



INSTRUCTION MANUAL
MTS21
SMART ENERGY METER



1. GENERAL DESCRIPTION

The MTS21 Smart energy meter is specifically designed to measure active and reactive energy for single-phase two-wire systems and various parameters. This smart device is equipped with Wi-Fi connectivity, allowing users to utilize the “Major Tech Hub” Smart App for remote monitoring and control. Voice Control available with Alexa and Google Assistant. It adheres to Wi-Fi 802.11b/g/n standards for seamless data communication. When installing the smart device, ensure that this is done by a qualified professional in accordance with wiring rules and codes in the country of installation making sure it is placed in an appropriate environment with an ambient temperature range of -25°C to 55°C. The relative humidity should be kept below 75%. The manufacturing of this device aligns with international standards, including IEC62052-11 for General Requirements for Electricity Metering Equipment (AC) and IEC62053-21 for Static meters/timers for Active Energy (Classes 1 & 2).

2. USAGE SYMBOLS



Wi-Fi LED indicator: This Blue LED indicates that the meter is in pairing mode. When the Wi-Fi LED indicator stops flashing, it signifies that successful pairing connection has been established.



Impulse LED indicator: This red LED flashes at varying speeds in response to the current load on the meter.



Relay LED indicator: When the Orange LED indicator is off it indicates that the MTS21 has power and is switched on. Conversely, when the Orange LED indicator is on, it means the MTS21 has power and is switched off (caution).

3. BASIC FEATURES

- **Smart App Compatibility:** Easily access advanced features by downloading the free “Major Tech Hub” Smart App.
- **Energy Consumption Insights:** Gain in-depth insights into your energy consumption through the Smart App.
- **Real-time Data Display:** Monitor real-time data including Voltage, Current, Active Power, Power Factor, and Frequency.
- **Loading Protection:** Configure the app to send alerts and automatically shut down devices in the event of over/under voltage (up to 450V spikes) and overcurrent.
NB: Please note that devices will need a manual restart after shutdown. It's important to be aware that this feature cannot guarantee protection against load shedding.
- **LCD Display:** The meter features a clear 99999.9kWh LCD display for easy reading.
- **Din Rail Compatibility:** Designed to be compatible with 35mm Din Rails for convenient installation.
- **Dual Mode Connectivity:** Enjoy flexibility with both Wi-Fi and Bluetooth connectivity options. When Wi-Fi is unavailable, the meter seamlessly switches to Bluetooth mode (keep in mind that Bluetooth has limited range).
- **Voice Control:** Securely integrates with Third-Party voice control platforms such as Alexa and Google Assistant for hands-free operation.

4. INSTALLATION AND CONNECTING THE DEVICE VIA THE APP

1. Mount the meter securely on a 35mm DIN rail.
2. Follow the connection diagram printed on the side of the MTS21 to correctly install. Tighten all screws securely during the installation process.
3. Download the free "Major Tech Hub" App from either the Google Play Store or Apple Store.
4. Access your phone's settings and grant all necessary permissions to the "Major Tech Hub" Smart App to ensure seamless integration.
5. Connect your phone to the 2.4GHZ Wi-Fi network (not compatible with 5GHz Networks).
6. When the meter is powered ON, press and hold the "⏻" button for 5 seconds. This action will put the meter into pairing mode, and you will see the Blue Wi-Fi LED indicator flashing.
7. **Add Device:** Ensure that your mobile phone is already connected to an available 2.4GHz Wi-Fi network. Then, Open the application and click on the "add device" icon.
8. For more detailed information and app features, consult the "Me" section at the bottom right corner of the home screen of the app.

5. ENERGY CONSUMPTION DOWNLOAD TO EXCEL:

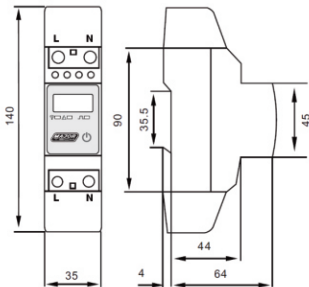
The Energy Consumption function lets users email a report for up to 2 months (e.g. 01/01/25 – 28/02/25). The downloadable Excel file provides daily readings for analysis or pre-paid meter billing.

5.1 How to download the sheet:

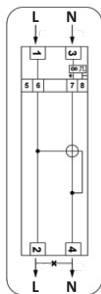
1. Open the "Major Tech Hub" app
2. Click on the corresponding MTS21
3. Click on the daily kilowatt hour (kWh) graph below the Major Tech Logo on the screen. When selected a panel with graph will appear. Select the custom tab on the top right.
4. Select your preferred date range at the bottom of the screen. **Note:** Please ensure that there is no more than 2 months of selected data at a time.
5. Click the Send via Email Button at the top of the page under custom to send your report via email for your analysis.
6. Open the attachment in the email once received and download it to your device.

NOTE: Email address is case sensitive. Please ensure that the email address is entered with lower case letters only. Example: example@gmail.com

6. PRODUCT DIMENSIONS (MM)



7. CONNECTION DIAGRAM



Note: Terminals 7 & 8 are used for calibration at factory. Do not attempt to make any connections using these terminals, this may result in damage to the unit and/or incorrect readings and will void its warranty.

8. LCD DISPLAY READING EXAMPLES

	Information	LCD Display		Information	LCD Display
1	Impulse Imp/kWh	C 0000	6	Real voltage V	U 000.0
2	Total energy kWh	00000.0	7	Real active power W	P 00000.0
3	Positive kWh	00000	8	Real reactive power Var	Q 00000.0
4	Reverse kWh	-00000	9	power factor COS	PF 0.00
5	Real current A	I 000.00	10	Real frequency Hz	F 00.00

9. PRODUCT SPECIFICATIONS

Function	Range
Rated Frequency	50/60Hz
Rated Current	65A Max.
Power	9600W (Resistive Load)
Rated Voltage	110V/220V AC
Voltage range	85V - 260V AC
Approvals	RCC / RCM / ICASA / CE
kWh accuracy	Class 1
R.M.S accuracy	Class 0.5
Current circuit	<1.5VA
Voltage circuit	<2W/8VA
Starting current	0.004Ib (20mA)
LCD	99999.9kWh
Wi-Fi	802.11B/G/N, ONLY SUPPORTS 2.4GHZ NETWORKS, NOT SUPPORTED ON 5GHZ NETWORK
Operation temperature	-25°C to 55°C
Voice Control	Alexa and Google Home
Standards	IEC 60669-2-1 (AS 60669.12.1:2020), IEC 60669-2-2, IEC 60730-2-7, IEC 60730-2-7, IEC 60730-1, IEC 61010-1, IEC 62368-1, ENIEC 62311:2020, ETSI EN 300 328 V2.2.2, ETSI EN 301 489-1 V2.2.3, ETSI EN 301 489-17 V3.2.5

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