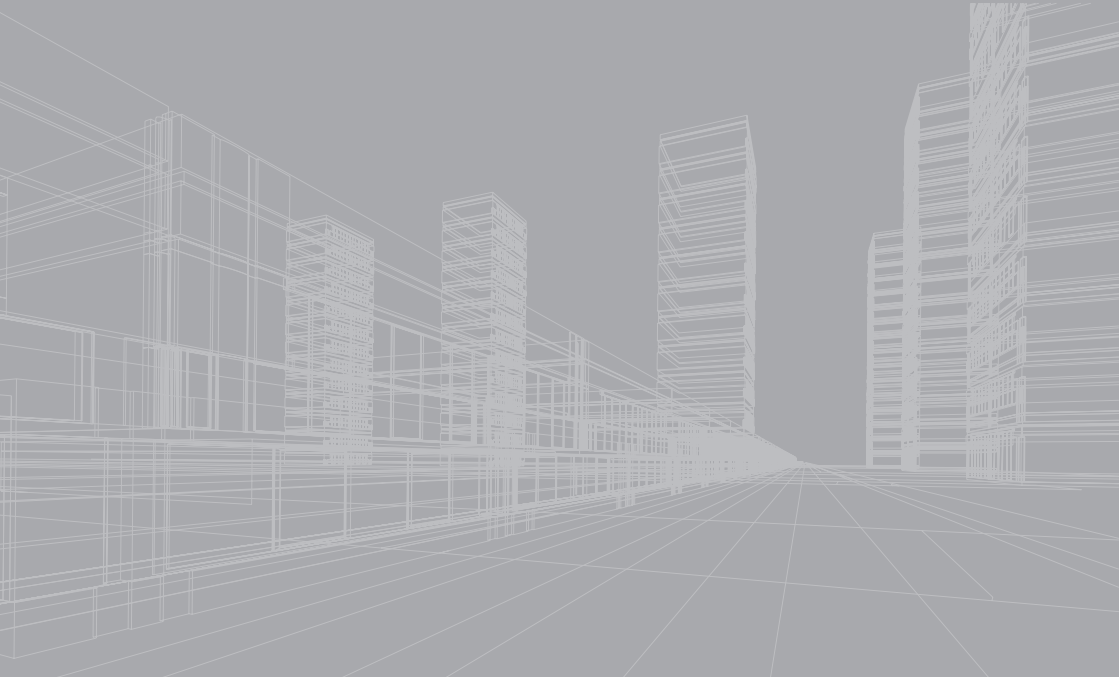
# Chapter 2.0: Installation

**Before Installation**

- The installation must be performed by qualified, competent, accredited professionals who have received formal training and have experience with high voltage and current devices. Appropriate safety wear (gloves, glasses, arc flush suit, etc.) is mandatory to ensure safe installation.

- During normal meter operation, caution should be used when handling the following as high voltage may be present: Terminal Blocks, Current Transformer connection nodes, Potential Transformer connection nodes and the related circuits. All primary and secondary circuits may contain lethal current and voltage. Contact with current channels must be avoided.

- The power meter and I/O modules cannot be installed on the primary side of transformers or where VA has limitations. The power meter can be only installed on the secondary side. Avoid contact with meter terminals after the completion of installation.

- Do not input voltage above the rated maximum limit of the power meter and devices connected to it. Before energizing the meter, please refer to the meter's label and specifications.

- Do not perform high voltage test / insulation experiment to output, input, or communication terminals.

- The use of shorting blocks and fuses are recommended.

- Use dry cloth to wipe the meter.

- The installation method is introduced in the chapter. Please read this chapter carefully before beginning installation.

**Note:** *Failure to follow manufacturer guidelines for installation and use may compromise the safety of the meter and the user.*

**Note:** *Any repair should only be performed by the manufacturer. A switch or circuit breaker should be utilized in the equipment. The switch should be placed close to the equipment and easy to reach. The switch is regarded as part of the breaking device.*

## 2.1 Appearance and Dimensions



Fig.2-1 KW1850 Appearance

### Dimensions



95 mm
3.74 in

35.5 mm
1.40 in

162 mm
6.38 in

60.1 mm
2.37 in

67.1 mm
2.64 in
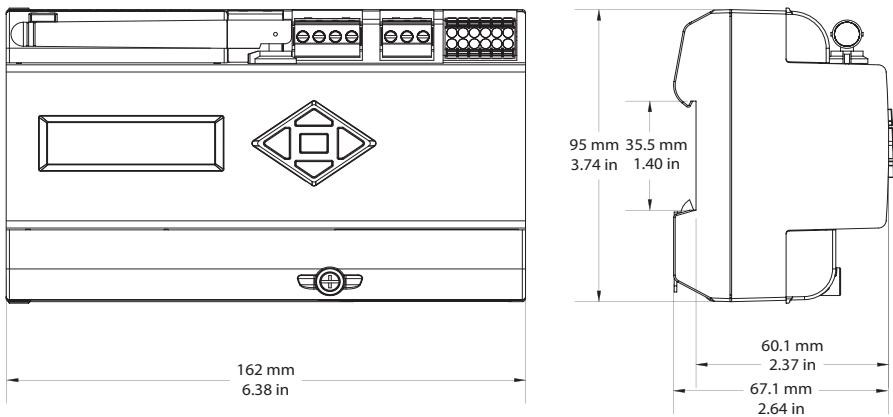
Fig.2-2 Meter Dimensions (Meter Base, Display, External CTs)

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## 2.2 Installation Methods

### Environmental

Before installation, please check the environment, temperature, and humidity to ensure the KW1850 series meter is being placed where it will not be damaged.

1. Temperature

KW1850 operating temperature is -25~70°C. Exceeding this temperature range will cause damage to the meter. Please note it can influence the meters life negatively if the meter operates in extremely high or extremely low temperatures. KW1850 storage temperature range is -40~85°C.

2. Humidity

5% to 95% non-condensing.

3. Location

KW1850 series meter should be installed in a dry and dust free environment. Avoid exposing meter to excessive heat, radiation, and high electrical noise sources.

### Installation Steps

This meter is DIN rail mounted, which fits 35 mm standard rails.

1. Insert the meter groove all the way into the rail, and flip the meter case as the Figure below shows, making the meter mounted onto the rail.
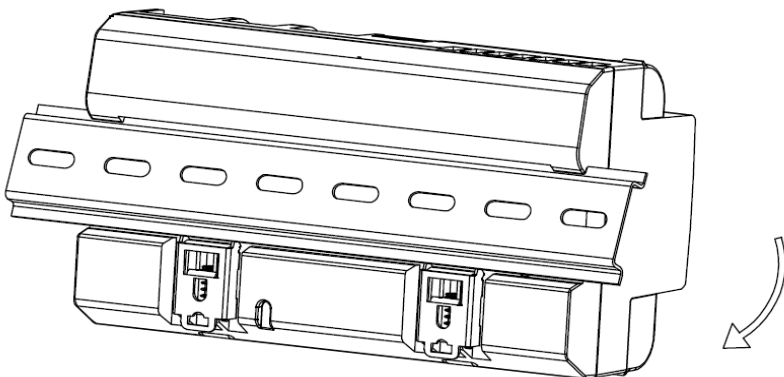
## 2.3 Wiring

### 2.3.1 Terminals
**Meter Terminals**

Upper row: Voltage Input, Power Supply, Seal Button (B1), Relay Output, RS485, Digital Output, Ethernet Ports (via WEB2 module)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| V1 | V2 | V3 | VN | L | N | G |

B2   B1

| 8 | 9 | 10 | 11 |
|---|---|----|----|
| R11 | R12 | R21 | R22 |

| 12 | 13 | 14 |
|----|----|----|
| S | B | A |

| 16 | 18 | 20 | 22 | 24 | 26 |
|----|----|----|----|----|----|
| C1 | C2 | C3 | C4 | C5 | C6 |
| 15 | 17 | 19 | 21 | 23 | 25 |
| E1 | E2 | E3 | E4 | E5 | E6 |

**KW1850**

WIFI   NET1 65   NET2 66

| | I2 | | I4 | | I6 | | I8 | | I10 | | I12 | | I14 | | I16 | | I18 |
|---|----|--|----|--|----|--|----|--|-----|--|-----|--|-----|--|-----|--|-----|
| | 48 | | 50 | | 52 | | 54 | | 56 | | 58 | | 60 | | 62 | | 64 |

| I1 | | I3 | | I5 | | I7 | | I9 | | I11 | | I13 | | I15 | | I17 | |
|----|--|----|--|----|--|----|--|----|--|-----|--|-----|--|-----|--|-----|--|
| 47 | | 49 | | 51 | | 53 | | 55 | | 57 | | 59 | | 61 | | 63 | |

| DIC | DI1 | DI2 | DI3 | DI4 | DI5 | DI6 | DI7 | DI8 | DI9 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| DIC | DI10 | DI11 | DI12 | DI13 | DI14 | DI15 | DI16 | DI17 | DI18 |
| 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 |

Lower row: Current Input, Digital Input

| | I2 | | I4 | | I6 | | I8 | | I10 | | I12 | | I14 | | I16 | | I18 |
|---|----|--|----|--|----|--|----|--|-----|--|-----|--|-----|--|-----|--|-----|
| | 48 | | 50 | | 52 | | 54 | | 56 | | 58 | | 60 | | 62 | | 64 |

| I1 | | I3 | | I5 | | I7 | | I9 | | I11 | | I13 | | I15 | | I17 | |
|----|--|----|--|----|--|----|--|----|--|-----|--|-----|--|-----|--|-----|--|
| 47 | | 49 | | 51 | | 53 | | 55 | | 57 | | 59 | | 61 | | 63 | |

| DIC | DI1 | DI2 | DI3 | DI4 | DI5 | DI6 | DI7 | DI8 | DI9 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| DIC | DI10 | DI11 | DI12 | DI13 | DI14 | DI15 | DI16 | DI17 | DI18 |
| 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 |

Fig. 2-6 KW1850 Terminals

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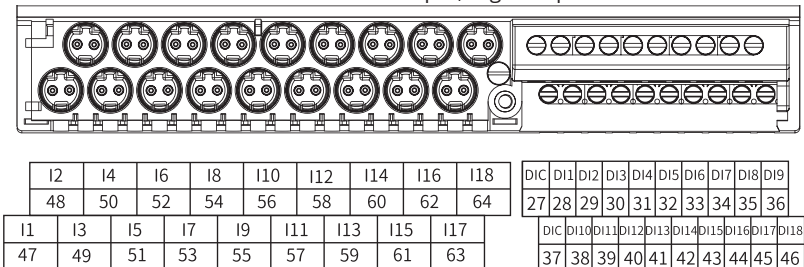
## Power Supply

KW1850 power supply is 100-415Vac, 50/60Hz or 100-300Vdc, which are universally supported. If any other power supply is required, please contact the manufacturer. The power consumption of the power meter is low during normal operation; therefore, the power supply can be either via a standalone power supply or via the measured circuit. A regulator is recommended where the voltage is not stabilized. The power supply terminal number is L/N/G.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----|----|----|----|----|----|----|
| V1 | V2 | V3 | VN | L | N | G |
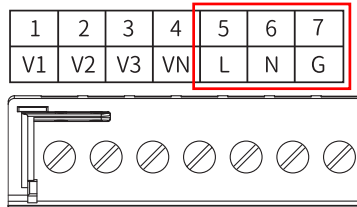
Fig. 2-7 Power Supply Wiring

Power Supply wiring is AWG22~16 or 0.6~1.5mm$^2$.

A fuse or small-sized circuit breaker is mandatory for the KW1850 Power Supply. The fuse recommendation is 1A/250Vac, time delay. If a circuit breaker is utilized, it must be CE certified and comply with IEC 947 standard.

An isolated transformer or EMC filter should be used in the auxiliary power supply loop if there is a power quality issue in the power supply.

## Voltage Input Signal

400Vac L-N, 690Vac L-L.A fuse (typical 1A/250Vac) or air circuit breaker must be used in the voltage input loop.

## Current Input Connection

For CT Connection, the CTs are terminated and plugged directly into the meter using connectors on the CT.  If the CT does not have this connector an adapter can be used to connect the CT successfully to the meter.

| SnapOn Connector Polarity | |
|---|---|
| North America | White lead is positive. Black lead is negative. |
| International | Red lead is positive. White lead is negative. |

## Vn Connection

Vn is the voltage reference point of KW1850, a low resistance to Vn connection contributes to a better measurement accuracy. Vn connection is related to the system wiring. Please refer to "Wiring Methods" for details.

## 2.3.2 Wiring Methods

KW1850 wiring methods can be selected in system parameter settings. Inline defaults to 3-phase 4-line(3LN), load wiring can be set to single-phase (1LN), threephase four-wire (3LN), single-phase three-wire (2LN).

## 1. Single Phase (1LN)



Fig. 2-8 Single Phase

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## 2. Three Phase 4 Wire (3LN)



Fig. 2-9 3-Phase 4-Wire

Table 2-1 3-Phase 4-Wire

|  | Three Phase Circuit 1 | Three Phase Circuit 2 | Three Phase Circuit 3 | Three Phase Circuit 4 | Three Phase Circuit 5 | Three Phase Circuit 6 |
|---|---|---|---|---|---|---|
| Phase C | I3 | I6 | I9 | I12 | I15 | I18 |
| Phase B | I2 | I5 | I8 | I11 | I14 | I17 |
| Phase A | I1 | I4 | I7 | I10 | I13 | I16 |

# *KW1850* Smart Metering System
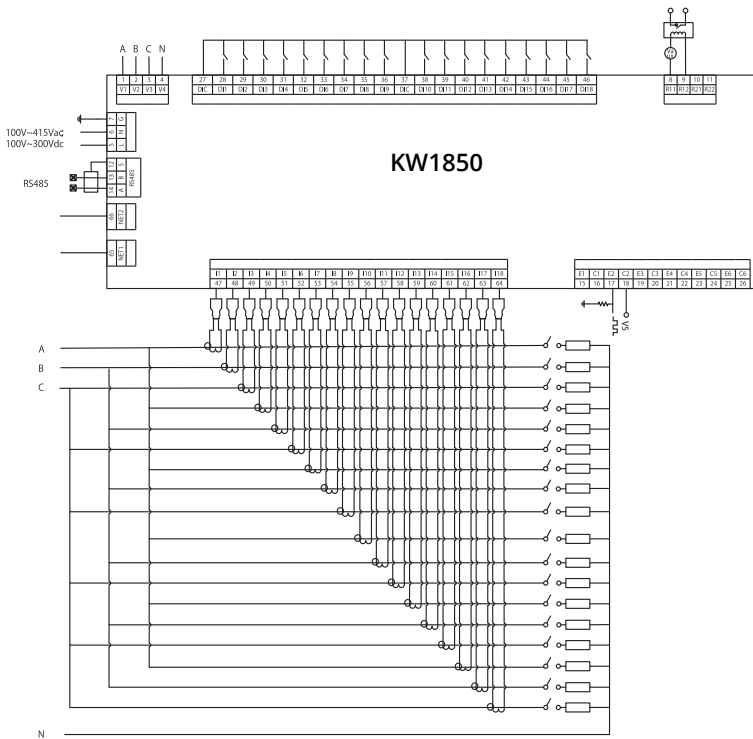
## 3. Single Phase 3 Wire (2LN)



Fig. 2-10 Single Phase 3-Wire

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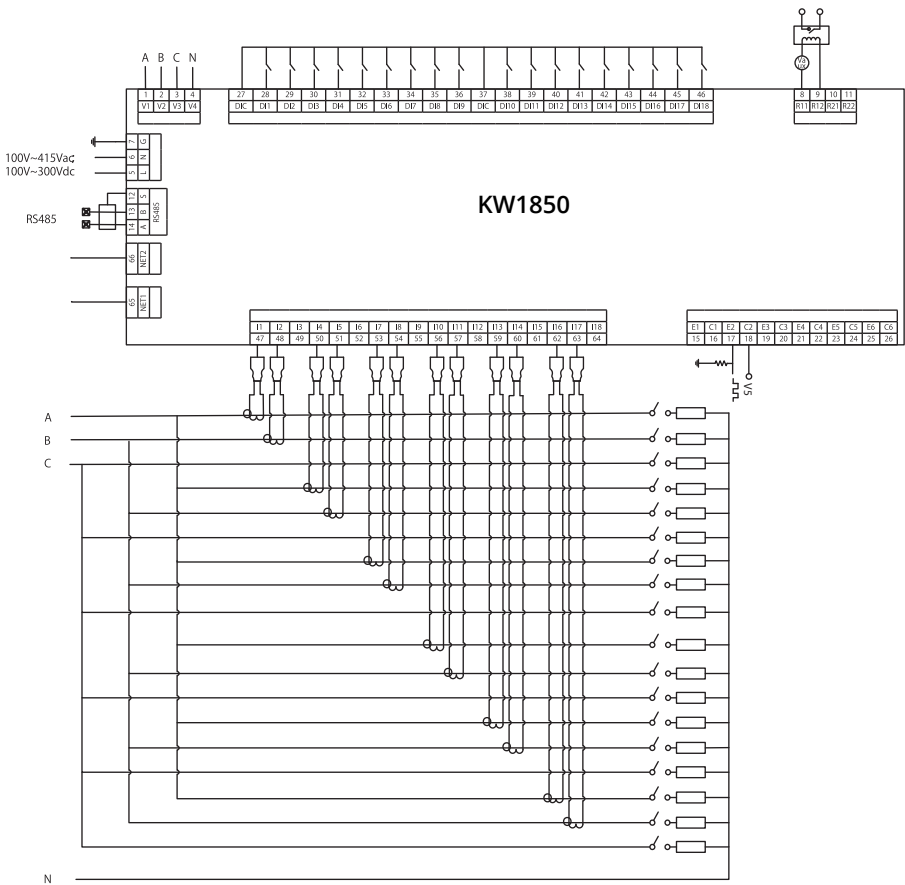
Table 2-2 Single Phase Three Wire (2 Hot Phases - 1 Neutral)

| Circuit | Phase A | Phase B |
|---|---|---|
| Single Phase Three Wire Circuit 6 | 16 | 17 |
| Single Phase Three Wire Circuit 5 | 13 | 14 |
| Single Phase Three Wire Circuit 4 | 10 | 11 |
| Single Phase Three Wire Circuit 3 | 7 | 8 |
| Single Phase Three Wire Circuit 2 | 4 | 5 |
| Single Phase Three Wire Circuit 1 | 1 | 2 |

## 2.3.3 Communication Port

KW1850 communication utilizes RS485 port, via Modbus-RTU protocol. The wiring terminals are A, B, S (14, 13, 12), where **A** is positive, **B** is negative, and **S** is the shield terminal. The maximum distance of shielded twisted pair cable is 1200 m.
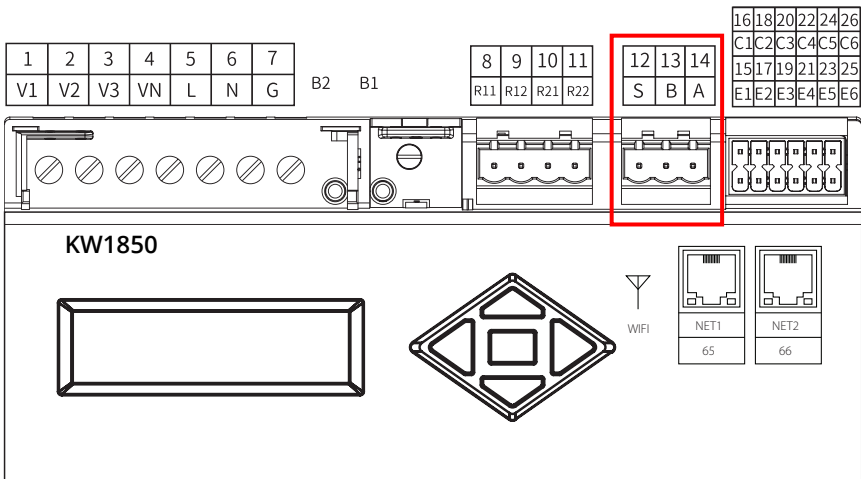


Figure 2-11 Communication Port

If the master device does not have RS485 but RS232 port, a RS232/485 converter can be utilized. Typical RS485 network topologies include line, circle and star (wye).

In order to improve communication quality, please pay attention to:

1. High-quality shielded twisted pair cable is very important, AWG22 ($0.6mm^2$) or lower is recommended. Two cables should be different colors.

2. Pay attention to "single point earthing". It means there is only one point of the shielding connected to ground in a single communication link.

3. Every A (+) should be connected to A(+), B(-) to B(-), or it will influence the network, even damage the communication interface.

4. "T" type connection topology should be avoided. This means no new branches except from the starting point.

5. Keep communication cables away as much as possible from sources of electrical noise. When several devices are connected (daisy chain) to the same long communication line, an anti-signal reflecting resistor (typical value 1200-3000Ω, 0.25W) is often used at the end of the circuit (the last meter of the chain) if the communication quality is distorted.

6. Use RS232/RS485 or USB/RS485 converter with optical isolated output and surge protection.

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# Chapter 3: Appearance & Dimensions

# Chapter 3.0: Appearance & Dimensions

## 3.1 Display Panels and Keys

The KW1850 meter consists of one LCD screen and five keys. Refer to chapter 2 section 2.1 for more details regarding the dimensions of the LCD display.

**KW1850**

LCD Display                    Function Keys
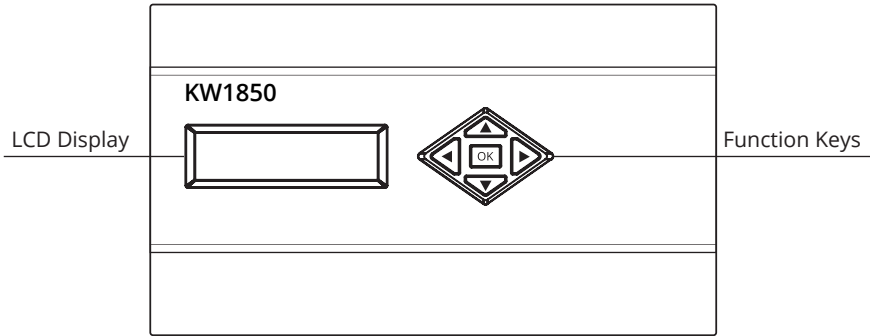
Fig. 3-1 KW1850 and LED Indicator

Table 3-1 Function Keys Illustration

| Key | | Function |
|---|---|---|
| ▲ | Up | Scroll up or increase value (Editing mode) |
| ▼ | Down | Scroll down or decrease value (Editing mode) |
| ◀ | Left | Move cursor to the left |
| ▶ | Right | Move cursor to the right |
| OK | OK | Confirm setting/value |

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**Key Combination**

Pressing the **Left** and **Right** buttons at the same time for a second is the quick exit function. In any screen, pressing this key combination can return to the main menu screen. The basic settings and network setting screens are only available with this key combination to return back to the main menu screen.

**Display**

When first powered on the **ACI** will be displayed on the LCD screen, after 2 seconds the main menu screen will appear.

**Settings Mode**

In the main menu screen, users can use the arrow keys to navigate to different options and use the **OK** button to enter any of the menu options. When entering either the **Settings** or **Network Settings** options users will be prompted with a password screen. The default password is **0000**, if password has been changed users can use the arrow keys to enter in the required password. Table 3-2 below shows the main menu options for the KW1850 meter.

Table 3-2 KW1850 Main Menu

| Menu Display | Function |
|---|---|
| D (Demand) | Demand Readings |
| INFO | Device Information |
| IO | Digital Input/Output Readings |
| E (Energy) | Energy Readings |
| SET | Meter Settings |
| NET | Network Settings |
| PQ | Power Quality Readings |
| MUL (Real-Time) | Real-Time Readings |
| M | Shortcut Code |

By default only the E, D, IO, MUL, and M options are displayed on main menu screen.  To view the PQ, SET, NET, and INFO options press either the Right or Left arrow keys to scroll to these options.



Fig. 3-2 Main menu screen sequence

## 3.2 Energy Display and Operation

On the main menu screen move the cursor over to **E** and press **OK** to enter to view the energy readings for the meter. Use the **Left** or **Right** buttons to move between the different channels (1-18) as well as the in-line (meter total) energy.  Press the **Up** and **Down** buttons to select the different energy readings for each channel/tenant.  Users can press **OK** to return to the main menu screen.

If TOU energy is not used, the meter will only display real-time energy readings.

Table 3-3 Energy Display

| Parameter | Screen |
|---|---|
| Apparent Energy | ES |
| Current Month Total Energy | MTnS |
| Current Month Tariff 1 Energy | MT1S |
| Current Month Tariff 2 Energy | MT2S |
| Current Month Tariff 3 Energy | MT3S |
| Current Month Tariff 4 Energy | MT4S |
| Prior Month Tariff 1 Energy | UT1S |
| Prior Month Tariff 2 Energy | UT2S |
| Prior Month Tariff 3 Energy | UT3S |
| Prior Month Tariff 4 Energy | UT4S |
| Reactive Energy | EQ |
| Real-Time Energy | EP |

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1. Single Phase 1 Wire (1LN)



Fig. 3-3 Single Phase 1 Wire Energy Display

2. Three Phase 4 Wire (3LN)
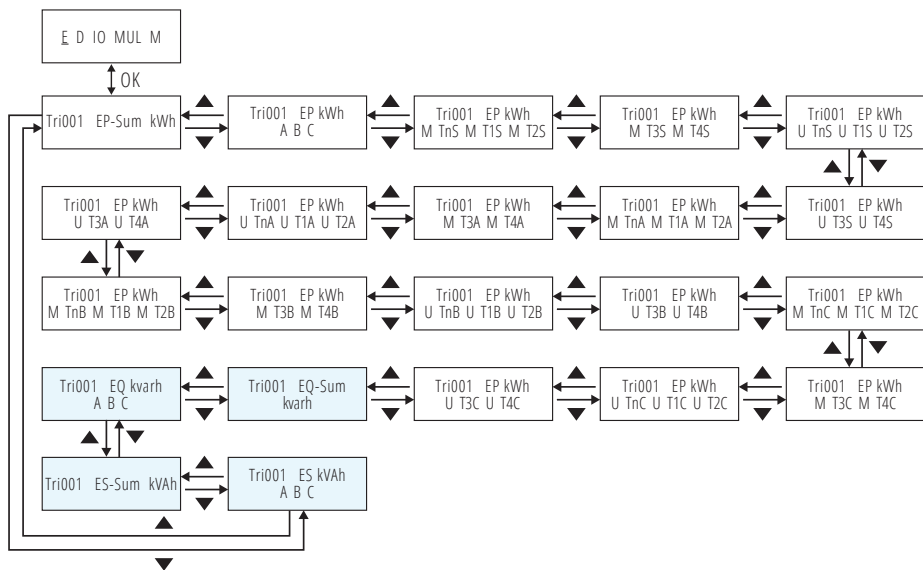


Fig. 3-4 Three Phase 4 Wire Energy Display

3. Single Phase 3 Wire (2LN)
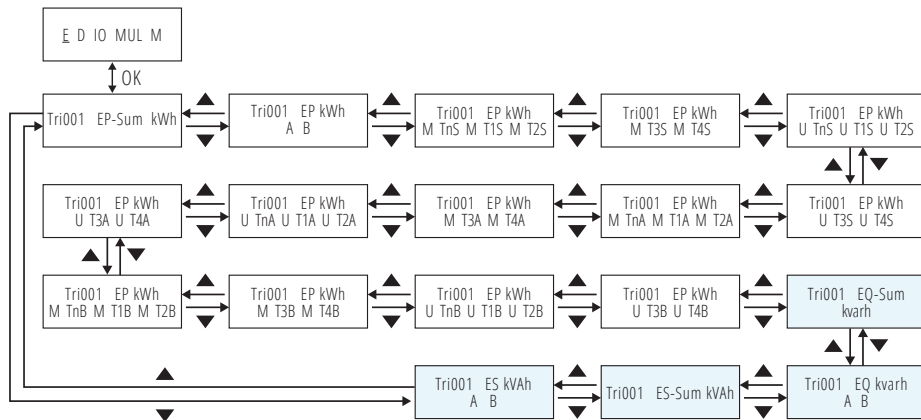


Fig. 3-5 Single Phase 3 Wire Energy Display

## 3.3 Demand Display and Operation

On the main menu use the arrow keys to navigate to **D**, then press **OK** to view the meters demand readings. Using the **Left** and **Right** buttons to move between the different channels (1-18) as well as the in-line (meter total) demand. Use the **Up** and **Down** keys to view the different demand readings for each channel.  Users can press the **OK** button to return to the main menu.

Table 3-4 Demand Display

| Parameter | Display |
|---|---|
| Demand | DMD |
| Active Demand | DMD-P |
| Reactive Demand | DMD-Q |
| Apparent Demand | DMD-S |
| Current Demand | DMD-I |
| Predicted Demand | Pre |
| Maximum Demand | Max |

For different wiring configurations, the demand data display will be different:

1. Single Phase 1 Wire (1LN)
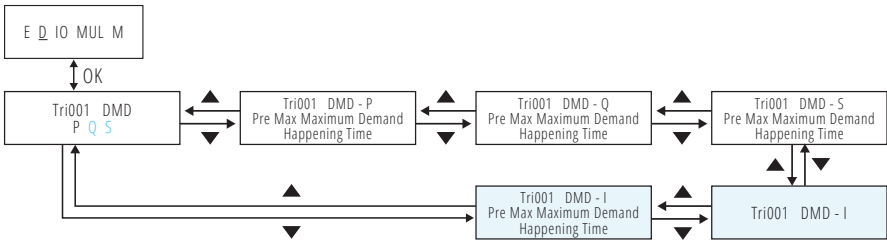


Fig. 3-5 Single Phase 1 Wire Demand Display

2. Single Phase 4 Wire (3LN)
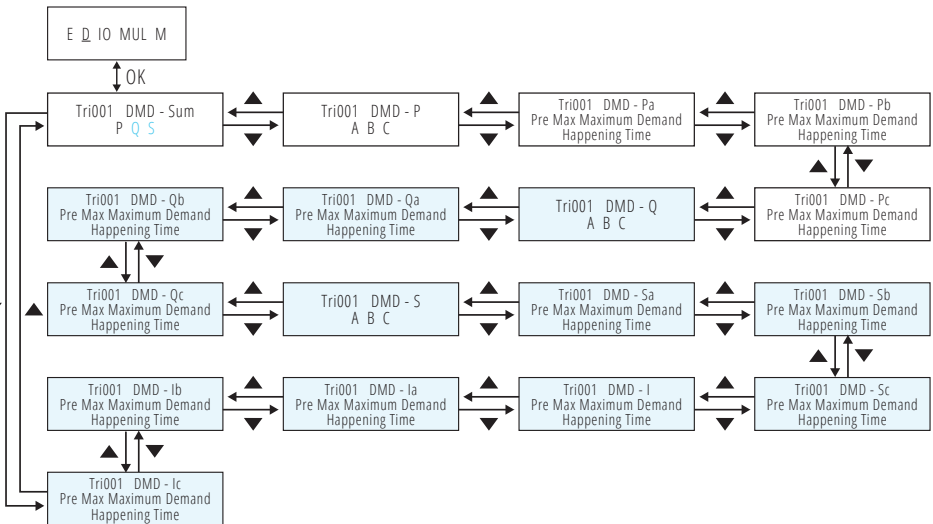


Fig. 3-6 Single Phase 4 Wire Demand Display

3. Single Phase 3 Wire (2LN)
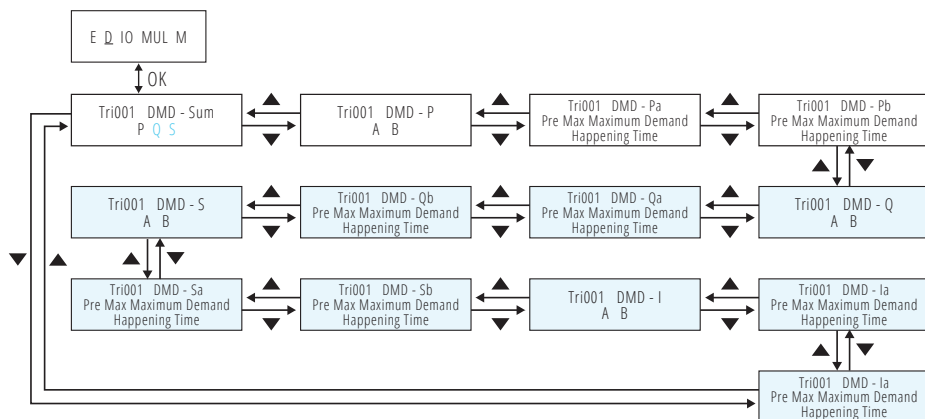


Fig. 3-7 Single Phase 3 Wire Demand Display

## 3.4 IO Display and Operations

On the main menu use the arrow keys to navigate to **IO** and then press the **OK** to view the IO data.  Use the **Up** and **Down** buttons to view different IO readings.  Users can press the **OK** button to return to the main menu.



Fig. 3-8 IO Display

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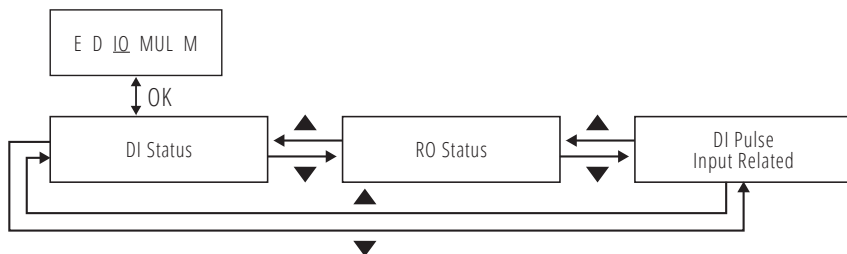
1st Screen includes DI Status channels 1-10, and the second screen includes channels 11-18.

```
DI
1   2   3   4   5   6   7   8   9   10
●   ○   ○   ○   ○   ○   ○   ○   ○   ○
```

```
DI
11   12   13   14   15   16   17   18
●    ○    ○    ○    ○    ○    ○    ○
```
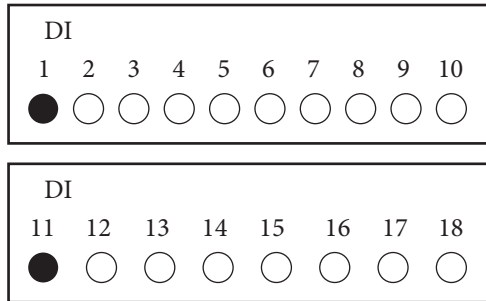
Fig. 3-9 Digital Input Status Display

○ **indicates this channel DI status "OFF" or Pulse Input**

● **indicates DI Status "ON"**

3rd Screen, RO Status, 2-Channel RO.

```
RO
1   2
●   ○
```
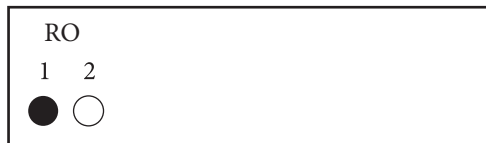
Fig. 3-10 Relay Output Display

○ **indicates this channel RO status "OFF"**

● **indicates this RO Status "ON"**

4th Screen, DI pulse input number and its parameter. Pressing Left and Right to view channels 1-18.

```
┌────────────────────────────────────────────┐
│  PULS   CONT  x                             │
│                              x     PCS      │
│                                             │
│                         x. xx    yy         │
└────────────────────────────────────────────┘
```
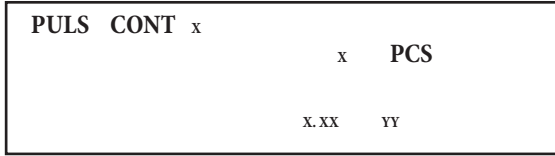
Fig. 3-10 DI Pulse Input Display

**CONT X** = DI Channel number

**PCS** = Pulse Count

**yy** = Scaled Value

## 3.5 Real-Time Display and Key Operation

On the main menu use the arrow keys to navigate to **MUL** (Real-time) and press the **OK** button to view the real time parameter readings for the meter. Use the **Left** and **Right** buttons to move between different channels (1-18) as well as the inline parameters (meter total). Use the **Up** and **Down** buttons to scroll between the different real time parameters. Users can press the **OK** button to return to the main menu.

Table 3-5 Real Time Data Display

| Parameter | Display |
|-----------|---------|
| Total Time | MUL-Sum |
| Active Power | MUL-P |
| Reactive Power | MUL-Q |
| Apparent Power | MUL-S |
| Real-Time Current Value | MUL-I |
| Power Factor | MUL-PF |

| Parameter | Display |
|---|---|
| Load Type | MUL-Load Type |
| Phase Voltage | MUL-Phase U |
| Phase Average Voltage | Uavg |
| Line Voltage | MUL-Line U |
| Line Voltage Average | Ulavg |

For different wiring configurations, the real time data display will be different:

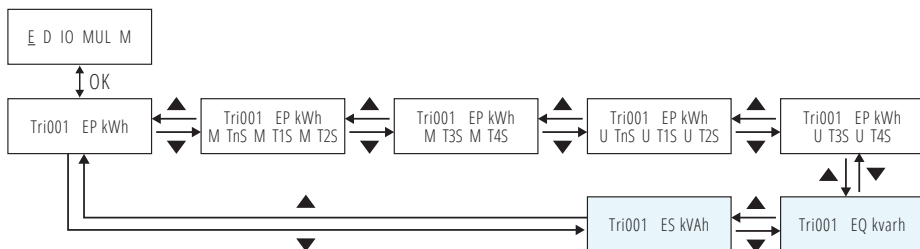1. Single Phase 2-Wire (1LN)
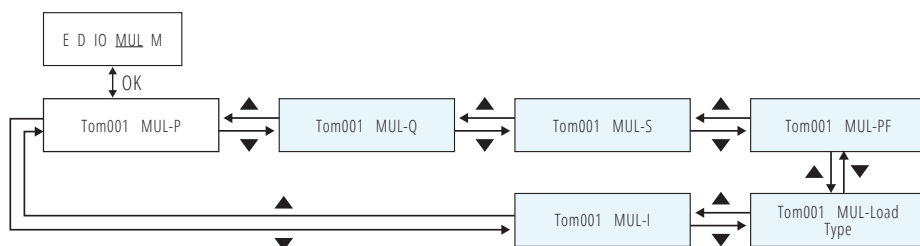


Fig. 3-11 Single Phase 1 Wire Real-Time Display

2. Three Phase 4-Wire (3LN)
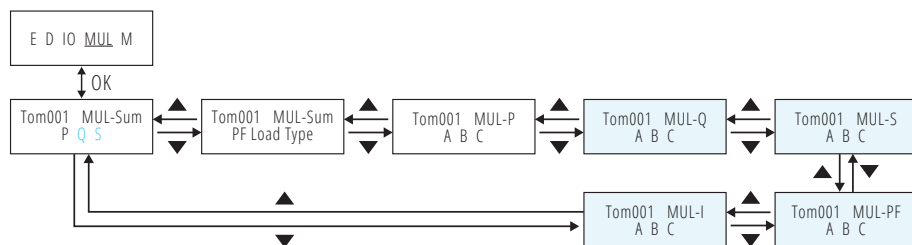


Fig. 3-12 Three Phase 4 Wire Real-Time Display

3. Single Phase 3-Wire (2LN)
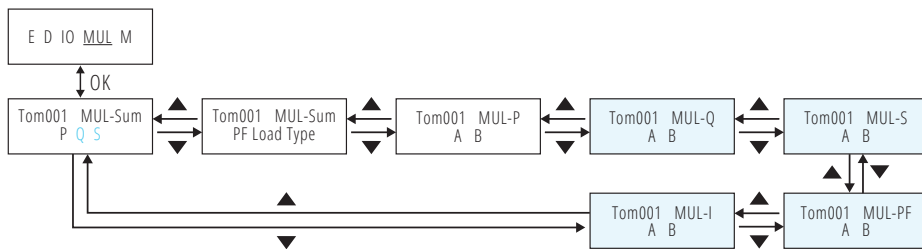


Fig. 3-13 Single Phase 3 Wire Real-Time Display

4. 4-Wire Inline
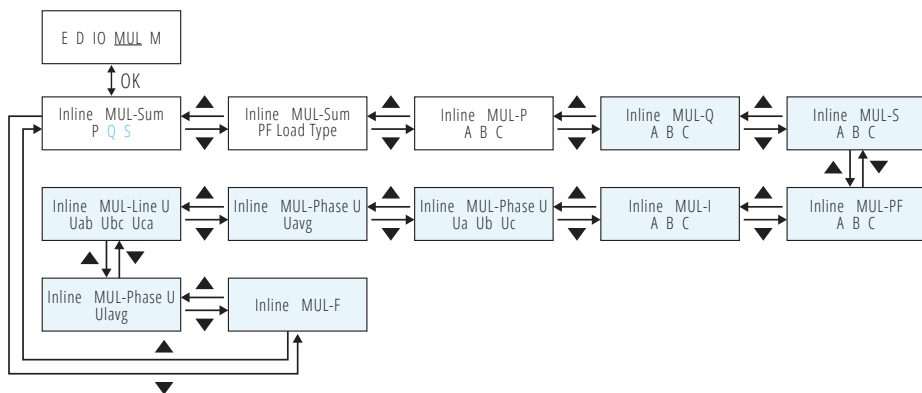


Fig. 3-14 Inline Real-Time Display

## 3.6 Power Quality Display and Key Operation

In the second page of the main menu, use the arrow keys to navigate to **PQ** and press **OK** to view the power quality readings of the meter. Use the **Left** and **Right** buttons to move between different channels (1-18) as well as the inline values. Use the **Up** and **Down** buttons to view different power quality parameters. Users can press the **OK** button to return to the main menu.

Table 3-6 Power Quality Data Display

| Parameter | Display |
|-----------|---------|
| Unbalance | UNBL |
| Harmonic Distortion | THD |
| Total Harmonic Distortion | SUM |
| Odd Harmonic Distortion | ODD |
| Even Harmonic Distortion | EVEN |
| K-Factor | K-Factor |
| Crest Factor | Crest Factor |
| Telephone Interference Factor | THFF |
| Harmonic Ratio | HARMONIC |

1. Single Phase 1-Wire (1LN)
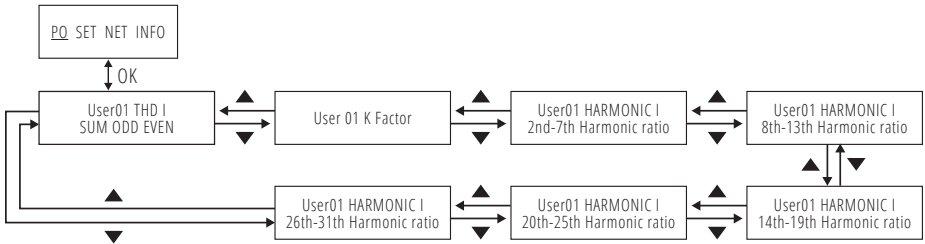


Fig. 3-15 Single Phase Power Quality

## 2. Three Phase 4-Wire (3LN)
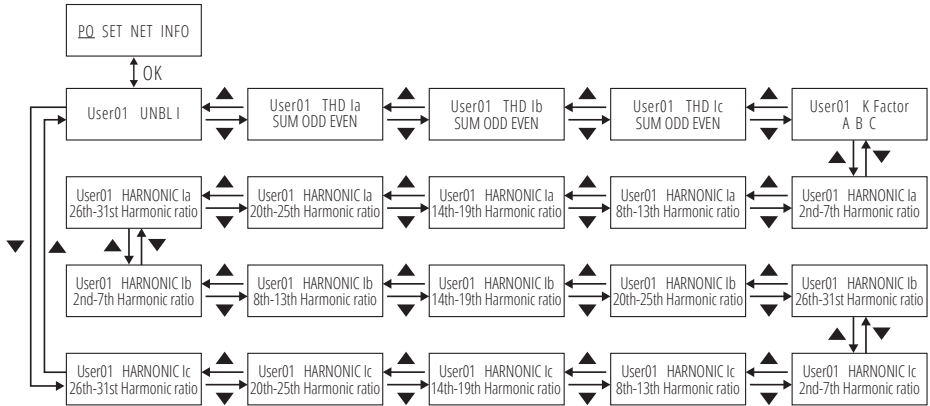


Fig. 3-16 Three Phase 4 Wire Power Quality

## 3. Single Phase 3-Wire (2LN)
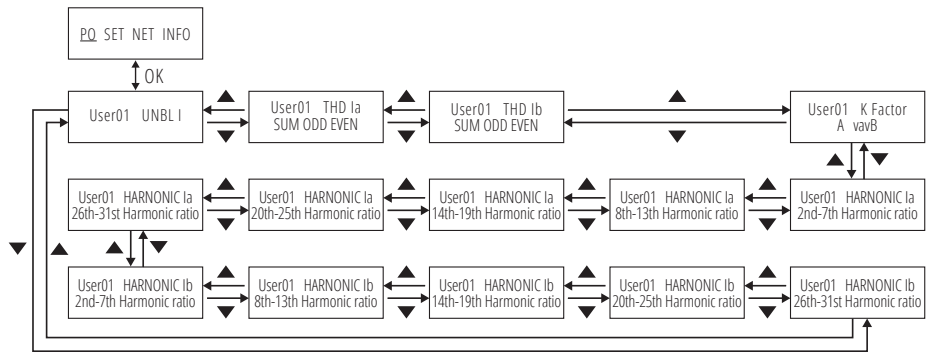


Fig. 3-17 Singe Phase 3 Wire Power Quality

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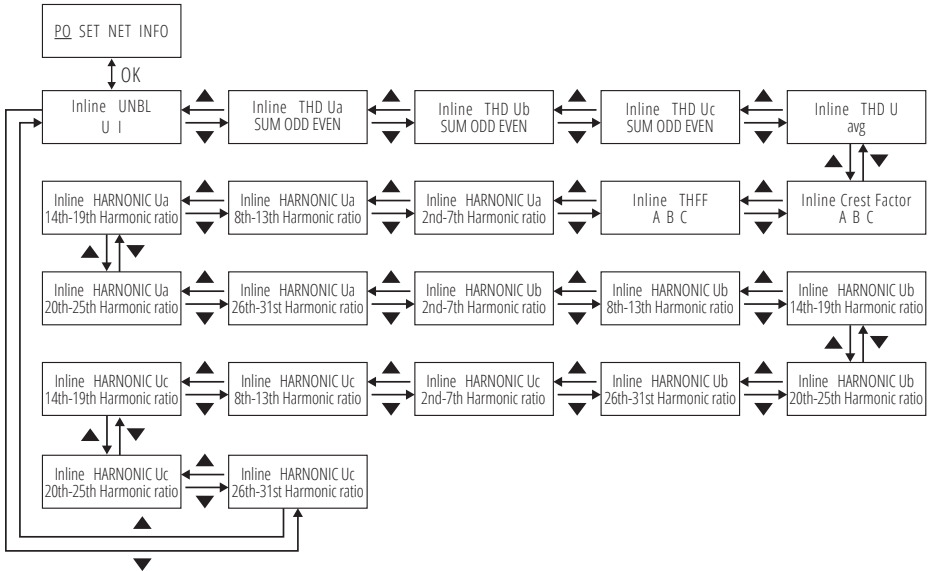
4. Inline



Fig. 3-18 Inline Power Quality

## 3.7 Shortcut Code

The KW1850 supports a shortcut code that allows users to enter the code for a certain parameter and this parameter will be displayed on screen.  Users can use this function if looking for a particular parameter rather than scrolling through the many screens in order to find it.  On the main menu page use the arrow keys to navigate to **M** and press the **OK** to enter the Shortcut Key page.
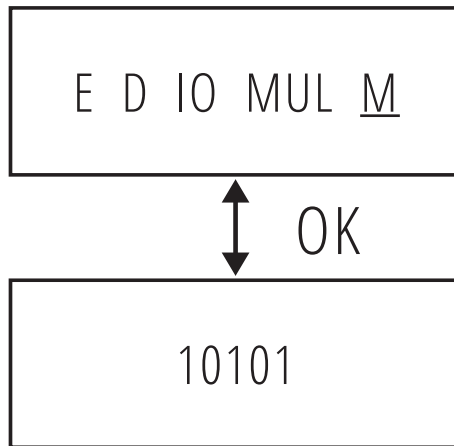
Fig. 3-19 Shortcut Code

Press the **Left** and **Right** buttons to move the cursor over to different digits. Press the **Up** and **Down** buttons to change the value of the digit.  After inputting the Shortcut Code, press **OK** to enter the corresponding page.

The Shortcut Code consists of five digits. The first digit on the left is to choose functions.  The following tables provide the shortcut code to all the available parameters supported on the KW1850 meter.

Table 3-7 Short Cut Code First Digit Representation

| Function | Shortcut |
|---|---|
| Energy Measurement | 1 |
| Demand Measurement | 2 |
| Digital Input Digital Output | 3 |
| Real-Time Measurement | 4 |
| Power Quality | 5 |

1. Single Phase 1-Wire (1LN):

Table 3-8 Single Phase 1-Wire Shortcut Code

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| Energy (No TOU, only Real-time Energy) | 1-8 | 1 | 10101-10118 | Real-time energy |
| | | 2 | 10201-10218 | This month total energy, this month tariff 1 energy, this month tariff 2 energy |
| | | 3 | 10301-10318 | This month tariff 3 energy, this month tariff 4 energy |
| | | 4 | 1-18 | Prior month total energy, prior month tariff 1 energy, prior month tariff 2 energy |
| | | 5 | 10501-10518 | Prior month tariff 3 energy, prior month tariff 4 energy |
| | | 6 | 10601-10618 | Reactive energy |
| | | 7 | 10701-10718 | Apparent energy |
| Demand | 1-18 | 1 | 20101-20118 | Real power demand, reactive power demand, apparent power demand |
| | | 2 | 20201-20218 | Real power demand prediction, real power demand peak and happening time |
| | | 3 | 20301-20318 | Reactive power demand prediction, reactive power demand peak and happening time |
| | | 4 | 20401-20418 | Apparent power demand prediction, apparent power demand peak and happening time |
| | | 5 | 20501-20518 | Current demand |
| | | 6 | 20601-20618 | Current demand prediction, current demand peak and happening time |

| Digital Input Digital Output | DI Channel 1-8 | 1 | 30101-30108 | DI status |
|---|---|---|---|---|
| | | 2 | 30201-30208 | RO status |
| | | 3 | 30301-30308 | DI pulse input related |
| Real-time | 1-18 | 1 | 40101-40118 | Real power |
| | | 2 | 40201-40218 | Reactive power |
| | | 3 | 40301-40318 | Apparent power |
| | | 4 | 40401-40418 | Power factor |
| | | 5 | 40501-40518 | Load type |
| | | 6 | 40601-40618 | Current |
| Power Quality | 1-18 | 1 | 50101-50118 | Harmonic distortion, odd Harmonic distortion, even Harmonic distortion |
| | | 2 | 50201-50218 | Current K-factor |
| | | 3 | 50301-50318 | Harmonic of current (2-7) |
| | | 4 | 50401-50418 | Harmonic of current (8-13) |
| | | 5 | 50501-50518 | Harmonic of current (14-19) |
| | | 6 | 50601-50618 | Harmonic of current (20-25) |
| | | 7 | 50701-50718 | Harmonic of current (26-31) |

2. Three Phase 4-Wire (3LN):

Table 3-9 Three Phase 4-Wire Shortcut Code

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| Energy (No TOU, only Real-time Energy) | 1-18 | 1 | 12101-12118 | Total real energy |
| | | 2 | 12201-12218 | Phase A,B,C real energy |
| | | 3 | 12301-12318 | This month total power-sharing, this month tariff 1 energy, this month tariff 2 energy |
| | | 4 | 12401-12418 | This month tariff 3 energy, this month tariff 4 energy |
| | | 5 | 12501-12518 | Prior month total power sharing, prior month tariff 1 energy, prior month tariff 2 energy |
| | | 6 | 12601-12618 | Prior month tariff 3 energy, prior month tariff 2 energy |
| | | 7 | 12701-12718 | Phase A this month total power-sharing<br><br>Phase A this month tariff 1 energy, Phase A this month tariff 2 energy |
| | | 8 | 12801-12818 | Phase A this month tariff 3 energy, Phase A this month tariff 4 energy |
| | | 9 | 12901-12918 | Phase A prior month total energy, Phase A prior month tariff 1 energy, Phase A prior month tariff 1 energy, Phase A prior month tariff 2 energy |
| | | 10 | 13001-13018 | Phase A prior month tariff 3 energy, Phase A prior month tariff 4 energy |
| | | 11 | 13101-13118 | Phase B this month total energy, Phase B this month tariff 1 energy, Phase B this month tariff 2 energy |

| | | 12 | 13201-13218 | Phase B this month tariff 3 energy, Phase B this month tariff 4 energy |
|---|---|---|---|---|
| | | 13 | 13301-13318 | Phase B prior month total energy, Phase B prior month tariff 1 energy, Phase B prior month tariff 2 energy |
| | | 14 | 13401-13418 | Phase B prior month tariff 3 energy, Phase B prior month tariff 4 energy |
| | | 15 | 13501-13518 | Phase C this month total energy, Phase C this month tariff 1 energy, Phase C this month tariff 2 energy |
| | | 16 | 13601-13618 | Phase C this month tariff 3 energy, Phase C this month tariff 4 energy |
| | | 17 | 13701-13718 | Phase C prior month total energy, Phase C prior month tariff 1 energy, Phase C prior month tariff 2 energy |
| | | 18 | 13801-13818 | Phase C prior month tariff 3 energy, Phase C prior month tariff 4 energy |
| | | 19 | 13901-13918 | Total reactive energy |
| | | 20 | 14001-14018 | Phase A, B, C reactive energy |
| | | 21 | 14101-14118 | Total apparent energy |
| | | 22 | 14201-14218 | Phase A, B, C apparent energy |

| Function | User | Screen Number | Code | Content |
|----------|------|---------------|------|---------|
| Demand | 1-18 | 1 | 22101-22118 | System active power demand, system reactive power demand, system apparent power demand |
| | | 2 | 22201-22218 | Phase A, B, C active power demand |
| | | 3 | 22301-22318 | Phase A real power demand prediction, Phase A real power demand peak and load time |
| | | 4 | 22401-22418 | Phase B real power demand prediction, Phase B real power demand peak and load time |
| | | 5 | 22501-22518 | Phase C real power demand prediction, Phase C real power demand peak and load time |
| | | 6 | 22601-22618 | Phase A, B, C reactive power demand |
| | | 7 | 22701-22718 | Phase A reactive power demand prediction, Phase A reactive power demand peak and load time |
| | | 8 | 22801-22818 | Phase B reactive power demand prediction, Phase B reactive power demand peak and load time |
| | | 9 | 22901-22918 | Phase C reactive power demand prediction, Phase C reactive power demand peak and load time |
| | | 10 | 23001-23018 | Phase A, B, C apparent power demand |
| | | 11 | 23101-23118 | Phase A apparent power demand prediction, Phase A apparent power demand peak and load time |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| | | 12 | 23201-23218 | Phase B apparent power demand prediction, Phase B apparent power demand peak and load time |
| | | 13 | 23301-23318 | Phase C apparent power demand prediction, Phase C apparent power demand peak and load time |
| | | 14 | 23401-23418 | Phase A, B, C current demand |
| | | 15 | 23501-23518 | Phase A current demand prediction, Phase A current demand peak and load time |
| | | 16 | 23601-23618 | Phase B current demand prediction, Phase B current demand peak and load time |
| | | 17 | 23701-23718 | Phase C current demand prediction, Phase C current demand peak and load time |
| Digital Input Digital Output | DI Channel 1-8 | 1 | 30101-30108 | DI status |
| | | 2 | 30201-30208 | RO status |
| | | 3 | 30301-30308 | DI pulse input related |
| Real-time | 1-18 | 1 | 42101-42118 | Total active power, total reactive power, total apparent power |
| | | 2 | 42201-42218 | Total power factor, total load type |
| | | 3 | 42301-42318 | Phase A, B, C active power |
| | | 4 | 42401-42418 | Phase A, B, C reactive power |
| | | 5 | 42501-42518 | Phase A, B, C apparent power |
| | | 6 | 42601-42618 | Phase A, B, C power factor |
| | | 7 | 42701-42718 | Phase A, B, C current |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| Power Quality | 1-18 | 1 | 52101-52118 | Current unbalance |
| | | 2 | 52201-52218 | Phase A harmonic distortion, odd harmonic distortion, even harmonic distortion |
| | | 3 | 52301-52318 | Phase B harmonic distortion, odd harmonic distortion, even harmonic distortion |
| | | 4 | 52401-52418 | Phase C harmonic distortion, odd harmonic, even harmonic distortion |
| | | 5 | 52501-52518 | Current K-factor |
| | | 6 | 52601-52618 | Harmonic of Phase A current (2-7) |
| | | 7 | 52701-52718 | Harmonic of Phase A current (8-13) |
| | | 8 | 52801-52818 | Harmonic of Phase A current (14-19) |
| | | 9 | 52901-52918 | Harmonic of Phase A current (20-25) |
| | | 10 | 53001-53018 | Harmonic of Phase A current (26-31) |
| | | 11 | 53101-53118 | Harmonic of Phase B current (2-7) |
| | | 12 | 53201-53218 | Harmonic of Phase B current (8-13) |
| | | 13 | 53301-53318 | Harmonic of Phase B current (14-19) |
| | | 14 | 53401-53418 | Harmonic of Phase B current (20-25) |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| | | 15 | 53501-53518 | Harmonic of Phase B current (26-31) |
| | | 16 | 53601-53618 | Harmonic of Phase C current (2-7) |
| | | 17 | 53701-53718 | Harmonic of Phase C current (8-13) |
| | | 18 | 53801-53818 | Harmonic of Phase C current (14-19) |
| | | 19 | 53901-53918 | Harmonic of Phase C current (20-25) |
| | | 20 | 54001-54018 | Harmonic of Phase C current (26-31) |

3. Single Phase 3-Wire (2LN):

Table 3-10 Single Phase 3-Wire Shortcut Code

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| Energy (No TOU, only Real-Time Energy) | 1-18 | 1 | 16101-16118 | Real-time energy |
| | | 2 | 16201-16218 | Phase A, B real-time energy |
| | | 3 | 16301-16318 | This month total power sharing, this month tariff 1 energy, this month tariff 2 energy |
| | | 4 | 16401-16418 | This month tariff 3 energy, this month tariff 4 energy |
| | | 5 | 16501-16518 | Prior month total power-sharing, prior month tariff 1 energy, prior month tariff 2 energy |
| | | 6 | 16601-16618 | Prior month tariff 3 energy, prior month tariff 4 energy |

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| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| | | 7 | 16701-16718 | Phase A this month total energy, Phase A this month tariff 1 energy, Phase A this month tariff 2 energy |
| | | 8 | 16801-16818 | Phase A this month tariff 3 energy, Phase A this month tariff 4 energy |
| | | 9 | 16901-16918 | Phase A prior month total energy, Phase A prior month tariff 1 energy, Phase A prior month tariff 2 energy |
| | | 10 | 17001-17018 | Phase A prior month tariff 3 energy, Phase A prior month tariff 4 energy |
| | | 11 | 17101-17118 | Phase B this month total energy, Phase B this month tariff 1 energy, Phase B this month tariff 2 energy |
| | | 12 | 17201-17218 | Phase B this month tariff 3 energy, Phase B this month tariff 4 energy |
| | | 13 | 17301-17318 | Phase B prior month total energy, Phase B prior month tariff 1 energy, Phase B prior month tariff 2 energy |
| | | 14 | 17401-17418 | Phase B prior month tariff 3 energy, Phase B prior month tariff 4 energy |
| | | 15 | 17501-17518 | Total reactive energy |
| | | 16 | 17601-17618 | Phase A, B reactive energy |
| | | 17 | 17701-17718 | Total apparent energy |
| | | 18 | 17801-17818 | Phase A, B apparent energy |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| Demand | 1-18 | 1 | 26101-26118 | System active power demand, system reactive power demand, system apparent power demand |
| | | 2 | 26201-26218 | Phase A, B active power demand |
| | | 3 | 26301-26318 | Phase A real power demand prediction, Phase A real power demand peak and load time |
| | | 4 | 26401-26418 | Phase B real power demand prediction, Phase B real power demand peak and load time |
| | | 5 | 26501-26518 | Phase A, B reactive power demand |
| | | 6 | 26601-26618 | Phase A reactive power demand prediction, Phase A reactive power demand peak and load time |
| | | 7 | 26701-26718 | Phase B reactive power demand prediction, Phase B reactive power demand peak and load time |
| | | 8 | 26801-26818 | Phase A, B apparent power demand |
| | | 9 | 26901-26918 | Phase A apparent power demand prediction, Phase A apparent power demand peak and load time |
| | | 10 | 27001-27018 | Phase B apparent power demand prediction, Phase B apparent power demand peak and load time |
| | | 11 | 27101-27118 | Phase A, B current demand |
| | | 12 | 27201-27218 | Phase A current demand prediction, Phase A current demand peak and load time |
| | | 13 | 27301-27318 | Phase B current demand prediction, Phase B current demand peak and load time |

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| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| Digital Input Digital Output | DI Channel 1-8 | 1 | 30101-30108 | DI status |
| | | 2 | 30201-30208 | RO status |
| | | 3 | 30301-30308 | DI pulse input related |
| Real-time | 1-18 | 1 | 46101-46118 | Total active power, total reactive power, total apparent power |
| | | 2 | 46201-46218 | Total power factor, total load type |
| | | 3 | 46301-46318 | Phase A, B active power |
| | | 4 | 46401-46418 | Phase A, B reactive power |
| | | 5 | 46501-46518 | Phase A, B apparent power |
| | | 6 | 46601-46618 | Phase A, B power factor |
| | | 7 | 46701-46718 | Phase A, B current |
| Power Quality | 1-18 | 1 | 56101-56118 | Current unbalance |
| | | 2 | 56201-56218 | Phase A harmonic distortion, odd harmonic distortion, even harmonic distortion |
| | | 3 | 56301-56318 | Phase B harmonic distortion, odd harmonic distortion, even harmonic distortion |
| | | 4 | 56401-56418 | Current K-factor |
| | | 5 | 56501-56518 | Harmonic of Phase A current (2-7) |
| | | 6 | 56601-56618 | Harmonic of Phase A current (8-13) |
| | | 7 | 56701-56718 | Harmonic of Phase A current (14-19) |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| | | 8 | 56801-56818 | Harmonic of Phase A current (20-25) |
| | | 9 | 56901-56918 | Harmonic of Phase A current (26-31) |
| | | 10 | 57001-57018 | Harmonic of Phase B current (2-7) |
| | | 11 | 57101-57118 | Harmonic of Phase B current (8-13) |
| | | 12 | 57201-57218 | Harmonic of Phase B current (14-19) |
| | | 13 | 57301-57318 | Harmonic of Phase B current (20-25) |
| | | 14 | 57401-57418 | Harmonic of Phase B current (26-31) |

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4. Energy Inline (Meter Total)

Table 3-11 Energy Inline Shortcut Code

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| Energy (No TOU, only Real-time Energy) | Inline | 1 | 10100 | System active energy |
| | | 2 | 10200 | Phase A, B, C active energy |
| | | 3 | 10300 | System this month total energy, system this month tariff 1 energy, system this month tariff 2 energy |
| | | 4 | 10400 | System this month tariff 3 energy, system this month tariff 4 energy |
| | | 5 | 10500 | System prior month total energy, system prior month tariff 1 energy, system prior month tariff 2 energy |
| | | 6 | 10600 | System prior month tariff 3 energy, system prior month tariff 4 energy |
| | | 7 | 10700 | Phase A this month tariff 3 energy, Phase A this month tariff 1 energy, Phase A this month tariff 2 energy |
| | | 8 | 10800 | Phase A this month tariff 3 energy, Phase A this month tariff 4 energy |
| | | 9 | 10900 | Phase A prior month total energy, Phase A prior month tariff 1 energy, Phase B this month tariff 2 energy |
| | | 10 | 11000 | Phase A prior month tariff 3 energy, Phase A prior month tariff 4 energy |
| | | 11 | 11100 | Phase B this month total energy, Phase B this month tariff 1 energy, Phase B this month tariff 2 energy |
| | | 12 | 11200 | Phase B this month tariff 3 energy, Phase B this month tariff 4 energy |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| | | 13 | 11300 | Phase B prior month total energy, Phase B prior month tariff 1 energy, Phase B prior month tariff 2 energy |
| | | 14 | 11400 | Phase B prior month tariff 3 energy, Phase B prior month tariff 4 energy |
| | | 15 | 11500 | Phase C this month total energy, Phase C this month tariff 1 energy, Phase C this month tariff 2 energy |
| | | 16 | 11600 | Phase C this month tariff 3 energy, Phase C this month tariff 4 energy |
| | | 17 | 11700 | Phase C prior month total energy, Phase C prior month tariff 1 energy, Phase C prior month tariff 2 energy |
| | | 18 | 11800 | Phase C prior month tariff 3 energy Phase C prior month tariff 4 energy |
| | | 19 | 11900 | System reactive energy |
| | | 20 | 12000 | Phase A, B, C reactive energy |
| | | 21 | 12100 | System apparent energy |
| | | 22 | 12200 | Phase A, B, C apparent energy |
| Demand | 1-18 | 1 | 20100 | System active power demand, system reactive power demand, system apparent power demand |
| | | 2 | 20200 | Phase A, B, C active power demand |
| | | 3 | 20300 | Phase A real power demand prediction, Phase A real power demand peak and load time |
| | | 4 | 20400 | Phase B real power demand prediction, Phase B real power demand peak and load time |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| | | 5 | 20500 | Phase C real power demand prediction, Phase C real power demand peak and load time |
| | | 6 | 20600 | Phase A, B, C reactive power demand |
| | | 7 | 20700 | Phase A reactive power demand prediction, Phase A reactive power demand peak and load time |
| | | 8 | 20800 | Phase B reactive power demand prediction, Phase B reactive power demand peak and load time |
| | | 9 | 20900 | Phase C reactive power demand prediction, Phase C reactive power demand peak and load time |
| | | 10 | 21000 | Phase A, B, C apparent power demand |
| | | 11 | 21100 | Phase A apparent power demand prediction, Phase A apparent power demand peak and load time |
| | | 12 | 21200 | Phase B apparent power demand prediction, Phase B apparent power demand peak and load time |
| | | 13 | 21300 | Phase C apparent power demand prediction, Phase C apparent power demand peak and load time |
| | | 14 | 21400 | Phase A, B, C current demand |
| | | 15 | 21500 | Phase A current demand prediction, Phase A current demand peak and load time |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| | | 16 | 21600 | Phase B current demand prediction, Phase B current demand peak and load time |
| | | 17 | 21700 | Phase C current demand prediction, Phase C current demand peak and load time |
| Digital Input Digital Output | DI Channel 1-8 | 1 | 30101-30108 | DI status |
| | | 2 | 30201-30208 | RO status |
| | | 3 | 30301-30308 | DI pulse input status |
| Real-time | Inline | 1 | 40100 | System active power, system reactive power, system apparent power |
| | | 2 | 40200 | System power factor, system load type |
| | | 3 | 40300 | Phase A, B, C active power |
| | | 4 | 40400 | Phase A, B, C reactive power |
| | | 5 | 40500 | Phase A, B, C apparent power |
| | | 6 | 40600 | Phase A, B, C power factor |
| | | 7 | 40700 | Phase A, B, C current |
| | | 8 | 40800 | Phase A, B, C phase voltage |
| | | 9 | 40900 | Phase A, B, C average of phase voltage |
| | | 10 | 41000 | Phase A, B, C line voltage |
| | | 11 | 41100 | Phase A, B, C average of line voltage |
| | | 12 | 41200 | Voltage frequency |

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| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| Power Quality | Inline | 1 | 50100 | Current unbalance |
| | | 2 | 50200 | Phase A harmonic distortion, odd harmonic distortion, even harmonic distortion |
| | | 3 | 50300 | Phase B harmonic distortion, odd harmonic distortion, even harmonic distortion |
| | | 4 | 50400 | Phase C harmonic distortion, odd harmonic distortion, even distortion distortion |
| | | 5 | 50500 | Average voltage of harmonic distortion |
| | | 6 | 50600 | Crest factor |
| | | 7 | 50700 | Telephone harmonic form factor |
| | | 8 | 50800 | Harmonic of Phase A current (2-7) |
| | | 9 | 50900 | Harmonic of Phase A current (8-13) |
| | | 10 | 51000 | Harmonic of Phase A current (14-19) |
| | | 11 | 51100 | Harmonic of Phase A current (20-25) |
| | | 12 | 51200 | Harmonic of Phase A current (26-31) |
| | | 13 | 51300 | Harmonic of Phase B current (2-7) |
| | | 14 | 51400 | Harmonic of Phase B current (8-13) |

| Function | User | Screen Number | Code | Content |
|---|---|---|---|---|
| | | 15 | 51500 | Harmonic of Phase B current (14-19) |
| | | 16 | 51600 | Harmonic of Phase B current (20-25) |
| | | 17 | 51700 | Harmonic of Phase B current (26-31) |
| | | 18 | 51800 | Harmonic of Phase C current (2-7) |
| | | 19 | 51900 | Harmonic of Phase C current (8-13) |
| | | 20 | 52000 | Harmonic of Phase C current (14-19) |
| | | 21 | 52100 | Harmonic of Phase C current (20-25) |
| | | 22 | 52200 | Harmonic of Phase C current (26-31) |

## 3.8 Basic Settings and Key Operation

In the second page of the main menu, use the arrow keys to navigate to **SET** and press **OK** to view the meter settings.  Users will be prompted by a password screen, this can be left as the default password of **0000** or if the password has been changed enter it to view the settings.

Use the **Left** and **Right**  arrow keys to move between settings.  To change a setting use the **OK** button to enter edit mode, the setting will be flashing once in edit mode.  To change the value of the setting press either the **Up** or **Down** buttons and press the **OK** button to confirm the setting.  Once the setting is confirmed it will no longer be flashing.  Pressing the **Left** and **Right** buttons at the same time will return the user back to the main menu.

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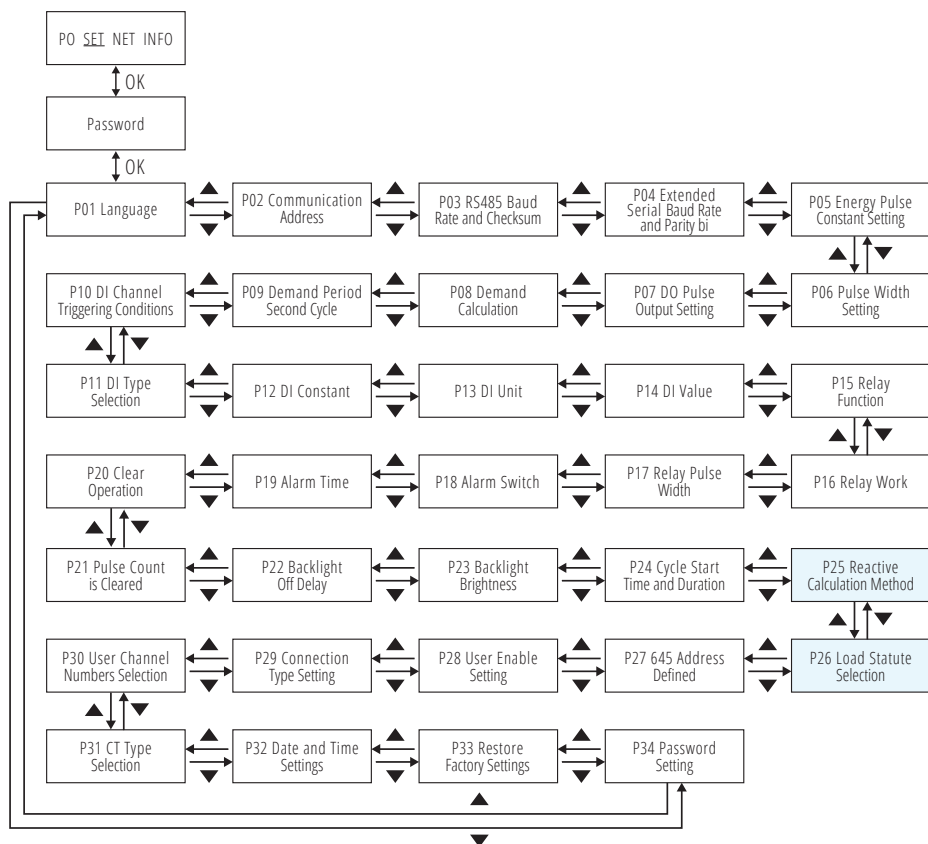
Fig. 3-20 Basic Settings

## 3.9 Network Settings

In the second page of the main menu use the arrow keys to navigate to **NET** and press **OK** to enter the NET settings. Users will be prompted by a password screen, this can be left as the default password of **0000** or if the password has been changed enter it to view the network settings.

Use the **Left** and **Right** arrow keys to move between settings. To change a setting use the **OK** button to enter edit mode, the setting will be flashing once in edit mode. To change the value of the setting press either the **Up** or **Down** buttons and press the **OK** button to confirm the setting. Once the setting is confirmed it will no longer be flashing. Pressing the **Left** and **Right** buttons at the same time will return the user back to the main menu.
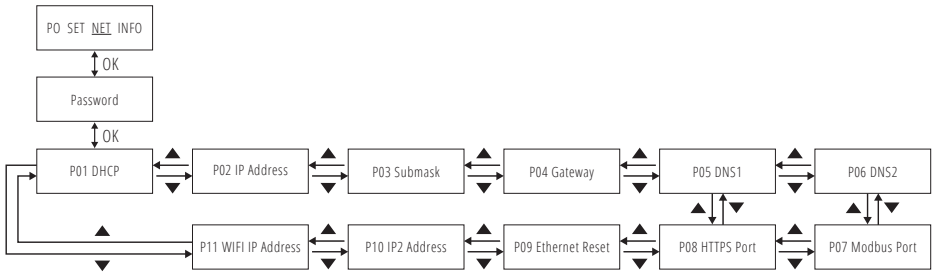
Fig. 3-21 Network Settings

P01 DHCP represents the DHCP address allocation mode setting, MANU (static IP) and AUTO (dynamic IP); P09 Network Module Reset options:

1. No Reset
2. Reset Network Module
3. Restore Default Parameters

Network settings only apply to the communications module. After network setting configuration, the communication module **needs** to be reset in order to confirm all changes.

## 3.10 Device Information and Key Operation

In the second page of the main menu, use the arrow keys to navigate to **INFO** and then press **OK** to view the meters device information. Use the arrow keys to scroll between pages and press the **OK** button to return to the main menu.



Fig. 3-22 Device Information Display

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# Chapter 4: Functions and Software

# Chapter 4.0: Functions and Software

## 4.1 Introduction to Acuview Software

The KW1850 has a wide range of measurement parameters with power quality detection, alarm and other functions. We have designed special software to use and configure the KW1850 meter. This chapter will be combined with the software interface for the functional explanation.

This chapter introduces KW1850 Software (Acuview). The latest version of the software can be downloaded by clicking <u>HERE.</u>
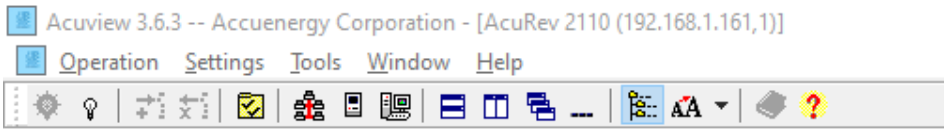


Figure 4-1 KW1850 Software

### 4.1.1 Connecting the KW1850 to Acuview

Users can connect to the software either the RS485 port on the meter or by Ethernet/WIFI. When connecting to the software via RS485 user will need to use an RS485 to USB converter in order to connect.

**NOTE:** *For more information on Ethernet/WIFI communication refer to the KW1850-WEB manual.*

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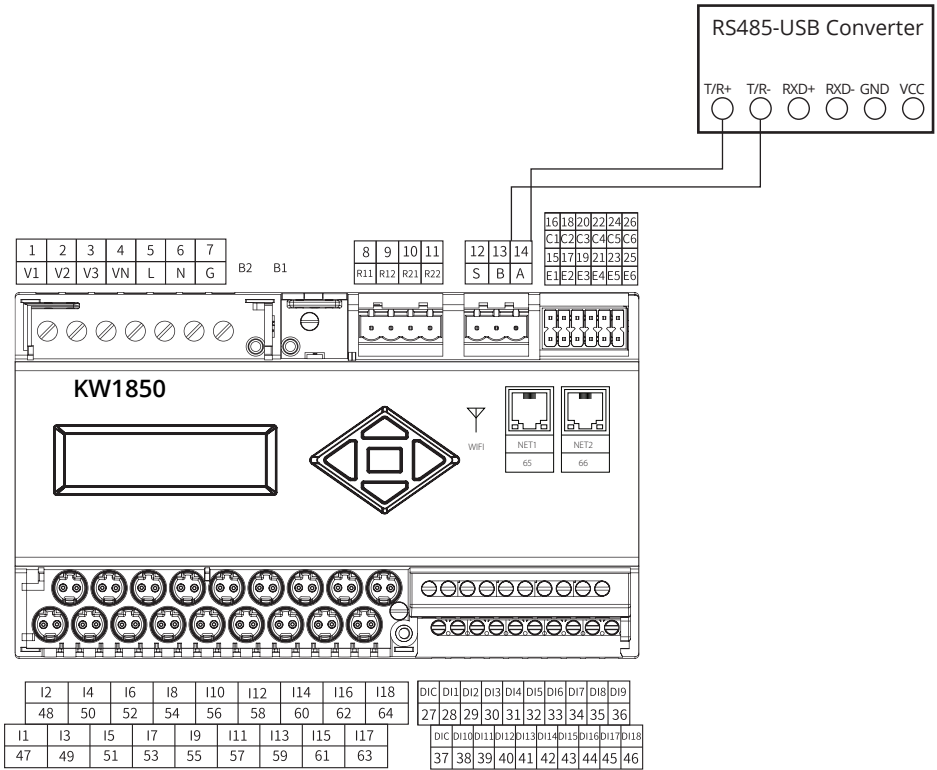
Figure 4-2 KW1850 RS485-USB  converter connection

Two wires should be used in connecting the USB-RS485 converter to the meter:

- T/R+ from the converter to 'A'(14) on the meter
- T/R- from the converter to 'B'(15) on the meter

The default communication settings on the KW1850 are:

- Device Address: 1
- Baud Rate: 19200
- Parity: Non1 (No parity, 1 stop bit)

## Steps to connect to the software:

1. Open the Acuview software, users will be prompted to enter in the connection settings.  The COM port can be confirmed in the Device Manager of the computer.  Click on OK.
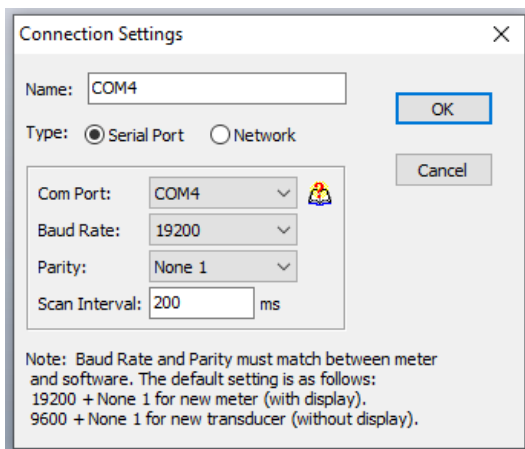


Figure 4-3 Connection Setting Configuration

2. Add device window will appear, select AcuRev 2110 (which is equal to KW1850), select the connection created in the previous step,  enter in the device address and enter in a description for the device.  Click on OK.
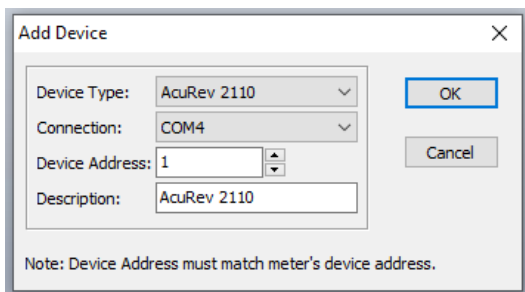


Figure 4-4 Add Device page on Acuview

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3. The meter will automatically connect, if it does not click on the Operation menu and click on Connect.
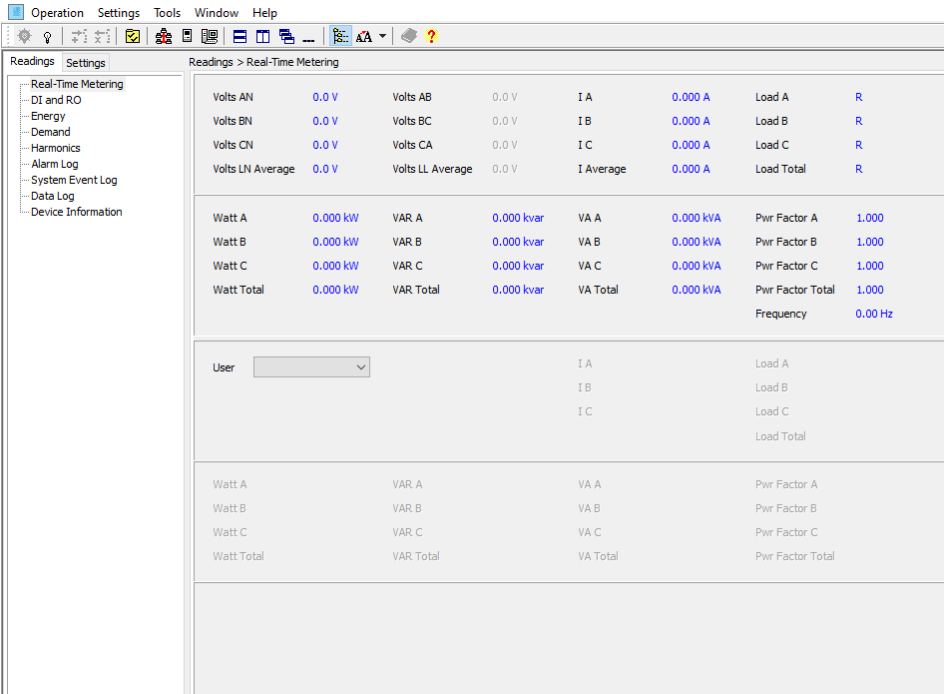


Figure 4-5 KW1850 connected to Acuview

## 4.2 General Settings

Users can configure the general setting of the KW1850 meter from the Acuview software, some of these settings include the CT ratio/mapping, communication, and password.

To access the settings from Acuview click on the **Settings** tab located on the left panel of the software and select **General**. Users can change the settings for the KW1850 and use the **Update Device** button at the bottom of the page to confirm the settings.
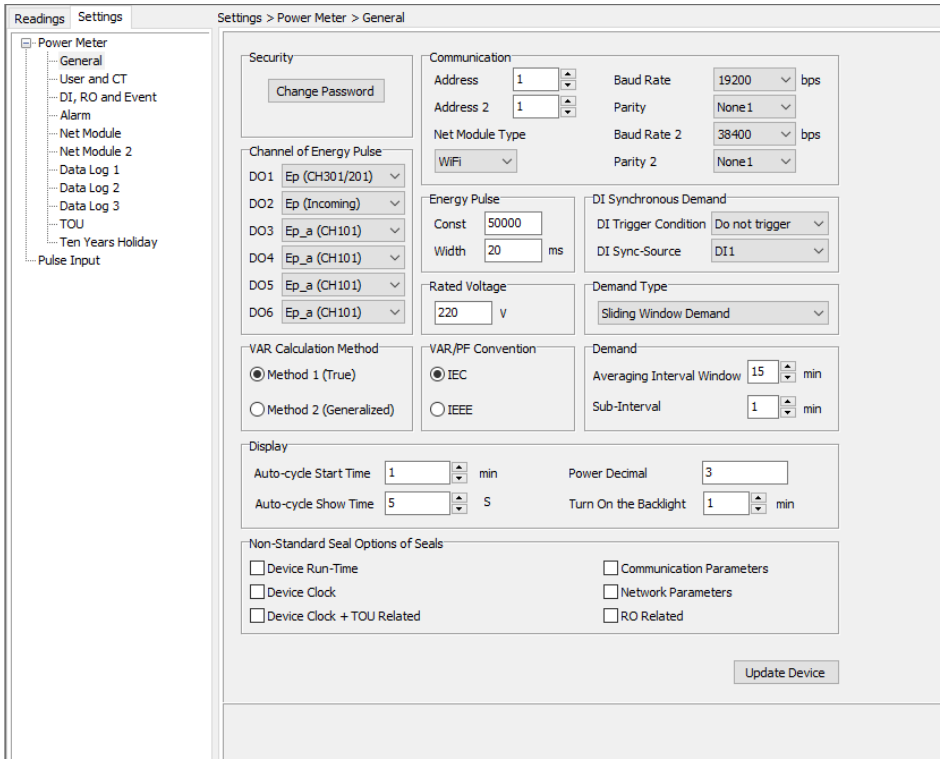
Figure 4-6 General Settings

The General Settings page is divided into the following sections.

## Security

Change Password: Users can change the meter password using this setting. The range is 0000-9999.

## Communication

- Address: Users can configure the Modbus address for the device, this refers to the Modbus address via RS485. The range is from 1-247, the default address is 1.

- Address 2: Users can configure the Modbus TCP address for the meter, the default is 1 and the range is 1-247.

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- Baud Rate: Users can configure the baud rate for the RS485 port, the range is 1200-115200 bps.  The default is 19200.

- Parity: Users can configure the parity here, the default is None 1 (No parity, 1 stop bit)

**NOTE**: *Baud rate 2 and Parity 2 should not be changed from 38400 and None1, these settings are required in order for successful communication between the meter and communications module.*

## Demand

- Demand Type:  There are 4 types of demand that the user can select.  The default method is Sliding Window.

  - Fixed Window: The demand is calculated based on selecting the calculation period between 1-30min. The meter will calculate and update the demand values at the end of each calculation period.

  - Sliding Window: The demand is calculated by selecting the calculation period between 1-30 min. The meter will average the energy accumulated within this period of time and the demand value is updated every minute.

  - Thermal: The demand is calculated based on thermal response, used in thermal demand meters. This method uses a sliding window to update the demand value at the end of each calculation period.

  - Rolling Window: The demand is based on selecting a calculation period between 1-30 min, a sub interval(Demand Calculation Slip Time) and the demand value is updated at each sub interval. The sub interval must be a factor of the calculation period. For example, with a calculation period of 15 minutes, the sub interval can be configured as 5 minutes.

## VAR Calculation/VAR Convention

- VAR Calculation Method: Can be either True or Generalized.

  - True: Uses the Budeanu Concept to calculate the True reactive power.  This method generally takes the harmonic components to do the calculation instead of using the power vector triangle method.

  - Generalized: Uses Fryze's concept to calculate the Generalized reactive power. This method separates instantaneous current into two components, active and reactive currents.

- VAR/PF Convention: Users can select the convention as either IEC or IEEE

**Energy Pulse**

•   Channel of Energy Pulse: Users can select which user/input channel energy corresponds to the Digital Output channels.

•   Pulse Constant: Used to represent the amount of pulses that represents 1kWh. The range is 1-60000, the default is 50000.

•   Pulse Width: Users can configure the pulse width, the range is 20-100ms, the default is 80ms.

**DI Synchronous Demand**

•   DI Trigger Condition: Users can synchronize the Demand with the DI, and can select the condition in which to synchronize.  The options are

   •   No Trigger
   •   Trigger by rising edge
   •   Trigger by falling edge
   •   Trigger by changes

•   DI Sync-Source: DI Synchronization source can set as DI1-DI8.

**Rated Voltage**

Rated Voltage: This rated voltage is the rating used for the Alarm setting. The default is 220V and the range is 120-600VLL.

## 4.2.1 CT ratio and Channel Mapping

The CT ratio must be configured in the KW1850 meter in order for it to correctly read current measurements.  Users can configure the CT settings in the software by clicking on **User and CT** under the **Settings** tab on the left panel of Acuview.

In the CT model section users can enter in the primary rating of the CTs being used with the meter.  The range is 5-2000A and the default setting is 20A.

Users can also map the channel names in this section where the user name can be customized.  The user names can support up to 6 characters (ASCII).

Number 101-118 refers to the physical single-phase channel 1-18.

Number 301/201- 306/206 refers to three-phase user channels 1 to 6.

The enable display section allows users to enable or disable that particular channel on the LCD display of the meter.  For example, the first one username Jack01 is set as 301/201 meaning it is the first three phase circuit (using channels 1,2,3).

**NOTE**: *After any change in configuration users must click on "Update Device" in order to send and save the settings to the meter.*



Figure 4-7 User and Channel Mapping

## 4.3 Real Time Metering

The KW1850 supports real time parameters such as voltage, current and power. Voltage includes line voltage, phase voltage, current for each channel and inline (total of all circuits), power (active, reactive, apparent) and power factor for each channel and inline values. Depending on the wiring mode configured in the meter the view on Acuview will be different.

The real time values can be seen on the software by clicking on **Real-Time Metering** under the **Readings** tab on the left panel of the software.  The figure below shows the real time metering section when the wiring is set for 3LN.

The top portion of the page displays the meter inline values, meaning the totals and averages for all circuits connected to the meter.  The **User** section at the bottom of the page allows users to view the real time metering for each channel or circuit connected to the meter.



Figure 4-8 Real Time Metering

## 4.4 Demand

The meter demand readings can be found under the **Readings** tab by selecting **Demand**.  This page displays the Demand, Max Demand, Max Demand Time, Demand Prediction (update per second) of the power, reactive power, apparent power and current. The page is divided into two sections where the top part of the page shows the total demand readings for all circuits/ channels connected to the meter.  The bottom half of the page is where users can select the individual channels/circuits to view the demand.

KW1850 supports Demand Synchronization, where the demand is synchronized with the Digital Input. The demand cycle or the end of the sub-cycle can be output as DO.   This can be configured in the general settings sections.

Users can reset the demand in this section by using the **Clear Demand** button.



Figure 4-9 Demand Readings

## 4.5 Energy

From the Acuview software users can view the energy readings for the meter. The top portion of the page provides the total energy consumed energy for all circuits connected to the meter. This includes the real, reactive, and apparent energy. The KW1850 also supports a TOU function where the energy can be divided into different tariff groups. The TOU provides the current energy TOU as well as the prior month TOU.

The bottom portion of the energy page allows users to view the energy consumption for each individual circuit/channel. The energy value is read and write, meaning users can edit the value of the energy from this section. To edit the value of the energy click on the value of the energy parameter and enter in the new value. Users can reset the meter energy by using the **Clear Energy** button.



Figure 4-10 Energy Readings

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## 4.5.1 Time of Use (TOU)

The KW1850 supports a time-of-use function that allows users to assign up to 4 different tariffs to different time periods within the day according to their billing requirements. The meter will calculate and accumulate energy to each of the different tariffs configured based on the meters time/date and TOU settings. The TOU function allows users to view the current month usage as well as the previous months usage.

The Time of use (TOU) must be configured from the Acuview software by selecting **TOU** under the **Settings** tab.



Figure 4-11 TOU Settings page

## TOU Settings

- Season: The maximum season number is 14. Each season will operate on the TOU Schedule it is configured to.

- Schedule: The maximum schedule number is 8, where this parameter determines the number of TOU schedules available for the TOU calendar setting. Each schedule can be divided up into time segments and assigned a tariff.

- Segment: A segment is included in a schedule where each schedule can have up to a maximum of 14 time segments. Each segment is assigned a tariff.

- Tariff:  The KW1850 supports up to 4 tariffs in the TOU function.  The range is 1-4 for this setting where 1 means 1 tariff and 4 means all 4 tariffs are used.

  1. Sharp
  2. Sharp, Peak
  3. Sharp, Peak, Valley
  4. Sharp, Peak, Valley, Normal

- Weekend: Allows users to assign how many days are considered weekend days.  The range is 1-8 for this setting.

- Holiday: A maximum of 30 holidays can be programmed to the TOU calendar. If the holiday setting parameter is set as 3, the first 3 slots of the holiday schedule must be set, otherwise, it will be considered as an invalid input (TOU function will be disabled).  If the weekend and public holidays are overlapped, the public holiday overrides the weekend setting, the holiday has a higher priority.

- Fault Status Word: Will display a hex word if there is an error present in the TOU settings. This word should read 0 if all settings are correct.

## Billing Mode

- Monthly Billing Mode: Users can select the monthly billing according to their billing requirement, where the billing mode can be at the end of every month or a specific time and date.  The format for the time method is DD HH:MM:SS.

  - In this section users can enable the TOU function in the Acuvim II meter by checking the box from the software.  Users also have the option to restore the TOU setting back to its default settings from this section.

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**Daylight saving time (DST):**

The KW1850 meter can adjust for the Daylight Savings Time.  The DST can then be selected to follow one of two formats:

1. **Fixed date option** - If you choose a fixed date option, you set the format according to a fixed date for the DST switch.  The format is Month/ Day/ Hour/ Minute/ adjusted time (in minutes).

2. **Non-Fixed date option** - If you choose the non-fixed option, DST will be implemented by which day of which week is selected.  The format is Month/ Which Day/ Which week/ Hour/ Minute/ adjusted time (in minutes).

## TOU Seasons Settings

Enter the start date into the TOU season table slot following format **MM-DD-ID**.

• MM stands for month (range is from 1 to 12)

• DD stands for date/day (range is from 1 to 31)

• ID represents the TOU schedule to run (range is from 1-14)

The dates should be organized so that they are in sequence according to the calendar year (the earlier date comes first and the later date comes last). For example, if 2 seasons are selected, the date parameters are March 31 and November 4, and TOU schedule 01, 02 will be used respectively, the first TOU season table slot shall enter 03-31 01, and the second slot shall enter 11-04 02.  With this configuration the first season would be form March 31st to November 4th, and the second season would be from November 4th to March 31st.

## TOU Schedule Settings

Similar to TOU season format, enter the start time into the TOU schedule table slot following this format HH: MM ID:

• HH stands for hour (range is in 24 hour format, 0 to 24 hours)

• MM stands for minutes (range is from 00 to 60 minutes)

• ID stands for tariffs (available from 00 to 03).

The time should be organized according to the hour sequence. For example, if 3 segments are configured, timing parameters are 01:00, 15:30, 22:45, the order of the 3 segments should be one of the following: 01:00, 15:30, 22:45 or 15:30, 22:45, 01:00 or 22:45, 01:00, 15:30.  Entering time information in a wrong sequence (for example, entering 15:30, 01:00, 22:45) is considered as an invalid operation and the TOU function will be disabled.

In the figure below TOU Schedule #1 can be described as follows:

•      From 12AM to 11AM all energy consumed will be accumulate under the Sharp Tariff (Tariff ID 1)

•      From 11AM to 5PM all energy consumed will be accumulated under the Peak Tariff (Tariff ID 2)

•      From 5PM to 6PM all energy consumed will be accumulated under the Valley Tariff (Tariff ID 3)

•      From 6PM to 8PM all energy consumed will be accumulated under the Normal Tariff (Tariff ID 4)

•      From 8PM to 11AM all energy consumed will be accumulated under the Sharp Tariff (Tariff ID 1)



Figure 4-12 TOU Schedule Configuration

## Holidays Settings

The KW1850 supports holiday configuration within its TOU function, where a maximum of 30 holidays can be programmed to the TOU calendar. Users can program the amount of holidays within the TOU calendar by entering a number from 0-30 on the holiday setting in the General section of the TOU settings. For example if the holiday setting parameter is set as 3, the first 3 slots of the holiday schedule must be set, otherwise, it will be considered as an invalid input (TOU function will be disabled).

To configure the Holiday timing users must set the the holiday schedule, which uses the same format as the TOU seasons "MMDD ID". Users can select which TOU schedule to be used for the holiday. The dates of the holiday schedule do not need to be organized in sequential order (i.e. the first slot can be January 1, the second slot can be December 26 and the third slot can be December 25).

## Ten Year Holiday Setting

Users can preset holidays for the upcoming 10 years via the meter software. Since the holiday dates change as the years go by this feature allows users to preset the dates. Select **Ten Year Holiday** under the **Settings** tab in order to view the settings.

The holiday format MM-DD ID, where the ID number is the schedule number to use for that holiday. User can input all the holidays in the **Make Holiday Settings (10 year)** option located on the bottom of the page. Users can enter in the holiday dates, holiday code and Schedule setting number. The holiday codes are defined as follows:

0 - Holiday only occurs once
1 - Holiday occurs on the same date each year
2 - Holiday occurs on the first Sunday on or after the date entered
3 - Holiday occurs on the first Monday on or after the date entered
4 - Holiday occurs on the first Thursday on or after the date entered
5 - Holiday moved from Sunday to Monday
6 - Holiday moved from Saturday to Friday or Sunday to Monday

TOU Holiday Code Defination

TOU Holiday Code Defination

| Holiday Sched # | Actual Date (MM/DD/YYYY) | Holiday Code | Sched Setting | Holiday Sched # | Actual Date (MM/DD/YYYY) | Holiday Code | Sched Setting | Holiday Sched # | Actual Date (MM/DD/YYYY) | Holiday Code | Sched Setting |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 12/25/2020 | 1 | 1 | 18. | 00/00/2000 | 0 | 1 | 35. | 00/00/2000 | 0 | 1 |
| 2. | 05/24/2020 | 2 | 1 | 19. | 00/00/2000 | 0 | 1 | 36. | 00/00/2000 | 0 | 1 |
| 3. | 00/00/2000 | 0 | 1 | 20. | 00/00/2000 | 0 | 1 | 37. | 00/00/2000 | 0 | 1 |
| 4. | 00/00/2000 | 0 | 1 | 21. | 00/00/2000 | 0 | 1 | 38. | 00/00/2000 | 0 | 1 |
| 5. | 00/00/2000 | 0 | 1 | 22. | 00/00/2000 | 0 | 1 | 39. | 00/00/2000 | 0 | 1 |
| 6. | 00/00/2000 | 0 | 1 | 23. | 00/00/2000 | 0 | 1 | 40. | 00/00/2000 | 0 | 1 |
| 7. | 00/00/2000 | 0 | 1 | 24. | 00/00/2000 | 0 | 1 | 41. | 00/00/2000 | 0 | 1 |
| 8. | 00/00/2000 | 0 | 1 | 25. | 00/00/2000 | 0 | 1 | 42. | 00/00/2000 | 0 | 1 |
| 9. | 00/00/2000 | 0 | 1 | 26. | 00/00/2000 | 0 | 1 | 43. | 00/00/2000 | 0 | 1 |
| 10. | 00/00/2000 | 0 | 1 | 27. | 00/00/2000 | 0 | 1 | 44. | 00/00/2000 | 0 | 1 |
| 11. | 00/00/2000 | 0 | 1 | 28. | 00/00/2000 | 0 | 1 | 45. | 00/00/2000 | 0 | 1 |
| 12. | 00/00/2000 | 0 | 1 | 29. | 00/00/2000 | 0 | 1 | 46. | 00/00/2000 | 0 | 1 |
| 13. | 00/00/2000 | 0 | 1 | 30. | 00/00/2000 | 0 | 1 | 47. | 00/00/2000 | 0 | 1 |
| 14. | 00/00/2000 | 0 | 1 | 31. | 00/00/2000 | 0 | 1 | 48. | 00/00/2000 | 0 | 1 |
| 15. | 00/00/2000 | 0 | 1 | 32. | 00/00/2000 | 0 | 1 | 49. | 00/00/2000 | 0 | 1 |
| 16. | 00/00/2000 | 0 | 1 | 33. | 00/00/2000 | 0 | 1 | 50. | 00/00/2000 | 0 | 1 |
| 17. | 00/00/2000 | 0 | 1 | 34. | 00/00/2000 | 0 | 1 | | | | |

**Holiday code explain:**

0 - Holiday only occurs once
1 - Holiday same date each year
2 - First sunday on or after date

3 - First monday on or after date
4 - First thursday on or after date
5 - Holiday moved from Sun. to Mon.
6 - Holiday moved from Sat. to Fri. or Sun. to Mon.

[ Save ]  [ Load ]     [ Generate ]  [ Close ]

Figure 4-13 TOU Holiday Code Definition

Once all the holidays are entered in the TOU Holiday Code definition users can click on **Generate** to automatically populate and load all the holidays in the 10 year holiday settings. If the current year of the meter does not fall into the Ten year Holiday setting, it remains as the current TOU settings.

**NOTE**: *The holiday schedule has the highest priority among all the schedules. The weekend schedule's priority is followed by the Holiday schedule. When the holiday schedule is not enabled, the weekend schedule has the highest priority, overriding the normal (weekday) schedule.*

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Figure 4-14 Ten Year Holiday Configuration

## 4.6 IO Functions

KW1850 has 2 Relay Outputs (RO), 18 Digital Inputs (DI) and 6 Digital Outputs (DO). To configure the IO setting on the meter click on **DI**, **RO and Event** under the **Settings** tab on the left panel of Acuview. From this page users can configure the Digital Input and Relay Output settings.

### 4.6.1 Digital Input

The KW1850 supports two Digital Input mode, Digital Status mode and Pulse Counter mode.

By default the digital input mode is configured for digital status mode where the status can be either ON/OFF, this is represented by **State** on the Acuview software. The Digital Input is a dry contact meaning a voltage is required to change the status of the DI. When the DI detects a sufficient voltage input the status will be ON, otherwise the status will remain as OFF.

## DI Ratings:

- Input Style: Dry Contact
- Input Current (Max): 2mA
- Input Voltage Range: 15-30Vdc
- Start Voltage: 12V
- Stop Voltage: 10V
- Pulse Frequency (Max): 100Hz, 50% Duty Cycle

Users can configure the DI as Pulse Counter under the DI type section in the Acuview software. Once the mode is changed to **Counter** user can configure how many pulses equals one count on the meter. For example in figure 4-15 below DI1 is configured for 10 pulses to equal 1 count.

Users can also configure the scaling of the DI count, for example in figure 4-15 below DI1 is configured for 1 count to equal 0.50 m3. The DI unit available to configure from Acuview are **t** (tonne), **m3** (cubic meters), **kWh** (energy), **RMB** (Renminbi), and **$** (dollar).



Figure 4-15 Digital Input Settings

To view the DI pulse count or DI status click on **DI and RO** under the **Readings** tab on the the left panel of Acuview.

| DI 1: | 8 | 4.00 m3 | DI 2: | 2 | 2.00 kWh | DI 3: | 3 | 3.00 RMB | DI 4: | 4 | 4.00 $ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DI 5: | 5 | 5.00 t | DI 6: | 6 | 6.00 t | DI 7: | OFF | | DI 8: | OFF | |
| DI 9: | OFF | | DI 10: | OFF | | DI 11: | OFF | | DI 12: | OFF | |
| DI 13: | 4 | 0.00 t | DI 14: | 18 | 0.00 t | DI 15: | 16 | 0.00 t | DI 16: | 16 | 0.00 t |
| DI 17: | 19 | 0.00 t | DI 18: | 20 | 0.00 t | | | | | | |

Figure 4-16 DI Readings

## 4.6.2 Relay Output

The relay output has two modes that it can operate as in the KW1850, either control or alarm mode.

1.  Control Mode: Allows users to manually control relay ON/OFF.

    •   Momentary Mode: Allows users to manually turn on relay for a certain time period. The time can be configured from 50-3000ms.

2.  Alarm Mode: Users can configure the over/under alarm to trigger the relay outpt. Users can also use the system event alarm to trigger the relay output in this mode.

There are 12 types of system event alarms that users can trigger the relay with.

1.  Reset
2.  DI Synchronization Demand
3.  Command Synchronization Demand
4.  Reset energy
5.  Reset Device Run Time
6.  Reset Battery Run Time
7.  Modify System Parameters
8.  Set Initial Energy
9.  Modify TOU Settings
10. Modify System Clock
11. Reversed Power Direction
12. Reset DI Pulse Count

Users can configure and enable these events to trigger the relay.  The over/under alarms will be explained in a later section of the manual.

The relay alarm drive output time ranges can be configured on this page also, it ranges from 1~60000s (how long will it take to turn off the output by itself).



Figure 4-17 Relay Output Settings

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Users can view the status of the relay on the **DI and RO** page under the **Readings** tab on Acuview. If the relay is configured for relay control mode users can manually turn ON/OFF the relay by clicking on the **Control** button.  If in alarm mode this function is blocked on the software.



Figure 4-18 Relay Output Readings

## 4.6.3 Digital Output

The KW1850 has 6 Digital Outputs channels where the meter will output energy pulses.  The DO settings can be configured from the **General Settings** page on Acuview.

Users can configure each channel to output pulses based on energy, either the total energy or individual circuit energy consumption.

Energy pulse settings include Pulse Constant and Pulse Width. The pulse Constant's range is 1-60000, and the Pulse Width range is 20-100 ms. In practical applications, Pulse Constant and Pulse Width should be set according to the system's real power, otherwise, it will influence the system's energy accuracy.

Pulse Period = 3600000 /(Real Power x Pulse Constant)

Pulse Period > Pulse Width

The following equation must be fulfilled in order to ensure the energy accuracy, the unit of Real Power is kW, Pulse Width is in ms.

3600000 /(Real Power x Pulse Constant)> Pulse Width

For example, if the Real Power is 35.2 kW, Pulse Width = 3600000 /(35.2 x Pulse Constant), it must meet 3600000 /(35.2 x Pulse Constant)>Pulse Width.
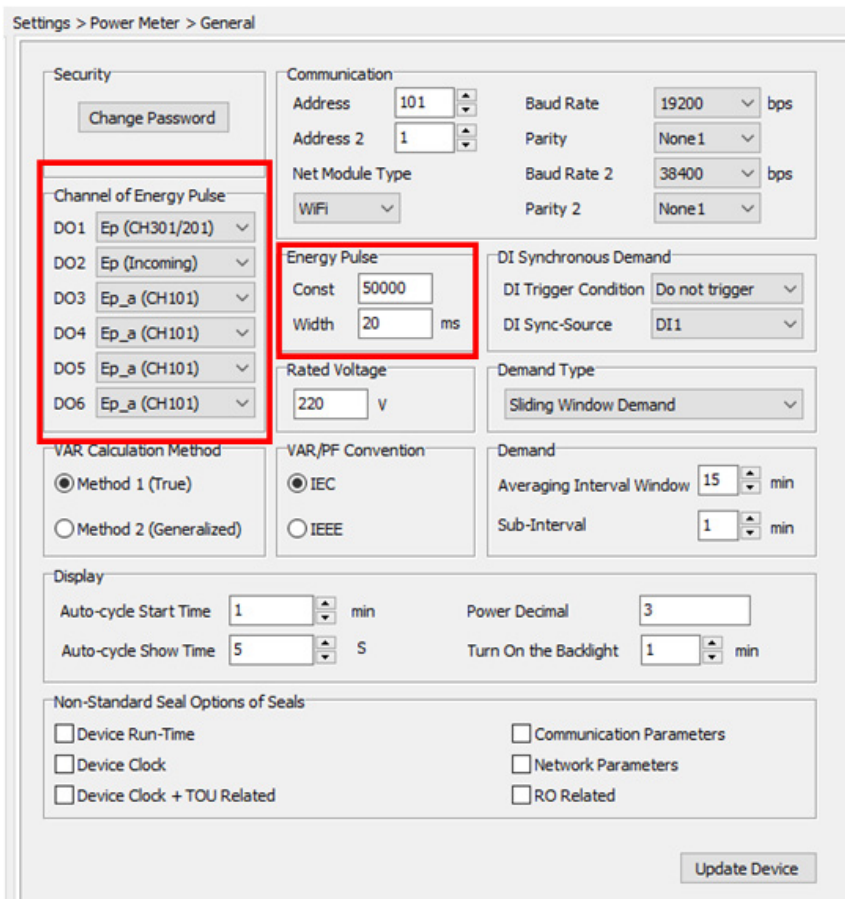


Figure 4-19 Digital Output Settings

## 4.7 Alarm

The KW1850 supports over/under alarms where the meter can have up to 10 alarms configured.  Users can configure this by clicking on **Alarm** under the **Settings** tab on Acuview.

Users can alarm for either the individual circuit channels or alarm for the meter total (inline), this can be configured in the category drop down menu.  The following category options are available:

- Real-Time Metering (Incoming) - active power, reactive power, apparent power, frequency, voltage, current, power factor of the incoming line

- Real-Time Metering (User) - active power, reactive power, apparent power, current, power factor of the individual circuits

- Demand (Incoming) - active power, reactive power, apparent power, current demand and demand prediction

- Demand (User) - active power, reactive power, apparent power, current demand and demand prediction of the individual circuits

After the category is selected, users can then select the desired alarming parameter in the parameter drop down menu.  Once configured select the setting for the alarm, this can be over (>), under(<), or equal.

The setpoint value will be a percentage of the rated value and not the actual measurement value. The current rating and voltage rating refer to the rated voltage and current value of the load, which are used to generate the alarm target value. For example, suppose the voltage rating is 220V, the CT rating is 20A, and the user wants to alarm when the active power is over 3kW. Since the rated power is 4.4kW and 3kW is 68% of 4.4kW, the alarm target value is set to 68.

Users have the option to set a delay for the alarms, where the alarm will trigger after the delay time has passed.  The default is 0 which means there is no delay and the alarm will trigger as soon as it occurs.  The delay time range is from 0-30000 ms.

If the relay mode is configured for Alarm mode, users can use the over/under alarms to trigger the relay output.  Users can select RO1 or RO2 from the output drop down menu.

Figure 4-20 Alarm Settings

The alarms can be read in the **Alarm Log** under the **Readings** tab on Acuview.  The alarm record shows the time of the alarm, the alarm parameter, the limit value exceeded or restored value, the alarm state and the alarm rule.  Up to 20 alarms can be recorded, and will override from the oldest alarm entry (first in, first out).

The software displays the newest alarm record number and allows users to reset the alarm log using the **Clear Alarm** button.



Figure 4-21 Alarm Log

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**NOTE**: *The limit value displayed by the tool software is not the actual measurement value, but the percentage of the actual measurement value to the rated value.*

## 4.8 System Event Log

The event log captures and record significant events that occur in the KW1850 meter.  The log records the time and type of system event. The following are the event types that the KW1850 supports:

1.  Reset
2.  DI Synchronization Demand
3.  Command Synchronization Demand
4.  Reset energy
5.  Reset Device Run Time
6.  Reset Battery Run Time
7.  Modify System Parameters
8.  Set Initial Energy
9.  Modify TOU Settings
10. Modify System Clock
11. Reversed Power Direction
12. Reset DI Pulse Count

Up to 100 records can be displayed, users can choose to display **the latest 20 records** or **all records**.  The event log can be reset by using the **Clear Event** button.

Figure 4-22 Event Log

## 4.9 Data Log

The KW1850 includes 8MB of memory that is used for data logging. This allows users to log data and retrieve it from the Acuview software. In order to configure the meter to data log using the internal memory select **Data Log 1/Data Log 2/Data Log 3** from the **Settings** tab on Acuview. The KW1850 has 3 data logs, where each can be configured individually and the three logs cab be configured with different parameters.

There are 114 different parameters that can be logged ranging from Real Time Metering, Energy, TOU Energy, Demand, and DI. Users can log either the incoming (inline) or individual circuit parameters. The memory size of the 3 data logs can also be set, but the total number of memory sectors of the 3 records should not be greater than 100.

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Figure 4-23 Data Log Settings

Different parameters can be set between the 3 data logs according to user requirements. For example, data log 1 can be set as basic measurement parameters (such as power), data log 2 can be set as energy parameters, and data log 3 can be set as demand parameters.

Generally, setting a data log requires setting the following:

- Parameter selection - Choose one of the 8 categories, different wiring methods will be different

- Select parameters

  - Select the relevant parameter in the left selection box

  - Click the Add button, the selected parameter will be added to the selected box on the right.

  - If you want to delete an item, select the parameter you want to delete in the selected box, and then click Delete.

- In the Space Allocation section, users can view the number of registers in the record, the number of bytes that have been used in this record, and the number of remaining bytes. These areas are automatically increased according to the parameters you choose. The total number of bytes that can be used is 228.

- Set the Logging Interval - Users can set the logging interval from 0-1440 minutes.  When the interval is selected as 0 the data log function is disabled.

- Set data log sector size - The sector size can be selected from 0-100, but the total sector size of the 3 data logs must not exceed 100.

- Select the Logging Mode:

  - Start Logging Immediately - This mode uses a first in-first out method where once the data log is full the oldest data log entry will be overridden by the newest log entry.

  - Start Time - This mode allows users to configure a start time for the data log.  The meter will begin logging at the time specified in this setting.  Once the log is full it will start to override from the oldest entry.

  - Time Range - This mode allows users to configure the meter to log data during a specific time period.  Users can configure the start and stop time for logging.  If the meters memory is full before the stop time the meter will stop data logging.

## 4.9.1 Reading the Data Log

The data log can be read by selecting **Data Log** under the **Readings** tab.  On this page users will be able to the overview of the data which includes the first/last time stamp logged, max records, record size, and the amount of used records.

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In the first drop down menu users can select one of the three data logs, and in the second drop down menu users can select the amount of records to read. The following options are available

- Read newest 50 records
- Read 1000 records
- Read 64000 records
- Read 1000 records (Select Time)
- Read 64000 records (Select Time)

Users can also set the record number to start reading the data log at. Click on **Read** to begin reading the data from the data log. There is an option to download the data from Acuview, users can save the data as a text, csv, or excel format file.



Figure 4-24 Reading the Data Log

## 4.10 Seal Button (B1) Function

The KW1850 supports a sealing function that allows user to prevent tampering of the meter settings.  When the meter is sealed users cannot change or modify certain settings.  There are two types of sealed parameters, standard and non stand parameters.

The sealed parameters include:

- Energy pulse constant
- Energy pulse width
- DO output energy channel selection
- Demand calculation method
- Demand interval window
- Demand sub-interval time
- DI synchronous demand trigger
- All user mapping relations
- Wiring mode
- 1-18 Channel CT Ratio
- Rated voltage
- DI trigger condition
- Reactive power calculation method
- VAR/PF protocol selection
- Clear energy/demand/DI
- All energy data
- Restore default parameters
- Non-standard seal function selection

The Non Standard sealed parameters include:
- RS485 Communication parameters
- Network Parameters
- Clear meter running time
- TOU parameters
- Relay Output Parameters
- Clock

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Users can select the Non Standard seal options from the Acuview software in the **General Settings**.



Figure 4-25 Configuring the Non-Standard Seal Options

### 4.10.1 How to use the Seal Button (B1)

By default the KW1850 is sealed, in order to unseal the meter press B1. Users will notice that on the display screen on the settings page certain settings will have a lock-shaped symbol on the top right corner of the display. After pressing B1 the meter will be unsealed for 1 hour where the lock symbol will now show as an unlocked symbol. After the 1 hour has passed the meter will go back to being sealed. During the 1 hour when the meter is unsealed the meter can be sealed again by pressing B1.

**NOTE**: *When operating the B1 button, you must first ensure that the B1 button is in a state that allows parameter modification.*

## 4.11 Device Information

Users can view the meters information from the Acuview by clicking on Device Information under the Readings tab. This provides users with information such as device type, hardware/software version, serial number, device clock, device run time and communications module firmware information.
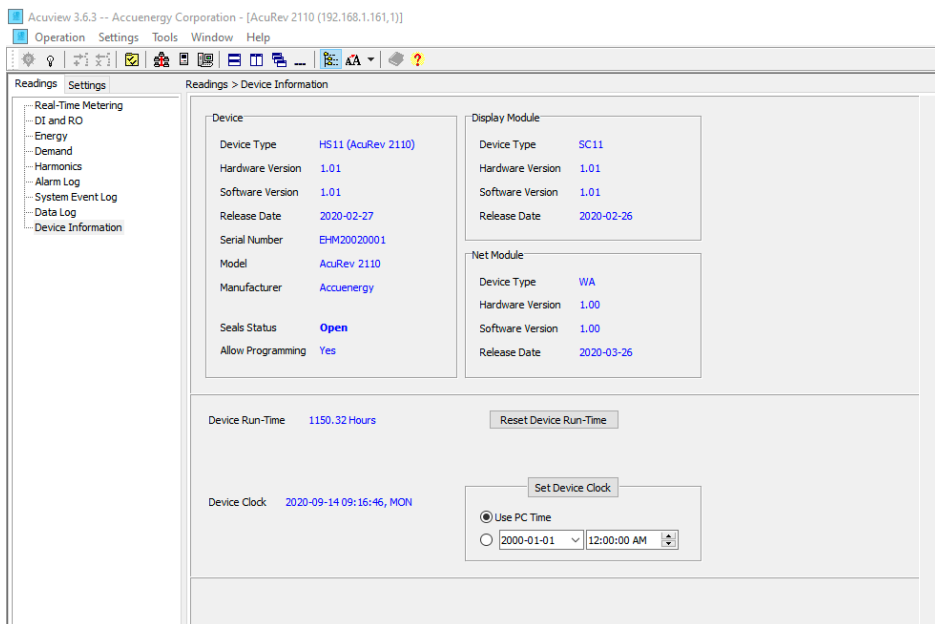


Figure 4-26 Device Information

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Users can reset the meters run time from this page and also configure the meter clock.  The device clock can be set manually or according to the computer time, users can click on Set Device Clock for the clock configuration to take affect.

*KW1850* Smart Metering System

# Chapter 5: Communication

# Chapter 5: Communication

KW1850 supports the mainstream open communication protocol Modbus.

The standard configuration is Modbus-RTU protocol, this manual only lists the address table under this protocol.

## 5.1 MODBUS Protocol Introduction

KW1850 uses the MODBUS-RTU communication protocol. The MODBUS protocol defines the check code, data sequence, etc., which are necessary for specific data exchange.

### 5.1.1 Transmission Mode

The transmission mode is a series of independent data structures within a data frame and limited rules for data transmission. The transmission mode compatible with the MODBUS-RTU protocol mode is defined below.

| Coding System | 8-bit |
|---|---|
| Start bit | 1-bit |
| Stop bit | 1-bit |
| Data bits | 8-bit |
| Error checking | CRC (Cyclic Redundancy Check) |
| Parity | No parity/odd parity/even parity |

### 5.1.2 Protocol

When a data frame arrives at the terminal device, it enters the addressed device through a simple "port", the device removes the "envelope" (data header) of the data frame, reads the data, and if there is no error, it executes the data transfer. The requested task, then, adds the data it generates to the obtained "envelope" and returns the data frame to the sender. The returned response data contains the following content: the terminal slave address (Address), the executed command (Function), the requested data (Data) generated by executing the command, and a check code (Check). There will be no successful response if any error occurs.

## 1. Frame Format

Table 5-1 Data Frame Format

| Address | Function | Data | Check |
|---------|----------|------|-------|
| 08-bit | 8-bit | N * 8-bit | 16-bit |

## 2. Address Field

The address field is at the start of the frame. It is composed of 1 byte (8 bits), its decimal value range is 0-247.

A master addresses a slave by placing the slave address in the address field of the message. When the slave sends its response, it places its own address in this address field of the response to let the master know which slave is responding.

## 3. Function Field

When a message is sent from a master to a slave device the function code field tells the slave what kind of action to perform.

Table 5-2 Function Code

| Code | Meaning | Action |
|------|---------|--------|
| 01 | Read DO status | Obtain Digital (Relay) Output current status (ON/OFF) |
| 02 | Read DI status | Obtain Digital Input current status (ON/OFF) |
| 03 | Read Data | Obtain current binary value from one or more registers |
| 05 | Control DO | Control Digital (Relay) Output (ON/OFF) |
| 16 | Preset multiple registers | Place specific value into a series of consecutive multiple-registers |

4. Data Field

The Data field contains the data that terminals need to complete the request and the data that terminals respond to the request. This data may be a numerical value, address or setting. For example, Function Code tells the terminal to read one register, Data Field needs to specify reading from which register and how many registers to read.

5. Error Check Field

The field allows the error check by master and slave devices. Due to electrical noise and other interferences, a group of data may be changed while transmitting from one location to the other. Error Check ensures master or slave devices do not respond to the distorted data during the transmission, which enhances system security and efficiency. Error Check uses 16-bit Cyclic Redundancy Check (CRC 16).

## 5.1.3 CRC Check

The cyclic redundancy check (CRC) field occupies two bytes and contains a 16-bit binary value. The CRC value is calculated by the transmitting device and then appended to the data frame. The receiving device recalculates the CRC value when receiving the data, and then compares it with the value in the received CRC field. If the two values are not equal, it will happen. error.

During the CRC operation, first preset a 16-bit register to all 1s, and then continuously calculate the 8 bits in each byte in the data frame with the current value of the register, only 8 data per byte Bit participates in generating CRC, start bit, stop bit and possible parity bit does not affect CRC. When generating the CRC, the 8 bits of each byte is XORed with the contents of the register, and then the result is shifted to the low bit, the high bit is supplemented with "0", and the least significant bit (LSB) is shifted out and checked. If it is 1, This register is XORed with a preset fixed value (0A001H). If the lowest bit is 0, no processing is done.

The above processing is repeated until 8 shift operations are performed. After the last bit (the 8th bit) is shifted, the next 8-bit byte is XORed with the current value of the register, and the other 8 above is also performed. When all the bytes in the data frame are processed, the final value generated is the CRC value.

The process of generating a CRC is:

1. Preset a 16-bit register as 0FFFFH (all 1s), which is called the CRC register.

2. Perform exclusive OR operation on the 8 bits of the first byte in the data frame and the low byte in the CRC register, and store the result back to the CRC register.

3. Shift the CRC register one bit to the right, fill the highest bit with 0, and move the lowest bit out and check.

4. If the lowest bit is 0: repeat the third step (the next shift); if the lowest bit is 1: connect the CRC register to a preset. The fixed value (0A001H) is XORed.

5. Repeat the third and fourth steps until 8 shifts. A complete eight bits are processed in this way.

6. Repeat steps 2 to 5 to process the next eight bits until all byte processing ends.

7. Swap the high and low bytes of the CRC register, the result is the CRC value.

## 5.2 Modbus Communication Format

The examples in this section will use the format shown in Table 5-3 as much as possible (the numbers are in hexadecimal).

Table 5-3 Protocol Example

| Address | Function | Data Start Reg Hi | Data Start Reg Lo | Data #of Regs Hi | Data #of Regs Lo | CRC16 Hi | CRC16 Lo |
|---------|----------|-------------------|-------------------|------------------|------------------|----------|----------|
| 06H | 03H | 00H | 00H | 00H | 21H | 84H | 65H |

Addr: Slave device address

Fun: Function Code

Data start reg hi: Start register address, high byte

Data start reg lo: Start register address, low byte

Data #of reg hi: Number of registers, high byte

Data #of reg lo: Number of registers, low byte

CRC16 Hi: CRC high byte

CRC16 Lo: CRC low byte

### 5.2.1 Read Relay Output status (Function Code 01)
### Query

The master device sends a query frame to the slave device. Function Code 01 allows users to acquire the relay output status (1=ON, 0=OFF) of the slave device with the specified address. On top of the slave device address and function code, the query frame must contain the relay register starting address and the number of registers to be read.

Table 5-4 depicts reading Relay 1 and Relay 2 status of the slave device with the address of 17.

Table 5-4 Query Frame of Reading Relay Output Status

| Address | Function | Relay Start Reg Hi | Relay Start Reg Lo | Relay #of Regs Hi | Relay #of Regs Lo | CRC16 Hi | CRC16 Lo |
|---------|----------|--------------------|--------------------|-------------------|-------------------|----------|----------|
| 11H | 01H | 00H | 00H | 00H | 02H | BFH | 5BH |

### Response

The slave device answers the master device's query. The response frame contains a slave device address, function code, data quantity and CRC check. Each relay utilizes one bit (1 = ON , 0 = OFF). Table 5-5 depicts the response frame.

Table 5-5 Response frame of reading Relay Output status

| Address | Function | Byte Count | Data | CRC16 Hi | CRC16 Lo |
|---------|----------|------------|------|----------|----------|
| 11H | 01H | 01H | 02H | D4H | 89H |

Data Bytes

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| MSB | | | | | | | LSB |

(Relay 1 = OFF, Relay 2=ON)

### 5.2.2 Read the status of DI (Function Code 02)
**Query**

On top of the slave device address and function code, the query frame must contain the digital input register starting address and the number of registers to be read. DI register address starts from 0000H (DI1=0000H, DI2=0001H, DI3=0002H, DI4=0003H).

Table 5-6 depicts reading DI1 to DI4 status of the slave device with the address of 17.

Table 5-6 Query frame of reading DI status

| Address | Function | DI Start Addr Hi | DI Start Addr Lo | DI Num Hi | DI Num Lo | CRC16 Hi | CRC16 Lo |
|---------|----------|------------------|------------------|-----------|-----------|----------|----------|
| 11H | 02H | 00H | 00H | 00H | 04H | 7BH | 59H |

**Response**

The slave device answers the master device's query. The response frame contains a slave device address, function code, data quantity and CRC check. Each DI utilizes one bit (1 = ON , 0 = OFF).Table 5-7 depicts the response frame.

Table 5-7 Response Frame of Reading DI1 to DI4 Status

| Address | Function | Byte Count | Data | CRC16 Hi | CRC16 Lo |
|---------|----------|------------|------|----------|----------|
| 11H | 02H | 01H | 03H | E5H | 49H |

Data Bytes

| 0 | 0 | 0 | 0 | DI4 | DI3 | DI2 | DI1 |
|---|---|---|---|-----|-----|-----|-----|
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| MSB | | | | | | | LSB |

## 5.2.3 Read Data (Function Code 03)
## Query

This function allows users to obtain the data and system parameters collected and recorded by the device.

The example in Table 5-8 is reading three basic data collected from the address 17 slave machine into line A real-time energy, line B real-time energy, and line C real-time energy (these parameters are dword data types, each parameter occupies two addresses, each address two bytes), the address of incoming line A real-time energy in KW1850 is 4500H, 4501H; incoming line B real-time energy address is 4502H, 4503H; incoming line C real-time energy address is 4504H,4505H.

Table 5-8 Query of Inline A Real-time Energy, Inline B Real-time Energy, Inline C Real-time Energy

| Address | Function | Data Start Addr Hi | Data Start Addr Lo | Data #of Regs Hi | Data #of Regs Lo | CRC16 Hi | CRC16 Lo |
|---------|----------|--------------------|--------------------|------------------|------------------|----------|----------|
| 11H | 03H | 45H | 00H | 00H | 06H | D2H | 54H |

## Response

The response frame contains slave device address, function code, data quantity and CRC check.

Table 5-9 depicts Inline A real-time energy=0000000BH (1.1kWh), Inline B real-time

energy= 0000000CH (1.2kWh), Inline C real-time energy=0000000D (1.3kWh).

Table 5-9 Response of Inline A Real-time Energy, Inline B Real-time Energy, Inline C Real-time Energy

| Address | Function | Byte Count | Data 1 Hi | Data 1 Lo | Data 2 Hi | Data 2 Lo | Data 3 Hi | Data 3 Lo | Data 4 Hi | Data 4 Lo |
|---------|----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 11H | 03H | 0CH | 00H | 00H | 00H | 0BH | 00H | 00H | 00H | 0CH |

| Data 5 Hi | Data 5 Lo | Data 6 Hi | Data 6 Lo | CRC16 Hi | CRC16 Lo |
|-----------|-----------|-----------|-----------|----------|----------|
| 11H | 02H | 01H | 03H | E5H | 49H |

## 5.2.4 Control Relay Output (Function Code 05)
## Query

This query frame forces the relay status to ON or OFF. Data FF00H sets the relay as ON, and data 0000H sets the relay as OFF. The relay will not be influenced by any other data input.

The following is to query slave device 17 to set relay status is ON.

Table 5-10 Control Relay Status Query Frame

| Address | Function | DO Addr Hi | DO Addr Lo | Value Hi | Value Lo | CRC16 Hi | CRC16 Lo |
|---------|----------|------------|------------|----------|----------|----------|----------|
| 11H | 05H | 00H | 00H | FFH | 00H | 8EH | AAH |

### Response

The correct response to this request is to send back the received data after the relay status is changed.

Table 5-11 Control Relay Status Response Frame

| Address | Function | DO Addr Hi | DO Addr Lo | Value Hi | Value Lo | CRC16 Hi | CRC16 Lo |
|---------|----------|------------|------------|----------|----------|----------|----------|
| 11H | 05H | 00H | 00H | FFH | 00H | 8EH | AAH |

## 5.2.5 Preset/Reset Multi-Register (Function Code 16)
## Query

Function Code 16(10H Hex) allows the user to modify the contents of multiple registers.

The example below is a request to preset the device address of 17's channel #1's real-time energy as 12345.6 kWh. KW1850 energy is raw data multiplied by 0.1 kWh, therefore, the value written into the register should be 123456, hex format is 01E240H. Channel 1's real-time energy address is 4600H and 4601H, 32 bit, a total of 4 Bytes.

Table 5-12 Preset Tenant #1's Real-time Energy

| Address | Function | Data Start Reg Hi | Data Start Reg Lo | Data #of Regs Hi | Data #of Regs Lo | Byte Count |
|---------|----------|-------------------|-------------------|------------------|------------------|------------|
| 11H | 10H | 46H | 00H | 00H | 02H | 04H |

| Value Hi | Value Lo | Value Hi | Value Lo | CRC16 Hi | CRC16 Lo |
|----------|----------|----------|----------|----------|----------|
| 00H | 02H | E2H | 40H | BEH | B6H |

**Response**

The correct response is to send back address, function code, data starting address, data bytes, CRC check after the value is changed.

Table 5-13 Preset Multi-register Response Frame

| Address | Function | Data Start Reg Hi | Data Start Reg Lo | Data #of Regs Hi | Data #of Regs Lo | CRC16 Hi | CRC16 Lo |
|---------|----------|-------------------|-------------------|------------------|------------------|----------|----------|
| 11H | 10H | 46H | 00H | 00H | 02H | 56H | 10H |

# 5.3 KW1850 Application Details and Parameter Address Table

There are several conventions of KW1850.

## 5.3.1 Type of Data

"Bit" refers to binary bits.

"Word" is a 16-bit unsigned integer, occupying a data address. Two bytes. The value range is 0~65535.

"Int" is a 16-bit signed integer, occupying a data address. Two bytes. The value range is -32768~32767.

"Dword" is a 32-bit unsigned integer, occupying two data addresses. The high word comes first, and the low word comes after. A total of 4 bytes. Value range 0~4294967295; Rx = high word X65536 + low word.

"Float" is a single-precision floating-point number, occupying two data addresses. A total of 4 bytes. The value range is 0.0~3.402823E +38.

**5.3.2 Correspondence Between Communication Value and Actual Value**

The communication value of the instrument is not necessarily equal to the actual value. There is a certain conversion relationship between them. This is very important. The production of the upper-level software must make it clear which conversion relationship is used for the collected parameters, otherwise, it will lead to wrong results.

Table 5-14 Correspondence Between Communication Value and Actual Value

| Applicable Parameters | Correspondence | Unit |
|---|---|---|
| System parameter | The actual value is equal to the communication value | No unit |
| Meter and battery runtime | T=Rx/100 | Hour |
| Real clock, all time labels | The actual value is equal to the communication value | Time unit |
| Energy | E=Rx/100 | kWh |
| Power | R | 0~65535 (0.01 accuracy) |
| Demand | The actual value is equal to the communication value | kW |
| Frequency | The actual value is equal to the communication value | Hz |
| Power factor | The actual value is equal to the communication value | No unit |
| Voltage | The actual value is equal to the communication value | Volt |
| Current | The actual value is equal to the communication value | Amp |
| Harmonic parameters | The actual value is equal to the communication value | No unit |
| Pulse count value | Value=Rx/100 | See specific settings |

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## 5.3.3 Address Table
## System Parameter Settings

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 800H | 2048 | RS485 Device Address | 1-247 | 1 | word | R/W |
| 801H | 2049 | RS485 Modbus Communication Parity Bit Setting | 0: Even 1:Odd 2:None2 3:None1 | 3 | word | R/W |
| 802H | 2050 | Channel 2 Modbus Communication Parity | 0: Even 1:Odd 2:None2 3:None1 | 3 | word | R/W |
| 803H | 2051 | RS485 Modbus Communication Baud Rate | 1200-115200 When setting 115200, write (11520) | 19200 | word | R/W |
| 804H | 2052 | Channel 2 Modbus Communication Baud Rate | 1200-115200 When setting 115200, write (11520) | 38400 | word | R/W |
| 805H | 2053 | Password | 0000-9999 | 0000 | word | R/W |
| 806H | 2054 | Energy Pulse Constant | 1-60000 | 50000 | word | R/W |
| 807H | 2055 | Energy Pulse Width | 20-100ms | 80 | word | R/W |
| 808H | 2056 | Modbus TCP Device Address | 1-247 | 1 | word | R/W |
| 809H | 2057 | Reserved | | | | |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 80AH | 2058 | Demand Calculation Method | 0: Sliding Window<br>1: Rolling Window<br>2: Fixed Window<br>3: Thermal | 0 | word | R/W |
| 80BH | 2059 | Demand Interval | 1-30 mins | 15 | word | R/W |
| 80CH | 2060 | Demand Sub-Interval | 1-30mins | 1 | word | R/W |
| 80DH - 827H | 2061 - 2087 | Reserved | | | | |
| 828H | 2088 | Relay Output Mode | bit0~bit1 corresponds to RO1~RO2<br>0: Relay Control<br>1: Alarm | 0 | word | R/W |
| 829H | 2089 | RO Relay Control Output Mode | bit0~bit1to RO1~RO2<br>0: Latch<br>1: Momentary | 0 | word | R/W |
| 82AH | 2090 | RO Relay Control Momentary Time | 50-3000ms | 80 | word | R/W |
| 82BH | 2091 | Alarm Enable | 0:Disable<br>1:Enable | 0 | word | R/W |
| 82CH | 2092 | Alarm Channel Enable 1-10 | Bit0-bit9 corresponds to 1-10<br>1: Enable<br>0: Disable | 0 | word | R/W |
| 82DH | 2093 | System Alarm Event | Bit0-15 corresponds to 16 Event<br>1: Enable<br>0: Disable | 0 | word | R/W |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 82EH | 2094 | Relay Output selection for first 8 System Alarm Events | 2 bytes, every 2 bits corresponds to an event 00 Relay1 01 Relay2 | 0 | word | R/W |
| 82FH | 2095 | Relay Output selection for last 8 System Alarm Events | 22 bytes, every 2 bits corresponds to an event 00: Relay1 01: Relay2 | 0 | word | R/W |
| 830H | 2096 | Relay Output Alarm time delay (the over-limit alarm does not have this function) | 1-60000s | 60 | word | R/W |
| 831H | 2097 | Backlight Time | 0-60mins | 1 | word | R/W |
| 832H | 2098 | Automatic Display if no key is pressed | Mins: 1-60 | 1 | word | R/W |
| 833H | 2099 | Screen Display Time per Screen | Seconds: 5-100 | 5 | word | R/W |
| 834H | 2100 | Display power (demand) decimal places | 3-4 decimal | 3 | word | R/W |
| 835H | 2101 | Reactive Power Calculation Method | 0: Real 1: Generalized | 0 | word | R/W |
| 836H | 2102 | VAR/PF Convention | 0: IEC 1: IEEE | 0 | word | R/W |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 837H | 2103 | Clear all data digits to clear all records | Set 1 to clear<br>Bit0: Clear current month and historical electricity<br>Bit1: Clear demand<br>Bit2: Clear SOE record<br>Bit3: Clear the alarm record<br>Bit4: Clear the incident record<br>Bit5: Clear the meter runtime<br>Bit6: Clear the battery runtime<br>Bit7: Reserved | 0 | word | R/W |
| 838H - 839H | 2104 - 2105 | The DI pulse count value is cleared, each bit represents one DI channel | 838 address bit0~bit15 corresponds to DI1~DI16<br><br>839 address bit0~bit1 corresponds to DI17~DI18<br>0: No Clear<br>1: Clear | 0 | word | R/W |
| 83AH - 83EH | 2106 - 2110 | Reserved | | | | |
| 83FH - 841H | 2111 - 2113 | user01 user name | user name (6 ASCII) | user01 | word | R/W |
| 842H | 2114 | user01 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x0101 | word | R/W |

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| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 843H - 845H | 2115 - 2117 | user02 user name | user name (6 ASCII) | user02 | word | R/W |
| 846H | 2118 | user02 Mapping | High byte: 0: The display module does not display the user 1: The display module displays the user Low byte 0: Disable 1-18: corresponding physical channel 19-24: Corresponding to three-phase users of 1-6 channels | 0x0102 | word | R/W |
| 847H - 849H | 2119 - 2121 | user03 user name | user name (6 ASCII) | user03 | word | R/W |
| 84AH | 2122 | user03 Mapping | High byte: 0: The display module does not display the user 1: The display module displays the user Low byte 0: Disable 1-18: corresponding physical channel 19-24: Corresponding to three-phase users of 1-6 channels | 0x0103 | word | R/W |
| 84BH - 84DH | 2123 - 2125 | user04 user name | user name (6 ASCII) | user04 | word | R/W |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 84EH | 2126 | tuser04 Mapping | High byte: 0: The display module does not display the user 1: The display module displays the user Low byte 0: Disable 1-18: corresponding physical channel 19-24: Corresponding to three-phase users of 1-6 channels | 0x0104 | word | R/W |
| 84FH - 851H | 2127 - 2129 | user05 user name | user name (6 ASCII) | user05 | word | R/W |
| 852H | 2130 | user01 Mapping relations | High byte: 0: The display module does not display the user 1: The display module displays the user Low byte 0: Disable 1-18: corresponding physical channel 19-24: Corresponding to three-phase users of 1-6 channels | 0x0105 | Word | R/W |
| 853H - 855H | 2131 - 2133 | user06 Mapping | user name (6 ASCII) | user06 | Word | R/W |

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| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 856H | 2134 | user06 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x0106 | Word | R/W |
| 857H - 859H | 2135 - 2137 | user07 user name | user name (6 ASCII) | user07 | Word | R/W |
| 85AH | 2138 | user07 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x0107 | Word | R/W |
| 85BH - 85DH | 2139 - 2141 | user08 user name | user name (6 ASCII) | user08 | Word | R/W |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 85EH | 2142 | user08 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the use<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x0108 | Word | R/W |
| 85FH - 861H | 2143 - 2145 | user09 user name | user name (6 ASCII) | user09 | Word | R/W |
| 862H | 2146 | user09 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x0109 | Word | R/W |
| 863H - 865H | 2147 - 2149 | user10 user name | user name (6 ASCII) | user10 | Word | R/W |

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| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 866H | 2150 | user10 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x010a | Word | R/W |
| 867H - 869H | 2151 - 2153 | user11 user name | user name (6 ASCII) | user11 | Word | R/W |
| 86AH | 2154 | user11 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x010b | Word | R/W |
| 86BH - 86DH | 2155 - 2157 | user12 user name | user name (6 ASCII) | user12 | Word | R/W |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 86EH | 2158 | user12 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x010c | Word | R/W |
| 86FH - 871H | 2159 - 2161 | user13 user name | user name (6 ASCII) | user13 | Word | R/W |
| 872H | 2162 | user13 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x010d | Word | R/W |
| 873H - 875H | 2163 - 2165 | user14 user name | user name (6 ASCII) | user14 | Word | R/W |

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| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 876H | 2166 | user14 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x010e | Word | R/W |
| 877H - 879H | 2167 - 2169 | user15 user name | user name (6 ASCII) | 0x010f | Word | R/W |
| 87AH | 2170 | user15 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x010f | Word | R/W |
| 87BH - 87DH | 2171 - 2173 | user16 user name | user name (6 ASCII) | user16 | Word | R/W |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 87EH | 2174 | user16 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x0110 | Word | R/W |
| 87FH - 881H | 2175 - 2177 | user17 user name | user name (6 ASCII) | user17 | Word | R/W |
| 882H | 2178 | user17 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x0111 | Word | R/W |
| 883H - 885H | 2179 - 2181 | user18 user name | user name (6 ASCII) | user18 | Word | R/W |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 886H | 2182 | user18 Mapping | High byte:<br>0: The display module does not display the user<br>1: The display module displays the user<br>Low byte<br>0: Disable<br>1-18: corresponding physical channel<br>19-24: Corresponding to three-phase users of 1-6 channels | 0x0112 | Word | R/W |
| 887H | 2183 | Rated voltage setting (Only relative to Alarm Setting) | Default 220V | 220 | Word | R/W |
| 888H | 2184 | Wiring Mode | 0: 1LN<br>1: 3LN (Three-phase four-wire)<br>2: 2LN (Single-phase three-wire) | 0 | Word | R/W |
| 889H | 2185 | Channel 1 CT Rating | 5-2000 | 200 | Word | R/W |
| 88AH | 2186 | Channel 2 CT Rating | 5-2000 | 200 | Word | R/W |
| 88BH | 2187 | Channel 3 CT Rating | 5-2000 | 200 | Word | R/W |
| 88CH | 2188 | Channel 4 CT Rating | 5-2000 | 200 | Word | R/W |
| 88DH | 2189 | Channel 5 CT Rating | 5-2000 | 200 | Word | R/W |

| Address (H) | Address (D) | Parameters | Range | Default | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 88EH | 2190 | Channel 6 CT Rating | 5-2000 | 200 | Word | R/W |
| 88FH | 2191 | Channel 7 CT Rating | 5-2000 | 200 | Word | R/W |
| 890H | 2192 | Channel 8 CT Rating | 5-2000 | 200 | Word | R/W |
| 891H | 2193 | Channel 9 CT Rating | 5-2000 | 200 | Word | R/W |
| 892H | 2194 | Channel 10 CT Rating | 5-2000 | 200 | Word | R/W |
| 893H | 2195 | Channel 11 CT Rating | 5-2000 | 200 | Word | R/W |
| 894H | 2196 | Channel 12 CT Rating | 5-2000 | 200 | Word | R/W |
| 895H | 2197 | Channel 13 CT Rating | 5-2000 | 200 | Word | R/W |
| 896H | 2198 | Channel 14 CT Rating | 5-2000 | 200 | Word | R/W |
| 897H | 2199 | Channel 15 CT Rating | 5-2000 | 200 | Word | R/W |
| 898H | 2200 | Channel 16 CT Rating | 5-2000 | 200 | Word | R/W |
| 899H | 2201 | Channel 17 CT Rating | 5-2000 | 200 | Word | R/W |
| 89AH | 2202 | Channel 18 CT Rating | 5-2000 | 200 | Word | R/W |

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## Clock Settings

| Address (H) | Address (D) | Parameters | Access Property | Range | Data Type |
|---|---|---|---|---|---|
| 1050H - 1051H | 4176 - 4177 | Meter running time | R | YYYY/ MM/DD HH:MM:SS | dword |

## Clock

| Address (H) | Address (D) | Parameters | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 1054H | 4180 | Clock: Year | 0-99 | word | R/W |
| 1055H | 4181 | Clock: month | 1-12 | word | R/W |
| 1056H | 4182 | Clock: Day | 1-31 | word | R/W |
| 1057H | 4183 | Clock: hour | 0-23 | word | R/W |
| 1058H | 4184 | Clock: minutes | 0-59 | word | R/W |
| 1059H | 4185 | Clock: seconds | 0-59 | word | R/W |
| 105AH | 4186 | Clock: Week | 0-6, 0 means Sunday | word | R/W |

## Basic Measurement

Note: Function code reading 03

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2000H - 2001H | 8192 - 8193 | F | System Frequency | F=Rx | Hz | Float | R |
| 2002H - 2003H | 8194 - 8195 | Phase 1 Voltage | Phase A Line-Neutral Voltage | U1=Rx | V | Float | R |
| 2004H - 2005H | 8196 - 8197 | Phase 2 Voltage | Phase B Line-Neutral Voltage | U2=Rx | V | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2006H - 2007H | 8198 - 8199 | Phase 3 Voltage | Phase C Line-Neutral | U3=Rx | V | Float | R |
| 2008H - 2009H | 8200 - 8201 | Average Phase Voltage | Average Line-Neutral Voltage | Uavg=Rx | V | Float | R |
| 200AH - 200BH | 8202 - 8203 | Line Voltage 1-2 | Line-Line AB Voltage | U12=Rx | V | Float | R |
| 200CH - 200DH | 8204 - 8205 | Line Voltage 2-3 | Line-Line BC Voltage | U23=Rx | V | Float | R |
| 200EH - 200FH | 8206 - 8207 | Line Voltage 3-1 | Line-Line CA Voltage | U31=Rx | V | Float | R |
| 2010H - 2011H | 8208 - 8209 | Average Line Voltage | Average Line-Line Voltage | Ulavg=Rx | V | Float | R |
| 2012H - 2013H | 8210 - 8211 | Phase A inline Current | Sum of the Phase A currents for all circuits on the meter | IL1=Rx | A | Float | R |
| 2014H - 2015H | 8212 - 8213 | Phase B inline Current | Sum of the Phase B currents for all circuits on the meter | IL2=Rx | A | Float | R |
| 2016H - 2017H | 8214 - 8215 | Phase C inline Current | Sum of the Phase C currents for all circuits on the meter | IL3=Rx | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2018H - 2019H | 8216 - 8217 | Average inline Current | Average of the Phase A, Phase B and Phase C inline currents | ILavg=Rx | A | Float | R |
| 201AH - 201BH | 8218 - 8219 | Total inline System Power | Sum of Phase A, Phase B, and Phase C inline Real Power | Psum=Rx | kW | Float | R |
| 201CH - 201DH | 8220 - 8221 | Total inline Reactive Power | Sum of Phase A, Phase B, and Phase C inline Reactive Power | Qsum=Rx | kvar | Float | R |
| 201EH - 201FH | 8222 - 8223 | Total inline Apparent Power | Sum of Phase A, Phase B, and Phase C inline Apparent Power | Ssum=Rx | kVA | Float | R |
| 2020H - 2021H | 8224 - 8225 | Total inline Power Factor | Average of Phase A, Phase B, and Phase C inline Power Factor | PF=Rx | | Float | R |
| 2022H - 2023H | 8226 - 8227 | Total inline System Load Nature | 1: R 2: L 3: C | LC=Rx | | Float | R |
| 2024H - 2025H | 8228 - 8239 | Phase A inline Real Power | Sum of Phase A real power for all circuits on the meter | Pa_ sum=Rx | kW | Float | R |
| 2026H - 2027H | 8230 - 8231 | Phase B inline Real Powe | Sum of Phase B real power for all circuits on the meter | Pb_ sum=Rx | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2028H - 2029H | 8232 - 8233 | Phase C inline Real Powe | Sum of Phase C real power for all circuits on the meter | Pc_sum=Rx | kW | Float | R |
| 202AH - 202BH | 8234 - 8235 | Phase A inline Reactive Power | Sum of Phase A reactive power for all circuits on the meter | Qa_sum=Rx | kvar | Float | R |
| 202CH - 202DH | 8236 - 8237 | Phase B inline Reactive Power | Sum of Phase B reactive power for all circuits on the meter | Qb_sum=Rx | kvar | Float | R |
| 202EH - 202FH | 8238 - 8239 | Phase C inline Reactive Power | Sum of Phase C reactive power for all circuits on the meter | Qc_sum=Rx | kvar | Float | R |
| 2030H - 2031H | 8240 - 8241 | Phase A inline Apparent Power | Sum of Phase A apparent power for all circuits on the meter | Sa_sum=Rx | kVA | Float | R |
| 2032H - 2033H | 8242 - 8243 | Phase B inline Apparent Power | Sum of Phase B apparent power for all circuits on the meter | Sb_sum=Rx | kVA | Float | R |
| 2034H - 2035H | 8244 - 8245 | Phase C inline Apparent Power | Sum of Phase C apparent power for all circuits on the meter | Sc_sum=Rx | kVA | Float | R |
| 2036H - 2037H | 8246 - 8247 | Phase A inline Power Factor | Average of the Phase A Power Factor for all circuits on the meter | PFa=Rx | | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2038H - 2039H | 8248 - 8249 | Phase B inline Power Factor | Average of the Phase B Power Factor for all circuits on the meter | PFb=Rx | | Float | R |
| 203AH - 203BH | 8250 - 8251 | Phase C inline Power Factor | Average of the Phase C Power Factor for all circuits on the meter | PFc=Rx | | Float | R |
| 203CH - 203DH | 8252 - 8253 | Phase A inline Load Nature | Average of the Phase A Load Nature for all circuits on the meter | LCa=Rx | | Float | R |
| 203EH - 203FH | 8254 - 8255 | Phase B inline Load Nature | Average of the Phase B Load Nature for all circuits on the meter | LCb=Rx | | Float | R |
| 2040H - 2041H | 8256 - 8257 | Phase C inline Load Nature | Average of the Phase C Load Nature for all circuits on the meter | LCc=Rx | | Float | R |
| Single-Phase data and Three-Phase / Single-Three Data | | | | | | | |
| 2100H - 2101H | 8448 - 8449 | Channel 1 Current | Single Phase: Total current in circuit 1Three Phase/ Single Phase-three wire: Phase A current in circuit 1 | I1=Rx | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2102H - 2103H | 8450 - 8451 | Channel 1 Real Power | Single Phase: Total system power in circuit 1 Three Phase/Single Phase-three wire: Phase A real power in circuit 1 | P1=Rx | kW | Float | R |
| 2104H - 2105H | 8452 - 8453 | Channel 1 Reactive Power | Single Phase: Total reactive power in circuit 1 Three Phase/Single Phase-three wire: Phase A reactive power in circuit 1 | Q1=Rx | kvar | Float | R |
| 2106H - 2107H | 8454 - 8455 | Channel 1 Apparent Power | Single Phase: Total apparent power in circuit 1 Three Phase/Single Phase-three wire: Phase A apparent power in circuit 1 | S1=Rx | kVA | Float | R |
| 2108H - 2109H | 8456 - 8457 | Channel 1 Power Factor | Single Phase: Total power factor in circuit 1 Three Phase/Single Phase-three wire: Phase A power factor in circuit 1 | PF1=Rx | | Float | R |
| 210AH - 210BH | 8458 - 8459 | Channel 1 Load Nature | Single Phase: Load nature of circuit 1Three Phase/ Single Phase-three wire: Phase A load nature of circuit 1 | LC1=Rx | | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 210CH - 210DH | 8460 - 8461 | Channel 2 Current | Single Phase: Total current in circuit 2 Three Phase/Single Phase-three wire: Phase B current in circuit 1 | I2=Rx | A | Float | R |
| 210EH - 210FH | 8462 - 8463 | Channel 2 Real Power | Single Phase: Total system power in circuit 2 Three Phase/Single Phase-three wire: Phase B real power in circuit 1 | P2=Rx | kW | Float | R |
| 2110H - 2111H | 8464 - 8465 | Channel 2 Reactive Power | Single Phase: Total reactive power in circuit 2 Three Phase/Single Phase-three wire: Phase B reactive power in circuit 1 | Q2=Rx | kvar | Float | R |
| 2112H - 2113H | 8466 - 8467 | Channel 2 Apparent Power | Single Phase: Total apparent power in circuit 2 Three Phase/Single Phase-three wire: Phase B apparent power in circuit 1 | S2=Rx | kVA | Float | R |
| 2114H - 2115H | 8468 - 8469 | Channel 2 Power Factor | Single Phase: Total power factor in circuit 2 Three Phase/Single Phase-three wire: Phase B power factor in circuit 1 | PF2=Rx | | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2116H - 2117H | 8470 - 8471 | Channel 2 Load Nature | Single Phase: Load nature of circuit 2 Three Phase/Single Phase-three wire: Phase B load nature of circuit 1 | LC2=Rx | | Float | R |
| 2118H - 2119H | 8472 - 8473 | Channel 3 Current | Single Phase: Total current in circuit 3 Three Phase/Single Phase-three wire: Phase C current in circuit 1 | I3=Rx | A | Float | R |
| 211AH - 211BH | 8474 - 8475 | Channel 3 Real Power | Single Phase: Total power in circuit 3 Three Phase/Single Phase-three wire: Phase C power in circuit 1 | P3=Rx | kW | Float | R |
| 211CH - 211DH | 8476 - 8477 | Channel 3 Reactive Power | Single Phase: Total reactive power in circuit 3 Three Phase/Single Phase-three wire: Phase C reactive power in circuit 1 | Q3=Rx | kvar | Float | R |
| 211EH - 211FH | 8478 - 8479 | Channel 3 Apparent Power | Single Phase: Total apparent power in circuit 3 Three Phase/Single Phase-three wire: Phase C apparent power in circuit 1 | S3=Rx | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2120H - 2121H | 8480 - 8481 | Channel 3 Power Factor | Single Phase: Total power factor in circuit 3 Three Phase/Single Phase-three wire: Phase C power factor in circuit 1 | PF3=Rx | | Float | R |
| 2122H - 2123H | 8482 - 8483 | Channel 3 Load Nature | Single Phase: Load nature of circuit 3 Three Phase/Single Phase-three wire: Phase C load nature of circuit 1 | LC3=Rx | | Float | R |
| 2124H - 2125H | 8484 - 8485 | Channel 4 Current | Single Phase: Total current in circuit 4 Three Phase/Single Phase-three wire: Phase A current in circuit 2 | I4=Rx | A | Float | R |
| 2126H - 2127H | 8486 - 8487 | Channel 4 Real Power | Single Phase: Total power in circuit 4 Three Phase/Single Phase-three wire: Phase A power in circuit 2 | P4=Rx | kW | Float | R |
| 2128H - 2129H | 8488 - 8489 | Channel 4 Reactive Power | Single Phase: Total reactive power in circuit 4 Three Phase/Single Phase-three wire: Phase A reactive power in circuit 2 | Q4=Rx | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 212AH - 212BH | 8490 - 8491 | Channel 4 Apparent Power | Single Phase: Total apparent power in circuit 4 Three Phase/Single Phase-three wire: Phase A apparent power in circuit 2 | S4=Rx | kVA | Float | R |
| 212CH - 212DH | 8492 - 8493 | Channel 4 Power Factor | Single Phase: Total power factor in circuit 4 Three Phase/Single Phase-three wire: Phase A power factor in circuit 2 | PF4=Rx | | Float | R |
| 212EH - 212FH | 8494 - 8495 | Channel 4 Load Nature | Single Phase: Load nature of circuit 4 Three Phase/Single Phase-three wire: Phase A load nature of circuit 2 | LC4=Rx | | Float | R |
| 2130H - 2131H | 8496 - 8497 | Channel 5 Current | Single Phase: Total current in circuit 5 Three Phase/Single Phase-three wire: Phase B current in circuit 2 | I5=Rx | A | Float | R |
| 2132H - 2133H | 8498 - 8499 | Channel 5 Real Power | Single Phase: Total power in circuit 5 Three Phase/Single Phase-three wire: Phase B power in circuit 2 | P5=Rx | kW | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2134H - 2135H | 8500 - 8501 | Channel 5 Reactive Power | Single Phase: Total reactive power in circuit 5 Three Phase/Single Phase-three wire: Phase B reactive power in circuit 2 | Q5=Rx | kvar | Float | R |
| 2136H - 2137H | 8502 - 8503 | Channel 5 Apparent Power | Single Phase: Total apparent power in circuit 5 Three Phase/Single Phase-three wire: Phase B apparent power in circuit 2 | S5=Rx | kVA | Float | R |
| 2138H - 2139H | 8504 - 8505 | Channel 5 Power Factor | Single Phase: Total power factor in circuit 5 Three Phase/Single Phase-three wire: Phase B power factor in circuit 2 | PF5=Rx | | Float | R |
| 213AH - 213BH | 8506 - 8507 | Channel 5 Load Nature | Single Phase: Load nature of circuit 5 Three Phase/Single Phase-three wire: Phase B load nature of circuit 2 | LC5=Rx | | Float | R |
| 213CH - 213DH | 8508 - 8509 | Channel 6 Current | Single Phase: Total current in circuit 6 Three Phase/Single Phase-three wire: Phase C current in circuit 2 | I6=Rx | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 213EH - 213FH | 8510 - 8511 | Channel 6 Real Power | Single Phase: Total power in circuit 6 Three Phase/Single Phase-three wire: Phase C power in circuit 2 | P6=Rx | kW | Float | R |
| 2140H - 2141H | 8512 - 8513 | Channel 6 Reactive Power | Single Phase: Total reactive power in circuit 6 Three Phase/Single Phase-three wire: Phase C reactive power in circuit 2 | Q6=Rx | kvar | Float | R |
| 2142H - 2143H | 8514 - 8515 | Channel 6 Apparent Power | Single Phase: Total apparent power in circuit 6 Three Phase/Single Phase-three wire: Phase C apparent power in circuit 2 | S6=Rx | kVA | Float | R |
| 2144H - 2145H | 8516 - 8517 | Channel 6 Power Factor | Single Phase: Total power factor in circuit 6 Three Phase/Single Phase-three wire: Phase C power factor in circuit 2 | PF6=Rx | | Float | R |
| 2146H - 2147H | 8518 - 8519 | Channel 6 Load Nature | Single Phase: Load nature of circuit 6 Three Phase/Single Phase-three wire: Phase C load nature of circuit 2 | LC6=Rx | | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2148H - 2149H | 8520 - 8521 | Channel 7 Current | Single Phase: Total current in circuit 7 Three Phase/Single Phase-three wire: Phase A current in circuit 3 | I7=Rx | A | Float | R |
| 214AH - 214BH | 8522 - 8523 | Channel 7 Real Power | Single Phase: Total power in circuit 7Three Phase/ Single Phase-three wire: Phase A power in circuit 3 | P7=Rx | kW | Float | R |
| 214CH - 214DH | 8524 - 8525 | Channel 7 Reactive Power | Single Phase: Total reactive power in circuit 7 Three Phase/Single Phase-three wire: Phase A reactive power in circuit 3 | Q7=Rx | kvar | Float | R |
| 214EH - 214FH | 8526 - 8527 | Channel 7 Apparent Power | Single Phase: Total apparent power in circuit 7 Three Phase/Single Phase-three wire: Phase A apparent power in circuit 3 | S7=Rx | kVA | Float | R |
| 2150H - 2151H | 8528 - 8529 | Channel 7 Power Factor | Single Phase: Total power factor in circuit 7 Three Phase/Single Phase-three wire: Phase A power factor in circuit 3 | PF7=Rx | | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2152H - 2153H | 8530 - 8531 | Channel 7 Load Nature | Single Phase: Load nature of circuit 7 Three Phase/Single Phase-three wire: Phase A load nature of circuit 3 | LC7=Rx | | Float | R |
| 2154H - 2155H | 8532 - 8533 | Channel 8 Current | Single Phase: Total current in circuit 8 Three Phase/Single Phase-three wire: Phase B current in circuit 3 | I8=Rx | A | Float | R |
| 2156H - 2157H | 8534 - 8535 | Channel 8 Real Power | Single Phase: Total power in circuit 8 Three Phase/Single Phase-three wire: Phase B power in circuit 3 | P8=Rx | kW | Float | R |
| 2158H - 2159H | 8536 - 8537 | Channel 8 Reactive Power | Single Phase: Total reactive power in circuit 8Three Phase/Single Phase-three wire: Phase B reactive power in circuit 3 | Q8=Rx | kvar | Float | R |
| 215AH - 215BH | 8538 - 8539 | Channel 8 Apparent Power | Single Phase: Total apparent power in circuit 8 Three Phase/Single Phase-three wire: Phase B apparent power in circuit 3 | S8=Rx | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 215CH - 215DH | 8540 - 8541 | Channel 8 Power Factor | Single Phase: Total power factor in circuit 8Three Phase/Single Phase-three wire: Phase B power factor in circuit 3 | PF8=Rx | | Float | R |
| 215EH - 215FH | 8542 - 8543 | Channel 8 Load Nature | Single Phase: Load nature of circuit 8 Three Phase/Single Phase-three wire: Phase B load nature of circuit 3 | LC8=Rx | | Float | R |
| 2160H - 2161H | 8544 - 8545 | Channel 9 Current | Single Phase: Total current in circuit 9 Three Phase/Single Phase-three wire: Phase C current in circuit 3 | I9=Rx | A | Float | R |
| 2162H - 2163H | 8546 - 8547 | Channel 9 Real Power | Single Phase: Total power in circuit 9 Three Phase/Single Phase-three wire: Phase C power in circuit 3 | P9=Rx | kW | Float | R |
| 2164H - 2165H | 8548 - 8549 | Channel 9 Reactive Power | Single Phase: Total reactive power in circuit 9 Three Phase/Single Phase-three wire: Phase C reactive power in circuit 3 | Q9=Rx | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2166H - 2167H | 8550 - 8551 | Channel 9 Apparent Power | Single Phase: Total apparent power in circuit 9Three Phase/Single Phase-three wire: Phase C apparent power in circuit 3 | S9=Rx | kVA | Float | R |
| 2168H - 2169H | 8552 - 8553 | Channel 9 Power Factor | Single Phase: Total power factor in circuit 9Three Phase/Single Phase-three wire: Phase C power factor in circuit 3 | PF9=Rx | | Float | R |
| 216AH - 216BH | 8554 - 8555 | Channel 9 Load Nature | Single Phase: Load nature of circuit 9Three Phase/ Single Phase-three wire: Phase C load nature of circuit 3 | LC9=Rx | | Float | R |
| 216CH - 216DH | 8556 - 8557 | Channel 10 Current | Single Phase: Total current in circuit 10 Three Phase/Single Phase-three wire: Phase A current in circuit 4 | I10=Rx | A | Float | R |
| 216EH - 216FH | 8558 - 8559 | Channel 10 Real Power | Single Phase: Total power in circuit 10 Three Phase/Single Phase-three wire: Phase A power in circuit 4 | P10=Rx | kW | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2170H - 2171H | 8560 - 8561 | Channel 10 Reactive Power | Single Phase: Total reactive power in circuit 10 Three Phase/Single Phase-three wire: Phase A reactive power in circuit 4 | Q10=Rx | kvar | Float | R |
| 2172H - 2173H | 8562 - 8563 | Channel 10 Apparent Power | Single Phase: Total apparent power in circuit 10 Three Phase/Single Phase-three wire: Phase A apparent power in circuit 4 | S10=Rx | kVA | Float | R |
| 2174H - 2175H | 8564 - 8565 | Channel 10 Power Factor | Single Phase: Total power factor in circuit 10 Three Phase/Single Phase-three wire: Phase A power factor in circuit 4 | PF10=Rx | | Float | R |
| 2176H - 2177H | 8566 - 8567 | Channel 10 Load Nature | Single Phase: Load nature of circuit 10 Three Phase/Single Phase-three wire: Phase A load nature of circuit 4 | LC10=Rx | | Float | R |
| 2178H - 2179H | 8568 - 8569 | Channel 11 Current | Single Phase: Total current in circuit 11 Three Phase/Single Phase-three wire: Phase B current in circuit 4 | I11=Rx | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 217AH - 217BH | 8570 - 8571 | Channel 11 Real Power | Single Phase: Total power in circuit 11 Three Phase/Single Phase-three wire: Phase B power in circuit 4 | P11=Rx | kW | Float | R |
| 217CH - 217DH | 8572 - 8573 | Channel 11 Reactive Power | Single Phase: Total reactive power in circuit 11 Three Phase/Single Phase-three wire: Phase B reactive power in circuit 4 | Q11=Rx | kvar | Float | R |
| 217EH - 217FH | 8574 - 8575 | Channel 11 Apparent Power | Single Phase: Total apparent power in circuit 11 Three Phase/Single Phase-three wire: Phase B apparent power in circuit 4 | S11=Rx | kVA | Float | R |
| 2180H - 2181H | 8576 - 8577 | Channel 11 Power Factor | Single Phase: Total power factor in circuit 11 Three Phase/Single Phase-three wire: Phase B power factor in circuit 4 | PF11=Rx | | Float | R |
| 2182H - 2183H | 8578 - 8579 | Channel 11 Load Nature | Single Phase: Load nature of circuit 11 Three Phase/Single Phase-three wire: Phase B load nature of circuit 4 | LC11=Rx | | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2184H - 2185H | 8580 - 8581 | Channel 12 Current | Single Phase: Total current in circuit 12 Three Phase/Single Phase-three wire: Phase C current in circuit 4 | I12=Rx | A | Float | R |
| 2186H - 2187H | 8582 - 8583 | Channel 12 Real Power | Single Phase: Total power in circuit 12 Three Phase/Single Phase-three wire: Phase C power in circuit 4 | P12=Rx | kW | Float | R |
| 2188H - 2189H | 8584 - 8585 | Channel 12 Reactive Power | Single Phase: Total reactive power in circuit 12Three Phase/Single Phase-three wire: Phase C reactive power in circuit 4 | Q12=Rx | kvar | Float | R |
| 218AH - 218BH | 8586 - 8587 | Channel 12 Apparent Power | Single Phase: Total apparent power in circuit 12 Three Phase/Single Phase-three wire: Phase C apparent power in circuit 4 | S12=Rx | kVA | Float | R |
| 218CH - 218DH | 8588 - 8589 | Channel 12 Power Factor | Single Phase: Total power factor in circuit 12 Three Phase/Single Phase-three wire: Phase C power factor in circuit 4 | PF12=Rx | | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 218EH - 218FH | 8590 - 8591 | Channel 12 Load Nature | Single Phase: Load nature of circuit 12 Three Phase/Single Phase-three wire: Phase C load nature of circuit 4 | LC12=Rx | | Float | R |
| 2190H - 2191H | 8592 - 8593 | Channel 13 Current | Single Phase: Total current in circuit 13 Three Phase/Single Phase-three wire: Phase A current in circuit 5 | I13=Rx | A | Float | R |
| 2192H - -2193H | 8594 - 8595 | Channel 13 Real Power | Single Phase: Total power in circuit 13 Three Phase/Single Phase-three wire: Phase A power in circuit 5 | P13=Rx | kW | Float | R |
| 2194H - 2195H | 8596 - 8597 | Channel 13 Reactive Power | Single Phase: Total reactive power in circuit 13 Three Phase/Single Phase-three wire: Phase A reactive power in circuit 5 | Q13=Rx | kvar | Float | R |
| 2196H - 2197H | 8598 - 8599 | Channel 13 Apparent Power | Single Phase: Total apparent power in circuit 13 Three Phase/Single Phase-three wire: Phase A apparent power in circuit 5 | S13=Rx | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2198H - 2199H | 8600 - 8601 | Channel 13 Power Factor | Single Phase: Total power factor in circuit 13 Three Phase/Single Phase-three wire: Phase A power factor in circuit 5 | PF13=Rx | | Float | R |
| 219AH - 219BH | 8602 - 8603 | Channel 13 Load Nature | Single Phase: Load nature of circuit 13 Three Phase/Single Phase-three wire: Phase A load nature of circuit 5 | LC13=Rx | | Float | R |
| 219CH - 219DH | 8604 - 8605 | Channel 14 Current | Single Phase: Total current in circuit 14 Three Phase/Single Phase-three wire: Phase B current in circuit 5 | I14=Rx | A | Float | R |
| 219EH - 219FH | 8606 - 8607 | Channel 14 Real Power | Single Phase: Total power in circuit 14 Three Phase/Single Phase-three wire: Phase B power in circuit 5 | P14=Rx | kW | Float | R |
| 21A0H - 21A1H | 8608 - 8609 | Channel 14 Reactive Power | Single Phase: Total reactive power in circuit 14 Three Phase/Single Phase-three wire: Phase B reactive power in circuit 5 | Q14=Rx | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21A2H - 21A3H | 8610 - 8611 | Channel 14 Apparent Power | Single Phase: Total apparent power in circuit 14 Three Phase/Single Phase-three wire: Phase B apparent power in circuit 5 | S14=Rx | kVA | Float | R |
| 21A4H - 21A5H | 8612 - 8613 | Channel 14 Power Factor | Single Phase: Total power factor in circuit 14 Three Phase/Single Phase-three wire: Phase B power factor in circuit 5 | PF14=Rx | | Float | R |
| 21A6H - 21A7H | 8614 - 8615 | Channel 14 Load Nature | Single Phase: Load nature of circuit 14 Three Phase/Single Phase-three wire: Phase B load nature of circuit 5 | LC14=Rx | | Float | R |
| 21A8H - 21A9H | 8616 - 8617 | Channel 15 Current | Single Phase: Total current in circuit 15 Three Phase/Single Phase-three wire: Phase C current in circuit 5 | I15=Rx | A | Float | R |
| 21AAH - 21ABH | 8618 - 8619 | Channel 15 Real Power | Single Phase: Total power in circuit 15 Three Phase/Single Phase-three wire: Phase C power in circuit 5 | P15=Rx | kW | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21ACH - 21ADH | 8620 - 8621 | Channel 15 Reactive Power | Single Phase: Total reactive power in circuit 15 Three Phase/Single Phase-three wire: Phase C reactive power in circuit 5 | Q15=Rx | kvar | Float | R |
| 21AEH - 21AFH | 8622 - 8623 | Channel 15 Apparent Power | Single Phase: Total apparent power in circuit 15 Three Phase/Single Phase-three wire: Phase C apparent power in circuit 5 | S15=Rx | kVA | Float | R |
| 21B0H - 21B1H | 8624 - 8625 | Channel 15 Power Factor | Single Phase: Total power factor in circuit 15 Three Phase/Single Phase-three wire: Phase C power factor in circuit 5 | PF15=Rx | | Float | R |
| 21B2H - 21B3H | 8626 - 8627 | Channel 15 Load Nature | Single Phase: Load nature of circuit 15 Three Phase/Single Phase-three wire: Phase C load nature of circuit 5 | LC15=Rx | | Float | R |
| 21B4H - 21B5H | 8628 - 8629 | Channel 16 Current | Single Phase: Total current in circuit 16 Three Phase/Single Phase-three wire: Phase A current in circuit 6 | I16=Rx | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21B6H - 21B7H | 8630 - 8631 | Channel 16 Real Power | Single Phase: Total power in circuit 16 Three Phase/Single Phase-three wire: Phase A power in circuit 6 | P16=Rx | kW | Float | R |
| 21B8H - 21B9H | 8632 - 8633 | Channel 16 Reactive Power | Single Phase: Total reactive power in circuit 16 Three Phase/Single Phase-three wire: Phase A reactive power in circuit 6 | Q16=Rx | kvar | Float | R |
| 21BAH - 21BBH | 8634 - 8635 | Channel 16 Apparent Power | Single Phase: Total apparent power in circuit 16 Three Phase/Single Phase-three wire: Phase A apparent power in circuit 6 | S16=Rx | kVA | Float | R |
| 21BCH - 21BDH | 8636 - 8637 | Channel 16 Power Factor | Single Phase: Total power factor in circuit 16 Three Phase/Single Phase-three wire: Phase A power factor in circuit 6 | PF16=Rx | | Float | R |
| 21BEH - 21BFH | 8638 - 8639 | Channel 16 Load Nature | Single Phase: Load nature of circuit 16Three Phase/ Single Phase-three wire: Phase A load nature of circuit 6 | LC16=Rx | | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21C0H - 21C1H | 8640 - 8641 | Channel 17 Current | Single Phase: Total current in circuit 17 Three Phase/Single Phase-three wire: Phase B current in circuit 6 | I17=Rx | A | Float | R |
| 21C2H - 21C3H | 8642 - 8643 | Channel 17 Real Power | Single Phase: Total power in circuit 17 Three Phase/Single Phase-three wire: Phase B power in circuit 6 | P17=Rx | kW | Float | R |
| 21C4H - 21C5H | 8644 - 8645 | Channel 17 Reactive Power | Single Phase: Total reactive power in circuit 17 Three Phase/Single Phase-three wire: Phase B reactive power in circuit 6 | Q17=Rx | kvar | Float | R |
| 21C6H - 21C7H | 8646 - 8647 | Channel 17 Apparent Power | Single Phase: Total apparent power in circuit 17 Three Phase/Single Phase-three wire: Phase B apparent power in circuit 6 | S17=Rx | kVA | Float | R |
| 21C8H - 21C9H | 8648 - 8649 | Channel 17 Power Factor | Single Phase: Total power factor in circuit 17 Three Phase/Single Phase-three wire: Phase B power factor in circuit 6 | PF17=Rx | | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21CAH - 21CBH | 8650 - 8651 | Channel 17 Load Nature | Single Phase: Load nature of circuit 17 Three Phase/Single Phase-three wire: Phase B load nature of circuit 6 | LC17=Rx | | Float | R |
| 21CCH - 21CDH | 8652 - 8653 | Channel 18 Current | Single Phase: Total current in circuit 18 Three Phase/Single Phase-three wire: Phase C current in circuit 6 | I18=Rx | A | Float | R |
| 21CEH - 21CFH | 8654 - 8655 | Channel 18 Real Power | Single Phase: Total power in circuit 18 Three Phase/Single Phase-three wire: Phase C power in circuit 6 | P18=Rx | kW | Float | R |
| 21D0H - 21D1H | 8656 - 8657 | Channel 18 Reactive Power | Single Phase: Total reactive power in circuit 18 Three Phase/Single Phase-three wire: Phase C reactive power in circuit 6 | Q18=Rx | kvar | Float | R |
| 21D2H - 21D3H | 8658 - 8659 | Channel 18 Apparent Power | Single Phase: Total apparent power in circuit 18 Three Phase/Single Phase-three wire: Phase C apparent power in circuit 6 | S18=Rx | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21D4H - 21D5H | 8660 - 8661 | Channel 18 Power Factor | Single Phase: Total power factor in circuit 18 Three Phase/Single Phase-three wire: Phase C power factor in circuit 6 | PF18=Rx | | Float | R |
| 21D6H - 21D7H | 8662 - 8663 | Channel 18 Load Nature | Single Phase: Load nature of circuit 18Three Phase/ Single Phase-three wire: Phase C load nature of circuit 6 | LC18=Rx | | Float | R |
| 21D8H - 21D9H | 8664 - 8665 | User Channel 1 Three Phase Active Power | Total Active Power for 1st three phase/ single phase three wire circuit. | Ps1=Rx | kW | Float | R |
| 21DAH - 21DBH | 8666 - 8667 | User Channel 1 Three Phase Reactive Power | Total Reactive Power for 1st three phase/single phase three wire circuit. | Qs1=Rx | kvar | Float | R |
| 21DCH - 21DDH | 8668 - 8669 | User Channel 1 Three Phase Apparent Power | Total Apparent Power for 1st three phase/single phase three wire circuit. | Ss1=Rx | kVA | Float | R |
| 21DEH - 21DFH | 8670 - 8671 | User Channel 1 Three Phase Power Factor | Total Power Factor for 1st three phase/ single phase three wire circuit | PFs1=Rx | | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21E0H - 21E1H | 8672 - 8673 | User Channel 1 Three Phase Load Nature | Total Load Nature for 1st three phase/ single phase three wire circuit | LCs1=Rx | | Float | R |
| 21E2H - 21E3H | 8674 - 8675 | User Channel 2 Three Phase Active Power | Total Active Power for 2nd three phase/single phase three wire circuit. | Ps2=Rx | kW | Float | R |
| 21E4H - 21E5H | 8676 - 8677 | User Channel 2 Three Phase Reactive Power | Total Reactive Power for 2nd three phase/single phase three wire circuit. | Qs2=Rx | kvar | Float | R |
| 21E6H - 21E7H | 8678 - 8679 | User Channel 2 Three Phase Apparent Power | Total Apparent Power for 2nd three phase/single phase three wire circuit. | Ss2=Rx | kVA | Float | R |
| 21E8H - 21E9H | 8680 - 8681 | User Channel 2 Three Phase Power Factor | Total Power Factor for 2nd three phase/single phase three wire circuit | PFs2=Rx | | Float | R |
| 21EAH - 21EBH | 8682 - 8683 | User Channel 2 Three Phase Load Nature | Total Load Nature for 2nd three phase/single phase three wire circuit | LCs2=Rx | | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21ECH - 21EDH | 8684 - 8685 | User Channel 3 Three Phase Active Power | Total Active Power for 3rd three phase/ single phase three wire circuit. | Ps3=Rx | kW | Float | R |
| 21EEH - 21EFH | 8686 - 8687 | User Channel 3 Three Phase Reactive Power | Total Reactive Power for 3rd three phase/single phase three wire circuit. | Qs3=Rx | kvar | Float | R |
| 21F0H - 21F1H | 8688 - 8689 | User Channel 3 Three Phase Apparent Power | Total Apparent Power for 3rd three phase/single phase three wire circuit. | Ss3=Rx | kVA | Float | R |
| 21F2H - 21F3H | 8690 - 8691 | User Channel 3 Three Phase Power Factor | Total Power Factor for 3rd three phase/ single phase three wire circuit | PFs3=Rx | | Float | R |
| 21F4H - 21F5H | 8692 - 8693 | User Channel 3 Three Phase Load Nature | Total Load Nature for 3rd three phase/ single phase three wire circuit | LCs3=Rx | | Float | R |
| 21F6H - 21F7H | 8694 - 8695 | User Channel 4 Three Phase Active Power | Total Active Power for 4th three phase/ single phase three wire circuit. | Ps4=Rx | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 21F8H - 21F9H | 8696 - 8697 | User Channel 4 Three Phase Reactive Power | Total Reactive Power for 4th three phase/single phase three wire circuit. | Qs4=Rx | kvar | Float | R |
| 21FAH - 21FBH | 8698 - 8699 | User Channel 4 Three Phase Apparent Power | Total Apparent Power for 4th three phase/single phase three wire circuit. | Ss4=Rx | kVA | Float | R |
| 21FCH - 21FDH | 8700 - 8701 | User Channel 4 Three Phase Power Factor | Total Power Factor for 4th three phase/ single phase three wire circuit | PFs4=Rx | | Float | R |
| 21FEH - 21FFH | 8702 - 8703 | User Channel 4 Three Phase Load Nature | Total Load Nature for 4th three phase/ single phase three wire circuit | LCs4=Rx | | Float | R |
| 2200H - 2201H | 8704 - 8705 | User Channel 5 Three Phase Active Power | Total Active Power for 5th three phase/ single phase three wire circuit. | Ps5=Rx | kW | Float | R |
| 2202H - 2203H | 8706 - 8707 | User Channel 5 Three Phase Reactive Power | Total Reactive Power for 5th three phase/single phase three wire circuit. | Qs5=Rx | kvar | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2204H - 2205H | 8708 - 8709 | User Channel 5 Three Phase Apparent Power | Total Apparent Power for 5th three phase/single phase three wire circuit. | Ss5=Rx | kVA | Float | R |
| 2206H - 2207H | 8710 - 8711 | User Channel 5 Three Phase Power Factor | Total Power Factor for 5th three phase/ single phase three wire circuit | PFs5=Rx | | Float | R |
| 2208H - 2209H | 8712 - 8713 | User Channel 5 Three Phase Load Nature | Total Load Nature for 5th three phase/ single phase three wire circuit | LCs5=Rx | | Float | R |
| 220AH - 220BH | 8714 - 8715 | User Channel 6 Three Phase Active Power | Total Active Power for 6th three phase/ single phase three wire circuit. | Ps6=Rx | kW | Float | R |
| 220CH - 220DH | 8716 - 8717 | User Channel 6 Three Phase Reactive Power | Total Reactive Power for 6th three phase/single phase three wire circuit. | Qs6=Rx | kvar | Float | R |
| 220EH - 220FH | 8718 - 8719 | User Channel 6 Three Phase Apparent Power | Total Apparent Power for 6th three phase/single phase three wire circuit. | Ss6=Rx | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2210H - 2211H | 872 - 8721 | User Channel 6 Three Phase Power Factor | Total Power Factor for 6th three phase/ single phase three wire circuit | PFs6=Rx | | Float | R |
| 2212H - 2213H | 8722 - 8723 | User Channel 6 Three Phase Load Nature | Total Load Nature for 6th three phase/ single phase three wire circuit | LCs6=Rx | | Float | R |

The maximum value range is 9 digits, and one decimal point is displayed

## Active energy

Note: 0x03 Read, 16 (0x10) Write

Real-time Energy - Positive Active Energy

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2500H - 2501H | 9472 - 9473 | Phase A inline Import Energy | Sum of all Phase A Consumed Energy for all circuits | EPa_ IMP=Rx/10 | kWh | Dword | R/W |
| 2502H - 2503H | 9474 - 9475 | Phase B inline Import Energy | Sum of all Phase B Consumed Energy for all circuits | EPb_ IMP=Rx/10 | kWh | Dword | R/W |
| 2504H - 2505H | 9476 - 9477 | Phase C inline Import Energy | Sum of all Phase C Consumed Energy for all circuits | EPc_ IMP=Rx/10 | kWh | Dword | R/W |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2506H - 2507H | 9478 - 9479 | Total Inline Import Energy | Sum of all Consumed Energy for all circuits | EP_ IMP=Rx/10 | kWh | Dword | R/W |
| 18 Single Phase + 6 Three - Phase / Single Three Real - time Positive Active Energy | | | | | | | |
| 2508 - 2509 | 9480 - 9481 | Channel 1 Import Energy | Single Phase: Total Import Energy in circuit 1 Three Phase/Single Phase-three wire: Phase A Import Energy in circuit 1 | EP1_ IMP=Rx/10 | kWh | Dword | R/W |
| 250A - 250B | 9482 - 9483 | Channel 2 Import Energy | Single Phase: Total Import Energy in circuit 2 Three Phase/Single Phase-three wire: Phase B Import Energy in circuit 1 | EP2_ IMP=Rx/10 | kWh | Dword | R/W |
| 250C - 250D | 9484 - 9485 | Channel 3 Import Energy | Single Phase: Total Import Energy in circuit 3 Three Phase/Single Phase-three wire: Phase C Import Energy in circuit 1 | EP3_ IMP=Rx/10 | kWh | Dword | R/W |
| 250E - 250F | 9486 - 9487 | Channel 4 Import Energy | Single Phase: Total Import Energy in circuit 4 Three Phase/Single Phase-three wire: Phase A Import Energy in circuit 2 | EP4_ IMP=Rx/10 | kWh | Dword | R/W |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2510 - 2511 | 9488 - 9489 | Channel 5 Import Energy | Single Phase: Total Import Energy in circuit 5 Three Phase/Single Phase-three wire: Phase B Import Energy in circuit 2 | EP5_ IMP=Rx/10 | kWh | Dword | R/W |
| 2512 - 2513 | 9490 - 9491 | Channel 6 Import Energy | Single Phase: Total Import Energy in circuit 6 Three Phase/Single Phase-three wire: Phase C Import Energy in circuit 2 | EP6_ IMP=Rx/10 | kWh | Dword | R/W |
| 2514 - 2515 | 9492 - 9493 | Channel 7 Import Energy | Single Phase: Total Import Energy in circuit 7 Three Phase/Single Phase-three wire: Phase A Import Energy in circuit 3 | EP7_ IMP=Rx/10 | kWh | Dword | R/W |
| 2516 - 2517 | 9494 - 9495 | Channel 8 Import Energy | Single Phase: Total Import Energy in circuit 8Three Phase/Single Phase-three wire: Phase B Import Energy in circuit 3 | EP8_ IMP=Rx/10 | kWh | Dword | R/W |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2518 - 2519 | 9496 - 9497 | Channel 9 Import Energy | Single Phase: Total Import Energy in circuit 9 Three Phase/Single Phase-three wire: Phase C Import Energy in circuit 3 | EP9_ IMP=Rx/10 | kWh | Dword | R/W |
| 251A - 251B | 9498 - 9499 | Channel 10 Import Energy | Single Phase: Total Import Energy in circuit 10 Three Phase/Single Phase-three wire: Phase A Import Energy in circuit 4 | EP10_ IMP=Rx/10 | kWh | Dword | R/W |
| 251C - 251D | 9500 - 9501 | Channel 11 Import Energy | Single Phase: Total Import Energy in circuit 11 Three Phase/Single Phase-three wire: Phase B Import Energy in circuit 4 | EP11_ IMP=Rx/10 | kWh | Dword | R/W |
| 251E - 251F | 9502 - 9503 | Channel 12 Import Energy | Single Phase: Total Import Energy in circuit 12 Three Phase/Single Phase-three wire: Phase C Import Energy in circuit 4 | EP12_ IMP=Rx/10 | kWh | Dword | R/W |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2520 - 2521 | 9504 - 9505 | Channel 13 Import Energy | Single Phase: Total Import Energy in circuit 13 Three Phase/Single Phase-three wire: Phase B Import Energy in circuit 5 | EP13_ IMP=Rx/10 | kWh | Dword | R/W |
| 2522 - 2523 | 9506 - 9507 | Channel 14 Import Energy | Single Phase: Total Import Energy in circuit 14 Three Phase/Single Phase-three wire: Phase B Import Energy in circuit 5 | EP14_ IMP=Rx/10 | kWh | Dword | R/W |
| 2514 - 2525 | 9508 - 9509 | Channel 15 Import Energy | Single Phase: Total Import Energy in circuit 15 Three Phase/Single Phase-three wire: Phase C Import Energy in circuit 5 | EP15_ IMP=Rx/10 | kWh | Dword | R/W |
| 2516 - 2527 | 9510 - 9511 | Channel 16 Import Energy | Single Phase: Total Import Energy in circuit 16 Three Phase/ Single Phase-three wire: Phase A Import Energy in circuit 6 | EP16_ IMP=Rx/10 | kWh | Dword | R/W |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2528 - 2529 | 9512 - 9513 | Channel 17 Import Energy | Single Phase: Total Import Energy in circuit 17 Three Phase/ Single Phase-three wire: Phase B Import Energy in circuit 6 | EP17_ IMP=Rx/10 | kWh | Dword | R/W |
| 252A - 252B | 9514 - 9515 | Channel 18 Import Energy | Single Phase: Total Import Energy in circuit 18 Three Phase/ Single Phase-three wire: Phase C Import Energy in circuit 6 | EP18_ IMP=Rx/10 | kWh | Dword | R/W |
| 252C - 252D | 9516 - 9517 | User Channel 1 Import Energy | Total Import Energy for the 1st three phase/single phase three wire circuit | EPs1_ IMP=Rx/10 | kWh | Dword | R/W |
| 252E - 252F | 9518 - 9519 | User Channel 2 Import Energy | Total Import Energy for the 2nd three phase/single phase three wire circuit | EPs2_ IMP=Rx/10 | kWh | Dword | R/W |
| 2530 - 2531 | 9520 - 9521 | User Channel 3 Import Energy | Total Import Energy for the 3rd three phase/single phase three wire circuit | EPs3_ IMP=Rx/10 | kWh | Dword | R/W |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2532 - 2533 | 9522 - 9523 | User Channel 4 Import Energy | Total Import Energy for the 4th three phase/single phase three wire circuit | EPs4_IMP=Rx/10 | kWh | Dword | R/W |
| 2534 - 2535 | 9524 - 9525 | User Channel 5 Import Energy | Total Import Energy for the 5th three phase/single phase three wire circuit | EPs5_IMP=Rx/10 | kWh | Dword | R/W |
| 2536 - 2537 | 9526 - 9527 | User Channel 6 Import Energy | Total Import Energy for the 6th three phase/single phase three wire circuit | EPs6_IMP=Rx/10 | kWh | Dword | R/W |

## Reactive Energy

| Address (H) | Address (D) | Parameters | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|
| | | | Incoming Reactive Energy | | | |
| 2B00H - 2B01H | 11008 - 11009 | Phase A Inline Import Reactive Energy | Sum of all Phase A Consumed Reactive Energy for all circuits | kvarh | Dword | R/W |
| 2B02H - 2B03H | 11010 - 11011 | Phase B Inline Import Reactive Energy | Sum of all Phase B Consumed Reactive Energy for all circuits | kvarh | Dword | R/W |

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| Address (H) | Address (D) | Parameters | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 2B04H - 2B05H | 11012 - 11013 | Phase C Inline Import Reactive Energy | Sum of all Phase C Consumed Reactive Energy for all circuits | kvarh | Dword | R/W |
| 2B06H - 2B07H | 11014 - 11015 | Total Inline Import Reactive Energy | Sum of all Consumed Reactive Energy for all circuits | kvarh | Dword | R/W |
| 18 Channel Single - Phase and 6 Three - Phase / Single Three Reactive Energy | | | | | | |
| 2B08H - 2B09H | 11016 - 11017 | Channel 1 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 1 Three Phase/Single Phase-three wire: Phase A Import Reactive Energy in circuit 1 | kvarh | Dword | R/W |
| 2B0AH - 2B0BH | 11018 - 11019 | Channel 2 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 2 Three Phase/Single Phase-three wire: Phase B Import Reactive Energy in circuit 1 | kvarh | Dword | R/W |
| 2B0CH - 2B0DH | 11020 - 11021 | Channel 3 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 3 Three Phase/Single Phase-three wire: Phase C Import Reactive Energy in circuit 1 | kvarh | Dword | R/W |

| Address (H) | Address (D) | Parameters | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 2B0EH - 2B0FH | 11022 - 11023 | Channel 4 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 4 Three Phase/Single Phase-three wire: Phase A Import Reactive Energy in circuit 2 | kvarh | Dword | R/W |
| 2B10H - 2B11H | 11024 - 11025 | Channel 5 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 5 Three Phase/Single Phase-three wire: Phase B Import Reactive Energy in circuit 2 | kvarh | Dword | R/W |
| 2B12H - 2B13H | 11026 - 11027 | Channel 6 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 6 Three Phase/Single Phase-three wire: Phase C Import Reactive Energy in circuit 2 | kvarh | Dword | R/W |
| 2B14H - 2B15H | 11028 - 11029 | Channel 7 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 7 Three Phase/Single Phase-three wire: Phase A Import Reactive Energy in circuit 3 | kvarh | Dword | R/W |

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| Address (H) | Address (D) | Parameters | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 2B16H - 2B17H | 11030 - 11031 | Channel 8 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 8 Three Phase/Single Phase-three wire: Phase B Import Reactive Energy in circuit 3 | kvarh | Dword | R/W |
| 2B18H - 2B19H | 11032 - 11033 | Channel 9 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 9 Three Phase/Single Phase-three wire: Phase C Import Reactive Energy in circuit 3 | kvarh | Dword | R/W |
| 2B1AH - 2B1BH | 11034 - 11035 | Channel 10 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 10 Three Phase/Single Phase-three wire: Phase A Import Reactive Energy in circuit 4 | kvarh | Dword | R/W |
| 2B1CH - 2B1DH | 11036 - 11037 | Channel 11 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 11 Three Phase/Single Phase-three wire: Phase B Import Reactive Energy in circuit 4 | kvarh | Dword | R/W |

| Address (H) | Address (D) | Parameters | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 2B1EH - 2B1FH | 11038 - 11039 | Channel 12 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 12 Three Phase/Single Phase-three wire: Phase C Import Reactive Energy in circuit 4 | kvarh | Dword | R/W |
| 2B20H - 2B21H | 11040 - 11041 | Channel 13 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 13 Three Phase/Single Phase-three wire: Phase A Import Reactive Energy in circuit 5 | kvarh | Dword | R/W |
| 2B22H - 2B23H | 11042 - 11043 | Channel 14 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 14 Three Phase/Single Phase-three wire: Phase B Import Reactive Energy in circuit 5 | kvarh | Dword | R/W |
| 2B24H - 2B25H | 11044 - 11045 | Channel 15 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 15 Three Phase/Single Phase-three wire: Phase C Import Reactive Energy in circuit 5 | kvarh | Dword | R/W |

| Address (H) | Address (D) | Parameters | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 2B26H - 2B27H | 11046 - 11047 | Channel 16 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 16 Three Phase/Single Phase-three wire: Phase A Import Reactive Energy in circuit 6 | kvarh | Dword | R/W |
| 2B28H - 2B29H | 11048 - 11049 | Channel 17 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 17 Three Phase/Single Phase-three wire: Phase B Import Reactive Energy in circuit 6 | kvarh | Dword | R/W |
| 2B2AH - 2B2BH | 11050 - 11051 | Channel 18 Import Reactive Energy | Single Phase: Total Import Reactive Energy in circuit 18 Three Phase/Single Phase-three wire: Phase C Import Reactive Energy in circuit 6 | kvarh | Dword | R/W |
| 2B2CH - 2B2DH | 11052 - 11053 | User Channel 1 Import Reactive Energy | Total Import Reactive Energy for the 1st three phase/single phase three wire circuit | kvarh | Dword | R/W |
| 2B2EH - 2B2FH | 11054 - 11055 | User Channel 2 Import Reactive Energy | Total Import Reactive Energy for the 2nd three phase/single phase three wire circuit | kvarh | Dword | R/W |

| Address (H) | Address (D) | Parameters | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|
| 2B30H - 2B31H | 11056 - 11057 | User Channel 3 Import Reactive Energy | Total Import Reactive Energy for the 3rd three phase/single phase three wire circuit | kvarh | Dword | R/W |
| 2B32H - 2B33H | 11058 - 11059 | User Channel 4 Import Reactive Energy | Total Import Reactive Energy for the 4th three phase/single phase three wire circuit | kvarh | Dword | R/W |
| 2B34H - 2B35H | 11060 - 11061 | User Channel 5 Import Reactive Energy | Total Import Reactive Energy for the 5th three phase/single phase three wire circuit | kvarh | Dword | R/W |
| 2B36H - 2B37H | 11062 - 11063 | User Channel 6 Import Reactive Energy | Total Import Reactive Energy for the 6th three phase/single phase three wire circuit | kvarh | Dword | R/W |

## Apparent Energy

| Address (H) | Address (D) | Parameter | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| Incoming Apparent Energy | | | | | | | |
| 2B38H - 2B39H | 11064 - 11065 | Phase A Inline Apparent Energy | Sum of all Phase A Apparent Energy for all circuits | ESa_IMP=Rx/10 | kVA | Dword | R/W |

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| Address (H) | Address (D) | Parameter | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2B3AH - 2B3BH | 11066 - 11067 | Phase B Inline Apparent Energy | Sum of all Phase B Apparent Energy for all circuits | ESb_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B3CH - 2B3DH | 11068 - 11069 | Phase C Inline Apparent Energy | Sum of all Phase C Apparent Energy for all circuits | ESc_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B3EH - 2B3FH | 11070 - 11071 | Total Inline Apparent Energy | Sum of all Consumed Apparent Energy for all circuits | ES_ IMP=Rx/10 | kVA | Dword | R/W |
| 18 Channel Single - Phase and 6 Three - Phase / Single Three Apparent Energy | | | | | | | |
| 2B40H - 2B41H | 11072 - 11073 | Channel 1 Apparent Energy | Single Phase: Total Apparent Energy in circuit 1 Three Phase/ Single Phase- three wire: Phase A Apparent Energy in circuit 1 | ES1_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B42H - 2B43H | 11074 - 11075 | Channel 2 Apparent Energy | Single Phase: Total Apparent Energy in circuit 2 Three Phase/ Single Phase- three wire: Phase B Apparent Energy in circuit 1 | ES2_ IMP=Rx/10 | kVA | Dword | R/W |

| Address (H) | Address (D) | Parameter | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2B44H - 2B45H | 11076 - 11077 | Channel 3 Apparent Energy | Single Phase: Total Apparent Energy in circuit 1 Three Phase/ Single Phase-three wire: Phase C Apparent Energy in circuit 1 | ES3_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B46H - 2B47H | 11078 - 11079 | Channel 4 Apparent Energy | Single Phase: Total Apparent Energy in circuit 4 Three Phase/ Single Phase-three wire: Phase A Apparent Energy in circuit 1 | ES4_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B48H - 2B49H | 11080 - 11081 | Channel 5 Apparent Energy | Single Phase: Total Apparent Energy in circuit 5 Three Phase/ Single Phase-three wire: Phase B Apparent Energy in circuit 1 | ES5_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B4AH - 2B4BH | 11082 - 11083 | Channel 6 Apparent Energy | Single Phase: Total Apparent Energy in circuit 6 Three Phase/ Single Phase-three wire: Phase C Apparent Energy in circuit 1 | ES6_ IMP=Rx/10 | kVA | Dword | R/W |

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| Address (H) | Address (D) | Parameter | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2B4CH - 2B4DH | 11084 - 11085 | Channel 7 Apparent Energy | Single Phase: Total Apparent Energy in circuit 7 Three Phase/ Single Phase- three wire: Phase A Apparent Energy in circuit 1 | ES7_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B4EH - 2B4FH | 11086 - 11087 | Channel 8 Apparent Energy | Single Phase: Total Apparent Energy in circuit 8 Three Phase/ Single Phase- three wire: Phase B Apparent Energy in circuit 1 | ES8_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B50H - 2B51H | 11088 - 11089 | Channel 9 Apparent Energy | Single Phase: Total Apparent Energy in circuit 9 Three Phase/ Single Phase- three wire: Phase C Apparent Energy in circuit 1 | ES9_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B52H - 2B53H | 10090 - 11091 | Channel 10 Apparent Energy | Single Phase: Total Apparent Energy in circuit 10 Three Phase/ Single Phase- three wire: Phase A Apparent Energy in circuit 1 | ES10_ IMP=Rx/10 | kVA | Dword | R/W |

| Address (H) | Address (D) | Parameter | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2B54H - 2B55H | 11092 - 11093 | Channel 11 Apparent Energy | Single Phase: Total Apparent Energy in circuit 11 Three Phase/ Single Phase-three wire: Phase B Apparent Energy in circuit 1 | ES11_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B56H - 2B57H | 11094 - 11095 | Channel 12 Apparent Energy | Single Phase: Total Apparent Energy in circuit 12 Three Phase/ Single Phase-three wire: Phase C Apparent Energy in circuit 1 | ES12_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B58H - 2B59H | 11096 - 11097 | Channel 13 Apparent Energy | Single Phase: Total Apparent Energy in circuit 13 Three Phase/ Single Phase-three wire: Phase A Apparent Energy in circuit 1 | ES13_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B5AH - 2B5BH | 11098 - 11099 | Channel 14 Apparent Energy | Single Phase: Total Apparent Energy in circuit 14 Three Phase/ Single Phase-three wire: Phase B Apparent Energy in circuit 1 | ES14_ IMP=Rx/10 | kVA | Dword | R/W |

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| Address (H) | Address (D) | Parameter | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2B5CH - 2B5DH | 11100 - 11101 | Channel 15 Apparent Energy | Single Phase: Total Apparent Energy in circuit 15 Three Phase/ Single Phase- three wire: Phase C Apparent Energy in circuit 1 | ES15_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B5EH - 2B5FH | 11102 - 11103 | Channel 16 Apparent Energy | Single Phase: Total Apparent Energy in circuit 16 Three Phase/ Single Phase- three wire: Phase A Apparent Energy in circuit 1 | ES16_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B60H - 2B61H | 11104 - 11105 | Channel 17 Apparent Energy | Single Phase: Total Apparent Energy in circuit 17 Three Phase/ Single Phase- three wire: Phase B Apparent Energy in circuit 1 | ES17_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B62H - 2B63H | 11106 - 11107 | Channel 18 Apparent Energy | Single Phase: Total Apparent Energy in circuit 18 Three Phase/ Single Phase- three wire: Phase C Apparent Energy in circuit 1 | ES18_ IMP=Rx/10 | kVA | Dword | R/W |

| Address (H) | Address (D) | Parameter | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2B64H - 2B65H | 11108 - 11109 | User Channel 1 Apparent Energy | Total Apparent Energy for the 1st three phase/ single phase three wire circuit | ESs1_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B66H - 2B67H | 11110 - 11111 | User Channel 2 Apparent Energy | Total Apparent Energy for the 2nd three phase/ single phase three wire circuit | ESs1_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B68H - 2B69H | 11112 - 11113 | User Channel 3 Apparent Energy | Total Apparent Energy for the 3rd three phase/ single phase three wire circuit | ESs1_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B6AH - 2B6BH | 11114 - 11115 | User Channel 4 Apparent Energy | Total Apparent Energy for the 4th three phase/ single phase three wire circuit | ESs1_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B6CH - 2B6DH | 11116 - 11117 | User Channel 5 Apparent Energy | Total Apparent Energy for the 5th three phase/ single phase three wire circuit | ESs1_ IMP=Rx/10 | kVA | Dword | R/W |
| 2B6EH - 2B6FH | 11118 - 11119 | User Channel 6 Apparent Energy | Total Apparent Energy for the 6th three phase/ single phase three wire circuit | ESs1_ IMP=Rx/10 | kVA | Dword | R/W |

## Demand

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| | | | Incoming Demand | | | | |
| 2D00H - 2D01H | 11520 - 11521 | Total Inline System Power Demand | System Power Demand for all circuits | Rx=Psum_DMD | kW | Float | R |
| 2D02H - 2D03H | 11522 - 11523 | Total Inline System Power Demand Prediction | System Power Demand Prediction for all circuits | Rx=Psum_Pred_DMD | kW | Float | R |
| 2D04H - 2D05H | 11524 - 11525 | Total Inline Peak System Power Demand | Maximum System Power Demand for all circuits | Rx=Psum_Max_DMD | kW | Float | R |
| 2D06H - 2D08H | 11526 - 11527 | Inline Peak System Power Demand Time | Time stamp for Maximum System Power Demand | Rx= | | | R |
| 2D09H - 2D0AH | 11530 - 11531 | Total Inline Reactive Power Demand | Reactive Power Demand for all circuits | Rx=Qsum_DMD | kvar | Float | R |
| 2D0BH - 2D0CH | 11532 - 11533 | Total Inline Reactive Power Demand Prediction | Reactive Power Demand Prediction for all circuits | Rx=Qsum_Pred_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D0DH - 2D0EH | 11534 - 11535 | Total Inline Peak Reactive Power Demand | Maximum Reactive Power Demand for all circuits | Rx=Qsum_Max_DMD | kvar | Float | R |
| 2D0FH - 2D11H | 11536 - 11537 | Inline Peak Reactive Power Demand Time | Time stamp for Maximum Reactive Power Demand | Rx= | | | R |
| 2D12H - 2D13H | 11538 - 11539 | Total Inline Apparent Power Demand | Apparent Power Demand for all circuits | Rx=Ssum_DMD | kVA | Float | R |
| 2D14H - 2D15H | 11540 - 11541 | Total Inline Apparent Power Demand Prediction | Apparent Power Demand Prediction for all circuits | Rx=Ssum_Pred_DMD | kVA | Float | R |
| 2D16H - 2D17H | 11542 - 11543 | Inline Peak Apparent Power Demand | Maximum Apparent Power Demand for all circuits | Rx=Ssum_Max_DMD | kVA | Float | R |
| 2D18H - 2D1AH | 11544 - 11546 | Inline Peak Apparent Power Demand Time | Time stamp for Maximum Apparent Power Demand | Rx= | | | R |
| 2D1BH - 2D1CH | 11547 - 11548 | Phase A Inline Current Demand | Phase A Current Demand for all circuits | Rx=Ia_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D1DH - 2D1EH | 11549 - 11550 | Phase A Inline Current Demand Prediction | Phase A Current Demand Prediction for all circuits | Rx=Ia_Pred_DMD | A | Float | R |
| 2D1FH - 2D20H | 11551 - 11552 | Phase A Inline Peak Current Demand | Maximum Phase A Current Demand for all circuits | Rx=Ia_Max_DMD | A | Float | R |
| 2D21H - 2D23H | 11553 - 11555 | Inline Phase A Peak Current Demand Time | Time stamp for Maximum Phase A Current Demand | Rx= | | | R |
| 2D24H - 2D25H | 11556 - 11557 | Phase A Inline Power Demand | Phase A Power Demand for all circuits | Rx=Pa_DMD | kW | Float | R |
| 2D26H - 2D27H | 11558 - 11559 | Phase A Inline Power Demand Prediction | Phase A Power Demand Prediction for all circuits | Rx=Pa_Pred_DMD | kW | Float | R |
| 2D28H - 2D29H | 11560 - 11561 | Phase A Inline Peak Power Demand | Maximum Phase A Peak Power Demand for all circuits | Rx=Pa_Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D2AH - 2D2CH | 11562 - 11564 | Inline Phase A Peak Power Demand Time | Time stamp for Maximum Phase A Power Demand | Rx= | | | R |
| 2D2DH - 2D2EH | 11565 - 11566 | Phase A Inline Reactive Power Demand | Phase A Reactive Power Demand for all circuits | Rx=Qa_DMD | kvar | Float | R |
| 2D2FH - 2D30H | 11567 - 11568 | Phase A Inline Reactive Power Demand Prediction | Phase A Reactive Power Demand Prediction for all circuits | Rx=Qa_Pred_DMD | kvar | Float | R |
| 2D31H - 2D32H | 11569 - 11570 | Phase A Peak Inline Reactive Power Demand | Maximum Phase A Reactive Power Demand for all circuits | Rx=Qa_Max_DMD | kvar | Float | R |
| 2D33H - 2D35H | 11571 - 11573 | Inline Phase A Peak Reactive Power Demand Time | Time stamp for Maximum Phase A Reactive Power Demand | Rx= | | | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D36H - R2D37H | 11574 - 11575 | Phase A Inline Apparent Power Demand | Phase A Apparent Power Demand for all circuits | Rx=Sa_ DMD | kVA | Float | R |
| 2D38H - 2D39H | 11576 - 11577 | Phase A Inline Apparent Power Demand Prediction | Phase A Apparent Power Demand Prediction for all circuits | Rx=Sa_ Pred_ DMD | kVA | Float | R |
| 2D3AH - 2D3BH | 11578 - 11579 | Phase A Peak Inline Apparent Power Demand | Maximum Phase A Apparent Demand for all circuits | Rx=Sa_ Max_DMD | kVA | Float | R |
| 2D3CH - 2D3EH | 11580 - 11582 | Inline Phase A Peak Apparent Power Demand Time | Time Stamp for Maximum Phase A Peak Apparent Demand | Rx= | | | R |
| 2D3FH - 2D40H | 11583 - 11584 | Phase B Inline Current Demand | Phase B Current Demand for all circuits | Rx=Ib_ DMD | A | Float | R |
| 2D41H - 2D42H | 11585 - 11586 | Phase B Inline Current Demand Prediction | Phase B Current Demand Prediction for all circuits | Rx=Ib_ Pred_ DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D43H - 2D44H | 11587 - 11588 | Phase B Inline Peak Current Demand | Maximum Phase B Current Demand | Rx=Ib_Max_DMD | A | Float | R |
| 2D45H - 2D47H | 11589 - 11591 | Inline Phase B Peak Power Demand Time | Time Stamp for Maximum Phase B Current Demand | Rx= | | | R |
| 2D48H - 2D49H | 11592 - 11593 | Phase B Inline Power Demand | Phase B Power Demand for all circuits | Rx=Pb_DMD | kW | Float | R |
| 2D4AH - 2D4BH | 11594 - 11595 | Phase B Inline Power Demand Prediction | Phase B Inline Power Demand Prediction for all circuits | Rx=Pb_Pred_DMD | kW | Float | R |
| 2D4CH - 2D4DH | 11596 - 11597 | Phase B Inline Peak Power Demand | Maximum Phase B Power Demand for all circuits | Rx=Pb_Max_DMD | kW | Float | R |
| 2D4EH - 2D50H | 11598 - 11600 | Inline Phase B Peak Power Demand Time | Time Stamp for Maximum Phase B Power Demand | Rx= | | | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D51H - 2D52H | 11601 - 11602 | Phase B Inline Reactive Power Demand | Phase B Reactive Power Demand for all circuits | Rx=Qb_ DMD | kvar | Float | R |
| 2D53H - 2D54H | 11603 - 11604 | Phase B Inline Reactive Power Demand Prediction | Phase B Reactive Power Demand Prediction for all circuits | Rx=Qb_ Pred_ DMD | kvar | Float | R |
| 2D55H - 2D56H | 11605 - 11606 | Phase B Inline Peak Reactive Power Demand | Maximum Phase B Reactive Power Demand for all circuits | Rx=Qb_ Max_DMD | kvar | Float | R |
| 2D57H - 2D59H | 11607 - 11609 | Inline Phase B Peak Reactive Power Demand Time | Time Stamp for Maximum Phase B Reactive Power Demand | Rx= | | | R |
| 2D5AH - 2D5BH | 11610 - 11611 | Phase B Inline Apparent Power Demand | Phase B Apparent Power Demand for all circuits | Rx=Sb_ DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D5CH - 2D5DH | 11612 - 11613 | Phase B Inline Apparent Power Demand Prediction | Phase B Apparent Power Demand Prediction for all circuits | Rx=Sb_ Pred_ DMD | kVA | Float | R |
| 2D5EH - 2D5FH | 11614 - 11615 | Phase B Inline Apparent Peak Power Demand | Maximum Phase B Apparent Power Demand for all circuits | Rx=Sb_ Max_DMD | kVA | Float | R |
| 2D60H - 2D62H | 11616 - 11618 | Inline Phase B Apparent Power Demand Time | Time Stamp for Maximum Phase B Apparent Power Demand | Rx= | | | R |
| 2D63H - 2D64H | 11619 - 11620 | Phase C Inline Current Demand | Phase C Current Demand for all circuits | Rx=Ic_ DMD | A | Float | R |
| 2D65H - 2D66H | 11621 - 11622 | Phase C Inline Current Demand Prediction | Phase C Current Demand Prediction for all circuits | Rx=Ic_ Pred_ DMD | A | Float | R |
| 2D67H - 2D68H | 11623 - 11624 | Phase C Inline Peak Current Demand | Maximum Phase C Current Demand for all circuits | Rx=Ic_ Max_DMD | A | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D69H - 2D6BH | 11625 - 11627 | Inline Phase C Peak Current Demand Time | Time Stamp for Maximum Phase C Current Demand | Rx= | | | R |
| 2D6CH - 2D6DH | 11628 - 11629 | Phase C Inline Power Demand | Phase C Power Demand for all circuits | Rx=Pc_DMD | kW | Float | R |
| 2D6EH - 2D6FH | 11630 - 11631 | Phase C Inline Power Demand Prediction | Phase C Power Demand Prediction for all circuits | Rx=Pc_Pred_DMD | kW | Float | R |
| 2D70H - 2D71H | 11632 - 11633 | Phase C Inline Peak Power Demand | Maximum Phase C Power Demand for all circuits | Rx=Pc_Max_DMD | kW | Float | R |
| 2D72H - 2D74H | 11634 - 11636 | Inline Phase C Peak Power Demand Time | Time Stamp for Maximum Phase C Power Demand | Rx= | | | R |
| 2D75H - 2D76H | 11637 - 11638 | Phase C Inline Reactive Power Demand | Phase C Reactive Power Demand for all circuits | Rx=Qc_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D77H - 2D78H | 11639 - 11640 | Phase C Inline Reactive Power Demand Prediction | Phase C Reactive Power Demand Prediction for all circuits | Rx=Qc_Pred_DMD | kvar | Float | R |
| 2D79H - 2D7AH | 11641 - 11642 | Phase C Inline Peak Reactive Power Demand | Maximum Phase C Reactive Power Demand for all circuits | Rx=Qc_Max_DMD | kvar | Float | R |
| 2D7BH - 2D7DH | 11643 - 11645 | Inline Phase C Peak Reactive Power Demand Time | Time Stamp for Maximum Phase C Reactive Power Demand | Rx= | | | R |
| 2D7EH - 2D7FH | 11646 - 11647 | Phase C Inline Apparent Power Demand | Phase C Apparent Power Demand for all circuits | Rx=Sc_DMD | kVA | Float | R |
| 2D80H - 2D81H | 11648 - 11649 | Phase C Inline Apparent Power Demand Prediction | Phase C Apparent Power Demand Prediction for all circuits | Rx=Sc_Pred_DMD | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D82H - 2D83H | 11650 - 11651 | Phase C Inline Peak Apparent Power Demand | Maximum Phase C Apparent Power Demand for all circuits | Rx=Sc_Max_DMD | kVA | Float | R |
| 2D84H - 2D86H | 11652 - 11654 | Inline Phase C Peak Apparent Power Demand Time | Time Stamp for Maximum Phase C Apparent Power Demand | Rx= | | | R |
| 2D87H - 2D88H | 11655 - 11656 | Channel 1 Current Demand | Single Phase: Current Demand for circuit 1Three Phase/Single Phase-three wire: Phase A Current Demand for circuit 1 | Rx=I1_DMD | A | Float | R |
| 2D89H - 2D8AH | 11657 - 11658 | Channel 1 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 1Three Phase/Single Phase-three wire: Phase A Current Demand Prediction for circuit 1 | Rx=I1_Pred_DMD | A | Float | R |
| 2D8BH - 2D8CH | 11659 - 11660 | Channel 1 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 1Three Phase/Single Phase-three wire: Maximum Phase A Current Demand for circuit 1 | Rx=I1_Max_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D8DH - 2D8FH | 11661 - 11663 | Channel 1 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 1Three Phase/ Single Phase-three wire: Time Stamp for Maximum Current Demand for circuit 1 | Rx= | | | R |
| 2D90H - 2D91H | 11664 - 11665 | Channel 1 Power Demand | Single Phase: Power Demand for circuit 1Three Phase/ Single Phase-three wire: Phase A Power Demand for circuit 1 | Rx=P1_DMD | kW | Float | R |
| 2D92H - 2D93H | 11666 - 11667 | Channel 1 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 1Three Phase/Single Phase-three wire: Phase A Power Demand Prediction for circuit 1 | Rx=P1_Pred_DMD | kW | Float | R |
| 2D94H - 2D95H | 11668 - 11669 | Channel 1 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 1Three Phase/Single Phase-three wire: Maximum Phase A Power Demand for circuit 1 | Rx=P1_Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D96H - 2D98H | 11670 - 11672 | Channel 1 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand of circuit 1Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase A Power Demand for circuit 1 | Rx= | | | R |
| 2D99H - 2D9AH | 11673 - 11674 | Channel 1 Reactive Power Demand | Single Phase: Reactive Power Demand of circuit 1Three Phase/Single Phase-three wire: Phase A Reactive Power Demand for circuit 1 | Rx=Q1_ DMD | kvar | Float | R |
| 2D9BH - 2D9CH | 11675 - 11676 | Channel 1 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 1Three Phase/Single Phase- three wire: Phase A Reactive Power Demand Prediction for circuit 1 | Rx=Q1_ Pred_ DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2D9DH - 2D9EH | 11677 - 11678 | Channel 1 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 1Three Phase/ Single Phase-three wire: Maximum Phase A Reactive Power Demand for circuit 1 | Rx=Q1_Max_DMD | kvar | Float | R |
| 2D9FH - 2DA1H | 11679 - 11681 | Channel 1 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 1Three Phase/Single Phase-three wire: Time Stamp for Phase A Reactive Power Demand for circuit 1 | | | | R |
| 2DA2H - 2DA3H | 11682 - 11683 | Channel 1 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 1Three Phase/Single Phase-three wire: Phase A Apparent Power Demand for circuit 1 | Rx=S1_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DA4H - 2DA5H | 11684 - 11685 | Channel 1 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 1Three Phase/Single Phase-three wire: Phase A Apparent Power Demand Prediction for circuit 1 | Rx=S1_ Pred_ DMD | kVA | Float | R |
| 2DA6H - 2DA7H | 11686 - 11687 | Channel 1 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 1Three Phase/ Single Phase-three wire: Maximum Phase A Apparent Power Demand for circuit 1 | Rx=S1_ Max_DMD | kVA | Float | R |
| 2DA8H - 2DAAH | 11688 - 11690 | Channel 1 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand in circuit 1Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Apparent Power Demand for circuit 1 | Rx= | | | R |
| 2DABH - 2DACH | 11691 - 11692 | Channel 2 Current Demand | Single Phase: Current Demand for circuit 2Three Phase/Single Phase-three wire: Phase B Current Demand for circuit 2 | Rx=I2_ DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DADH - 2DAEH | 11693 - 11694 | Channel 2 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 2Three Phase/Single Phase-three wire: Phase B Current Demand Prediction for circuit 2 | Rx=I2_Pred_DMD | A | Float | R |
| 2DAFH - 2DB0H | 11695 - 11696 | Channel 2 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 2Three Phase/Single Phase-three wire: Maximum Phase B Current Demand for circuit 2 | Rx=I2_Max_DMD | A | Float | R |
| 2DB1H - 2DB3H | 11697 - 11699 | Channel 2 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 2Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase B Current Demand for circuit 2 | Rx= | | | R |
| 2DB4H - 2DB5H | 11700 - 11701 | Channel 2 Power Demand | Single Phase: Power Demand for circuit 2Three Phase/ Single Phase-three wire: Phase B Power Demand for circuit 2 | Rx=P2_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DB6H - 2DB7H | 11702 - 11703 | Channel 2 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 2Three Phase/Single Phase-three wire: Phase B Power Demand Prediction for circuit 2 | Rx=P2_ Pred_ DMD | kW | Float | R |
| 2DB8H - 2DB9H | 11704 - 11705 | Channel 2 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 2Three Phase/Single Phase-three wire: Maximum Phase B Power Demand for circuit 2 | Rx=P2_ Max_DMD | kW | Float | R |
| 2DBAH - 2DBCH | 11706 - 11708 | Channel 2 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 2Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase B Power Demand for circuit 2 | Rx= | | | R |
| 2DBDH - 2DBEH | 11709 - 11710 | Channel 2 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 2 Three Phase/Single Phase-three wire: Phase B Reactive Power Demand for circuit 2 | Rx=Q2_ DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DBFH - 2DC0H | 11711 - 11712 | Channel 2 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 2Three Phase/Single Phase-three wire: Phase B Reactive Power Demand Prediction for circuit 2 | Rx=Q2_Pred_DMD | kvar | Float | R |
| 2DC1H - 2DC2H | 11713 - 11714 | Channel 2 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 2Three Phase/Single Phase-three wire: Maximum Phase B Reactive Power Demand for circuit 2 | Rx=Q2_Max_DMD | kvar | Float | R |
| 2DC3H - 2DC5H | 11715 - 11717 | Channel 2 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 2Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Reactive Power Demand for circuit 2 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DC6H - 2DC7H | 11718 - 11719 | Channel 2 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 2Three Phase/Single Phase-three wire: Phase B Apparent Power Demand for circuit 2 | Rx=S2_DMD | kVA | Float | R |
| 2DC8H - 2DC9H | 11720 - 11721 | Channel 2 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 2Three Phase/Single Phase-three wire: Phase B Apparent Power Demand Prediction for circuit 2 | Rx=S2_Pred_DMD | kVA | Float | R |
| 2DCAH - 2DCBH | 11722 - 11723 | Channel 2 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 2Three Phase/Single Phase-three wire: Maximum Phase B Apparent Power Demand for circuit 2 | Rx=S2_Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DCCH - 2DCEH | 11724 - 11726 | Channel 2 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 2Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Apparent Power Demand for circuit 2 | Rx= | | | R |
| 2DCFH - 2DD0H | 11727 - 11728 | Channel 3 Current Demand | Single Phase: Current Demand for circuit 3Three Phase/Single Phase-three wire: Phase C Current Demand for circuit 3 | Rx=I3_DMD | A | Float | R |
| 2DD1H - 2DD2H | 11729 - 11730 | Channel 3 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 3Three Phase/Single Phase-three wire: Phase C Current Demand Prediction for circuit 3 | Rx=I3_Pred_DMD | A | Float | R |
| 2DD3H - 2DD4H | 11731 - 11732 | Channel 3 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 3Three Phase/Single Phase-three wire: Maximum Phase C Current Demand for circuit 3 | Rx=I3_Max_DMD | A | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DD5H - 2DD7H | 11733 - 11735 | Channel 3 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 3Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase C Current Demand for circuit 3 | Rx= | | | R |
| 2DD8H - 2DD9H | 11736 - 11737 | Channel 3 Power Demand | Single Phase: Power Demand for circuit 3Three Phase/ Single Phase-three wire: Phase C Power Demand for circuit 3 | Rx=P3_ DMD | kW | Float | R |
| 2DDAH - 2DDBH | 11738 - 11739 | Channel 3 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 3Three Phase/Single Phase-three wire: Phase C Power Demand Prediction for circuit 3 | Rx=P3_ Pred_ DMD | kW | Float | R |
| 2DDCH - 2DDDH | 11740 - 11741 | Channel 3 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 3Three Phase/Single Phase-three wire: Maximum Phase C Power Demand for circuit 3 | Rx=P3_ Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DDEH - 2DE0H | 11742 - 11744 | Channel 3 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 3Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase C Power Demand for circuit 3 | Rx= | | | R |
| 2DE1H - 2DE2H | 11745 - 11746 | Channel 3 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 3Three Phase/Single Phase-three wire: Phase C Reactive Power Demand for circuit 3 | Rx=Q3_ DMD | kvar | Float | R |
| 2DE3H - 2DE4H | 11747 - 11748 | Channel 3 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 3Three Phase/Single Phase- three wire: Phase C Reactive Power Demand Prediction for circuit 3 | Rx=Q3_ Pred_ DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DE5H - 2DE6H | 11749 - 11750 | Channel 3 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 3Three Phase/ Single Phase-three wire: Maximum Phase C Reactive Power Demand for circuit 3 | Rx=Q3_ Max_DMD | kvar | Float | R |
| 2DE7H - 2DE9H | 11751 - 11753 | Channel 3 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 3Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Reactive Power Demand for circuit 3 | Rx= | | | R |
| 2DEAH - 2DEBH | 11754 - 11755 | Channel 3 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 3Three Phase/Single Phase-three wire: Phase C Apparent Power Demand for circuit 3 | Rx=S3_ DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DECH - 2DEDH | 11756 - 11757 | Channel 3 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 3Three Phase/Single Phase-three wire: Phase C Apparent Power Demand Prediction for circuit 3 | Rx=S3_Pred_DMD | kVA | Float | R |
| 2DEEH - 2DEFH | 11758 - 11759 | Channel 3 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 3Three Phase/ Single Phase-three wire: Maximum Phase C Apparent Power Demand for circuit 3 | Rx=S3_Max_DMD | kVA | Float | R |
| 2DF0H - 2DF2H | 11760 - 11762 | Channel 3 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 3Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Apparent Power Demand for circuit 3 | Rx= | | | R |
| 2DF3H - 2DF4H | 11763 - 11764 | Channel 4 Current Demand | Single Phase: Current Demand for circuit 4Three Phase/Single Phase-three wire: Phase A Current Demand for circuit 2 | Rx=I4_DMD | A | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DF5H - 2DF6H | 11765 - 11766 | Channel 4 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 4Three Phase/Single Phase-three wire: Phase Current Demand Prediction for circuit 2 | Rx=I4_ Pred_ DMD | A | Float | R |
| 2DF7H - 2DF8H | 11767 - 11768 | Channel 4 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 4Three Phase/Single Phase-three wire: Maximum Phase A Current Demand for circuit 2 | Rx=I4_ Max_DMD | A | Float | R |
| 2DF9H - 2DFBH | 11769 - 11771 | Channel 4 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 4Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase A Current Demand for circuit 2 | Rx= | | | R |
| 2DFCH - 2DFDH | 11772 - 11773 | Channel 4 Power Demand | Single Phase: Power Demand for circuit 4Three Phase/ Single Phase-three wire: Phase A Power Demand for circuit 2 | Rx=P4_ DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2DFEH - 2DFFH | 11774 - 11775 | Channel 4 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 4Three Phase/Single Phase-three wire: Phase A Power Demand Prediction for circuit 2 | Rx=P4_Pred_DMD | kW | Float | R |
| 2E00H - 2E01H | 11776 - 11777 | Channel 4 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 4Three Phase/Single Phase-three wire: Maximum Phase A Power Demand for circuit 2 | Rx=P4_Max_DMD | kW | Float | R |
| 2E02H - 2E04H | 11778 - 11780 | Channel 4 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 4Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Power Demand for circuit 2 | Rx= | | | R |
| 2E05H - 2E06H | 11781 - 11782 | Channel 4 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 4Three Phase/Single Phase-three wire: Phase A Reactive Power Demand for circuit 2 | Rx=Q4_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E07H - 2E08H | 11783 - 11784 | Channel 4 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 4Three Phase/Single Phase-three wire: Phase A Reactive Power Demand Prediction for circuit 2 | Rx=Q4_ Pred_ DMD | kvar | Float | R |
| 2E09H - 2E0AH | 11785 - 11786 | Channel 4 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 4Three Phase/ Single Phase-three wire: Maximum Phase A Reactive Power Demand for circuit 2 | Rx=Q4_ Max_DMD | kvar | Float | R |
| 2E0BH - 2E0DH | 11787 - 11789 | Channel 4 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 4Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Reactive Power Demand for circuit 2 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E0EH - 2E0FH | 11790 - 11791 | Channel 4 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 4Three Phase/Single Phase-three wire: Phase A Apparent Power Demand for circuit 2 | Rx=S4_DMD | kVA | Float | R |
| 2E10H - 2E11H | 11792 - 11793 | Channel 4 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 4Three Phase/Single Phase-three wire: Phase A Apparent Power Demand Prediction for circuit 2 | Rx=S4_Pred_DMD | kVA | Float | R |
| 2E12H - 2E13H | 11794 - 11795 | Channel 4 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 4Three Phase/Single Phase-three wire: Maximum Phase A Apparent Power Demand for circuit 2 | Rx=S4_Max_DMD | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E14H - 2E16H | 11796 - 11798 | Channel 4 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 4Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Apparent Power Demand for circuit 2 | Rx= | | | R |
| 2E17H - 2E18H | 11799 - 11800 | Channel 5 Current Demand | Single Phase: Current Demand for circuit 5Three Phase/Single Phase-three wire: Phase B Current Demand for circuit 2 | Rx=I5_DMD | A | Float | R |
| 2E19H - 2E1AH | 11801 - 11802 | Channel 5 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 5Three Phase/Single Phase-three wire: Phase B Current Demand Prediction for circuit 2 | Rx=I5_Pred_DMD | A | Float | R |
| 2E1BH - 2E1CH | 11803 - 11804 | Channel 5 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 5Three Phase/Single Phase-three wire: Maximum Phase B Current Demand for circuit 2 | Rx=I5_Max_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E1DH - 2E1FH | 11805 - 11807 | Channel 5 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 5Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase B Current Demand for circuit 2 | Rx= | | | R |
| 2E20H - 2E21H | 11808 - 11809 | Channel 5 Power Demand | Single Phase: Power Demand for circuit 5Three Phase/ Single Phase-three wire: Phase B Power Demand for circuit 2 | Rx=P5_DMD | kW | Float | R |
| 2E22H - 2E23H | 11810 - 11811 | Channel 5 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 5Three Phase/Single Phase-three wire: Phase B Power Demand Prediction for circuit 2 | Rx=P5_Pred_DMD | kW | Float | R |
| 2E24H - 2E25H | 11812 - 11813 | Channel 5 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 5Three Phase/Single Phase-three wire: Maximum Phase B Power Demand for circuit 2 | Rx=P5_Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E26H - 2E28H | 11814 - 11816 | Channel 5 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 5Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase B Power Demand for circuit 2 | Rx= | | | R |
| 2E29H - 2E2AH | 11817 - 11818 | Channel 5 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 5Three Phase/Single Phase-three wire: Phase B Reactive Power Demand for circuit 2 | Rx=Q5_ DMD | kvar | Float | R |
| 2E2BH - 2E2CH | 11819 - 11820 | Channel 5 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 5Three Phase/Single Phase-three wire: Phase B Reactive Power Demand Prediction for circuit 2 | Rx=Q5_ Pred_ DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E2DH - 2E2EH | 11821 - 11822 | Channel 5 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 5Three Phase/Single Phase-three wire: Maximum Phase B reactive Power Demand for circuit 2 | Rx=Q5_Max_DMD | kvar | Float | R |
| 2E2FH - 2E31H | 11823 - 11825 | Channel 5 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 5Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Reactive Power Demand for circuit 2 | Rx= | | | R |
| 2E32H - 2E33H | 11826 - 11827 | Channel 5 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 5Three Phase/Single Phase-three wire: Phase B Apparent Power Demand for circuit 2 | Rx=S5_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E34H - 2E35H | 11828 - 11829 | Channel 5 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 5Three Phase/Single Phase-three wire: Phase B Apparent Power Demand Prediction for circuit 2 | Rx=S5_Pred_DMD | kVA | Float | R |
| 2E36H - 2E37H | 11830 - 11831 | Channel 5 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 5Three Phase/Single Phase-three wire: Maximum Phase B Apparent Power Demand for circuit 2 | Rx=S5_Max_DMD | kVA | Float | R |
| 2E38H - 2E3AH | 11832 - 11834 | Channel 5 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 5Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Apparent Power Demand for circuit 2 | Rx= | | | R |
| 2E3BH - 2E3CH | 11835 - 11836 | Channel 6 Current Demand | Single Phase: Current Demand for circuit 6Three Phase/Single Phase-three wire: Phase C Current Demand for circuit 2 | Rx=I6_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E3DH - 2E3EH | 11837 - 11838 | Channel 6 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 6Three Phase/Single Phase-three wire: Phase C Current Demand Prediction for circuit 2 | Rx=I6_ Pred_ DMD | A | Float | R |
| 2E3FH - 2E40H | 11839 - 11840 | Channel 6 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 6Three Phase/Single Phase-three wire: Maximum Phase C Current Demand for circuit 2 | Rx=I6_ Max_DMD | A | Float | R |
| 2E41H - 2E43H | 11841 - 11843 | Channel 6 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 6Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase C Current Demand for circuit 2 | Rx= | | | R |
| 2E44H - 2E45H | 11844 - 11845 | Channel 6 Power Demand | Single Phase: Power Demand for circuit 6Three Phase/ Single Phase-three wire: Phase C Power Demand for circuit 2 | Rx=P6_ DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E46H - 2E47H | 11846 - 11847 | Channel 6 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 6Three Phase/Single Phase-three wire: Phase C Power Demand Prediction for circuit 2 | Rx=P6_ Pred_ DMD | kW | Float | R |
| 2E48H - 2E49H | 11848 - 11849 | Channel 6 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 6Three Phase/Single Phase-three wire: Maximum Phase C Power Demand for circuit 2 | Rx=P6_ Max_DMD | kW | Float | R |
| 2E4AH - 2E4CH | 11850 - 11852 | Channel 6 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 6Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase C Power Demand for circuit 2 | Rx= | | | R |
| 2E4DH - 2E4EH | 11853 - 11854 | Channel 6 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 6Three Phase/Single Phase-three wire: Phase C Reactive Power Demand for circuit 2 | Rx=Q6_ DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E4FH - 2E50H | 11855 - 11856 | Channel 6 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 6Three Phase/Single Phase-three wire: Phase C Reactive Power Demand Prediction for circuit 2 | Rx=Q6_Pred_DMD | kvar | Float | R |
| 2E51H - 2E52H | 11857 - 11858 | Channel 6 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 6Three Phase/Single Phase-three wire: Maximum Phase C Reactive Power Demand for circuit 2 | Rx=Q6_Max_DMD | kvar | Float | R |
| 2E53H - 2E55H | 11859 - 11861 | Channel 6 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 6Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Reactive Power Demand for circuit 2 | Rx= | | | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E56H - 2E57H | 11862 - 11863 | Channel 6 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 6Three Phase/Single Phase-three wire: Phase C Apparent Power Demand for circuit 2 | Rx=S6_ DMD | kVA | Float | R |
| 2E58H - 2E59H | 11864 - 11865 | Channel 6 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 6Three Phase/Single Phase-three wire: Phase C Apparent Power Demand Prediction for circuit 2 | Rx=S6_ Pred_ DMD | kVA | Float | R |
| 2E5AH - 2E5BH | 11866 - 11867 | Channel 6 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 6Three Phase/ Single Phase-three wire: Maximum Phase C Apparent Power Demand for circuit 2 | Rx=S6_ Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E5CH - 2E5EH | 11868 - 11870 | Channel 6 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 6Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Apparent Power Demand for circuit 2 | Rx= | | | R |
| 2E5FH - 2E60H | 11871 - 11872 | Channel 7 Current Demand | Single Phase: Current Demand for circuit 7Three Phase/Single Phase-three wire: Phase A Current Demand for circuit 3 | Rx=I7_ DMD | A | Float | R |
| 2E61H - 2E62H | 11873 - 11874 | Channel 7 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 7Three Phase/Single Phase-three wire: Phase A Current Demand Prediction for circuit 3 | Rx=I7_ Pred_ DMD | A | Float | R |
| 2E63H - 2E64H | 11875 - 11876 | Channel 7 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 7Three Phase/Single Phase-three wire: Maximum Phase A Current Demand for circuit 3 | Rx=I7_ Max_DMD | A | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E65H - 2E67H | 11877 - 11879 | Channel 7 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 7Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Current Demand for circuit 3 | Rx= | | | R |
| 2E68H - 2E69H | 11880 - 11881 | Channel 7 Power Demand | Single Phase: Power Demand for circuit 7Three Phase/Single Phase-three wire: Phase A Power Demand for circuit 3 | Rx=P7_DMD | kW | Float | R |
| 2E6AH - 2E6BH | 11882 - 11883 | Channel 7 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 7Three Phase/Single Phase-three wire: Phase A Power Demand Prediction for circuit 3 | Rx=P7_Pred_DMD | kW | Float | R |
| 2E6CH - 2E6DH | 11884 - 11885 | Channel 7 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 7Three Phase/Single Phase-three wire: Maximum Phase A Power Demand for circuit 3 | Rx=P7_Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E6EH - 2E70H | 11886 - 11888 | Channel 7 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 7Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase A Power Demand for circuit 3 | Rx= | | | R |
| 2E71H - 2E72H | 11889 - 11890 | Channel 7 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 7Three Phase/Single Phase-three wire: Phase A Reactive Power Demand for circuit 3 | Rx=Q7_ DMD | kvar | Float | R |
| 2E73H - 2E74H | 11891 - 11892 | Channel 7 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 7Three Phase/Single Phase-three wire: Phase A Reactive Power Demand Prediction for circuit 3 | Rx=Q7_ Pred_ DMD | kvar | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E75H - 2E76H | 11893 - 11894 | Channel 7 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 7Three Phase/Single Phase-three wire: Maximum Phase A Reactive Power Demand for circuit 3 | Rx=Q7_Max_DMD | kvar | Float | R |
| 2E77H - 2E79H | 11895 - 11897 | Channel 7 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 7Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Reactive Power Demand for circuit 3 | Rx= | | | R |
| 2E7AH - 2E7BH | 11898 - 11899 | Channel 7 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 7Three Phase/Single Phase-three wire: Phase A Apparent Power Demand for circuit 3 | Rx=S7_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E7CH - 2E7DH | 11900 - 11901 | Channel 7 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 7Three Phase/Single Phase-three wire: Phase A Apparent Power Demand Prediction for circuit 3 | Rx=S7_Pred_DMD | kVA | Float | R |
| 2E7EH - 2E7FH | 11902 - 11903 | Channel 7 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 7Three Phase/Single Phase-three wire: Maximum Phase A Apparent Power Demand for circuit 3 | Rx=S7_Max_DMD | kVA | Float | R |
| 2E80H - 2E82H | 11904 - 11906 | Channel 7 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 7Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Apparent Power Demand for circuit 3 | Rx= | | | R |
| 2E83H - 2E84H | 11907 - 11908 | Channel 8 Current Demand | Single Phase: Current Demand for circuit 8Three Phase/Single Phase-three wire: Phase B Current Demand for circuit 3 | Rx=I8_DMD | A | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E85H - 2E86H | 11909 - 11910 | Channel 8 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 8Three Phase/Single Phase-three wire: Phase B Current Demand Prediction for circuit 3 | Rx=I8_ Pred_ DMD | A | Float | R |
| 2E87H - 2E88H | 11911 - 11912 | Channel 8 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 8Three Phase/Single Phase-three wire: Maximum Phase B Current Demand for circuit 3 | Rx=I8_ Max_DMD | A | Float | R |
| 2E89H - 2E8BH | 11913 - 11915 | Channel 8 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 8Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase B Current Demand for circuit 3 | Rx= | | | R |
| 2E8CH - 2E8DH | 11916 - 11917 | Channel 8 Power Demand | Single Phase: Power Demand for circuit 8Three Phase/ Single Phase-three wire: Phase B Power Demand for circuit 3 | Rx=P8_ DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E8EH - 2E8FH | 11918 - 11919 | Channel 8 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 8Three Phase/Single Phase-three wire: Phase B Power Demand Prediction for circuit 3 | Rx=P8_Pred_DMD | kW | Float | R |
| 2E90H - 2E91H | 11920 - 11921 | Channel 8 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 8Three Phase/Single Phase-three wire: Maximum Phase B Power Demand for circuit 3 | Rx=P8_Max_DMD | kW | Float | R |
| 2E92H - 2E94H | 11922 - 11924 | Channel 8 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 8Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Power Demand for circuit 3 | Rx= | | | R |
| 2E95H - 2E96H | 11925 - 11926 | Channel 8 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 8Three Phase/Single Phase-three wire: Phase B Reactive Power Demand for circuit 3 | Rx=Q8_DMD | kvar | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E97H - 2E98H | 11927 - 11928 | Channel 8 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 8Three Phase/Single Phase-three wire: Phase B Reactive Power Demand Prediction for circuit 3 | Rx=Q8_Pred_DMD | kvar | Float | R |
| 2E99H - 2E9AH | 11929 - 11930 | Channel 8 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 8Three Phase/Single Phase-three wire: Maximum Phase B Reactive Power Demand for circuit 3 | Rx=Q8_Max_DMD | kvar | Float | R |
| 2E9BH - 2E9DH | 11931 - 11933 | Channel 8 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 8Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Reactive Power Demand for circuit 3 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2E9EH - 2E9FH | 11934 - 11935 | Channel 8 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 8Three Phase/Single Phase-three wire: Phase B Apparent Power Demand for circuit 3 | Rx=S8_Max_DMD | kVA | Float | R |
| 2EA0H - 2EA1H | 11936 - 11937 | Channel 8 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 8Three Phase/Single Phase-three wire: Phase B Apparent Power Demand Prediction for circuit 3 | Rx=S8_Pred_DMD | kVA | Float | R |
| 2EA2H - 2EA3H | 11938 - 11939 | Channel 8 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 8Three Phase/Single Phase-three wire: Maximum Phase B Apparent Power Demand for circuit 3 | Rx=S8_Max_DMD | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EA4H - 2EA6H | 11940 - 11942 | Channel 8 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 8Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Apparent Power Demand for circuit 3 | Rx= | | | R |
| 2EA7H - 2EA8H | 11943 - 11944 | Channel 9 Current Demand | Single Phase: Current Demand for circuit 9Three Phase/Single Phase-three wire: Phase C Current Demand for circuit 3 | Rx=I9_DMD | A | Float | R |
| 2EA9H - 2EAAH | 11945 - 11946 | Channel 9 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 9Three Phase/Single Phase-three wire: Phase C Current Demand Prediction for circuit 3 | Rx=I9_Pred_DM | A | Float | R |
| 2EABH - 2EACH | 11947 - 11948 | Channel 9 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 9Three Phase/Single Phase-three wire: Maximum Phase C Current Demand for circuit 3 | Rx=I9_Max_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EADH - 2EAFH | 11949 - 11951 | Channel 9 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 9Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase C Current Demand for circuit 3 | Rx= | | | R |
| 2EB0H - 2EB1H | 11952 - 11953 | Channel 9 Power Demand | Single Phase: Power Demand for circuit 9Three Phase/ Single Phase-three wire: Phase C Power Demand for circuit 3 | Rx=P9_ DMD | kW | Float | R |
| 2EB2H - 2EB3H | 11954 - 11955 | Channel 9 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 9Three Phase/Single Phase-three wire: Phase C Power Demand Prediction for circuit 3 | Rx=P9_ Pred_ DMD | kW | Float | R |
| 2EB4H - 2EB5H | 11956 - 11957 | Channel 9 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 9Three Phase/Single Phase-three wire: Maximum Phase C Power Demand for circuit 3 | Rx=P9_ Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EB6H - 2EB8H | 11958 - 11960 | Channel 9 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 9Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase C Power Demand for circuit 3 | Rx= | | | R |
| 2EB9H - 2EBAH | 11961 - 11962 | Channel 9 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 9Three Phase/Single Phase-three wire: Phase C Reactive Power Demand for circuit 3 | Rx=Q9_ DMD | kvar | Float | R |
| 2EBBH - 2EBCH | 11963 - 11964 | Channel 9 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 9Three Phase/Single Phase- three wire: Phase C Reactive Power Demand Prediction for circuit 3 | Rx=Q9_ Pred_ DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EBDH - 2EBEH | 11965 - 11966 | Channel 9 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 9Three Phase/ Single Phase-three wire: Maximum Phase C Reactive Power Demand for circuit 3 | Rx=Q9_Max_DMD | kvar | Float | R |
| 2EBFH - 2EC1H | 11967 - 11969 | Channel 9 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 9Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Reactive Power Demand for circuit 3 | Rx= | | | R |
| 2EC2H - 2EC3H | 11970 - 11971 | Channel 9 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 9Three Phase/Single Phase-three wire: Phase C Apparent Power Demand for circuit 3 | Rx=S9_DMD | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EC4H - 2EC5H | 11972 - 11973 | Channel 9 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 9Three Phase/Single Phase-three wire: Phase C Apparent Power Demand Prediction for circuit 3 | Rx=S9_Pred_DMD | kVA | Float | R |
| 2EC6H - 2EC7H | 11974 - 11975 | Channel 9 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 9Three Phase/Single Phase-three wire: Maximum Phase C Apparent Power Demand for circuit 3 | Rx=S9_Max_DMD | kVA | Float | R |
| 2EC8H - 2ECAH | 11976 - 11978 | Channel 9 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 9Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Apparent Power Demand for circuit 3 | Rx= | | | R |
| 2ECBH - 2ECCH | 11979 - 11980 | Channel 10 Current Demand | Single Phase: Current Demand for circuit 10Three Phase/Single Phase-three wire: Phase A Current Demand for circuit 4 | Rx=I10_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2ECDH - 2ECEH | 11981 - 11982 | Channel 10 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 10Three Phase/Single Phase-three wire: Phase A Current Demand Prediction for circuit 4 | Rx=I10_Pred_DM | A | Float | R |
| 2ECFH - 2ED0H | 11983 - 11984 | Channel 10 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 10Three Phase/Single Phase-three wire: Maximum Phase A Current Demand for circuit 4 | Rx=I10_Max_DMD | A | Float | R |
| 2ED1H - 2ED3H | 11985 - 11987 | Channel 10 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 10Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Current Demand for circuit 4 | Rx= | | | R |
| 2ED4H - 2ED5H | 11988 - 11989 | Channel 10 Power Demand | Single Phase: Power Demand for circuit 10Three Phase/Single Phase-three wire: Phase A Power Demand for circuit 4 | Rx=P10_DMD | kW | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2ED6H - 2ED7H | 11990 - 11991 | Channel 10 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 10Three Phase/Single Phase-three wire: Phase A Power Demand Prediction for circuit 4 | Rx=P10_Pred_DMD | kW | Float | R |
| 2ED8H - 2ED9H | 11992 - 11993 | Channel 10 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 10Three Phase/Single Phase-three wire: Maximum Phase A Power Demand for circuit 4 | Rx=P10_Max_DMD | kW | Float | R |
| 2EDAH - 2EDCH | 11994 - 11996 | Channel 10 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 10Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Power Demand for circuit 4 | Rx= | | | R |
| 2EDDH - 2EDEH | 11997 - 11998 | Channel 10 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 10Three Phase/Single Phase-three wire: Phase A Reactive Power Demand for circuit 4 | Rx=Q10_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EDFH - 2EE0H | 11999 - 12000 | Channel 10 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 10Three Phase/Single Phase-three wire: Phase A Reactive Power Demand Prediction for circuit 4 | Rx=Q10_Pred_DMD | kvar | Float | R |
| 2EE1H - 2EE2H | 12001 - 12002 | Channel 10 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 10Three Phase/Single Phase-three wire: Maximum Phase A Reactive Power Demand for circuit 4 | Rx=Q10_Max_DMD | kvar | Float | R |
| 2EE3H - 2EE5H | 12003 - 12005 | Channel 10 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 10Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase A Reactive Power Demand for circuit 4 | Rx= | | | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EE6H - 2EE7H | 12006 - 12007 | Channel 10 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 10Three Phase/Single Phase-three wire: Phase A Apparent Power Demand for circuit 4 | Rx=S10_ DMD | kVA | Float | R |
| 2EE8H - 2EE9H | 12008 - 12009 | Channel 10 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 10Three Phase/Single Phase-three wire: Phase A Apparent Power Demand Prediction for circuit 4 | Rx=S10_ Pred_ DMD | kVA | Float | R |
| 2EEAH - 2EEBH | 12010 - 12011 | Channel 10 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 10Three Phase/Single Phase-three wire: Maximum Phase A Apparent Power Demand for circuit 4 | Rx=S10_ Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EECH - 2EEEH | 12012 - 12014 | Channel 10 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 10Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase A Apparent Power Demand for circuit 4 | Rx= | | | R |
| 2EEFH - 2EF0H | 12015 - 12016 | Channel 11 Current Demand | Single Phase: Current Demand for circuit 11Three Phase/Single Phase-three wire: Phase B Current Demand for circuit 4 | Rx=I11_ DMD | A | Float | R |
| 2EF1H - 2EF2H | 12017 - 12018 | Channel 11 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 11Three Phase/Single Phase- three wire: Phase B Current Demand Prediction for circuit 4 | Rx=I11_ Pred_DM | A | Float | R |
| 2EF3H - 2EF4H | 12019 - 12020 | Channel 11 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 11Three Phase/Single Phase-three wire: Maximum Phase B Current Demand for circuit 4 | Rx=I11_ Max_DMD | A | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EF5H - 2EF7H | 12021 - 12023 | Channel 11 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 11Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Current Demand for circuit 4 | Rx= | | | R |
| 2EF8H - 2EF9H | 12024 - 12025 | Channel 11 Power Demand | Single Phase: Power Demand for circuit 11Three Phase/ Single Phase-three wire: Phase B Power Demand for circuit 4 | Rx=P11_ DMD | kW | Float | R |
| 2EFAH - 2EFBH | 12026 - 12027 | Channel 11 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 11Three Phase/Single Phase-three wire: Phase B Power Demand Prediction for circuit 4 | Rx=P11_ Pred_ DMD | kW | Float | R |
| 2EFCH - 2EFDH | 12028 - 12029 | Channel 11 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 11Three Phase/Single Phase-three wire: Maximum Phase B Power Demand for circuit 4 | Rx=P11_ Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2EFEH - 2F00 | 12030 - 12032 | Channel 11 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 11Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Power Demand for circuit 4 | Rx= | | | R |
| 2F01H - 2F02H | 12033 - 12034 | Channel 11 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 11Three Phase/Single Phase-three wire: Phase B Reactive Power Demand for circuit 4 | Rx=Q11_DMD | kvar | Float | R |
| 2F03H - 2F04H | 12035 - 12036 | Channel 11 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 11Three Phase/Single Phase-three wire: Phase B Reactive Power Demand Prediction for circuit 4 | Rx=Q11_Pred_DMD | kvar | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F05H - 2F06H | 12037 - 12038 | Channel 11 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 11Three Phase/Single Phase-three wire: Maximum Phase B Reactive Power Demand for circuit 4 | Rx=Q11_Max_DMD | kvar | Float | R |
| 2F07H - 2F09H | 12039 - 12041 | Channel 11 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 11Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Reactive Power Demand for circuit 4 | Rx= | | | R |
| 2F0AH - 2F0BH | 12042 - 12043 | Channel 11 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 11Three Phase/Single Phase-three wire: Phase B Apparent Power Demand for circuit 4 | Rx=S11_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F0CH - 2F0DH | 12044 - 12045 | Channel 11 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 11Three Phase/Single Phase-three wire: Phase B Apparent Power Demand Prediction for circuit 4 | Rx=S11_ Pred_ DMD | kVA | Float | R |
| 2F0EH - 2F0FH | 12046 - 12047 | Channel 11 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 11Three Phase/Single Phase-three wire: Maximum Phase B Apparent Power Demand for circuit 4 | Rx=S11_ Max_DMD | kVA | Float | R |
| 2F10H - 2F12H | 12048 - 12050 | Channel 11 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 11Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase B Apparent Power Demand for circuit 4 | Rx= | | | R |
| 2F13H - 2F14H | 12051 - 12052 | Channel 12 Current Demand | Single Phase: Current Demand for circuit 12Three Phase/ Single Phase-three wire: Phase C Current Demand for circuit 4 | Rx=I12_ DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F15H - 2F16H | 12053 - 12054 | Channel 12 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 12Three Phase/Single Phase-three wire: Phase C Current Demand Prediction for circuit 4 | Rx=I12_ Pred_DM | A | Float | R |
| 2F17H - 2F18H | 12055 - 12056 | Channel 12 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 12Three Phase/Single Phase-three wire: Maximum Phase C Current Demand for circuit 4 | Rx=I12_ Max_DMD | A | Float | R |
| 2F19H - 2F1BH | 12057 - 12059 | Channel 12 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 12Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Current Demand for circuit 4 | Rx= | | | R |
| 2F1CH - 2F1DH | 12060 - 12061 | Channel 12 Power Demand | Single Phase: Power Demand for circuit 12Three Phase/ Single Phase-three wire: Phase C Power Demand for circuit 4 | Rx=P12_ DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F1EH - 2F1FH | 12062 - 12063 | Channel 12 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 12Three Phase/Single Phase-three wire: Phase C Power Demand Prediction for circuit 4 | Rx=P12_ Pred_ DMD | kW | Float | R |
| 2F20H - 2F21H | 12064 - 12065 | Channel 12 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 12Three Phase/Single Phase-three wire: Maximum Phase C Power Demand for circuit 4 | Rx=P12_ Max_DMD | kW | Float | R |
| 2F22H - 2F24H | 12066 - 12068 | Channel 12 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 12Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Power Demand for circuit 4 | Rx= | | | R |
| 2F25H - 2F26H | 12069 - 12070 | Channel 12 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 12Three Phase/Single Phase-three wire: Phase C Reactive Power Demand for circuit 4 | Rx=Q12_ DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F27H - 2F28H | 12071 - 12072 | Channel 12 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 12Three Phase/Single Phase-three wire: Phase C Reactive Power Demand Prediction for circuit 4 | Rx=Q12_Pred_DMD | kvar | Float | R |
| 2F29H - 2F2AH | 12073 - 12074 | Channel 12 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 12Three Phase/Single Phase-three wire: Maximum Phase C Reactive Power Demand for circuit 4 | Rx=Q12_Max_DMD | kvar | Float | R |
| 2F2BH - 2F2DH | 12075 - 12077 | Channel 12 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 12Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Reactive Power Demand for circuit 4 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F2EH - 2F2FH | 12078 - 12079 | Channel 12 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 12Three Phase/Single Phase-three wire: Phase C Apparent Power Demand for circuit 4 | Rx=S12_DMD | kVA | Float | R |
| 2F30H - 2F31H | 12080 - 12081 | Channel 12 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 12Three Phase/Single Phase-three wire: Phase C Apparent Power Demand Prediction for circuit 4 | Rx=S12_Pred_DMD | kVA | Float | R |
| 2F32H - 2F33H | 12082 - 12083 | Channel 12 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 12Three Phase/Single Phase-three wire: Maximum Phase C Apparent Power Demand for circuit 4 | Rx=S12_Max_DMD | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F34H - 2F36H | 12084 - 12086 | Channel 12 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 12Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Apparent Power Demand for circuit 4 | Rx= | | | R |
| 2F37H - 2F38H | 12087 - 12088 | Channel 13 Current Demand | Single Phase: Current Demand for circuit 13Three Phase/Single Phase-three wire: Phase A Current Demand for circuit 5 | Rx=I13_DMD | A | Float | R |
| 2F39H - 2F3AH | 12089 - 12090 | Channel 13 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 13Three Phase/Single Phase-three wire: Phase A Current Demand Prediction for circuit 5 | Rx=I13_Pred_DM | A | Float | R |
| 2F3BH - 2F3CH | 12091 - 12092 | Channel 13 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 13Three Phase/Single Phase-three wire: Maximum Phase A Current Demand for circuit 5 | Rx=I13_Max_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F3DH - 2F3FH | 12093 - 12095 | Channel 13 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 13Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Current Demand for circuit 5 | Rx= | | | R |
| 2F40H - 2F41H | 12096 - 12097 | Channel 13 Power Demand | Single Phase: Power Demand for circuit 13Three Phase/Single Phase-three wire: Phase A Power Demand for circuit 5 | Rx=P13_DMD | kW | Float | R |
| 2F42H - 2F43H | 12098 - 12099 | Channel 13 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 13Three Phase/Single Phase-three wire: Phase A Power Demand Prediction for circuit 5 | Rx=P13_Pred_DMD | kW | Float | R |
| 2F44H - 2F45H | 12100 - 12101 | Channel 13 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 13Three Phase/Single Phase-three wire: Maximum Phase A Power Demand for circuit 5 | Rx=P13_Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F46H - 2F48H | 12102 - 12104 | Channel 13 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 13Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Power Demand for circuit 5 | Rx= | | | R |
| 2F49H - 2F4AH | 12105 - 12106 | Channel 13 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 13Three Phase/Single Phase-three wire: Phase A Reactive Power Demand for circuit 5 | Rx=Q13_DMD | kvar | Float | R |
| 2F4BH - 2F4CH | 12107 - 10108 | Channel 13 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 13Three Phase/Single Phase-three wire: Phase A Reactive Power Demand Prediction for circuit 5 | Rx=Q13_Pred_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F4DH - 2F4EH | 12109 - 12110 | Channel 13 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 13Three Phase/Single Phase-three wire: Maximum Phase A Reactive Power Demand for circuit 5 | Rx=Q13_Max_DMD | kvar | Float | R |
| 2F4FH - 2F51H | 12111 - 12113 | Channel 13 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 13Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Reactive Power Demand for circuit 5 | Rx= | | | R |
| 2F52H - 2F53H | 12114 - 12115 | Channel 13 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 13Three Phase/Single Phase-three wire: Phase A Apparent Power Demand for circuit 5 | Rx=S13_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F54H - 2F55H | 12116 - 12117 | Channel 13 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 13Three Phase/Single Phase-three wire: Phase A Apparent Power Demand Prediction for circuit 5 | Rx=S13_ Pred_ DMD | kVA | Float | R |
| 2F56H - 2F57H | 12118 - 12119 | Channel 13 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 13Three Phase/Single Phase-three wire: Maximum Phase A Apparent Power Demand for circuit 5 | Rx=S13_ Max_DMD | kVA | Float | R |
| 2F58H - 2F5AH | 12120 - 12122 | Channel 13 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 13Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Apparent Power Demand for circuit 5 | Rx= | | | R |
| 2F5BH - 2F5CH | 12123 - 12124 | Channel 14 Current Demand | Single Phase: Current Demand for circuit 14Three Phase/Single Phase-three wire: Phase B Current Demand for circuit 5 | Rx=I14_ DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F5DH - 2F5EH | 12125 - 12126 | Channel 14 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 14Three Phase/Single Phase-three wire: Phase B Current Demand Prediction for circuit 5 | Rx=I14_Pred_DM | A | Float | R |
| 2F5FH - 2F60H | 12127 - 12128 | Channel 14 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 14Three Phase/Single Phase-three wire: Maximum Phase B Current Demand for circuit 5 | Rx=I14_Max_DMD | A | Float | R |
| 2F61H - 2F63H | 12129 - 12131 | Channel 14 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 14Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Current Demand for circuit 5 | Rx= | | | R |
| 2F64H - 2F65H | 12132 - 12133 | Channel 14 Power Demand | Single Phase: Power Demand for circuit 14Three Phase/Single Phase-three wire: Phase B Power Demand for circuit 5 | Rx=P14_DMD | kW | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F66H - 2F67H | 12134 - 12135 | Channel 14 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 14Three Phase/Single Phase-three wire: Phase B Power Demand Prediction for circuit 5 | Rx=P14_Pred_DMD | kW | Float | R |
| 2F68H - 2F69H | 12136 - 12137 | Channel 14 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 14Three Phase/Single Phase-three wire: Maximum Phase B Power Demand for circuit 5 | Rx=P14_Max_DMD | kW | Float | R |
| 2F6AH - 2F6CH | 12138 - 12140 | Channel 14 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 14Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Power Demand for circuit 5 | Rx= | | | R |
| 2F6DH - 2F6EH | 12141 - 12142 | Channel 14 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 14Three Phase/Single Phase-three wire: Phase B Reactive Power Demand for circuit 5 | Rx=Q14_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F6FH - 2F70H | 12143 - 12144 | Channel 14 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 14Three Phase/Single Phase-three wire: Phase B Reactive Power Demand Prediction for circuit 5 | Rx=Q14_Pred_DMD | kvar | Float | R |
| 2F71H - 2F72H | 12145 - 12146 | Channel 14 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 14Three Phase/Single Phase-three wire: Maximum Phase B Reactive Power Demand for circuit 5 | Rx=Q14_Max_DMD | kvar | Float | R |
| 2F73H - 2F75H | 12147 - 12149 | Channel 14 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 14Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Reactive Power Demand for circuit 5 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F76H - 2F77H | 12150 - 12151 | Channel 14 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 14Three Phase/Single Phase-three wire: Phase B Apparent Power Demand for circuit 5 | Rx=S14_DMD | kVA | Float | R |
| 2F78H - 2F79H | 12152 - 12153 | Channel 14 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 14Three Phase/Single Phase-three wire: Phase B Apparent Power Demand Prediction for circuit 5 | Rx=S14_Pred_DMD | kVA | Float | R |
| 2F7AH - 2F7BH | 12154 - 12155 | Channel 14 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 14Three Phase/Single Phase-three wire: Maximum Phase B Apparent Power Demand for circuit 5 | Rx=S14_Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F7CH - 2F7EH | 12156 - 12158 | Channel 14 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 14Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Apparent Power Demand for circuit 5 | Rx= | | | R |
| 2F7FH - 2F80H | 12159 - 12160 | Channel 15 Current Demand | Single Phase: Current Demand for circuit 15Three Phase/Single Phase-three wire: Phase C Current Demand for circuit 5 | Rx=I15_DMD | A | Float | R |
| 2F81G - 2F82H | 12161 - 12162 | Channel 15 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 15Three Phase/Single Phase-three wire: Phase C Current Demand Prediction for circuit 5 | Rx=I15_Pred_DM | A | Float | R |
| 2F83H - 2F84H | 12163 - 12164 | Channel 15 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 15Three Phase/Single Phase-three wire: Maximum Phase C Current Demand for circuit 5 | Rx=I15_Max_DMD | A | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F85H - 2F87H | 12165 - 12167 | Channel 15 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 15Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Current Demand for circuit 5 | Rx= | | | R |
| 2F88H - 2F89H | 12168 - 12169 | Channel 15 Power Demand | Single Phase: Power Demand for circuit 15Three Phase/ Single Phase-three wire: Phase C Power Demand for circuit 5 | Rx=P15_ DMD | kW | Float | R |
| 2F8AH - 2F8BH | 12170 - 12171 | Channel 15 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 15Three Phase/Single Phase-three wire: Phase C Power Demand Prediction for circuit 5 | Rx=P15_ Pred_ DMD | kW | Float | R |
| 2F8CH - 2F8DH | 12172 - 12173 | Channel 15 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 15Three Phase/Single Phase-three wire: Maximum Phase C Power Demand for circuit 5 | Rx=P15_ Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F8EH - 2F90H | 12174 - 12176 | Channel 15 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 15Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Power Demand for circuit 5 | Rx= | | | R |
| 2F91H - 2F92H | 12177 - 12178 | Channel 15 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 15Three Phase/Single Phase-three wire: Phase C Reactive Power Demand for circuit 5 | Rx=Q15_DMD | kvar | Float | R |
| 2F93H - 2F94H | 12179 - 12180 | Channel 15 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 15Three Phase/Single Phase-three wire: Phase C Reactive Power Demand Prediction for circuit 5 | Rx=Q15_Pred_DMD | kvar | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F95H - 2F96H | 12181 - 12182 | Channel 15 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 15Three Phase/Single Phase-three wire: Maximum Phase C Reactive Power Demand for circuit 5 | Rx=Q15_Max_DMD | kvar | Float | R |
| 2F97H - 2F99H | 12183 - 12185 | Channel 15 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 15Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Reactive Power Demand for circuit 5 | Rx= | | | R |
| 2F9AH - 2F9BH | 12186 - 12187 | Channel 15 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 15Three Phase/Single Phase-three wire: Phase C Apparent Power Demand for circuit 5 | Rx=S15_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2F9CH - 2F9DH | 12188 - 12189 | Channel 15 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 15Three Phase/Single Phase-three wire: Phase C Apparent Power Demand Prediction for circuit 5 | Rx=S15_ Pred_ DMD | kVA | Float | R |
| 2F9EH - 2F9FH | 12190 - 12191 | Channel 15 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 15Three Phase/Single Phase-three wire: Maximum Phase C Apparent Power Demand for circuit 5 | Rx=S15_ Max_DMD | kVA | Float | R |
| 2FA0H - 2FA2H | 12192 - 12194 | Channel 15 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 15Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase C Apparent Power Demand for circuit 5 | Rx= | | | R |
| 2FA3H - 2FA4H | 12195 - 12196 | Channel 16 Current Demand | Single Phase: Current Demand for circuit 16Three Phase/ Single Phase-three wire: Phase A Current Demand for circuit 6 | Rx=I16_ DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FA5H - 2FA6H | 12197 - 12198 | Channel 16 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 16Three Phase/Single Phase-three wire: Phase A Current Demand Prediction for circuit 6 | Rx=I16_Pred_DM | A | Float | R |
| 2FA7H - 2FA8H | 12199 - 12200 | Channel 16 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 16Three Phase/Single Phase-three wire: Maximum Phase A Current Demand for circuit 6 | Rx=I16_Max_DMD | A | Float | R |
| 2FA9H - 2FABH | 12201 - 12203 | Channel 16 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 16Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Current Demand for circuit 6 | Rx= | | | R |
| 2FACH - 2FADH | 12204 - 12205 | Channel 16 Power Demand | Single Phase: Power Demand for circuit 16Three Phase/ Single Phase-three wire: Phase A Power Demand for circuit 6 | Rx=P16_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FAEH - 2FAFH | 12206 - 12207 | Channel 16 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 16Three Phase/Single Phase-three wire: Phase A Power Demand Prediction for circuit 6 | Rx=P16_ Pred_ DMD | kW | Float | R |
| 2FB0H - 2FB1H | 12208 - 12209 | Channel 16 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 16Three Phase/Single Phase-three wire: Maximum Phase A Power Demand for circuit 6 | Rx=P16_ Max_DMD | kW | Float | R |
| 2FB2H - 2FB4H | 12210 - 12212 | Channel 16 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 16Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Power Demand for circuit 6 | Rx= | | | R |
| 2FB5H - 2FB6H | 12213 - 12214 | Channel 16 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 16Three Phase/Single Phase-three wire: Phase A Reactive Power Demand for circuit 6 | Rx=Q16_ DMD | kvar | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FB7H - 2FB8H | 12215 - 12216 | Channel 16 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 16Three Phase/Single Phase-three wire: Phase A Reactive Power Demand Prediction for circuit 6 | Rx=Q16_Pred_DMD | kvar | Float | R |
| 2FB9H - 2FBAH | 12217 - 12218 | Channel 16 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 16Three Phase/Single Phase-three wire: Maximum Phase A Reactive Power Demand for circuit 6 | Rx=Q16_Max_DMD | kvar | Float | R |
| 2FBBH - 2FBDH | 12219 - 12221 | Channel 16 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 16Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase A Reactive Power Demand for circuit 6 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FBEH - 2FBFH | 12222 - 12223 | Channel 16 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 16Three Phase/Single Phase-three wire: Phase A Apparent Power Demand for circuit 6 | Rx=S16_DMD | kVA | Float | R |
| 2FC0H - 2FC1H | 12224 - 12225 | Channel 16 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 16Three Phase/Single Phase-three wire: Phase A Apparent Power Demand Prediction for circuit 6 | Rx=S16_Pred_DMD | kVA | Float | R |
| 2FC2H - 2FC3H | 12226 - 12227 | Channel 16 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 16Three Phase/Single Phase-three wire: Maximum Phase A Apparent Power Demand for circuit 6 | Rx=S16_Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FC4H - 2FC6H | 12228 - 12230 | Channel 16 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 16Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase A Apparent Power Demand for circuit 6 | Rx= | | | R |
| 2FC7H - 2FC8H | 12231 - 12232 | Channel 17 Current Demand | Single Phase: Current Demand for circuit 17Three Phase/Single Phase-three wire: Phase B Current Demand for circuit 6 | Rx=I17_ DMD | A | Float | R |
| 2FC9H - 2FCAH | 12233 - 12234 | Channel 17 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 17Three Phase/Single Phase-three wire: Phase B Current Demand Prediction for circuit 6 | Rx=I17_ Pred_DM | A | Float | R |
| 2FCBH - 2FCCH | 12235 - 12236 | Channel 17 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 17Three Phase/Single Phase-three wire: Maximum Phase B Current Demand for circuit 6 | Rx=I17_ Max_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FCDH - 2FCFH | 12237 - 12239 | Channel 17 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 17Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Current Demand for circuit 6 | Rx= | | | R |
| 2FD0H - 2FD1H | 12240 - 12241 | Channel 17 Power Demand | Single Phase: Power Demand for circuit 17Three Phase/ Single Phase-three wire: Phase B Power Demand for circuit 6 | Rx=P17_DMD | kW | Float | R |
| 2FD2H - 2FD3H | 12242 - 12243 | Channel 17 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 17Three Phase/Single Phase-three wire: Phase B Power Demand Prediction for circuit 6 | Rx=P17_Pred_DMD | kW | Float | R |
| 2FD4H - 2FD5H | 12244 - 12245 | Channel 17 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 17Three Phase/Single Phase-three wire: Maximum Phase B Power Demand for circuit 6 | Rx=P17_Max_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FD6H - 2FD8H | 12246 - 12248 | Channel 17 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 17Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Power Demand for circuit 6 | Rx= | | | R |
| 2FD9H - 2FDAH | 12249 - 12250 | Channel 17 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 17Three Phase/Single Phase-three wire: Phase B Reactive Power Demand for circuit 6 | Rx=Q17_DMD | kvar | Float | R |
| 2FDBH - 2FDCH | 12251 - 12252 | Channel 17 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 17Three Phase/Single Phase-three wire: Phase B Reactive Power Demand Prediction for circuit 6 | Rx=Q17_Pred_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FDDH - 2FDEH | 12253 - 12254 | Channel 17 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 17Three Phase/Single Phase-three wire: Maximum Phase B Reactive Power Demand for circuit 6 | Rx=Q17_Max_DMD | kvar | Float | R |
| 2FDFH - 2FE1H | 12255 - 12257 | Channel 17 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 17Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Reactive Power Demand for circuit 6 | Rx= | | | R |
| 2FE2H - 2FE3H | 12258 - 12259 | Channel 17 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 17Three Phase/Single Phase-three wire: Phase B Apparent Power Demand for circuit 6 | Rx=S17_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FE4H - 2FE5H | 12260 - 12261 | Channel 17 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 17Three Phase/Single Phase-three wire: Phase B Apparent Power Demand Prediction for circuit 6 | Rx=S17_Pred_DMD | kVA | Float | R |
| 2FE6H - 2FE7H | 12262 - 12263 | Channel 17 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 17Three Phase/Single Phase-three wire: Maximum Phase B Apparent Power Demand for circuit 6 | Rx=S17_Max_DMD | kVA | Float | R |
| 2FE8H - 2FEAH | 12264 - 12266 | Channel 17 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 17Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase B Apparent Power Demand for circuit 6 | Rx= | | | R |
| 2FEBH - 2FECH | 12267 - 12268 | Channel 18 Current Demand | Single Phase: Current Demand for circuit 18Three Phase/Single Phase-three wire: Phase C Current Demand for circuit 6 | Rx=I18_DMD | A | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FEDH - 2FEEH | 12269 - 12270 | Channel 18 Current Demand Prediction | Single Phase: Current Demand Prediction for circuit 18Three Phase/Single Phase-three wire: Phase C Current Demand Prediction for circuit 6 | Rx=I18_Pred_DM | A | Float | R |
| 2FEFH - 2FF0H | 12271 - 12272 | Channel 18 Peak Current Demand | Single Phase: Maximum Current Demand for circuit 18Three Phase/Single Phase-three wire: Maximum Phase C Current Demand for circuit 6 | Rx=I18_Max_DMD | A | Float | R |
| 2FF1H - 2FF3H | 12273 - 12275 | Channel 18 Peak Current Demand Time | Single Phase: Time Stamp for Maximum Current Demand for circuit 18Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Current Demand for circuit 6 | Rx= | | | R |
| 2FF4H - 2FF5H | 12276 - 12277 | Channel 18 Power Demand | Single Phase: Power Demand for circuit 18Three Phase/Single Phase-three wire: Phase C Power Demand for circuit 6 | Rx=P18_DMD | kW | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FF6H - 2FF7H | 12278 - 12279 | Channel 18 Power Demand Prediction | Single Phase: Power Demand Prediction for circuit 18Three Phase/Single Phase-three wire: Phase C Power Demand Prediction for circuit 6 | Rx=P18_Pred_DMD | kW | Float | R |
| 2FF8H - 2FF9H | 12280 - 12281 | Channel 18 Peak Power Demand | Single Phase: Maximum Power Demand for circuit 18Three Phase/Single Phase-three wire: Maximum Phase C Power Demand for circuit 6 | Rx=P18_Max_DMD | kW | Float | R |
| 2FFAH - 2FFCH | 12282 - 12284 | Channel 18 Peak Power Demand Time | Single Phase: Time Stamp for Maximum Power Demand for circuit 18Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Power Demand for circuit 6 | Rx= | | | R |
| 2FFDH - 2FFEH | 12285 - 12286 | Channel 18 Reactive Power Demand | Single Phase: Reactive Power Demand for circuit 18Three Phase/Single Phase-three wire: Phase C Reactive Power Demand for circuit 6 | Rx=Q18_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 2FFFH - 3000H | 12287 - 12288 | Channel 18 Reactive Power Demand Prediction | Single Phase: Reactive Power Demand Prediction for circuit 18Three Phase/Single Phase-three wire: Phase C Reactive Power Demand Prediction for circuit 6 | Rx=Q18_Pred_DMD | kvar | Float | R |
| 3001H - 3002H | 12289 - 12290 | Channel 18 Peak Reactive Power Demand | Single Phase: Maximum Reactive Power Demand for circuit 18Three Phase/Single Phase-three wire: Maximum Phase C Reactive Power Demand for circuit 6 | Rx=Q18_Max_DMD | kvar | Float | R |
| 3003H - 3005H | 12291 - 12293 | Channel 18 Peak Reactive Power Demand Time | Single Phase: Time Stamp for Maximum Reactive Power Demand for circuit 18Three Phase/Single Phase-three wire: Time Stamp for Maximum Phase C Reactive Power Demand for circuit 6 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3006H - 3007H | 12294 - 12295 | Channel 18 Apparent Power Demand | Single Phase: Apparent Power Demand for circuit 18Three Phase/Single Phase-three wire: Phase C Apparent Power Demand for circuit 6 | Rx=S18_DMD | kVA | Float | R |
| 3008H - 3009H | 12296 - 12297 | Channel 18 Apparent Power Demand Prediction | Single Phase: Apparent Power Demand Prediction for circuit 18Three Phase/Single Phase-three wire: Phase C Apparent Power Demand Prediction for circuit 6 | Rx=S18_Pred_DMD | kVA | Float | R |
| 300AH - 300BH | 12298 - 12299 | Channel 18 Peak Apparent Power Demand | Single Phase: Maximum Apparent Power Demand for circuit 18Three Phase/Single Phase-three wire: Maximum Phase C Apparent Power Demand for circuit 6 | Rx=S18_Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 300CH - 300EH | 12300 - 12302 | Channel 18 Peak Apparent Power Demand Time | Single Phase: Time Stamp for Maximum Apparent Power Demand for circuit 18Three Phase/ Single Phase-three wire: Time Stamp for Maximum Phase C Apparent Power Demand for circuit 6 | Rx= | | | R |
| 300FH - 3010H | 12303 - 12304 | User Channel 1 Total Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Power Demand for circuit 1 | Rx=P1_DMD | kW | Float | R |
| 3011H - 3012H | 12305 - 12306 | User Channel 1 Total Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Power Demand Prediction for circuit 1 | Rx=P1_Pred_DMD | kW | Float | R |
| 3013H - 3014H | 12307 - 12308 | User Channel 1 Total Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Power Demand for circuit 1 | Rx=P1_Max_DMD | kW | Float | R |
| 3015H - 3017H | 12309 - 12311 | User Channel 1 Total Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Power Demand for circuit 1 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3018H - 3019H | 12312 - 12313 | User Channel 1 Total Reactive Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand for circuit 1 | Rx=Q1_ DMD | kvar | Float | R |
| 301AH - 301BH | 12314 - 12315 | User Channel 1 Total Reactive Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand Prediction for circuit 1 | Rx=Q1_ Pred_ DMD | kvar | Float | R |
| 301CH - 301DH | 12316 - 12317 | User Channel 1 Total Reactive Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Reactive Power Demand for circuit 1 | Rx=Q1_ Max_DMD | kvar | Float | R |
| 301EH - 3020H | 12318 - 12320 | User Channel 1 Total Reactive Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Reactive Power Demand for circuit 1 | Rx= | | | R |
| 3021H - 3022H | 12321 - 12322 | User Channel 1 Total Apparent Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand for circuit 1 | Rx=S1_ DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3023H - 3024H | 12323 - 12324 | User Channel 1 Total Apparent Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand Prediction for circuit 1 | Rx=S1_ Pred_ DMD | kVA | Float | R |
| 3025H - 3026H | 12325 - 12326 | User Channel 1 Total Apparent Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Apparent Power Demand for circuit 1 | Rx=S1_ Max_DMD | kVA | Float | R |
| 3027H - 3029H | 12327 - 12329 | User Channel 1 Total Apparent Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Apparent Power Demand for circuit 1 | Rx= | | | R |
| 302AH - 302BH | 12330 - 12331 | User Channel 2 Total Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Power Demand for circuit 2 | Rx=P2_ DMD | kW | Float | R |
| 302CH - 302DH | 12332 - 12333 | User Channel 2 Total Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Power Demand Prediction for circuit 2 | Rx=P2_ Pred_ DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 302EH - 302FH | 12334 - 12335 | User Channel 2 Total Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Power Demand for circuit 2 | Rx=P2_Max_DMD | kW | Float | R |
| 3030H - 3032H | 12336 - 12338 | User Channel 2 Total Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Power Demand for circuit 2 | Rx= | | | R |
| 3033H - 3034H | 12339 - 12340 | User Channel 2 Total Reactive Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand for circuit 2 | Rx=Q2_DMD | kvar | Float | R |
| 3035H - 3036H | 12341 - 12342 | User Channel 2 Total Reactive Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand Prediction for circuit 2 | Rx=Q2_Pred_DMD | kvar | Float | R |
| 3037H - 3038H | 12343 - 12344 | User Channel 2 Total Reactive Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Reactive Power Demand for circuit 2 | Rx=Q2_Max_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3039H - 303BH | 12345 - 12347 | User Channel 2 Total Reactive Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Reactive Power Demand for circuit 2 | Rx= | | | R |
| 303CH - 303DH | 12348 - 12349 | User Channel 2 Total Apparent Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand for circuit 2 | Rx=S2_DMD | kVA | Float | R |
| 303EH - 303FH | 12350 - 12351 | User Channel 2 Total Apparent Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand Prediction for circuit 2 | Rx=S2_Pred_DMD | kVA | Float | R |
| 3040H - 3041H | 12352 - 12353 | User Channel 2 Total Apparent Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Apparent Power Demand for circuit 2 | Rx=S2_Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3042H - 3044H | 12354 - 12356 | User Channel 2 Total Apparent Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Apparent Power Demand for circuit 2 | Rx= | | | R |
| 3045H - 3046H | 12357 - 12358 | User Channel 3 Total Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Power Demand for circuit 3 | Rx=P3_DMD | kW | Float | R |
| 3047H - 3048H | 12359 - 12360 | User Channel 3 Total Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Power Demand Prediction for circuit 3 | Rx=P3_Pred_DMD | kW | Float | R |
| 3049H - 304AH | 12361 - 12362 | User Channel 3 Total Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Power Demand for circuit 3 | Rx=P3_Max_DMD | kW | Float | R |
| 304BH - 304DH | 12363 - 12365 | User Channel 3 Total Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Power Demand for circuit 3 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 304EH - 304FH | 12366 - 12367 | User Channel 3 Total Reactive Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand for circuit 3 | Rx=Q3_DMD | kvar | Float | R |
| 3050H - 3051H | 12368 - 12369 | User Channel 3 Total Reactive Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand Prediction for circuit 3 | Rx=Q3_Pred_DMD | kvar | Float | R |
| 3052H - 3053H | 12370 - 12371 | User Channel 3 Total Reactive Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Reactive Power Demand for circuit 3 | Rx=Q3_Max_DMD | kvar | Float | R |
| 3054H - 3056H | 12372 - 12374 | User Channel 3 Total Reactive Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Reactive Power Demand for circuit 3 | Rx= | | | R |
| 3057H - 3058H | 12375 - 12376 | User Channel 3 Total Apparent Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand for circuit 3 | Rx=S3_DMD | kVA | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3059H - 305AH | 12377 - 12378 | User Channel 3 Total Apparent Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand Prediction for circuit 3 | Rx=S3_Pred_DMD | kVA | Float | R |
| 305BH - 305CH | 12379 - 12380 | User Channel 3 Total Apparent Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Apparent Power Demand for circuit 3 | Rx=S3_Max_DMD | kVA | Float | R |
| 305DH - 305FH | 12381 - 12383 | User Channel 3 Total Apparent Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Apparent Power Demand for circuit 3 | Rx= | | | R |
| 3060H - 3061H | 12384 - 12385 | User Channel 4 Total Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Power Demand for circuit 4 | Rx=P4_DMD | kW | Float | R |
| 3062H - 3063H | 12386 - 12387 | User Channel 4 Total Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Power Demand Prediction for circuit 4 | Rx=P4_Pred_DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3064H - 3065H | 12388 - 12389 | User Channel 4 Total Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Power Demand for circuit 4 | Rx=P4_Max_DMD | kW | Float | R |
| 3066H - 3068H | 12390 - 12392 | User Channel 4 Total Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Power Demand for circuit 4 | Rx= | | | R |
| 3069H - 306AH | 12393 - 12394 | User Channel 4 Total Reactive Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand for circuit 4 | Rx=Q4_DMD | kvar | Float | R |
| 306BH - 306CH | 12395 - 12396 | User Channel 4 Total Reactive Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand Prediction for circuit 4 | Rx=Q4_Pred_DMD | kvar | Float | R |
| 306DH - 306EH | 12397 - 12398 | User Channel 4 Total Reactive Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Reactive Power Demand for circuit 4 | Rx=Q4_Max_DMD | kvar | Float | R |

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| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 306FH - 3071H | 12399 - 12401 | User Channel 4 Total Reactive Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Reactive Power Demand for circuit 4 | Rx= | | | R |
| 3072H - 3073H | 12402 - 12403 | User Channel 4 Total Apparent Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand for circuit 4 | Rx=S4_DMD | kVA | Float | R |
| 3074H - 3075H | 12404 - 12405 | User Channel 4 Total Apparent Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand Prediction for circuit 4 | Rx=S4_Pred_DMD | kVA | Float | R |
| 3076H - 3077H | 12406 - 12407 | User Channel 4 Total Apparent Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Apparent Power Demand for circuit 4 | Rx=S4_Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3078H - 307AH | 12408 - 12410 | User Channel 4 Total Apparent Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Apparent Power Demand for circuit 4 | Rx= | | | R |
| 307BH - 307CH | 12411 - 12412 | User Channel 5 Total Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Power Demand for circuit 5 | Rx=P5_DMD | kW | Float | R |
| 307DH - 307EH | 12413 - 12414 | User Channel 5 Total Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Power Demand Prediction for circuit 5 | Rx=P5_Pred_DMD | kW | Float | R |
| 307FH - 3080H | 12415 - 12416 | User Channel 5 Total Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Power Demand for circuit 5 | Rx=P5_Max_DMD | kW | Float | R |
| 3081H - 3083H | 12417 - 12419 | User Channel 5 Total Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Power Demand for circuit 5 | Rx= | | | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 3084H - 3085H | 12420 - 12421 | User Channel 5 Total Reactive Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand for circuit 5 | Rx=Q5_ DMD | kvar | Float | R |
| 3086H - 3087H | 12422 - 12423 | User Channel 5 Total Reactive Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand Prediction for circuit 5 | Rx=Q5_ Pred_ DMD | kvar | Float | R |
| 3088H - 3089H | 12424 - 12425 | User Channel 5 Total Reactive Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Reactive Power Demand for circuit 5 | Rx=Q5_ Max_DMD | kvar | Float | R |
| 308AH - 308CH | 12426 - 12428 | User Channel 5 Total Reactive Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Reactive Power Demand for circuit 5 | Rx= | | | R |
| 308DH - 308EH | 12429 - 12430 | User Channel 5 Total Apparent Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand for circuit 5 | Rx=S5_ DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 308FH - 3090H | 12431 - 12432 | User Channel 5 Total Apparent Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand Prediction for circuit 5 | Rx=S5_ Pred_ DMD | kVA | Float | R |
| 3091H - 3092H | 12433 - 12434 | User Channel 5 Total Apparent Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Apparent Power Demand for circuit 5 | Rx=S5_ Max_DMD | kVA | Float | R |
| 3093H - 3095H | 12435 - 12437 | User Channel 5 Total Apparent Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Apparent Power Demand for circuit 5 | Rx= | | | R |
| 3096H - 3097H | 12438 - 12439 | User Channel 6 Total Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Power Demand for circuit 6 | Rx=P6_ DMD | kW | Float | R |
| 3098H - 3099H | 12440 - 12441 | User Channel 6 Total Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Power Demand Prediction for circuit 6 | Rx=P6_ Pred_ DMD | kW | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 309AH - 309BH | 12442 - 12443 | User Channel 6 Total Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Power Demand for circuit 6 | Rx=P6_Max_DMD | kW | Float | R |
| 309CH - 309EH | 12444 - 12446 | User Channel 6 Total Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Power Demand for circuit 6 | Rx= | | | R |
| 309FH - 30A0H | 12447 - 12448 | User Channel 6 Total Reactive Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand for circuit 6 | Rx=Q6_DMD | kvar | Float | R |
| 30A1H - 30A2H | 12449 - 12450 | User Channel 6 Total Reactive Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Reactive Power Demand Prediction for circuit 6 | Rx=Q6_Pred_DMD | kvar | Float | R |
| 30A3H - 30A4H | 12451 - 12452 | User Channel 6 Total Reactive Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Reactive Power Demand for circuit 6 | Rx=Q6_Max_DMD | kvar | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 30A5H - 30A7H | 12543 - 12455 | User Channel 6 Total Reactive Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Reactive Power Demand for circuit 6 | Rx= | | | R |
| 30A8H - 30A9H | 12456 - 12457 | User Channel 6 Total Apparent Power Demand | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand for circuit 6 | Rx=S6_DMD | kVA | Float | R |
| 30AAH - 30ABH | 12458 - 12459 | User Channel 6 Total Apparent Power Demand Prediction | Three Phase-four wire/Single Phase-three-wire: Total Apparent Power Demand Prediction for circuit 6 | Rx=S6_Pred_DMD | kVA | Float | R |
| 30ACH - 30ADH | 12460 - 12461 | User Channel 6 Total Apparent Power Demand Peak | Three Phase-four wire/Single Phase-three-wire: Maximum Total Apparent Power Demand for circuit 6 | Rx=S6_Max_DMD | kVA | Float | R |

| Address (H) | Address (D) | Parameters | Description | Relationship | Property | Data Type | Access Property |
|---|---|---|---|---|---|---|---|
| 30AEH - 30B0H | 12462 - 12464 | User Channel 6 Total Apparent Power Demand Peak Time | Three Phase-four wire/Single Phase-three-wire: Time Stamp for Maximum Total Apparent Power Demand for circuit 6 | Rx= | | | R |

## Power Quality

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| | | Incoming Power Quality | | | |
| 3200H | 12800 | Voltage Unbalance | | word | R |
| 3201H | 12801 | U1 or U12 Harmonic Distortion THD-U1 | | word | R |
| 3202H | 12802 | U2 or U23 Harmonic Distortion THD-U2 | | word | R |
| 3203H | 12803 | U3 or U31 Harmonic Distortion THD-U3 | | word | R |
| 3204H | 12804 | Average Voltage Harmonic Distortion | | word | R |
| 3205H | 12805 | U1 or U12 2nd Harmonic | | word | R |
| 3206H | 12806 | U1 or U12 3rd Harmonic | | word | R |
| ...... | | ...... | | word | R |
| 3222H | 12834 | U1 or U12 31st Harmonic | | word | R |
| 3223H | 12835 | U2 or U23 2nd Harmonic | | word | R |
| 3224H | 12836 | U2 or U23 3rd Harmonic | | word | R |
| ...... | | ...... | | word | R |

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 3240H | 12864 | U2 or U23 31st Harmonic | | word | R |
| 3241H | 12865 | U3 or U31 2nd Harmonic | | word | R |
| 3242H | 12866 | U3 or U31 3rd Harmonic | | word | R |
| ...... | | ...... | | word | R |
| 325EH | 12894 | U3 or U31 31st Harmonic | | word | R |
| 325FH | 12895 | Current Unbalance | | Word | R |
| 3260H | 12896 | U1 Odd Harmonic Distortion | | Word | R |
| 3261H | 12897 | U1 Even Harmonic Distortion | | Word | R |
| 3262H | 12898 | U1 Crest Factor | | Word | R |
| 3263H | 12899 | U1 Telephone Harmonic Form Factor | | Word | R |
| 3264H | 12900 | U2 Odd Harmonic Distortion | | Word | R |
| 3265H | 12901 | U2 Even Harmonic Distortion | | Word | R |
| 3266H | 12902 | U2 Crest Factor | | Word | R |
| 3267H | 12903 | U2 Telephone Harmonic Form Factor | | Word | R |
| 3268H | 12904 | U3 Odd Harmonic Distortion | | Word | R |
| 3269H | 12905 | U3 Even Harmonic Distortion | | Word | R |
| 326AH | 12906 | U3 Crest Factor | | Word | R |
| 326BH | 12907 | U3 Telephone Harmonic Form Factor | | Word | R |
| 32A0H | 12960 | Channel 1 Current Odd Harmonic Distortion | | Word | R |
| 32A1H | 12961 | Channel 1 Current Even Harmonic Distortion | | Word | R |

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 32A2H | 12962 | Channel 1 Current K Factor | | Word | R |
| 32A3H | 12963 | Channel 2 Current Odd Harmonic Distortion | | Word | R |
| 32A4H | 12964 | Channel 2 Current Even Harmonic Distortion | | Word | R |
| 32A5H | 12965 | Channel 2 Current K Factor | | Word | R |
| 32A6H | 12966 | Channel 3 Current Odd Harmonic Distortion | | Word | R |
| 32A7H | 12967 | Channel 3 Current Even Harmonic Distortion | | Word | R |
| 32A8H | 12968 | Channel 3 Current K Factor | | Word | R |
| 32A9H | 12969 | Channel 4 Current Odd Harmonic Distortion | | Word | R |
| 32AAH | 12970 | Channel 4 Current Even Harmonic Distortion | | Word | R |
| 32ABH | 12971 | Channel 4 Current K Factor | | Word | R |
| 32ACH | 12972 | Channel 5 Current Odd Harmonic Distortion | | Word | R |
| 32ADH | 12973 | Channel 5 Current Even Harmonic Distortion | | Word | R |
| 32AEH | 12974 | Channel 5 Current K Factor | | Word | R |
| 32AFH | 12975 | Channel 6 Current Odd Harmonic Distortion | | Word | R |
| 32B0H | 12976 | Channel 6 Current Even Harmonic Distortion | | Word | R |

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 32B1H | 12977 | Channel 6 Current K Factor | | Word | R |
| 32B2H | 12978 | Channel 7 Current Odd Harmonic Distortion | | Word | R |
| 32B3H | 12979 | Channel 7 Current Even Harmonic Distortion | | Word | R |
| 32B4H | 12980 | Channel 7 Current K Factor | | Word | R |
| 32B5H | 12981 | Channel 8 Current Odd Harmonic Distortion | | Word | R |
| 32B6H | 12982 | Channel 8 Current Even Harmonic Distortion | | Word | R |
| 32B7H | 12983 | Channel 8 Current K Factor | | Word | R |
| 32B8H | 12984 | Channel 9 Current Odd Harmonic Distortion | | Word | R |
| 32B9H | 12985 | Channel 9 Current Even Harmonic Distortion | | Word | R |
| 32BAH | 12986 | Channel 9 Current K Factor | | Word | R |
| 32BBH | 12987 | Channel 10 Current Odd Harmonic Distortion | | Word | R |
| 32BCH | 12988 | Channel 10 Current Even Harmonic Distortion | | Word | R |
| 32BDH | 12989 | Channel 10 Current K Factor | | Word | R |
| 32BEH | 12990 | Channel 11 Current Odd Harmonic Distortion | | Word | R |
| 32BFH | 12991 | Channel 11 Current Even Harmonic Distortion | | Word | R |
| 32C0H | 12992 | Channel 11 Current K Factor | | Word | R |

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 32C1H | 12993 | Channel 12 Current Odd Harmonic Distortion | | Word | R |
| 32C2H | 12994 | Channel 12 Current Even Harmonic Distortion | | Word | R |
| 32C3H | 12995 | Channel 12 Current K Factor | | Word | R |
| 32C4H | 12996 | Channel 13 Current Odd Harmonic Distortion | | Word | R |
| 32C5H | 12997 | Channel 13 Current Even Harmonic Distortion | | Word | R |
| 32C6H | 12998 | Channel 13 Current K Factor | | Word | R |
| 32C7H | 12999 | Channel 14 Current Odd Harmonic Distortion | | Word | R |
| 32C8H | 13000 | Channel 14 Current Even Harmonic Distortion | | Word | R |
| 32C9H | 13001 | Channel 14 Current K Factor | | Word | R |
| 32CAH | 13002 | Channel 15 Current Odd Harmonic Distortion | | Word | R |
| 32CBH | 13003 | Channel 15 Current Even Harmonic Distortion | | Word | R |
| 32CCH | 13004 | Channel 15 Current K Factor | | Word | R |
| 32CDH | 13005 | Channel 16 Current Odd Harmonic Distortion | | Word | R |
| 32CEH | 13006 | Channel 16 Current Even Harmonic Distortion | | Word | R |
| 32CFH | 13007 | Channel 16 Current K Factor | | Word | R |
| 32D0H | 13008 | Channel 17 Current Odd Harmonic Distortion | | Word | R |

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 32D1H | 13009 | Channel 17 Current Even Harmonic Distortion | | Word | R |
| 32D2H | 13010 | Channel 17 Current K Factor | | Word | R |
| 32D3H | 13011 | Channel 18 Current Odd Harmonic Distortion | | Word | R |
| 32D4H | 13012 | Channel 18 Current Even Harmonic Distortion | | Word | R |
| 32D5H | 13013 | Channel 18 Current K Factor | | Word | R |
| | | 18 Single - Phase Data | | | |
| 3300H | 13056 | Channel 1 Current THD-I1 | | word | R |
| 3301H | 13057 | Channel 1 Current 2nd  Harmonic | | word | R |
| ...... | | ...... | | word | R |
| 331EH | 13086 | Channel 1 Current 31st Harmonic | | word | R |
| 331FH - 333DH | 13087 - 13117 | Channel 2 Current Harmonic Data | Same as Channel 1 | word | R |
| 333EH - 335CH | 13118 - 13148 | Channel 3 Current Harmonic Data | Same as Channel 1 | word | R |
| 335DH - 337BH | 13149 - 13179 | Channel 4 Current Harmonic Data | Same as Channel 1 | word | R |
| 337CH - 339AH | 13180 - 13210 | Channel 5 Current Harmonic Data | Same as Channel 1 | word | R |
| 339BH - 33B9H | 13211 - 13241 | Channel 6 Current Harmonic Data | Same as Channel 1 | word | R |

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| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 33BAH - 33D8H | 13242 - 13272 | Channel 7 Current Harmonic Data | Same as Channel 1 | word | R |
| 33D9H - 33F7H | 13273 - 13303 | Channel 8 Current Harmonic Data | Same as Channel 1 | word | R |
| 33F8H - 3416H | 13304 - 13334 | Channel 9 Current Harmonic Data | Same as Channel 1 | word | R |
| 3417H - 3435H | 13335 - 13365 | Channel 10 Current Harmonic Data | Same as Channel 1 | word | R |
| 3436H - 3454H | 13366 - 13396 | Channel 11 Current Harmonic Data | Same as Channel 1 | word | R |
| 3455H - 3473H | 13397 - 13427 | Channel 12 Current Harmonic Data | Same as Channel 1 | word | R |
| 3474H - 3492H | 13428 - 13458 | Channel 13 Current Harmonic Data | Same as Channel 1 | word | R |
| 3493H - 34B1H | 13459 - 13489 | Channel 14 Current Harmonic Data | Same as Channel 1 | word | R |
| 34B2H - 34D0H | 13490 - 13520 | Channel 15 Current Harmonic Data | Same as Channel 1 | word | R |
| 34D1H - 34EFH | 13521 - 13551 | Channel 16 Current Harmonic Data | Same as Channel 1 | word | R |

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 34F0H - 350EH | 13552 - 13582 | Channel 17 Current Harmonic Data | Same as Channel 1 | word | R |
| 350FH - 352DH | 13583 - 13613 | Channel 18 Current Harmonic Data | Same as Channel 1 | word | R |
| Channel 1 - Channel 18 single phase 3 line data | | | | | |
| 352EH | 13614 | User 1 Three-Phase/Single Three Current Unbalance | | word | R |
| 352FH | 13615 | User 2 Three-Phase/Single Three Current Unbalance | | word | R |
| 3530H | 13616 | User 3 Three-Phase/Single Three Current Unbalance | | word | R |
| 3531H | 13617 | User 4 Three-Phase/Single Three Current Unbalance | | word | R |
| 3532H | 13618 | User 5 Three-Phase/Single Three Current Unbalance | | word | R |
| 3533H | 13619 | User 6 Three-Phase/Single Three Current Unbalance | | word | R |

## Alarm Log

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 3700 | 14080 | Alarm status of currently read record | | integer | R |
| 3701 | 14081 | The serial number of the parameter currently being read | 0 - 352 | integer | R |

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| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 3702 | 14082 | The current reading recorded -limit or restore the parameters' values | | integer | R |
| 3703 - 3709 | 14083 - 14089 | Occurrence time of current read record | Year, month, day, hour, minute, second, millisecond | integer | R |
| 370A | 14090 | The group number of the latest alarm record | 1- 2 0 , 0 means no alarm record | integer | R |
| 370B | 14091 | Alarm record number currently read | 1- 2 0, other values are invalid | integer | R/W |
| 370CH - 3715H | 14092 - 14101 | First . 1 Article alarm log (record format with the current read) | The format is the same as the current reading record | | R |
| 3716H - 371FH | 14102 - 14111 | Article 2 Alarm record (the format is the same as the current reading record) | The format is the same as the current reading record | | R |
| 3720H - 37D3H | 14112 - 14291 | Of 3 ~ section 20 is Article alarm records | | | |

Alarm status: the high byte indicates the alarm channel number 1-10, the low byte bit0 is 1 indicates that the alarm is generated, and 0 indicates that the alarm is restored

Only one alarm record can be read at a time, by reading the setting of (a current reading alarm record number)

## System Event

| Address (H) | Address (D) | Parameter | Range | Data Type | Access Property |
|---|---|---|---|---|---|
| 3800H - 3805H | 14336 - 14341 | The time when the current system event record was read | Year, month, day, hour, minute, second | word | R |
| 3806H | 14342 | Event ID currently reading the system event record | 1-16 Indicates 1-16 events | word | |
| 3807H | 14343 | The latest event record group number | 1-100 , 0 means no | word | |
| 3808H | 14344 | The record number of the currently read event | 1-100 , other values are invalid | word | R/W |
| 6000H - 6006H | 24576 - 24582 | Article 1 System Event Record (The format is the same as the current read system event record ) | (The format is the same as the current reading system event record ) | | R |
| 6007H - 62BBH | 24583 - 25275 | Of 2 Article ~ section 100 Article System Event Log (reading system event format with the current record) | (The format is the same as the current reading system event record ) | | R |

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