

This section gives you all the information necessary to help you monitor and operate your controller including an Operator Interface overview, an explanation of the Displays, keys, LEDs, Mode access, and Operation Modes.



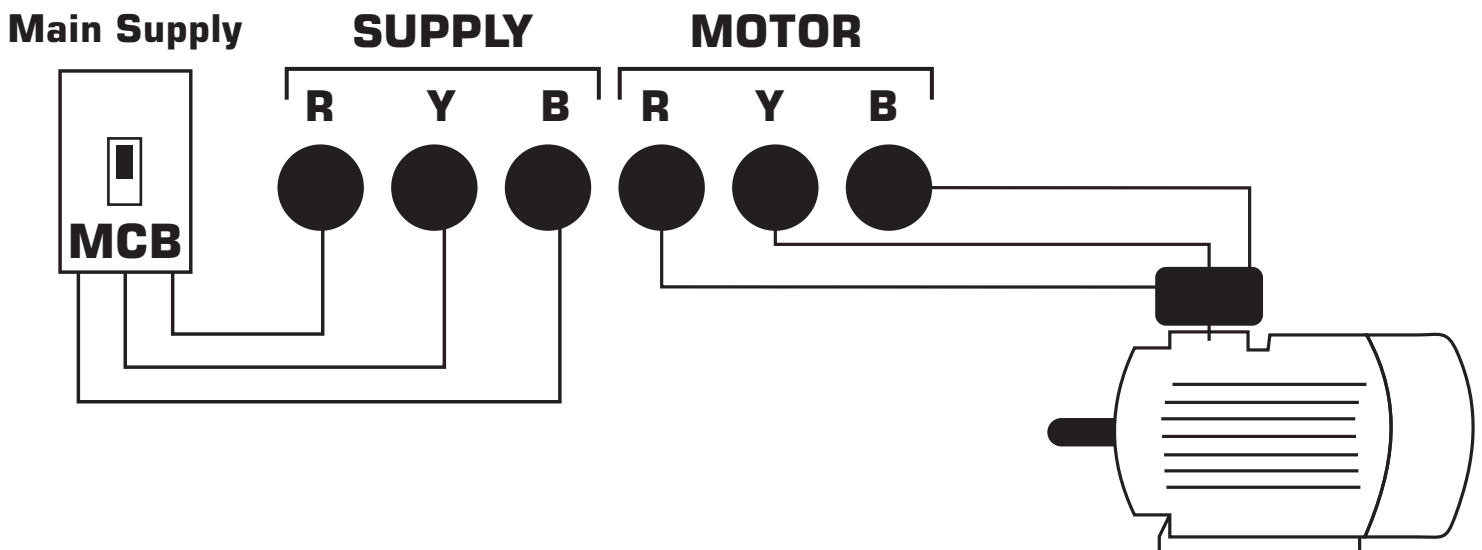
### KEY OPERATION:

Keys	Functions
SET	To View & Edit Parameter And to be set Value And Move To The next Step.
STOP ▲	To Increment Parameter Value + STOP.
START ▼	To Decrement Parameter Value + START.
AUTO / MANUAL	Auto Or Manual Mode Selection.

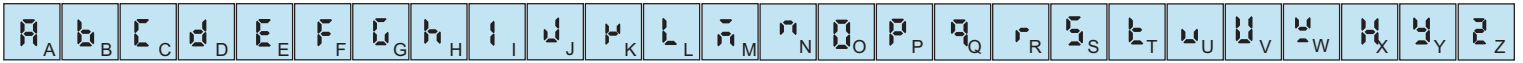
## SPECIFICATION

<b>INPUT</b> Volt Input CT Input DI Input (Optional)	R, Y, B, Three Phase (290 VAC ~ 490 VAC) 50 Ampere CT @ 3 NOs (1.0 AMP ~ 50.0 AMP) Start Input, Stop Input
<b>OUTPUT</b> Relay	3 CO, 40 Amp., 415 VAC
AUX. Accuracy Operating Temp. Relative Humidity Enclosure Material	415 VAC, 50 Hz, ± 10% ± 1% of FSD 0°C ~ 55°C Up to 95% RH Non Condensing ABS Plastic

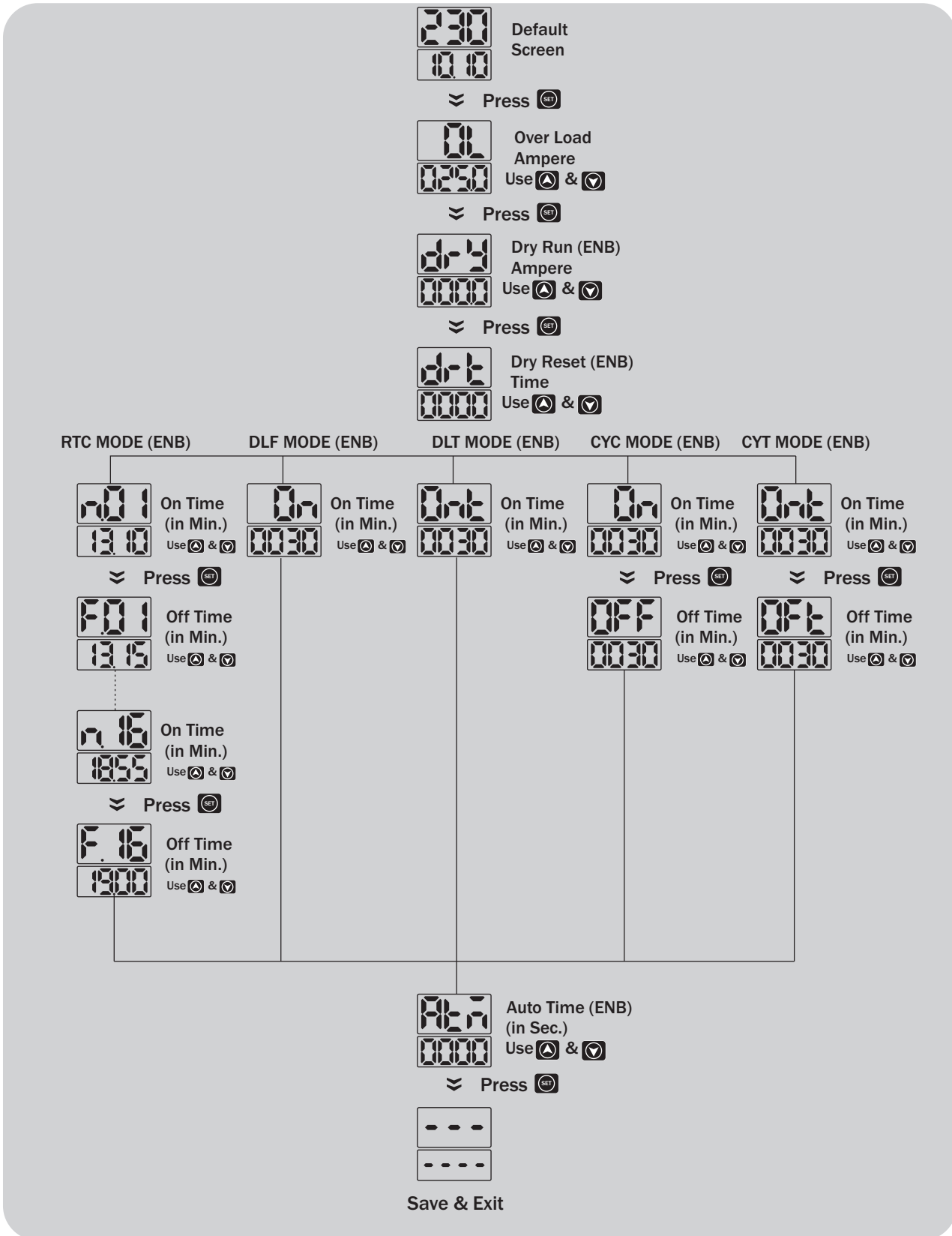
### Wiring Diagram



## Display Alphabet Characters



## STARTING MENU



## PARAMETER SETTING

PRESS For 5 Sec.

PASS 30	PASS 50	PASS 70	PASS 80	PASS 90
 Default Screen Press	 Default Screen Press	 Default Screen Press	 Default Screen Press	 Default Screen Press
 Default Screen Press	 Default Screen Press	 Default Screen Press	 Default Screen Press	 Default Screen Press
 Enter Password 030 For Time Parameter Use  & Press	 Enter Password 050 For Time Parameter Use  & Press	 Enter Password 070 For Time Parameter Use  & Press	 Enter Password 080 For Time Parameter Use  & Press	 Enter Password 090 For Time Parameter Use  & Press
 Auto Delay Time Enable/Disable Use  & Press	 Clock Time In Sec Use  & Press	 Max. Ampere Limit Setting Use  & Press	 Working Days Selection Use  & Press	 SPP Function Enable/Disable Use  & Press
If RTC Mode  Mode Selection Use  & Press	 Clock Time In Minutes Use  & Press	 Start Delay Time Setting Use  & Press	 Working Days Selection Use  & Press	 Phase Sequence Enable/Disable Use  & Press
 Memory Retain Use  & Press	 Clock Time In Hours Use  & Press	 Ampere Delay Time Setting Use  & Press	 Save & Exit	 High Voltage Enable/Disable Use  & Press
 Auto OL & DRY In Percentage Setting Use  & Press	 Days Setting Use  & Press	 Dry Run Enable/Disable Use  & Press	 Save & Exit	 High Voltage Use  & Press
 Save & Exit	 Save & Exit	 Dry Run Reset Enable/Disable Use  & Press	 Voltage Difference For Phase Loss Use  & Press	 Low Voltage Enable/Disable Use  & Press
		 Ampere Offset Value Setting Use  & Press	 Voltage Offset Value Setting Use  & Press	 Low Voltage Use  & Press
		 Save & Exit	 Save & Exit	 Voltage Delay Time Setting Use  &

Password	High Voltage Function	Real Time Mode	Phase Sequence Function
Enable Function	Limit For Ampere Setting	None Mode	Difference Value
Auto Delay Time	Start Delay Time ( Initial Delay )	SPP Function ( Phase Loss )	
Mode Selection	Dry Reset Time	Cyclic Mode	
Function Disable	Ampere Offset Value	Cyclic With Trigger Mode	
Function Yes	Low Voltage Function	Delay Off With Trigger Mode	
Delay Time	Voltage Offset	Delay Off Mode	

## Warranty and Application Considerations

### Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your venex representative if you have any questions or comments.

### Warranty and Limitations of Liability

#### WARRANTY

(12 Months, unless agreed otherwise by us) We undertake to replace or repair at our option any defective product that needs replacement or repair, by reason of defective workmanship or defective materials, brought to our notice within the period specified below as "Warranty Period" after delivery to the buyer, providing also that it we so require, the part in respect of which a complaint is made must, before liability can be entertained under this clause, be sent at buyer's expense to our works or our office, as we may determine. Under no circumstances do we undertake liability for indirect or consequential loss or damage of any nature. This guarantee is given in lieu of and excludes every other condition or warranty whether statutory or otherwise.

#### LIMITATIONS OF LIABILITY

VAPL Shall Not Be Responsible For Special, Indirect, Or Consequential Damages, Loss Of Profits, Or Commercial Loss In Any Way Connected With The Products, Whether Such Claim Is Based On Contract, Warranty, Negligence, Or Strict Liability.

In no event shall the responsibility of VAPL for any act exceed the individual price of the product on which liability is asserted

In No Event Shall VAPL Be Responsible For Warranty, Repair, Or Other Claims Regarding The Products Unless VAPL's Analysis Confirms That The Products Were Properly Handled, Stored, Installed, And Maintained And Not Subject To Contamination, Abuse, Misuse, Or Inappropriate Modification Or Repair.

### Application Considerations

#### SUITABILITY FOR USE

VAPL shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.

Know and observe all prohibitions of use applicable to this product.

Never Use The Products For An Application Involving Serious Risk To Life Or Property Without Ensuring That The System As A Whole Has Been Designed To Address The Risks, And That The VAPL Products Are Properly Rated And Installed For The Intended Use Within The Overall Equipment Or System.

### DISCLAIMERS

#### PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of VAPL's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the VAPL Warranty and Limitations of Liability.

#### CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons. Consult with your VAPL representative at any time to confirm actual specifications of purchased product.

#### DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

## SAFETY PRECAUTIONS

Do not touch the terminals while power is being supplied. Doing so may occasionally result in minor injury due to electric shock.



Do not allow pieces of metal, wire clippings, or fine metallic shavings or filings from installation to enter the product. Doing so may occasionally result in electric shock, fire, or malfunction.



Do not use the product where subject to flammable or explosive gas. Otherwise, minor injury from explosion may occasionally occur.



Never disassemble, modify, or repair the product or touch any of the internal parts. Minor electric shock, fire, or malfunction may occasionally occur



If the output relays are used past their life expectancy, contact fusing or burning may occasionally occur. Always consider the application conditions and use the output relays within their rated load and electrical life expectancy. The life expectancy of output relays varies considerably with the output load and switching conditions



Tighten the terminal screws to between 0.74 and 0.90 N·m. Loose screws may occasionally result in fire.



Set the parameters of the product so that they are suitable for the system being controlled. If they are not suitable, unexpected operation may occasionally result in property damage or accidents.



A malfunction in the Temperature Controller may occasionally make control operations impossible or prevent alarm outputs, resulting in property damage. To maintain safety in the event of malfunction of the Temperature Controller, take appropriate safety measures, such as installing a monitoring device on a separate line.



### VBTRON AUTOMATION PVT. LTD.

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(GUJARAT) INDIA

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product improvement, specifications are  
subject to change without notice.

## PRECAUTIONS FOR SAFE USE

Be sure to observe the following precautions to prevent operation failure, malfunction, or adverse effects on the performance and functions of the product. Not doing so may occasionally result in unexpected events.

- The product is designed for indoor use only. Do not use the product outdoors or in any of the following locations.
  - Places directly subject to heat radiated from heating equipment.
  - Places subject to splashing liquid or oil atmosphere.
  - Places subject to direct sunlight.
  - Places subject to dust or corrosive gas (in particular, sulfide gas and ammonia gas).
  - Places subject to intense temperature change.
  - Places subject to icing and condensation.
  - Places subject to vibration and large shocks.
- Use/store within the rated temperature and humidity ranges. Provide forced-cooling if required.
- To allow heat to escape, do not block the area around the product. Do not block the ventilation holes on the product.
- Be sure to wire properly with correct polarity of terminals.
- Use specified size (M3.5, width 7.2 mm or less) crimped terminals for wiring. To connect bare wires to the terminal block, use copper braided or solid wires with a rated temperature of over 70°C and a gauge of AWG24 to AWG14 (equal to a cross-sectional area of 0.205 to 2.081 mm<sup>2</sup>). (The stripping length is 5 to 6 mm.) Up to two wires of same size and type, or two crimped terminals can be inserted into a single terminal.
- Do not wire the terminals which are not used.
- Allow as much space as possible between the controller and devices that generate a powerful high-frequency or surge. Separate the high-voltage or large-current power lines from other lines, and avoid parallel or common wiring with the power lines when you are wiring to the terminals.
- Use this product within the rated load and power supply.
- Make sure that the rated voltage is attained within two seconds of turning ON the power using a switch or relay contact. If the voltage is applied gradually, the power may not be reset or output malfunctions may occur. into consideration when performing control.
- Make sure that the Controller has 30 minutes or more to warm up after turning ON the power before starting actual control operations to ensure the correct temperature display.
- A switch or circuit breaker should be provided close to this unit. The switch or circuit breaker should be within easy reach of the operator, and must be marked as a disconnecting means for this unit.
- Do not use paint thinner or similar chemical to clean with. Us standard grade alcohol.
- Design system (control panel, etc) considering the 2 seconds of delay that the controller's output to be set after power ON.
- The output may turn OFF when shifting to certain levels. Take this into consideration when performing control.
- The number of non-volatile memory write operations is limited

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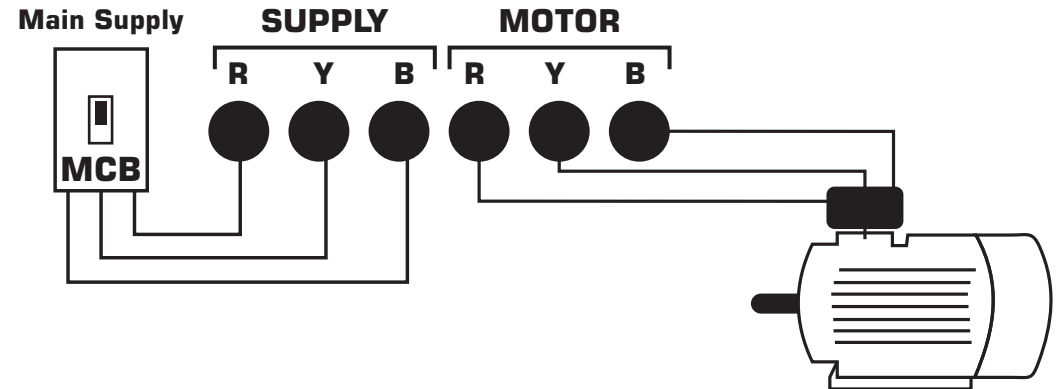
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**KEY OPERATION:**

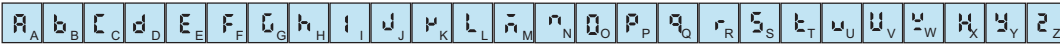
Keys	Functions
SET	To View & Edit Parameter And to be set Value And Move To The next Step.
STOP	To Increment Parameter Value + STOP.
START	To Decrement Parameter Value + START.
AUTO / MANUAL	Auto Or Manual Mode Selection.

<b>INPUT</b>	<b>Volt Input</b> <b>CT Input</b> <b>DI Input (Optional)</b>	R, Y, B, Three Phase (290 VAC ~ 490 VAC) 50 Ampere CT @ 3 NOs (1.0 AMP ~ 50.0 AMP) Start Input, Stop Input
<b>OUTPUT</b>	<b>Relay</b>	3 CO, 40 Amp., 415 VAC
	<b>AUX. Accuracy</b> <b>Operating Temp.</b> <b>Relative Humidity</b> <b>Enclosure Material</b>	415 VAC, 50 Hz, ± 10% ± 1% of FSD 0 °C ~ 55 °C Up to 95% RH Non Condensing ABS Plastic

**Wiring Diagram**



Display Alphabet Characters



STARTING MENU

230 Default Screen  
10.0

Press [Enter]

OL Over Load Ampere  
0250 Use [Up] & [Enter]

Press [Enter]

d-r Dry Run (ENB) Ampere  
0000 Use [Up] & [Enter]

Press [Enter]

d-r-t Dry Reset (ENB) Time  
0000 Use [Up] & [Enter]

Press [Enter]

RTC MODE (ENB) DLF MODE (ENB) DLT MODE (ENB) CYC MODE (ENB) CYT MODE (ENB)

r-01 On Time (in Min.) 13.0 Use [Up] & [Enter]

Press [Enter]

F-01 Off Time (in Min.) 13.5 Use [Up] & [Enter]

r-16 On Time (in Min.) 18.5 Use [Up] & [Enter]

Press [Enter]

F-16 Off Time (in Min.) 19.0 Use [Up] & [Enter]

Auto Time (ENB) (in Sec.) 0000 Use [Up] & [Enter]

Press [Enter]

Save & Exit

PARAMETER SETTING

PRESS [Enter] For 5 Sec.

PASS 30	PASS 50	PASS 70	PASS 80	PASS 90
230 Default Screen 10.0 Press [Enter]	230 Default Screen 10.0 Press [Enter]	230 Default Screen 10.0 Press [Enter]	230 Default Screen 10.0 Press [Enter]	230 Default Screen 10.0 Press [Enter]
PAS Default Screen 0043 Press [Enter]	PAS Default Screen 0043 Press [Enter]	PAS Default Screen 0043 Press [Enter]	PAS Default Screen 0043 Press [Enter]	PAS Default Screen 0043 Press [Enter]
PAS Enter Password 030 For Time Parameter 0030 Use [Up] & [Enter]	PAS Enter Password 050 For Time Parameter 0050 Use [Up] & [Enter]	PAS Enter Password 070 For Time Parameter 0070 Use [Up] & [Enter]	PAS Enter Password 080 For Time Parameter 0080 Use [Up] & [Enter]	PAS Enter Password 090 For Time Parameter 0090 Use [Up] & [Enter]
ALen Auto Delay Time Enable/Disable d-15 Use [Up] & [Enter]	560 Clock Time In Sec 0020 Use [Up] & [Enter]	Lat Max. Ampere Limit Setting 0250 Use [Up] & [Enter]	5wn Working Days Selection 4-5 Use [Up] & [Enter]	5PP SPP Function Enable/Disable Enb Use [Up] & [Enter]
If RTC Mode r-01 Mode Selection r-01 Use [Up] & [Enter]	560 Clock Time In Minutes 0020 Use [Up] & [Enter]	560 Start Delay Time Setting 0010 Use [Up] & [Enter]	5wn Working Days Selection 4-5 Use [Up] & [Enter]	569 Phase Sequence Enable/Disable Enb Use [Up] & [Enter]
CHn Memory Retain r-01 Use [Up] & [Enter]	H- Clock Time In Hours 0020 Use [Up] & [Enter]	d-4 Ampere Delay Time Setting 0005 Use [Up] & [Enter]	Save & Exit	HU High Voltage Enable/Disable Enb Use [Up] & [Enter]
025 Auto OL & DRY In Percentage Setting PEr Use [Up] & [Enter]	d-19 Days Setting 5wn Use [Up] & [Enter]	d-r Dry Run Enable/Disable Enb Use [Up] & [Enter]	Save & Exit	HU High Voltage 0290 Use [Up] & [Enter]
Save & Exit	Save & Exit	d-r-t Dry Run Reset Enable/Disable d-15 Use [Up] & [Enter]	d-1F Voltage Difference For Phase Lose 0050 Use [Up] & [Enter]	LW Low Voltage Enable/Disable Enb Use [Up] & [Enter]
		ROF Ampere Offset Value Setting 0000 Use [Up] & [Enter]	ROF Voltage Offset Value Setting 0000 Use [Up] & [Enter]	LW Low Voltage 0160 Use [Up] & [Enter]
		Save & Exit	Save & Exit	d-4 Voltage Delay Time Setting 0005 Use [Up] & [Enter]

PAS Password	HU High Voltage Function	r-01 Real Time Mode	569 Phase Sequence Function
Enb Enable Function	Lat Limit For Ampere Setting	None Mode	d-1F Difference Value
ALen Auto Delay Time	560 Start Delay Time (Initial Delay)	Cyclic Mode	5PP SPP Function (Phase Loss)
r-01 Mode Selection	d-r-t Dry Reset Time	Cyclic With Trigger Mode	
d-15 Function Disable	ROF Ampere Offset Value	d-r-t Delay Off With Trigger Mode	
4-5 Function Yes	LW Low Voltage Function	d-r-t Delay Off Mode	
d-4 Delay Time	ROF Voltage Offset		