INSTRUCTION MANUAL
AUTOMATIC VOLTAGE REGULATOR



Thank you for choosing **WELL**. Please read carefully the following instructions and keep them within reach.

Reorder No: AVR-SRV/TRI-TROOPER7.5KVA-WL, AVR-SRV/TRI-TROOPER10KVA-WL, AVR-SRV/TRI-TROOPER15KVA-WL, AVR-SRV/TRI-TROOPER20KVA-WL, AVR-SRV/TRI-TROOPER30KVA-WL, AVR-SRV/TRI-TROOPER40KVA-WL, AVR-SRV/TRI -TROOPER60KVA-WL, AVR-SRV/TRI-TROOPER75KVA-WL, AVR-SRV/TRI-TROOPER100KVA-WL

OPERATION INSTRUCTION:

1. Please make sure the connection of the wire correctly.
Input power must be connected with neutral, then turn the regulator on, use the line voltage selected switch observe the output voltage, if the indicate normal voltage 380V+4%, then press the button for starting, this machine can supply power in model of the auto-adjust voltage.

2. When the input voltage and the output voltage has exchanged, the servo type will auto-move to right position and it can send out voice (this is normal).

3. After use, please close the power of equipment at first, then close the power of the voltage regulator.

4. The product has lack phase protection and over/low voltage protection. The phase voltage output is more than 248V or there is lack phase, maybe the machine cut off the output, so when the switch turn on, the regulator is still no output maybe there is over/low voltage or lack phase.

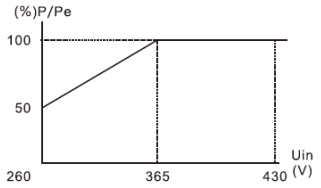
5. This product has a protection of overload or short circuit, it has been tested the goods conditions when the product left the factory.

6.This product should not use for longtime under the overload. (please refer to form 1)

Form 1

Overload %	Not permitting exceed time
20	60
40	32
60	5

P: general rating efficiency of electrical
Pe: rating efficiency of regulator



Picture 1

7. When the product is used the low voltage mode, please notes the proportion the capacity of efficacy to reduce the curve, please refer to picture 1.

8. By-pass function provided

LED INDICATOR:



1. Symbol

Symbol	Meanings
DELAY	When this “DELAY” light blinks, regulator is in delaying status.
LOW VOLTAGE	When this “LOW VOLTAGE” light blinks, regulator is in low voltage protection.
HIGH VOLTAGE	When this “HIGH VOLTAGE” light blinks, regulator is in high voltage protection.
	This light shows output/input voltage value of A phase or output/input voltage value between A phase and B phase.
	This light shows output/input voltage value of B phase or output/input voltage value between B phase and C phase.
	This light shows output/input voltage value of C phase or output/input voltage value between C phase and A phase.
	This light shows input current value of A phase.
	This light shows input current value of B phase.
	This light shows input current value of C phase.
OVER LOAD	When “OVER LOAD” light blinks, regulator is in over load protection.
OVER HEAT	When “OVER HEAT” light blinks, regulator is in over temperature protection.
PHASE FAILURE	When “PHASE FAILURE” light blinks, regulator is in phase failure protection.

2. Button functions

Button	Function Description
SET	Press “set”, this column  will show numbers "1" to “12”, then choose different setting function. Remarks: 1: Capacity selection. 4: Over protection output voltage value selection 5: Low protection output voltage value selection 6: Over loading protection value selection 7: Over heat protection value selection 8: Cooling Fan working temperature value selection (⚠ Don't change above factory defaults. These function should be operated by professional engineer.) 9: Delaying time selection. (3 seconds -240 seconds) 10: Phase Failure protection. (“O”-- Close Phase Failure protection) (“1”-- Open Phase Failure protection) 11: Output voltage selection. 200-240V (split phase) can be selected. 12: Output precision selection 3V-20V can be selected.
ADD +	Press  to adding the value.
DEC −	Press  to reducing the value
INPUT OUTPUT	Press  to switch showing values between input voltage and output voltage.
380 220	Press  to switch showing values between voltage of split phase and voltage of 3 phase.
ENTER	Press  key to enter the corresponding function settings.

3. Fault code and solution

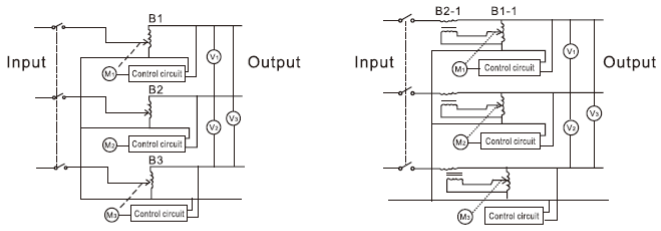
E-1: Regulator is in over voltage protection	Buzzer is sounded. Please wait until the input voltage goes down, the regulator will restart automatically.
E-2: Regulator is in low voltage protection	Buzzer is sounded. Please wait until the input voltage goes up, the regulator will

	restart automatically.
E-3: Regulator is in over loading protection	Buzzer is sounded. Please turn off some loading appliances to reduce the loading power, then the regulator will restart automatically.
E-4: Regulator is in over heat protection	Buzzer is sounded. Please wait until the temperature goes down, the regulator will restart automatically.
E-5: Regulator is in frequency protection	Buzzer is sounded. Please wait until the frequency recover to the range of 75HZ~46HZ. The regulator will restart automatically.
E-6: Regulator is in phase failure protection	Buzzer is sounded. Please check input wire connection of corresponding phase.
E-7: Regulator is in phase fault protection	Buzzer is sounded. Please check all wire connections whether are correct.
E-8: Regulator is in zero phase losing protection	Buzzer is sounded. Please check "N" line whether is well connected.

Principle of work:

1. This product is composed of contact regulator, sampling circuit, output voltage, implement electrical-motor and move arm and so on.

2.When the input voltage and output voltage has exchanged, every sampling circuit go on sampling of respective and comparatively, in accordance with the result to compared motor motion for distortion and drive the motor to move arm of regulator to adjust the voltage to make the output voltage unchanged, there by achieve the goal of regulator voltage (please refer to picture 2).



(a) Three phase auto-transformer (b) Three phase compensate

Picture 2

Specification:

Model	
Input voltage (three phase)	320V ~ 480V
Output voltage (three phase)	400V ± 3%
Frequency	50-60 Hz
Phase voltage protection (over voltage)	YES
Adjust time	≤ 0.5 sec
Environment temperature	-10°C ~ 40°C
Relative distribution	< 90%
Waveform distribution	1.0 - 3.0%
Efficiency	> 90%
Delay time	5s / 240s

1. The regulator should be avoiding vibration strenuous, gas and liquid flow in.

2. The link-line of regulator, please refer to the specified efficiency allocate with enough circuit capacity wire. (less than or equal to 0.5A/mm2)

3. There have earth installation inside, it can connected earth with the line of outside, do not remove the line of earth or unconnected earth.

4. Kept clean inside the meter, because the dust can block the gears move, and effect accuracy, should be clear up in time.

5. When the regulator lost auto control, please stop supplying power, test the micro switch, plate of control ling and

gear, after fix a breakdown resume use. When you testing, please turn round the electrical brush lightly, so as not to damaged the servo type machine and the reduction of speed system.

6. Do not overload, use the remaining enough of capacity, especially used for equipment. The compound of regulation power rating efficacy is three times than the general efficacy.

7. Balance between input A, B and C phase has not exchanged, when the input can not balance, the phase voltage kept 220V plus mins 3%.

Before ask for repair: (No trouble of regulator)

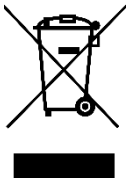
1. The regulator has not export voltage, it shows:
a). The regulator is state of delay, just a moment, there will have output.
b). The input voltage deviate voltage rating by a big margin. It will start the high voltage or the lack voltage protection to protect the appliance.

2. The output voltage is on the high side or low side by a small margin.
a). The input voltage deviate rating of stable voltage. (This is normal).
b). The micro-adjust of the adjust control made the output voltage go back voltage accuracy.

3. Output voltage vibration:
a). Voltage electrical network has a big fluctuation.
b). The voltage accuracy is too high, it should be rebuild.

4. Each of line voltage has a big deviation and a showing difference, because there have unbalance for input voltage with each of line, but all of voltage are kept in 380V +3%.

5. If the phase input voltage is balance, but the output line voltage is unbalance, there has a big deviation, maybe, the wrong is the output voltage, should be adjust all of the phase.



Waste electrical and electronic equipment are a special waste category, collection, storage, transport, treatment and recycling are important because they can avoid environmental pollution and are harmful to health. Submitting waste electrical and electronic equipment to special collection centers makes the waste to be recycled properly and protecting the environment. Do not forget! Each electric appliance that arrives at the landfill, the field, pollutes the environment!

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