INSTRUCTION MANUAL

SMART ENERGY METER & TIMER
MTS21

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1. GENERAL DESCRIPTION

The MTS21 Smart energy meter & timer 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. 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 South African regulations and 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 and 2).

2. USAGE SYMBOLS

Wi-Fi LED indicator: This Blue LED indicates that the meter is in Wi-Fi distribution network waiting mode. When the Wi-Fi LED indicator stops flashing, it signifies a successful Wi-Fi connection.

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

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

3. BASIC FEATURES

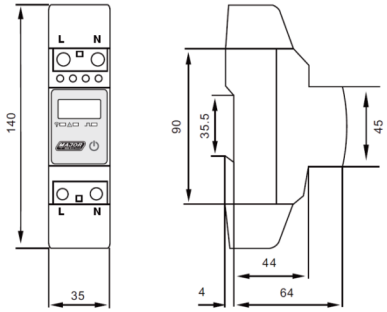
- **Smart App Compatibility:** Easily access advanced features by downloading the free Major Tech Hub Smart App.
- **Energy Consumption Insights:** Gain in-depth insights into your energy consumption through the Smart App.
- **Real-time Data Display:** Monitor real-time data including Voltage, Current, 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).

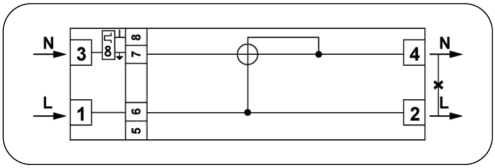
4. INSTALLATION AND CONNECTING THE DEVICE VIA THE APP

1. Mount the meter securely on a 35mm DIN rail.
2. Follow the connection diagram printed on the side of the Meter to install the device correctly. Tighten all screws securely during the installation process.
3. Download the free "Major Tech Hub" Smart 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 your 2.4GHZ Wi-Fi network (not compatible with 5Ghz Networks).
6. Meter Power On: When the meter is powered on, press and hold the "⏻" button for 5 seconds. This action will put the meter in the "waiting for Wi-Fi distribution network" 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 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. PRODUCT DIMENSIONS (MM)



6. CONNECTION DIAGRAM



*7 and 8 Terminals = Factory testing terminals

7. 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

8. PRODUCT PARAMETERS

Function	**Range**
Rated Frequency	50/60 Hz
Rated Current	65A
Power	9600W (Resistive Load)
Rated Voltage	110V/220V
Voltage range	85 - 260V
Approvals	IEC/SANS / ICASA / LOA
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
WIFI	802.11B/G/N, ONLY SUPPORTS 2.4GHZ NETWORK,NOT SUPPORTED ON 5GHZ NETWORK
Operation temperature	-25◦ to +55◦