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A STEEL PARTNERS COMPANY

SyntriX AHF™

480V
Installation Guide

MTE LLC

SAFETY INSTRUCTIONS

Thank you for choosing SyntriX Active Harmonic Filter (AHF) module. Please read the safety instructions carefully before using them and ensure that the unit is operated according to the instructions in this manual. The safety instructions contain important information, which ensure that you can safely and properly use the product and prevent personal injury or property damage. Please keep this manual accessible near the unit so that users can easily reference this information.

This manual uses the following illustrations and symbols to highlight important safety information. Please ensure that you are very familiar with these procedures and follow these instructions carefully.

	**DANGER** Failure to comply with the instructions or improper operation may cause serious electric injury and can be fatal.
	**WARNING** Failure to comply with the instructions or improper operation may cause wound.
	**CAUTION** Failure to comply with the instructions or improper operation may cause personal injury and/or damage to the equipment.

SAFETY PRECAUTIONS

	**DANGER** Do not expose it to where rain or moisture is heavy, and keep it away from combustible liquid, gas or explosive.
	**DANGER** To avoid high voltage risks, the discharge time of DC capacitors should be above 4 hours. Make sure the operation is performed after full discharge.
	**WARNING** Installation must be done by well-trained and qualified personnel in a controllable environment.
	**WARNING** Any maintenance work must be carried out by qualified technical personnel; all power must be cut off before maintenance.

	**CAUTION** Reserve enough space around the equipment, to maintain good ventilation and easy access for maintenance and operation.
	**CAUTION** Read the user manual carefully before connecting the power and keep it easily accessible for future reference.
	**WARNING** Do not open the output circuit of a current transformer (CT) unless the circuit the CT monitoring is deenergized or the CT has been physically removed from the circuit. This includes not removing any connections from, or the connectors themselves from P1 or P2 of the CT Interface boards inside the AHFs. Opening the output circuit of a CT could result in very high voltage that can cause the CT to fail and represent an extremely dangerous condition to personnel. Exception: If CTs are first connected to a shorting terminal block prior to being wired to an AHF, and shorts are applied across each CT's pair of output wires on that block, then CT related wiring continuing from the block to the AHF may be opened without harm.

WIRING PRECAUTIONS

	**WARNING** This single AHF has a leakage current from 150mA to 1000mA. Before connecting the power supply, the user must make sure the equipment is properly grounded. When choosing RCCB or RCD equipment, the leakage current of the module should be considered. The RCCB chosen should not be sensitive to the unidirectional DC pulse (Class A) and the transient pulse. Please note that the leakage current of the load will also flow through RCCB or RCD; the grounding of the device must meet the local electrical regulations
	**WARNING** Compensation capacity and current-carrying capacity must be taken into full consideration for wiring.
	**CAUTION** The cables connected to the power terminals must be connected to a circuit breaker or other protective devices and the capacity of protective devices should match the capacity of Active Harmonic Filter.

PRECAUTIONS FOR USE

	**CAUTION** The AHF is used to mitigate power harmonics, improve power factors, and compensate three-phase unbalance. The capacity of AHF should be selected in accordance with harmonic content.
	**CAUTION** The AHF must be used with external current transformers.
	**CAUTION** To ensure AHF has good reliability and to avoid overheating, do not block or cover the air inlet/outlet.
	**CAUTION** No corrosive gas and conductive dust is allowed in the working environment.
	**CAUTION** The working temperature should be -10℃ and 40℃. AHF may derate if beyond this range;

STORAGE PRECAUTIONS

	**CAUTION** Seal AHF with its original packing materials in case of damage caused by rat invasion.
	**CAUTION** If immediate installation is not required, make sure to store the equipment in dry and well-ventilated indoor environment, the storage temperature should be -20℃~70℃, and relative humidity should be 5％～95％.

	**CAUTION** Improper storage conditions, such as humidity, will cause moisture and mildew on PCB and other components; halogen gas will corrode electrolytic capacitors; sulfur-containing gas will corrode copper and other semiconductors and resistance components;
	**CAUTION** If the module is not used for > 3 months, it should not be opened (sealed bag) or should be resealed with a sealed bag after opening; the temperature for long-term storage should not exceed 40 ℃.

	**CAUTION** After 1-3 years of storage in a sealed environment with a temperature not exceeding 40 ℃, the first time you turn on the power without turning it on, keep it on for more than 1 hour to activate the internal electrolytic capacitor.
	**CAUTION** If the module is not sealed, depending on the harsh environment (humidity, temperature, halogen, sulfur, ammonia, salt spray), more than 3 months, the internal components of the module have been corroded or mildewed or damp, when the module is powered on, the risk of damaging the module(s). **Note:** the module itself cannot work in halogen, sulfur, ammonia, and heavy salt spray environments, such as seaside, chemical plants, conductive dust, etc..
	**CAUTION** Normal temperature (such as normal indoor environment, temperature < 40 ℃, humidity < 70%), more than 6 months to 1 year, according to the first power-on method;
	**CAUTION** High temperature, humidity is not too high (40~70 ℃, such as arid desert areas), PCB is not moldy, etc. After more than 3 months, power up the unit like an initial power up.
	**CAUTION** If the humidity is high for a short period of time (1~2 weeks), check that there is no mildew, and that the PCBs are dry.
	**CAUTION** Unsealed storage creates a high risk of severe module damage.

PRE-INSTALLATION NOTICE

	**CAUTION** The installation, assembly and power on of the module must be operated by qualified personnel or supervised by qualified personnel on-site.
	**CAUTION** Before wiring or connecting terminals, as a precaution, make sure that the input of the SyntriX AHF has been turned off to avoid accidents.

	**CAUTION** This equipment has leakage current from 100mA to 1000mA. Before connecting power supply, the user must make sure the equipment is properly grounded. When choosing RCCB or RCD equipment, the leakage current of the module should be considered. The RCCB chosen should not be sensitive to the unidirectional DC pulse (Class A) and the transient pulse. Please note that the leakage current of the load will also flow through RCCB or RCD; the grounding of the device must meet National Electrical Code (NEC) or other local regulations
	**CAUTION** MTE SyntriX AHF should be installed in a clean, well-ventilated indoor environment.

ENVIRONMENT REQUIREMENTS

Before proceeding, it is important to take note of the preconditions required for the environment.

	**ATTENTION** For rack mount units, cold air enters AHF through the front of the module and hot air is discharged through the rear grid of the module. For wall mount units cold air enters through the bottom of the module and hot air is discharged through the top of the module. Do not block the ventilation holes on either side and clean the front side every 3 months to prevent blockage by dust.

	**ATTENTION** The ambient temperature at the time of installation must be -10℃ ~40℃, or derate.
	**ATTENTION** Ensure that there is no dust or corrosive/explosive gases in the installation environment.
	**ATTENTION** The AHF MUST NOT be installed in an environment with strong magnetic fields, nuclear radiation or high-power RF noise.
	**ATTENTION** The relative humidity in the environment should be lower than 95%. The presence of steam or condensation may result in permanent damage to the device or endanger personal safety.
	**ATTENTION** The installation altitude should be lower than 1500m. If it is over 1500m, the equipment must be derated 1% per 100m increase in altitude.
	**ATTENTION** Avoid severe physical shock, violent impact and large angle tilting in the installation process as this may cause damage and operational failure of the unit.
	**ATTENTION** During installation, leave sufficient operating space for cooling, maintenance and operation.

TABLE OF CONTENTS

1.0 UNBOXING

NOTICE

All the modules have dust-proof stickers to protect the module from the dust while storing. The dust-proof stickers must be removed before the module is installed at site.

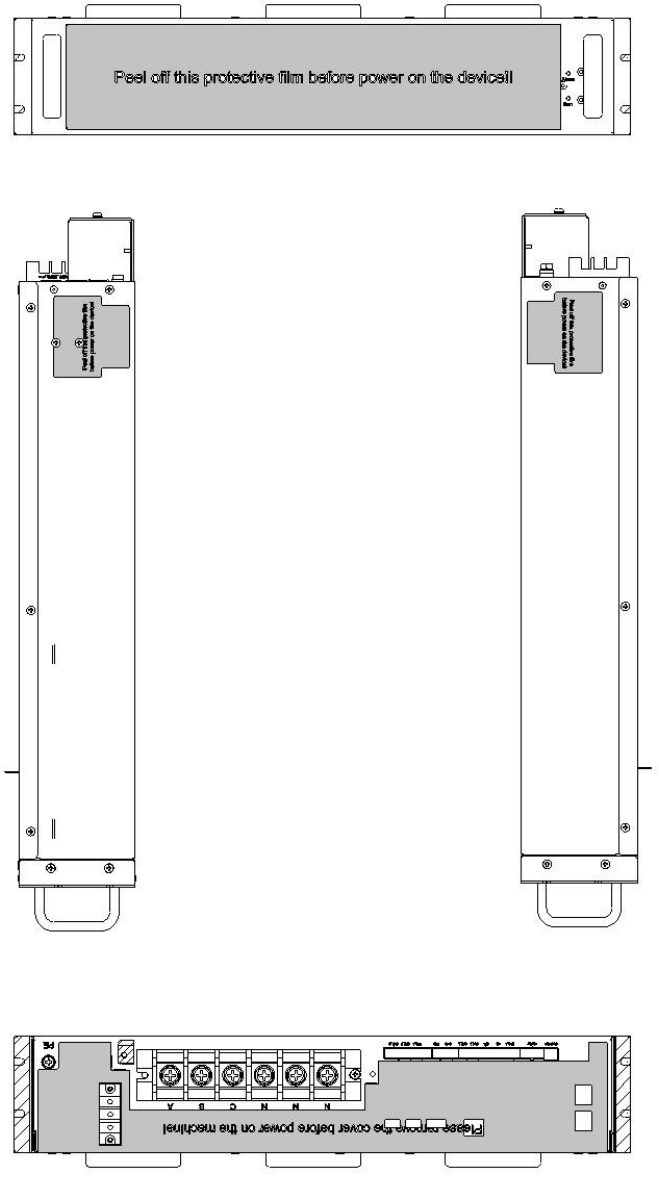


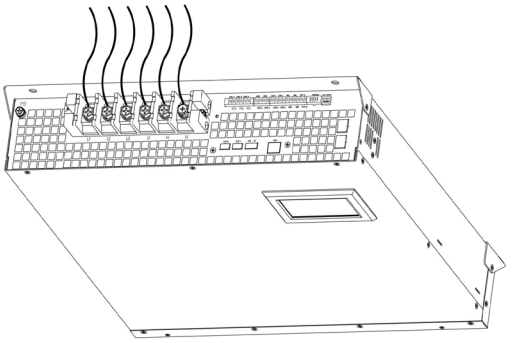
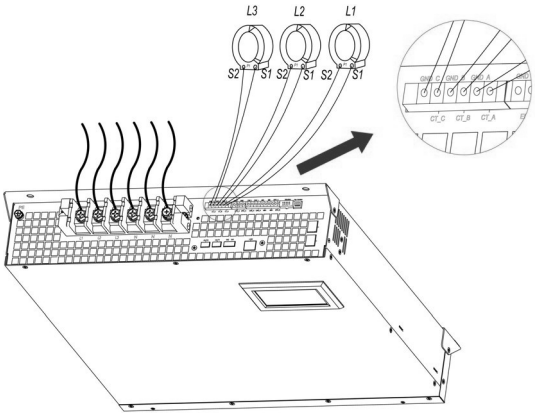
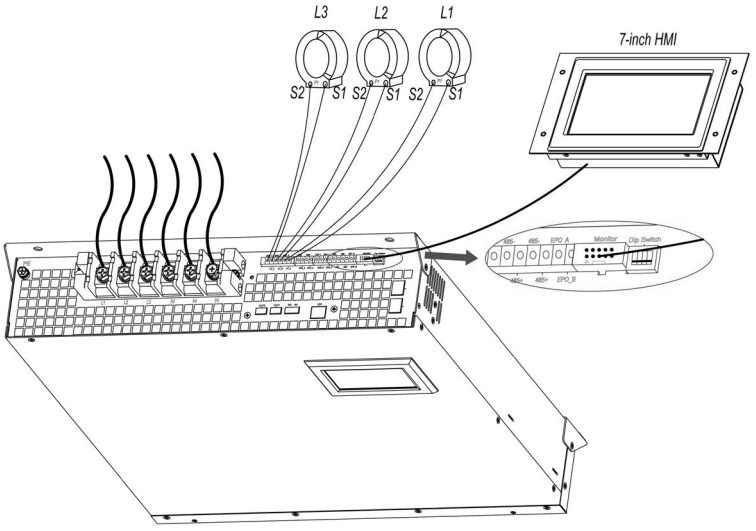
Figure 2- 1 Dust-proof sticker

2.0 WIRING

	**DANGER** Before connecting the cables or electronics, please be sure to cut off the input power of the AHF device to avoid accidents.

2.1 SINGLE WALL MOUNTED

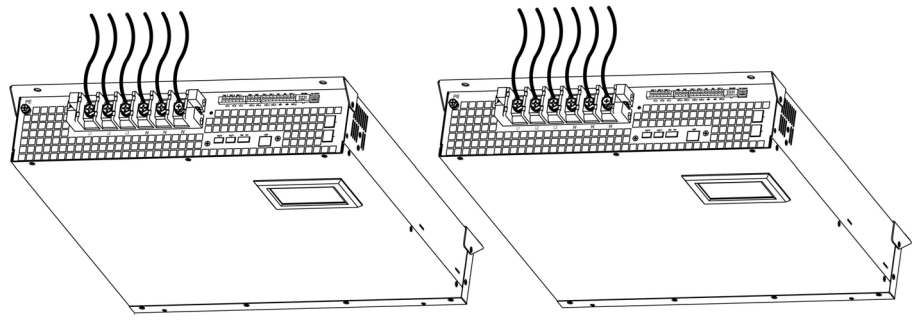
Table 2- 1 Installation Steps of MTE Single Wall-mounted Module

<table>
<tr><td>Step One: Power Cables Connection
  </td><td>Step Two: CT Connection
  </td></tr>
<tr><td colspan="2">Step Three: 7-Inch HMI Connection
  </td></tr>
<tr><td colspan="2">Note: If user need to use 7-inch Human-machine interface (HMI) to control the module, which need to operate as STEP THREE;</td></tr>
</table>

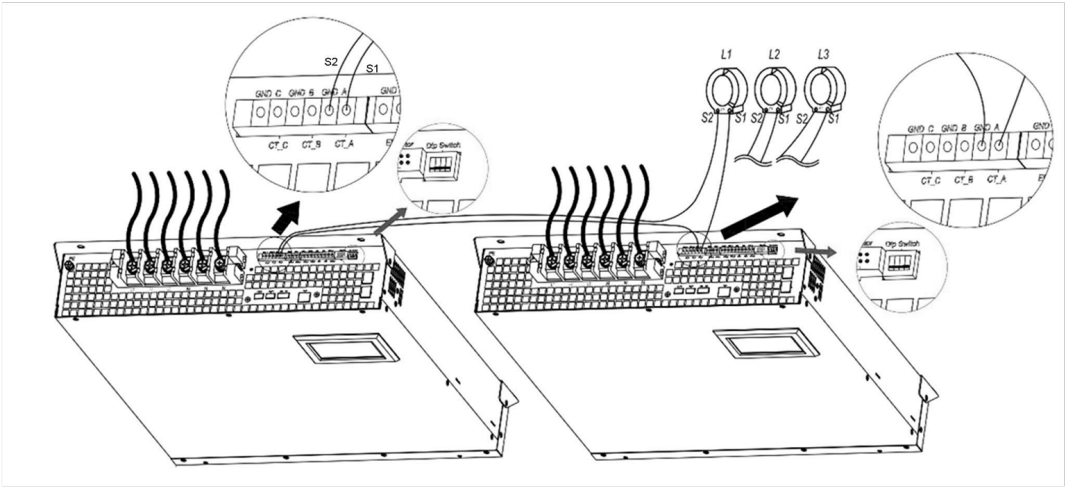
2.2 MULTIPLE WALL MOUNTED

Table 2- 2 Installation Steps of MTE Multiple Wall-mounted Modules

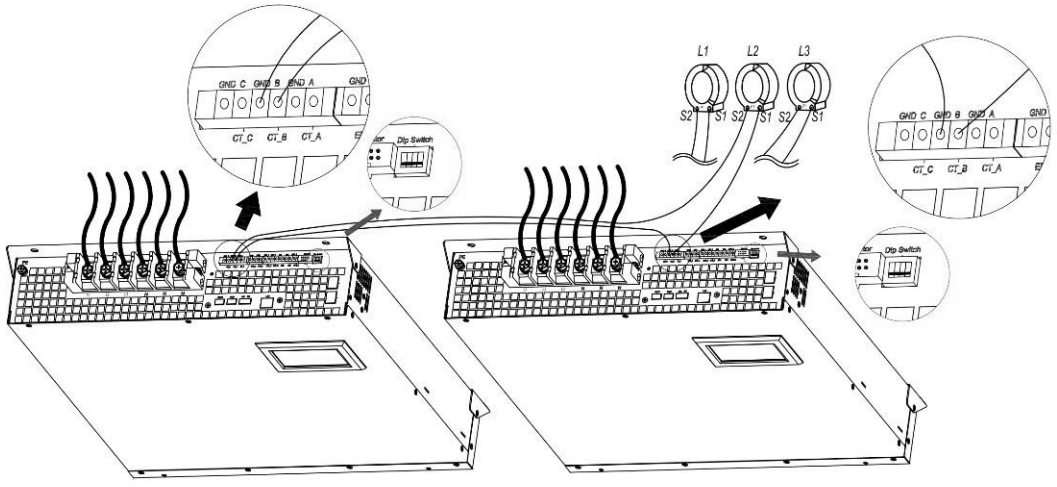
Step One: Power Cables Connection To The Grid



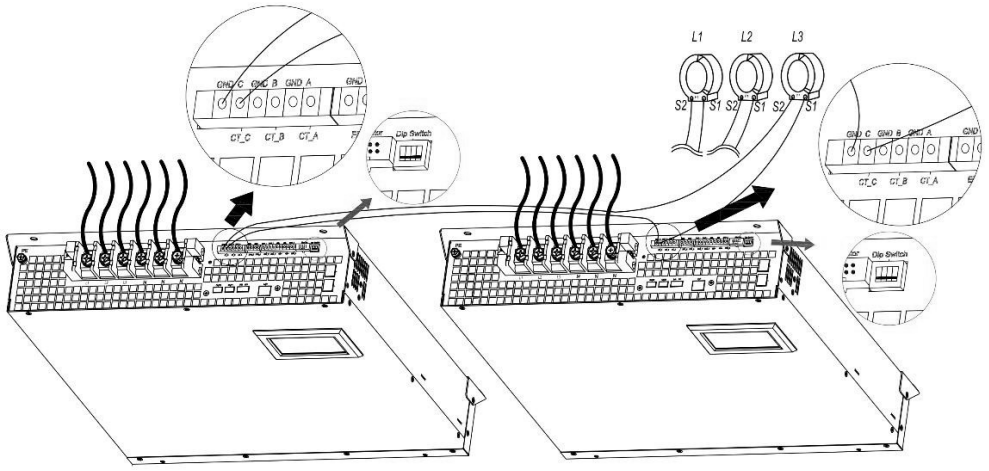
Step Two: L1 Phase CT Connection



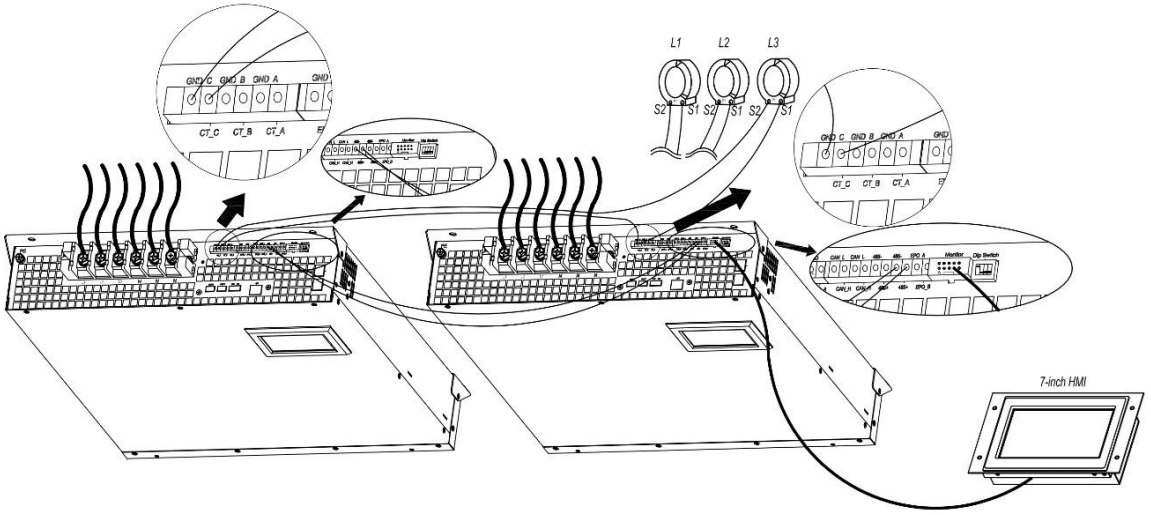
Step Three: L2 Phase CT Connection



Step Four: L3 Phase CT Connection



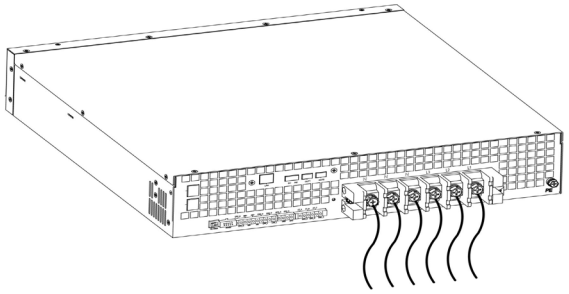
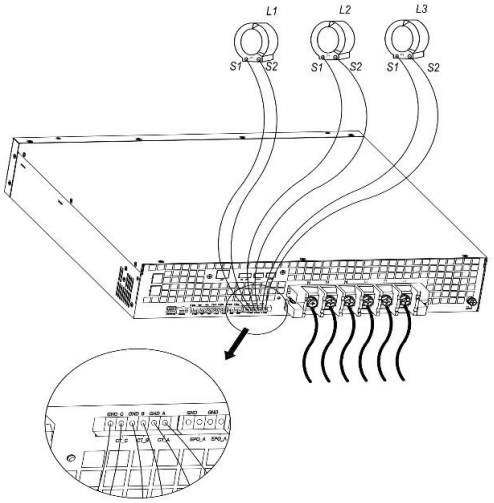
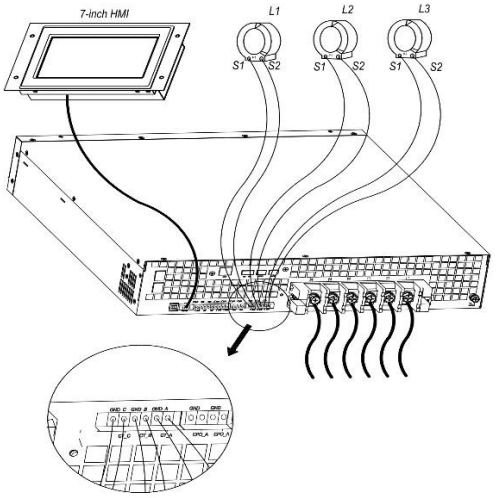
Step Five: 7-Inch HMI Connection



Note: If user need to use 7-inch Human-machine interface (HMI) to control the module, which need to operate as STEP FIVE;

2.3 SINGLE RACK MOUNTED

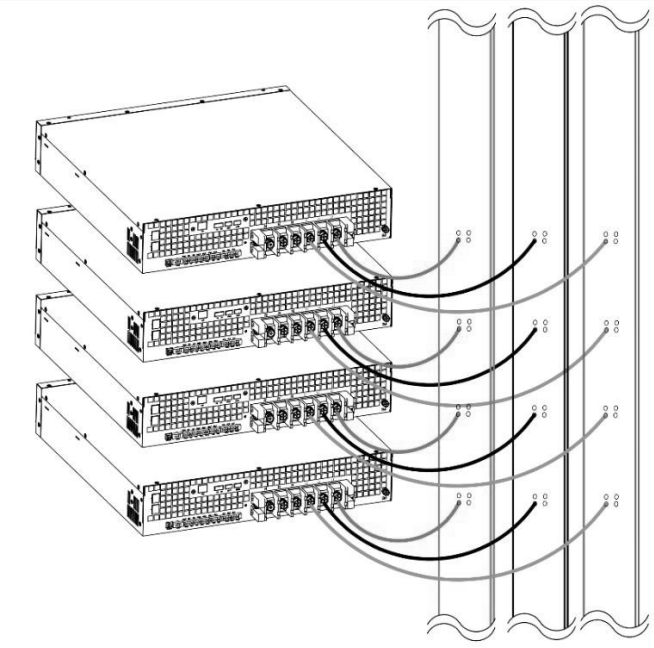
Table 2- 3 Installation Steps of MTE Single Rack-mounted Module

<table>
<tr><td>Step One: Power Cables Connection
  </td><td>Step Two: CT Connection
 
</td></tr>
<tr><td colspan="2">Step Three: 7-Inch HMI Connection
 
</td></tr>
</table>

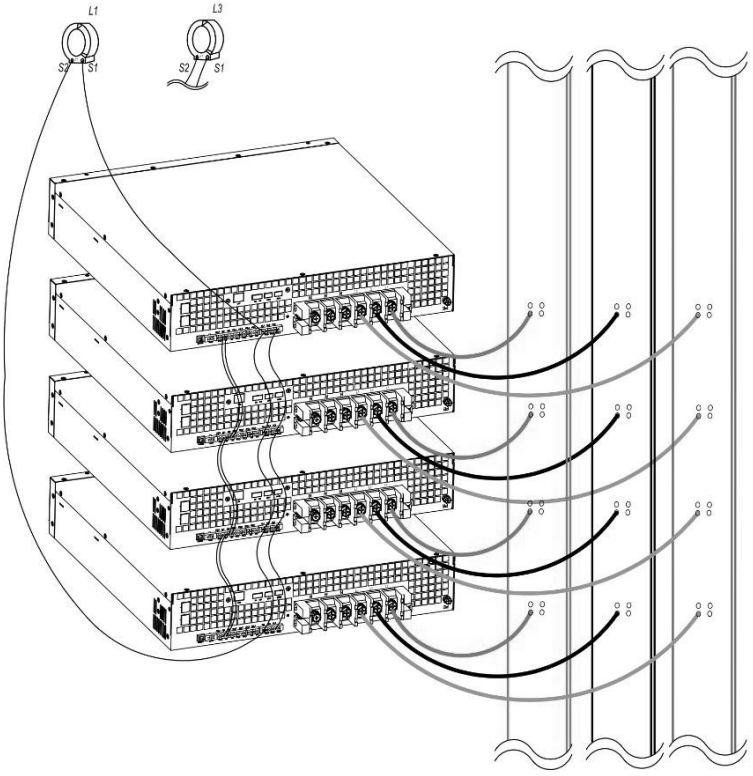
2.4 MULTIPLE RACK MOUNTED

Table 2- 4 Installation Steps of MTE Multiple Rack-mounted Modules

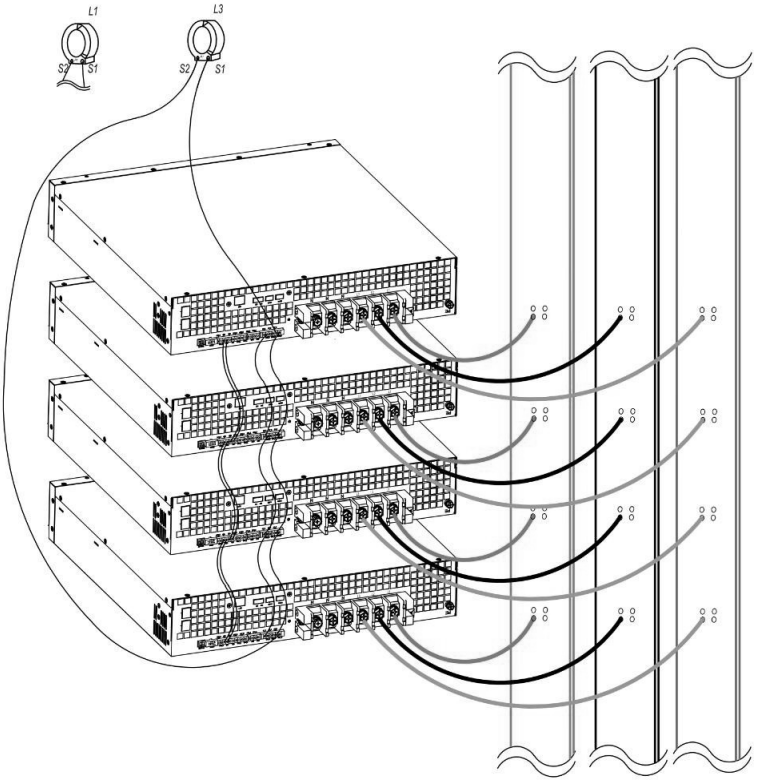
Step One: Power Cables Connection



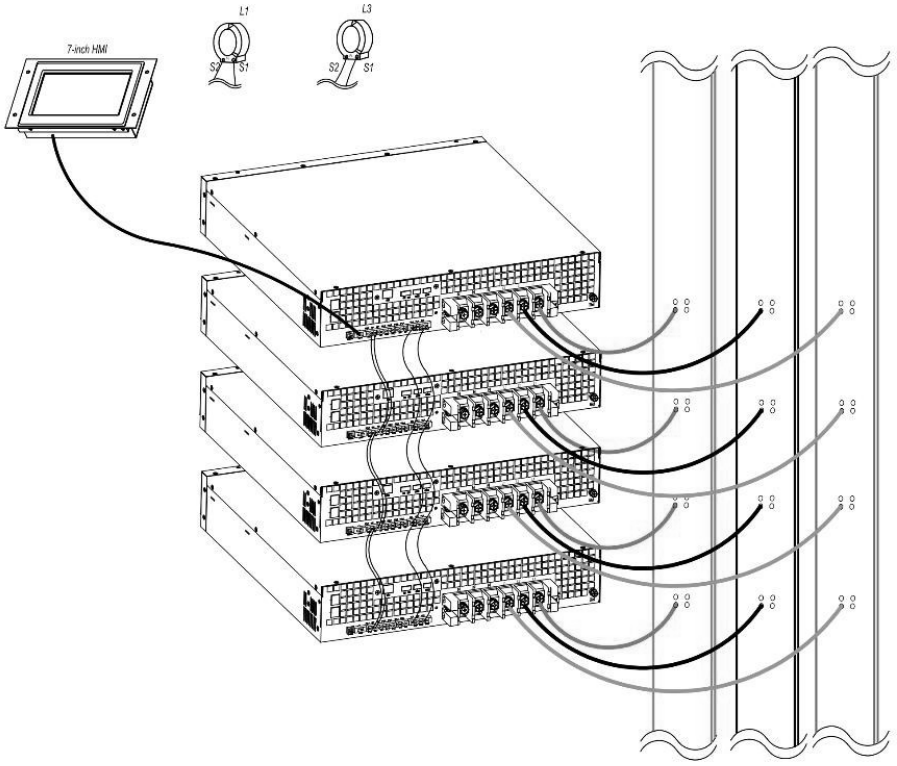
Step Two: L1 Phase CT Connection



Step Two: L3 Phase CT Connection



Step Four: 7-Inch HMI Connection



2.5 CABLE

2.5.1 POWER CABLE

	**CAUTION** For 3P3W system only needs to connect L1, L2 and L3;

Power cables are electrical cables that are used to transmit electrical power from a power source to a device or equipment. They are typically made of copper or aluminum conductors and are insulated to prevent electrical shock and short circuits. Power cables come in various sizes and configurations, depending on the amount of power that needs to be transmitted and the distance between the power source and the device or equipment.

2.5.1.1 POWER CABLE SELECTION

If you need a clear power cable selection, please refer to Appendix VIII 'CABLE SIZING', where we have recommended the appropriate sizes for you. You can use this as a reference to select the proper power cable for your specific application.

2.5.1.2 CT CABLE CONNECTION

	**CAUTION** An open circuit of CT secondary polarity is not allowed.
	**NOTICE** MTE module supports 3P3W according to circuit calculation, the 3P3W system only needs two CTs connect to L1 and L3.
	**NOTICE** To ensure current sharing between the modules, such mode of connection requires the same Cable length from S1 and S2 to the two module signal interfaces. Generally, the parallel cable should not be more than 15m in length. If the parallel operation cable with a length of over 30m is required, please see the introduction of Appendix VII 'CT VA BURDEN'.

2.6 SINGLE MODULE WIRE DIAGRAM

CT CONNECTIS ON THE SUPPLY SIDE [Closed Loop Configuration]

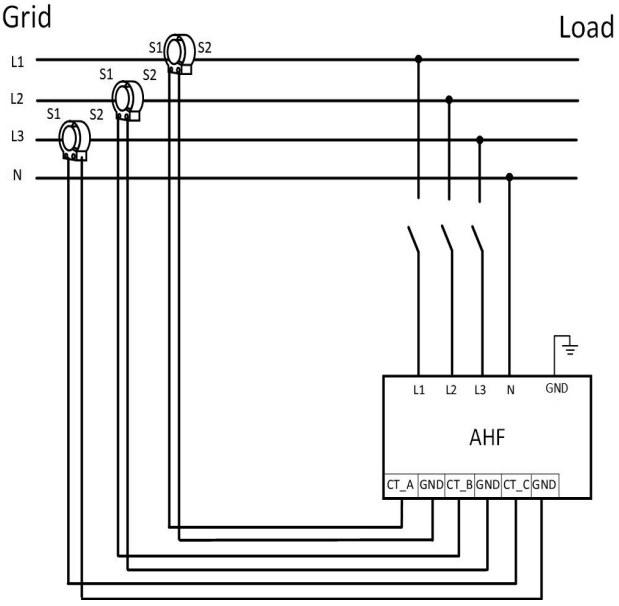


Figure 2- 14 3-Phase 4-Wiring System

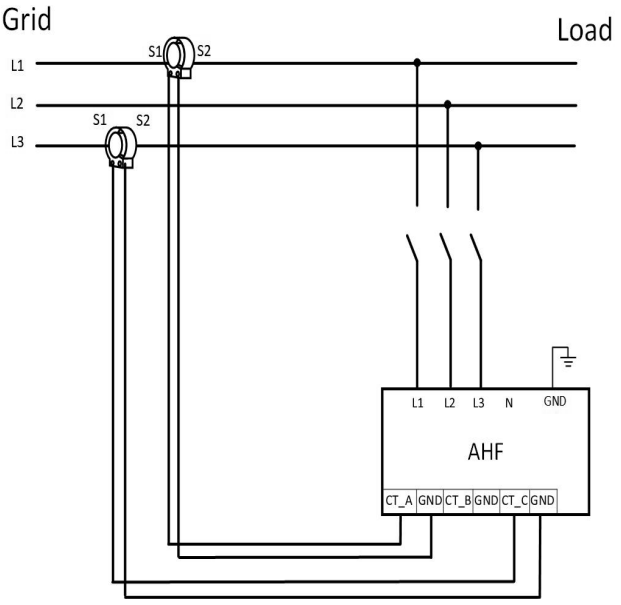


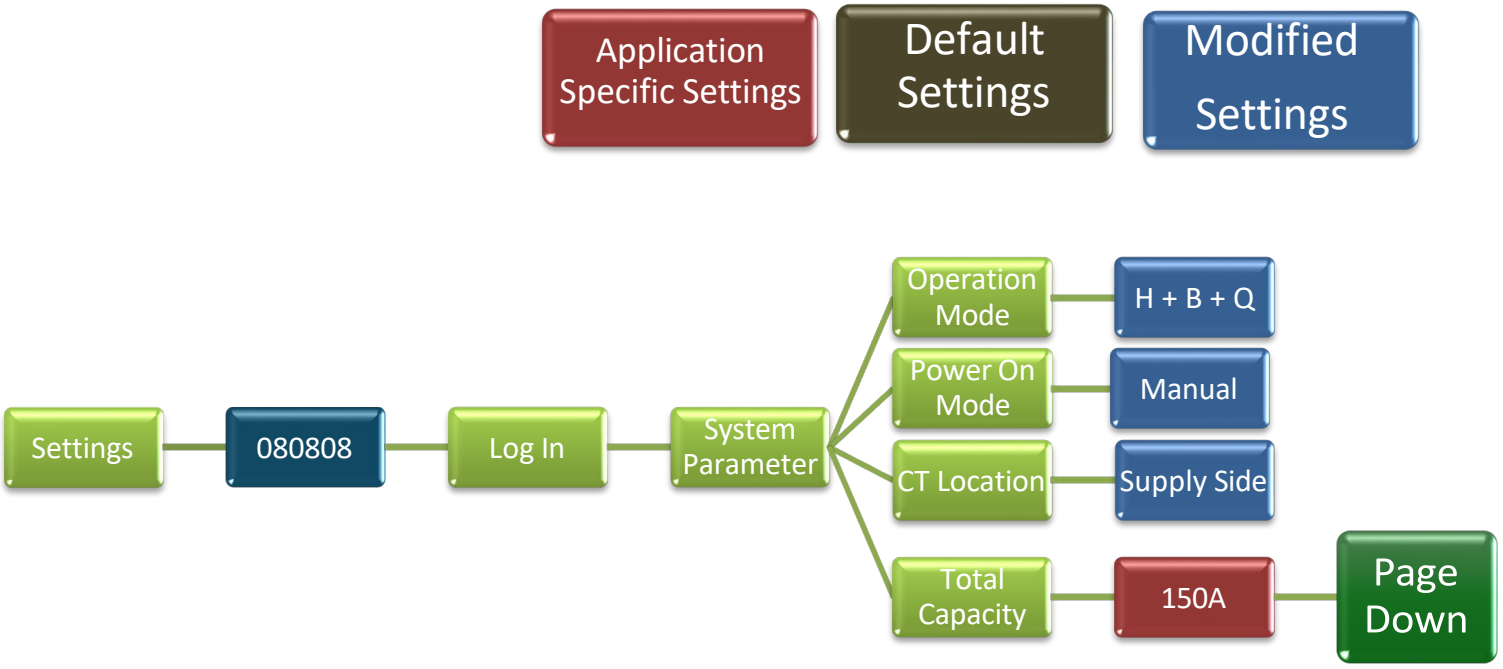
Figure 2- 15 3-Phase 3-Wiring System

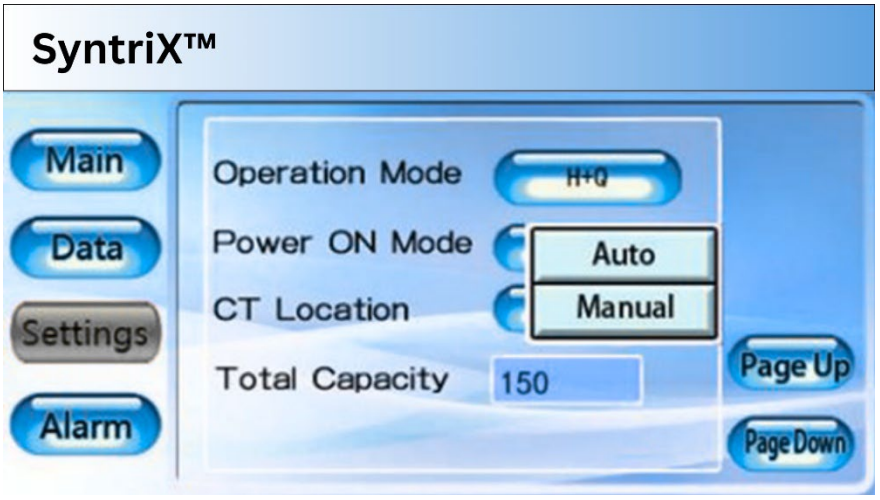
3.0 Programing

Set basic parameters

- **Voltage**
  - ***Target Vol: L-N = 277V***
  - ***PT Ratio: 1 (No voltage stepdown)***
- **CT ratio**
  - ***Depends on CT used***
- **Comp Mode**
  - ***Intelligent***
- **Input Freq**
  - ***60Hz***
- **Operation Mode**
  - ***H + P + Q***
- **Power on mode**
  - ***Manual***

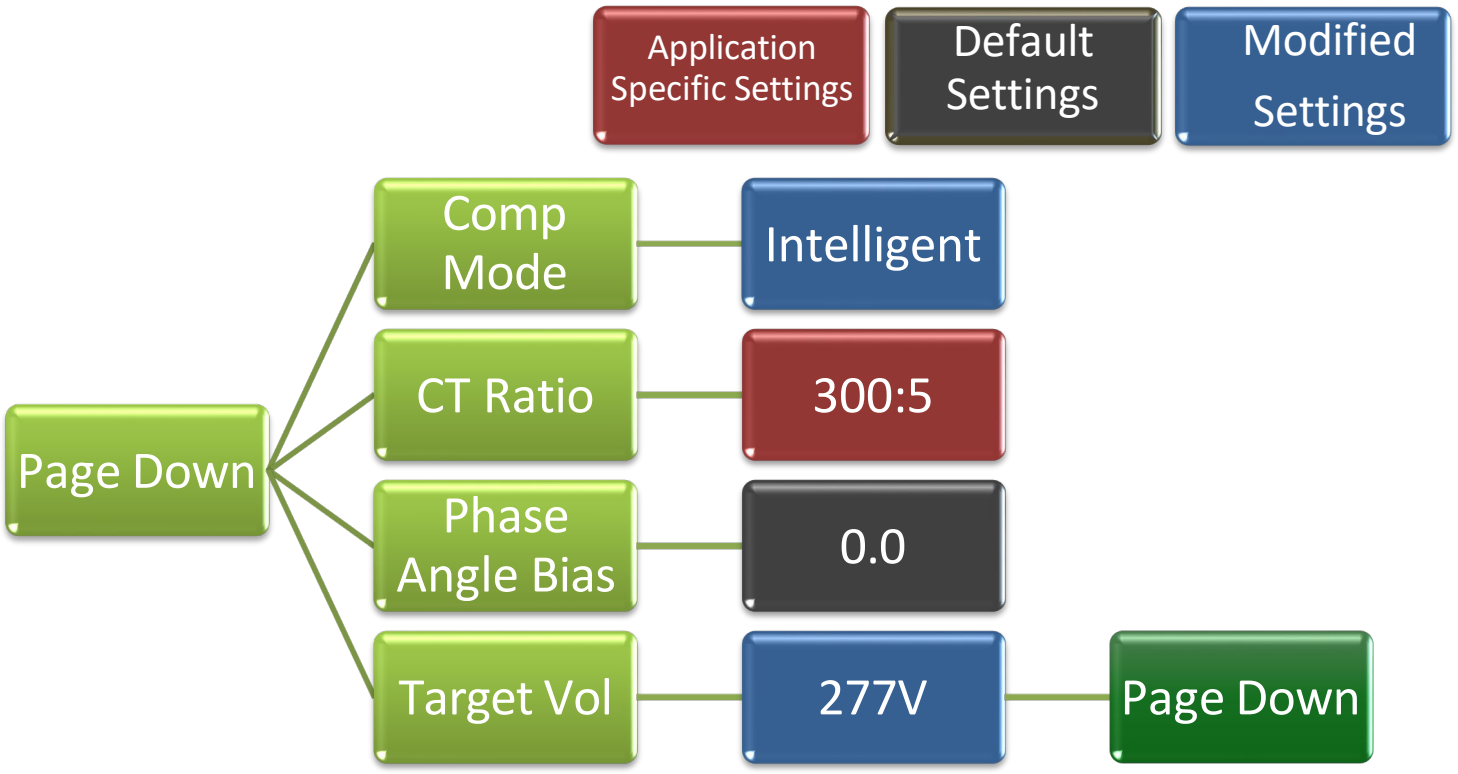
3.1 OPERATION MODE AND CT LOCATION

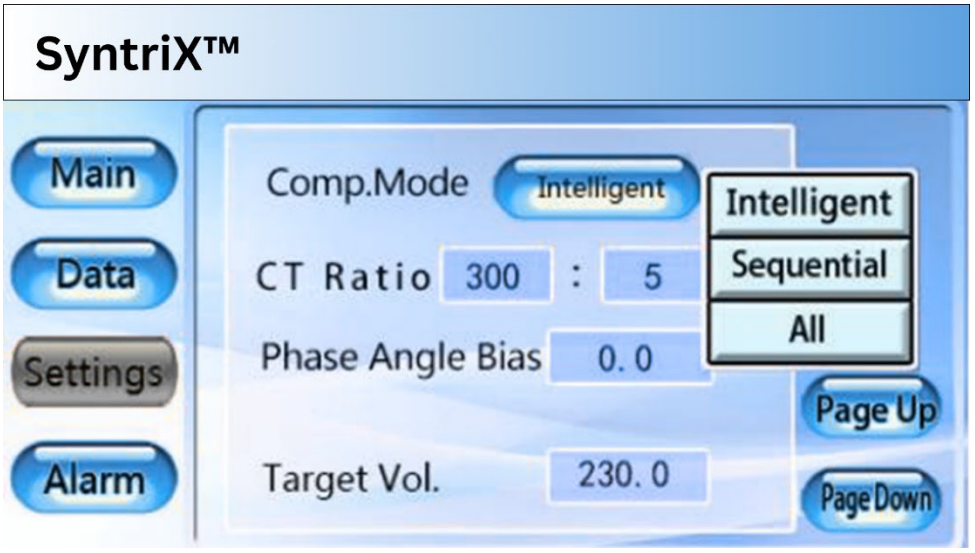




- **Log Into Settings with the “080808” Password**
- **Change Operations Mode to H+B+Q**
- **Change Power ON Mode to Manual**
- **Change CT Location to Supply Side**

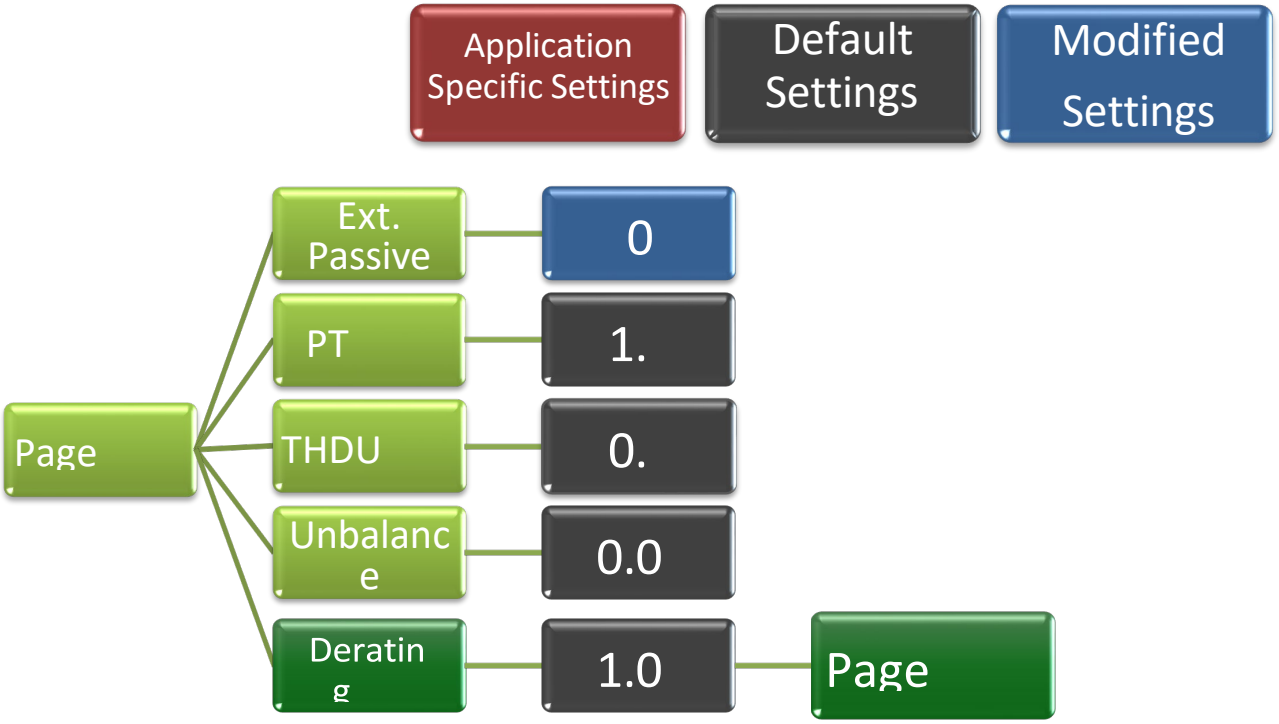
3.2 COMP MODE, CT RATIO AND TARGET VOLTAGE

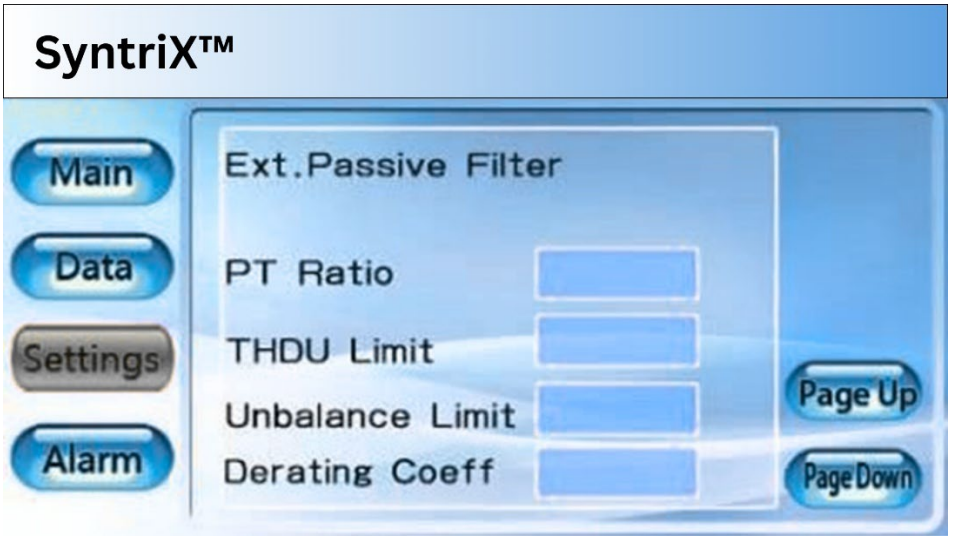




- **Set Comp Mode to Intelligent**
- **Set CT Ratio as labeled on CT's**
- **Set Target Volt to 277**

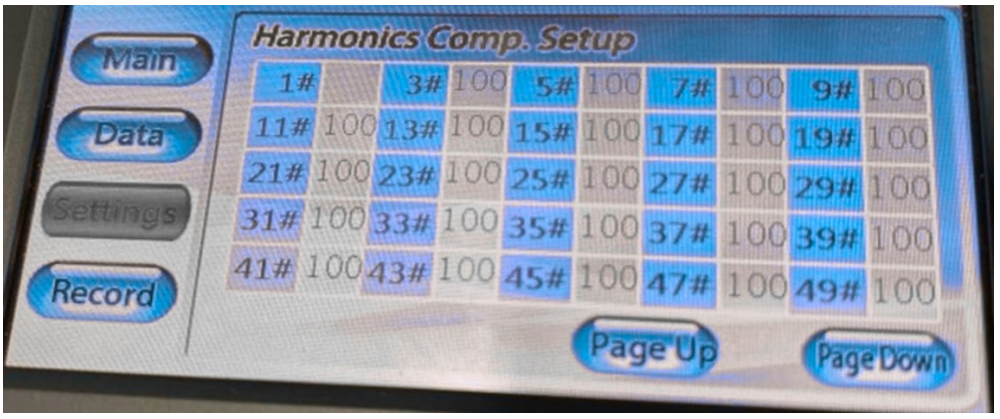
3.3 EXTERNAL PASSIVE FILTER





- **Set Ext Passive Filter to 0**

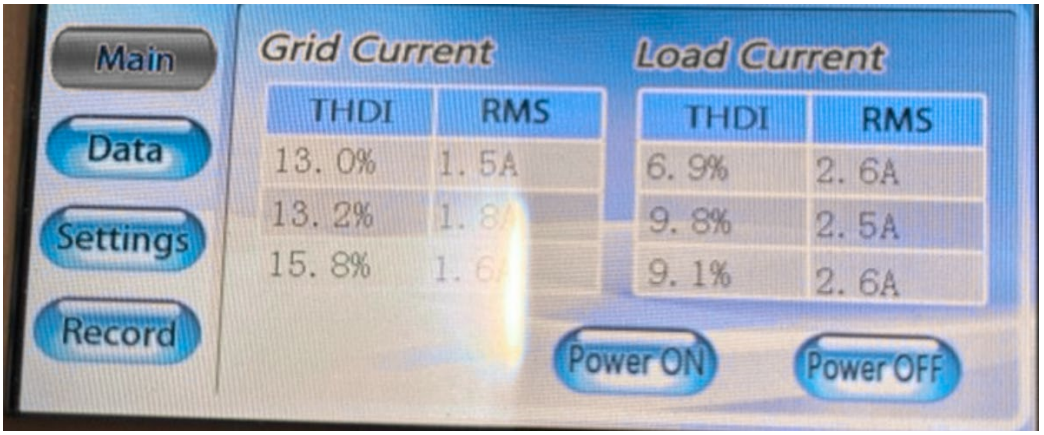
3.4 HARMONIC COMP SETUP



- **Set ALL odd Harmonics to 100**
- **Set the 2nd Harmonic to 100**

4.0 Power ON the Unit

- **Power ON the Unit (Main>Power ON>Enter)**
- **Intelligent mode takes about 10 minutes to fully reduce the ThiD**



Appendix

A) Wiring Terminal

The wiring terminal is located at the rear side of the module, including power terminal, CT terminal and communication terminal.

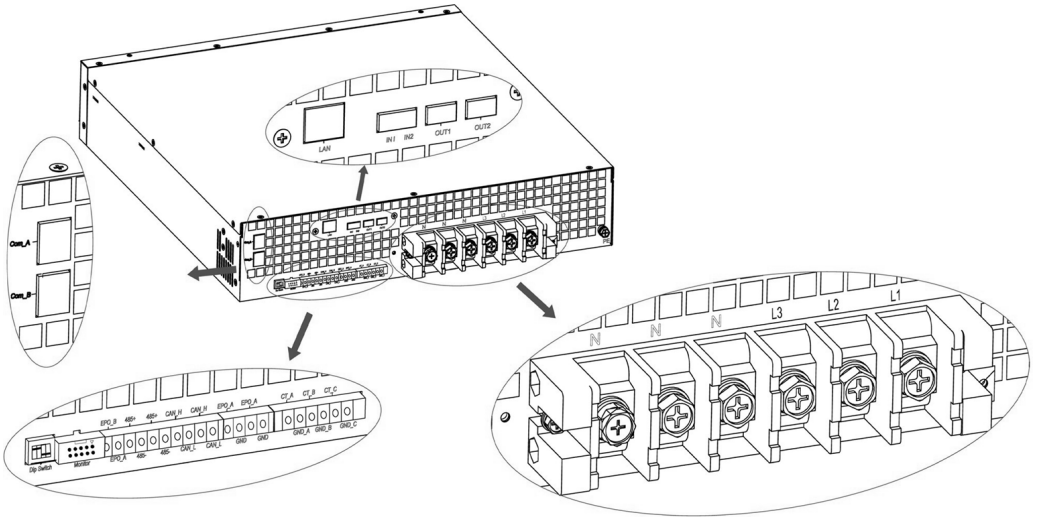


Figure 1- 6 MTE SyntriX AHF Terminal

Table 1- 1 MTE SyntriX AHF Terminal Definition

Signal terminal	COM_A	422 communication port used for multiple module parallel
	COM_B	
	Dip Switch	Communication address setting
	Monitor	7-inch HMI connecting port
	EPO_B	EPO button connecting port
	EPO_A	
	485+	485 communication port used for communication between module and 7-inch HMI
	485-	
	485+	
	485-	
	CAN_H	CAN communication port used when SVGD or 422 communication is needed
	CAN_L	
	CAN_H	
	CAN_L	

	EPO_A	To paralleled the EPO signal of each module
	GND	
	EPO_A	
	GND	
	CT_A	Connected to S1 of phase L1 CT
	GND_A	Connected to S2 of phase L1 CT
	CT_B	Connected to S1 of phase L2 CT
	GND_B	Connected to S2 of phase L2 CT
	CT_C	Connected to S1 of phase L3 CT
	GND_C	Connected to S2 of phase L3 CT
	LAN (optional)	Dry contact board terminals (optional), including 1 Ethernet port, 2 input dry contact and 2 output dry contacts, the detailed introduction please refer to Appendix Ⅲ.
	IN1 (optional)	
	IN2 (optional)	
	OUT1 (optional)	
	OUT2 (optional)	
Power terminal	N	Power cable connection
	N	
	N	
	L3	
	L2	
	L1	
	PE	The grounding terminal of a device is an important component that ensures electrical safety.

B) 7-INCH HMI INTRODUCTION

MTE 7-inch HMI is typically used to control multiple modules, making management more convenient. It features a full touch screen and a colorful visual display for monitoring.

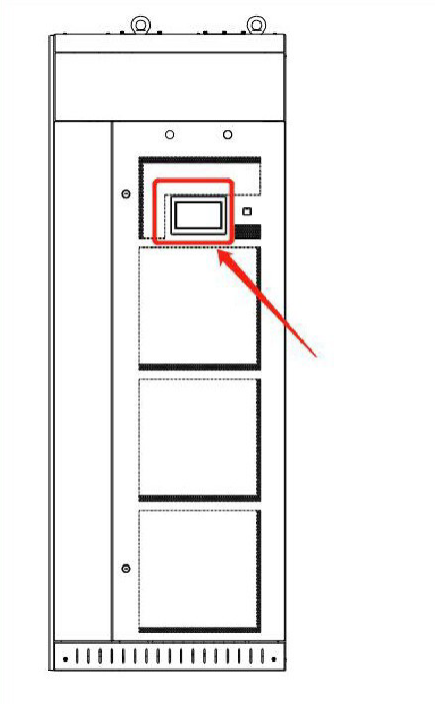
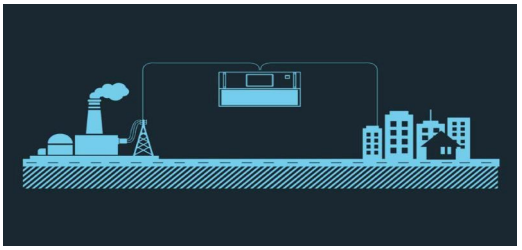
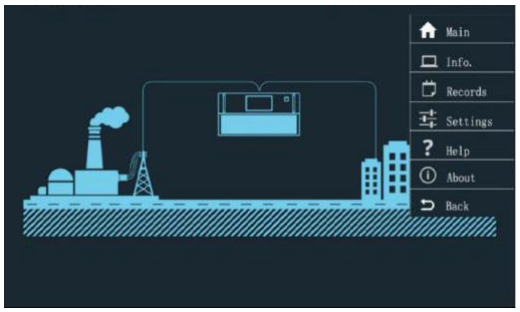


Figure 3- 2 The position of 7-inch HMI

	**NOTICE** Ensure and connections are correct, safe and follow the manufacturer's instructions.

 *Main page*	When the module connected with power that the HMI will initialize. In main page, user can see the performance directly.

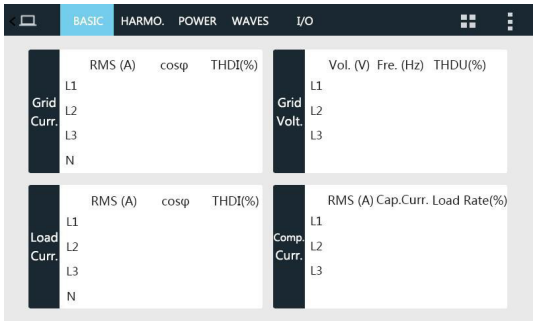


Main Screen with drop-down selection

There's 7 parts in MTE 7-inch HMI, 'Main', 'Info.', 'Records', 'Settings', 'Help', 'About' and'Back'

Note: click on  to get a drop-down selection

'INFO' ILLUSTRATE



Basic Interface

The '**BASIC**' can be real-time observe the data of RMS(A), PF, THDi(%), Vol.(V), Fre.(Hz) and THDu(%) of Grid Current, Grid Voltage and Load Current, and RMS(A) and Load rate(%) of Compensate Current.

"**Grid Curr.**" means the current after compensation. For example, PF in Grid Curr. refers to the compensated PF value

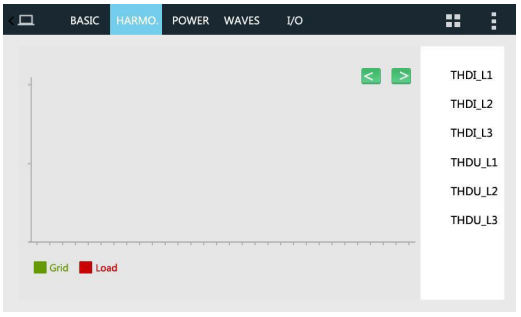
"**Grid Volt.**" means the voltage of module power access point.

"**Load Curr.**" means the current before compensation. For example, THID (%) in Load Curr. refers to the before compensated THID(%) value.

"**Comp Curr.**" means the current outputted from module.

"**RMS**": root mean square of current.

"**Lode Rate**": Ratio of Comp power to rated power of Module.

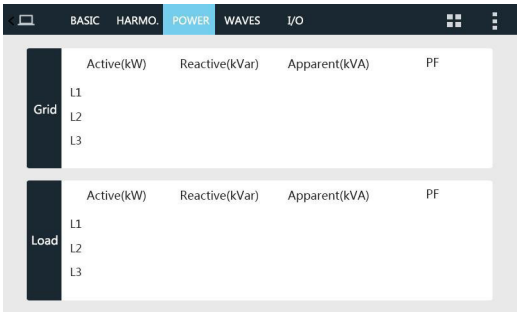


Harmonic

The '**HARMO.**' can be real-time observed in each phase voltage and current harmonic of grid side and load side.

'Grid', which is the green cylinder, represents the grid harmonic spectrum (after compensation).

'Load' that the red cylinder represents harmonic spectrum of the load side (before compensation).



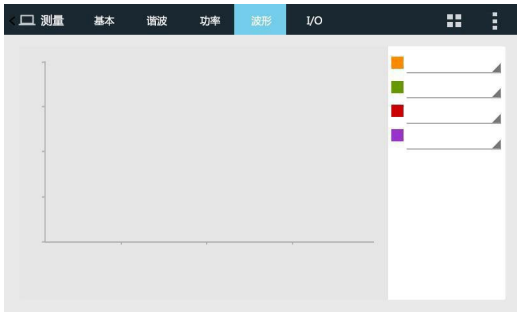
Power

The '**POWER**' can be real-time to get the information of Active(kW), Reactive(kW), Apparent(kW) and cosφ of Grid side and Load side.

'**Grid side**' means after compensation. For example, cosφ in Grid Side refers to the compensated cosφ value.

'**Load sid**e' means before compensation.

Noted: This cosφ is real PF, not including the reactive power.



Waves

The '**WAVES**' can be real-time see all current and voltage waveform of each phase.

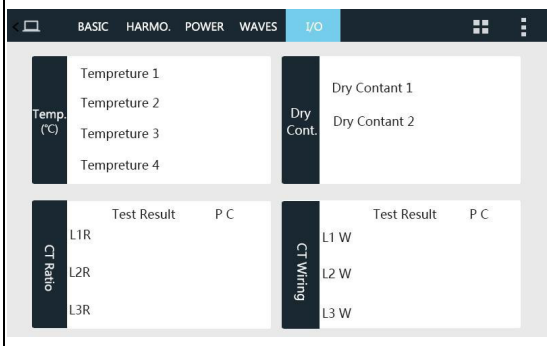
Display four kinds of waveforms, Comp. I L1/L2/L3, Grid I L1/L2/L3, Grid V L1/L2/L3 and Load I L1/L2/L3. Click  , pop-up menu, select the waveform displayed in the color.

'**Comp. I L1/L2/L3**' refers to the L1/L2/L3 phase compensate current waveform, each time choose one phase.

'**Grid. I L1/L2/L3**' refers to the L1/L2/L3 phase current waveform after compensating, each time choose one phase.

'**Grid. V L1/L2/L3**' refers to the L1/L2/L3 phase voltage waveform after compensating, each time choose one phase.

'**Load. I L1/L2/L3**' refers to the L1/L2/L3 phase current waveform beform compensating, each time choose one phase.



I/O

The '**I/O**' can be real-time observe module's inner highest temperature of L1/L2/L3 phase and Air inlet.

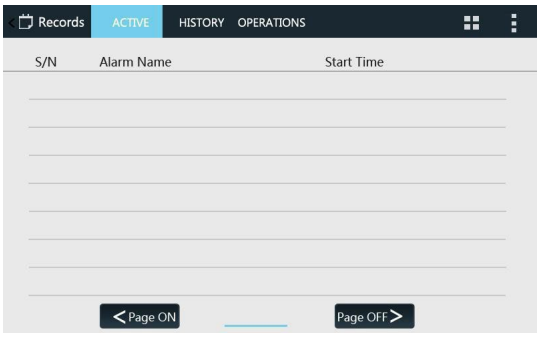
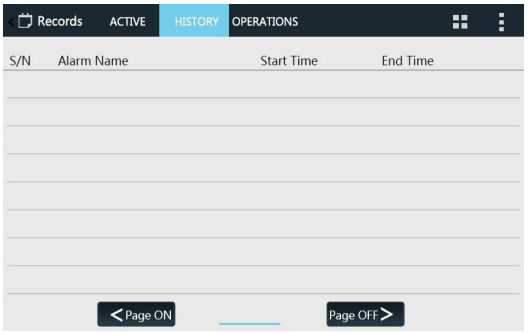
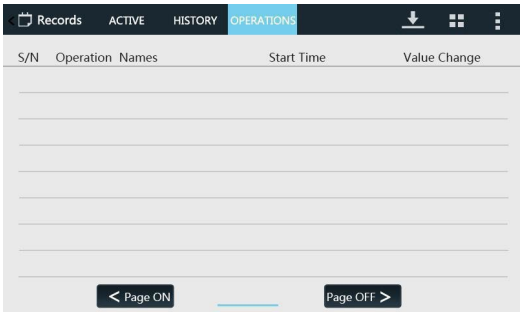
'**Temperature 1/2/3**' means module inner highest temperature of L1/L2/L3 phase (dry contact is useless).

'**Temperature 4**' means the temperature of Air inlet.(This function is only for PRO version module)

'**Dry Content 1/2**' means The state of the dry contact is normal when the dry contact board is externally connected.

RECORD INTRODUCTION

Click “**Record**” on the main menu to enter the record interface.

	**Active** MTE's monitoring system has a comprehensive alarm function that displays all real-time alarm information in a user-friendly manner. This feature captures and reports critical events such as system faults, voltage abnormalities, communication disruptions, and other related issues. Users can easily customize alarm thresholds and notification settings through the system configuration, ensuring that they receive alerts of significant events without being bombarded with irrelevant information. The monitoring system's intuitive design ensures that users can quickly access and analyze data when a potential issue occurs, promoting proactivity in addressing any performance or efficiency concerns and ultimately reducing downtime and maintenance costs.
	**History** MTE's historical alarm function in monitoring displays all alarms that have occurred since the system was installed, with a maximum record of 500 alarms. This feature allows users to review past alarms and identify any recurring issues or patterns. It is a useful tool for troubleshooting and improving system performance.
	**Operation** The operation record function in MTE monitoring system records all the operations performed on the system, making it easy to trace back and review. This feature ensures that all actions taken on the system are documented, providing a comprehensive audit trail for future reference.

PARAMETER SETTING INTRODUCTION

	The “**General Settings**” can be accessed using the'080808' password and is suitable in most applications for system commissioning by the user.

Table 3- 5

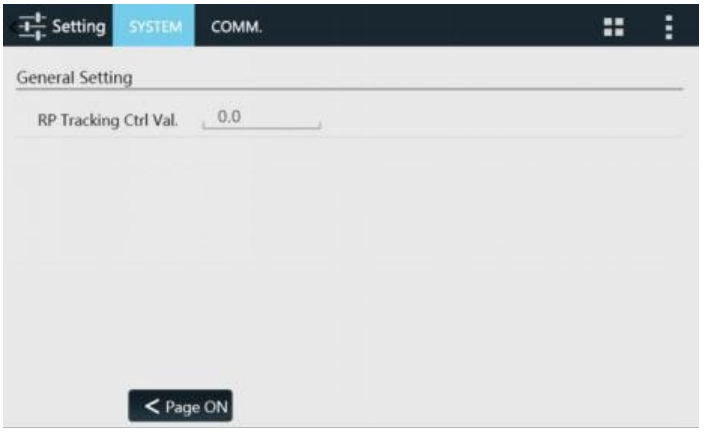
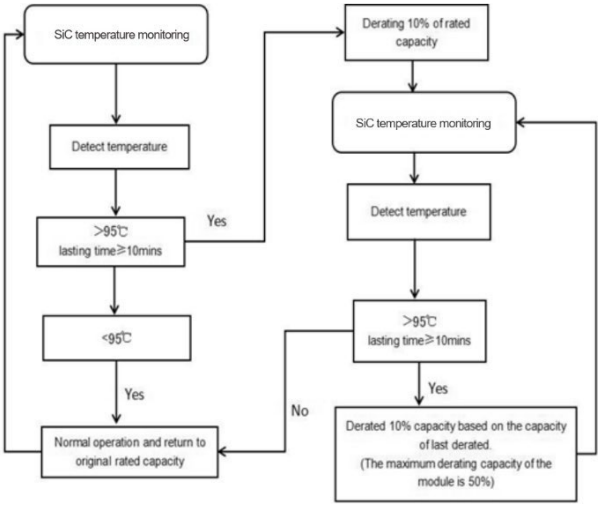
General	
Operation Mode Target Power Factor Comp. Rate Total Capacity Comp. Mode CT Ratio Power On Mode Slave Module Quantity PT Ratio CT Location Temperature Derating Constant Reactive	
RP Tracking Ctrl Val	

Table 3- 6 Parameter Introduction

Parameter	Meaning and Function of Parameter	Options	Default setting	Unit
Operation Mode	There are 13 working modes applicable to AHF **H:** Harmonic compensation **Q:** Reactive power compensation **B:** Balance compensation **Auto-aging:** The module outputs current according to the set compensation rate, and tests whether the module can output normally. Only for factory testing. Users shall be forbidden to use. Mixed mode: Used for mixed solution, AHF+SVG (Refer to document <One Centralized HMI to Control AHF&SVG Hybrid System> attached for further explanation.) For example: H+Q means harmonic compensation first, then compensate for the reactive power if there is enough capacity reserved. H+Q+B means harmonic compensation first, then compensate the reactive power, after that, remaining capacity will be used for three-phase unbalance compensation.	Harmonic Comp. Q+H H+Q Q+H+B H+Q+B Q+B+H Auto-aging B+H H+B+Q B+H+Q H+B B+Q+H Mixed Mode	According to customer's need	N/A
Target Power Factor	Set the target value of the grid side power factor. The setting range: -1~1.	[-1, 1]	1.0	cosϕ
Total Capacity	Total Capacity setting is the total capacity of the system, either single module or combination of multiple modules.	>0	According to actual capacity	Amps
Comp. Mode	**Intelligent compensation**: Using intelligent Fourier algorithm, the rated capacity can be compensated within five minutes, effectively avoiding resonance. **Sequential compensation**: Using Fourier algorithm can quickly compensate for the harmonics of the order to rated capacity. **All compensation**: Quickly compensate all harmonics. (not recommended)	Intelligent Sequential All	Intelligent compensation	N/A
CT ratio	The setting value needs to correspond to the actual ratio of external CT. The secondary of CT only can be 5, the setting range: 50~30000. **Note:** ① 500 means 500:5, other as the same. ② If the CT ratio is 1000:1, then it should be set as “5000”.	0 ~30000	According to actual condition	Value
Power on mode	**Manual**: It needs to be started by artificial execution in the monitoring interface. **Auto**: In automatic mode, once the system is connected to power, machine will automatically go on and start working.	Manual Auto.	Manual	N/A
Slave module quantity	Setting the total number of modules in parallel, which are controlled by single 7inch HMI. HMI is master, all the modules are slave modules. **Note:** Previous manuals and info were 8, the latest one can up to 16 modules, but the response time will be lower than before if 16 pcs of modules are connected, normally we still recommend 8 modules controlled by one HMI, we will keep improving this function.	1~16	The value of the number of parallel modules	Value

PT ratio	When the module is connected to the power grid through a transformer, external transformer ratio should be set. For example: 400V systems the ratio is 1:1 (setting = 1.0); For step-up transformer is 11000V, then set the ratio as 11000/400 = 27.5. (setting=27.5) **Note:** ① Only used in medium and high voltage. ② Consulting MTE engineers before changes are made.	0.1~90	1.0	Value
CT location	**Source side**: CT installation position is closer to the grid transformer side than the power access point of the module. **VFD side**: CT installation position is closer to the load side than the power access point of the module. User can choose source or load side to install CT.	: Source side Load side	According to actual condition	N/A
Temperature derating	**Disable**: When the overheat protection sensors of the module detect the temperature of IGBTs more than 95℃, the output won't be derated. **Enable:** The module derating capacity is judged by detecting the IGBT temperature. When the temperature exceeds 95℃ and the duration reaches ten minutes, the module will automatically derating 10% of rated capacity. If the temperature still exceeds 95℃ and the duration reaches ten minutes, the module will automatically derated 10% capacity based on the capacity of last derated. By analogy, the maximum derating capacity of the module is 50%, but when the temperature is less than 85℃, the module will automatically back to the original rated capacity.  Take AHF 150A as example, when the temperature of the SiC Mosfet reach 95℃ and lasts 10 minutes, it will reduce 10% capacity, then the AHF capacity is 135A. AHF will detect the temperature again, if the temperature is still rising and lasts time is 10 minutes, it will reduce 10% capacity again, then the AHF capacity is 120A. If temperature reduce to 85℃ after derating, the AHF capacity will return to 150A.	Disable Enable	Enable	N/A

Constant reactive	This function is only used for SVG. This function could make SVG generate constant reactive power to the grid. No need of CT, because it's output reactive power is constant.	[-3000, 3000] (+) Inductive (-) Capacitive	0.0	kvar
RP Tracking Ctrl. Val	RP Tracking Ctrl Val means "Reactive Power Tracking Control Value". This parameter can be set to output either a constant inductive or capacitive reactive power into the system, before the system will perform its normal reactive power compensation function, as required by the load. This function can be used to compensate for the reactive power generated by the SVG itself or to compensate for magnetising reactive power required by the upstream transformer, typically when the utility meter the client on the primary side of transformer, but SVG system is installed on secondary side. A transformer magnetising current should be inductive, so to compensate for the inductive reactive power, the RP Tracking Ctrl Val should be set to output capacitive reactive power. (Under normal operation, and if value is set at "0.0" the SVG will compensate for the reactive power required by the load. If target for cos phi is set at 0.99 for the LV side, the cos phi might be 0.97 on the MV side where the client is metered. The RP Tracking Ctrl Val setting will allow SVG to output a constant cos phi to compensate for the additional reactive power required by the transformer, before performing its normal Reactive power compensation.) The setting therefore improves the Power Factor at the metered point with lower kVA demand and reactive energy charges. (For example: A value of -7.5 will output 7.5kVAr of Capacitive Reactive Power into the system constantly before the SVG compensate for the reactive power required by the load)	[-3000, 3000] (+) Inductive (-) Capacitive	0.0	kvar

PARAMETER SETTING

The table below are parameters needed to set up MTE 7-inch HMI;

Table 3- 7 Parameter setting in HMI

Operation Mode
Total Capacity
Comp. Rate
Comp. Mode
CT Ratio
Power On Mode
Slave Module Quantity
CT Location

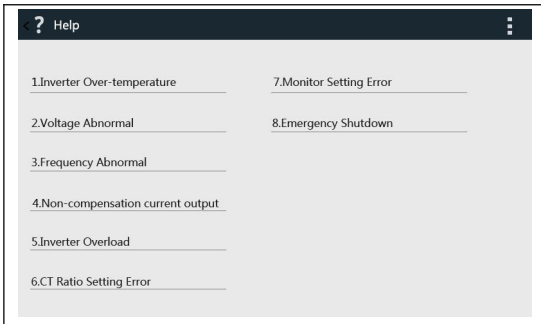
Take one 500A AHF system for example. Assuming this system contains five AHF 100A modules and uses 7-inch HMI for monitoring. The CT ratio is 3000:5.

In this case, before module power on, the quick commission should be:

Table 3- 8 Case demonstration

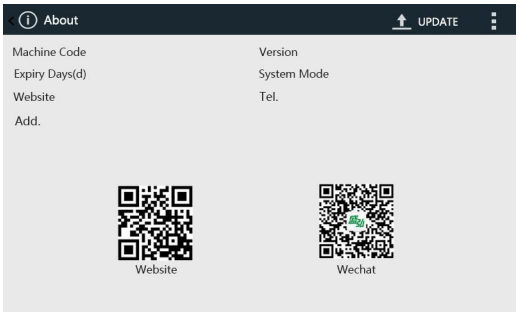
Setting	Setting parameters
Operation Mode	Harmonic comp.
Total Capacity	500
Comp. Rate	1.0
Comp. Mode	Intelligent
CT Ratio	3000
Power On Mode	Manual or auto
Slave Module Quantity	5
CT Location	Based on site

HELP



There are eight common types of alarms, for detailed explanations, please refer to Appendix X.

ABOUT



The system software version information

For example:
Machine Cod 000000
Version M317D000B000 (M: Monitor version, D:DSP version)
System Mode 380-0/0-4-0
Expiry Days(d) Forever

TABLE OF CONTENTS

DOCUMENT REVISION

Revision	Date	Revised Content
V1	2025/09/23	First Version

MTE reserves the right to make modification to the device or the unit specifications set out in the user manual without prior notice.