## Super-Smart AVR (Three Phase)

#### PS three phase series





## Specially for 3 phase CNC industrial equipment

Intelligent logic assemble function programming, it is suitable for all kinds of load and premises. The product lines have complete series and are all CE certified. Also, its with compact size, high efficiency, and easy to operation. Electrical and servo module mass producing, with several patents and anti-mistake circuit design, the producing procedure meet international standard, with high reliability quality and long MTBF.

#### Feature:

- Intelligently logic regulation
- Self-detecting function
- Powerful overload 150% ability
- With bypass device and protect function
- Big range high/low voltage protect device
- Phase failure, instant black-out, short circuit protection
- Start over voltage protection
- Independent regulation and protection design
- Full series with the same control system and multi anti-mistake circuit design

- Front panel with LED indicator displayed AVR regulating status
- With O/P voltmeter to monitor O/P voltage
- With dip sw. and easy for setting
- Electronics double circuitry switch design
- Separated voltage regulation design, 3 phase unbalance 100%
- Taiwan patent no. 160215, 162577
- China patent no. 125595, 390066
- Double overload and short circuit protection

#### **\*** Application:



**PCB** Drilling Machine



Integrated Processing Machine



SMT



EDM

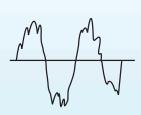


Milling Machine

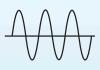


Al Component Inserting Machine

## Super-Smart AVR







## Innovative Panel Design

Three Phase Normal Output Voltage Indicator ( Green )

Electronic Double-Circuit O/P ON Switch Electronic Double-Circuit O/P OFF Switch



Three Phase Output High Voltage Indicator ( Red )

Three Phase Output Low Voltage Indicator ( Red )

AC Output Indicator ( Green )

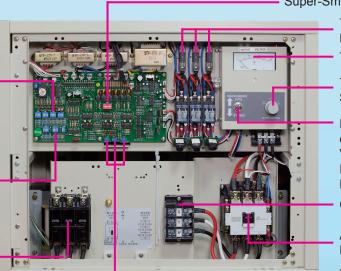
AC Output OFF Indicator ( Red )

#### **Excellent and Precision Main Control Circuit**

High / Low Voltage Protection based on various/multi/big range select can be pre-set to suit various load condition very precisely

Intelligent mode built-in to match up various voltage on the spot, it is designed to be easily adjusted to the required mode and the required response time as well

Concealed Power Switch equipped with additional Over Load Protection



Super-Smart Voltage Regulation Board

Three Phase Short Circuit Protection

Three Phase Voltage Meter

Three Phase Voltage Selection Knob

Electronic Bypass Switch, equipped with High / Low Voltage Protection and Phase Failure Protection even during Bypass status

**Output Terminal** 

Abnormal Voltage Trip Device

The most precise type Output Voltage Adjustment Knob



**Grinding Machine** 



WEDM



Production Process Equipment



SMT



Laboratory



Medical Monitoring Equipment

## Intelligently Logic Regulation :

The powerful PS series can completely adjust the regulating speed and regulation range in accordance with power's variation and the load character on the spot by the logic pulse circuit control to gain the most satisfactory power regulation

## Separate Regulators Design :

Whenever AC power encounters three phase unbalanced, non-linear power or heavy load, the Separate Regulators will still maintain its accurate output

## Innovative Panel Design :

To renovate the traditional meter reading, this Super-Smart AVR provides user a very clear reading only by checking the indicators' colors to realize it is normal or abnormal. The green indicator stands for normal, red indicator shows abnormal

#### All Module Design :

All the technical design inside the Super-Smart AVR is of Module Designed and separately assembled, components used on PCB are very stringently quality controlled and tested by computerized ICT satisfactory quality reliability

#### Self-Detecting Function Design :

The Self-Detect result is displayed by light indicators providing an immediate, exact malfunction information to users making maintenavce more easy and efficient

## Powerful Overload Capability :

The Super-Smart AVR is specially designed to withstand 150% of its nominal load and no voltage decrease will happen

#### Start Over Voltage Protection :

Whether it is switch on or recovers from power outage, the Start Over Voltage Protection will always start from low voltage to protect the load side equipment

#### Humanized Anti-Mistake Circuit Design :

To prevent from inappropriate operation or touch by which causing AC output switch ON or AC output switch OFF, Super-Smart AVR has a very delicate Electronic Double-Circuit Control design, one must simultaneously push two ONs or two OFFs to start or shut down the Super-Smart AVR

#### Big Range High / Low Voltage Protection :

Whatever the load side it may be like, for instance, heavy load equipment or precise equipment, even there is a very massive power variation, the Super-Smart AVR has a very special feature design of Various/Multi/Big range Select to pre-set the most appropriate and precise adjustment in accordance with the load requirement

#### Phase Failure Protection :

If there is any failure within three phase power, the Super-Smart AVR will immediately complete the detect and have it displayed and trip off to protect the load side equipment

#### Instant Trip Device :

This Instant Trip Design will always trip before AC recovers from an instant black-out, it features a re-set function making sure a stable power is in operation again while AC power gets back to normal. The purpose of this is to protect the load equipment from damaging by a frequently happened abnormal high voltage

#### Bypass Device :

The AVR can still provide High/Low Voltage Protection, Phase Failure Protection...and all the other featured Protection when it is in status of Bypass under maintenance or repairing

# Logic Assemble Function Programming



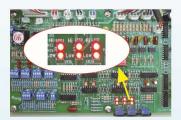
Adopt with multilayer and big range DIP SW logic assemble design, include high/low voltage, delay, quick regulating and O/P accuracy setting. All setting can operate and select easier, user can pre-set the most appropriate adjustment in accordance with the load requirement

#### **SOVP Device**



Whether it is switched on or recover from power outage, the Start Over Voltage Protection will always re-start from low voltage, won't have high voltage output

#### Self-Detecting Function



Each time during the unit turn on the AVR, fast detect utility and itself whether under protect setting quickly, then supply precise voltage to the equipment

#### With Surge Protection



With lightning and surge protect function (only few models have)

#### Separated Regulation



Three phase separate regulators design

# I/P & O/P Wires Protection



Wiring fixed, I/P, O/P wires well sealed, stable & safety

#### Bypass & Indication



With three phase voltage indicator and bypass device

H Class Protection



With Class H insulation materials transformer

#### Model & Specification:

100000	el No. S-)	310 X/N/Y	315 X/N/Y	320 X/N/Y	330 X/N/Y	345 X/N/Y	360 X/N/Y	375 X/N/Y	3100 X/N/Y	3120 X/N/Y	3150 X/N	3180 X/N	3200 X/N
Capacit	y (KVA)	10	15	20	30	45	60	75	100	120	150	180	200
Voltage		$X2:3\ \phi\ 3W\ 220V\ series \\ X3:3\ \phi\ 3W\ 380V\ series \\ X4:3\ \phi\ 3W\ 415V\ series \\ X3:3\ \phi\ 4W\ 220/380V\ series\ (Indicate\ phase\ voltage) \\ X4:3\ \phi\ 3W\ 415V\ series \\ X3:3\ \phi\ 4W\ 220/380V\ series\ (Indicate\ phase\ voltage) \\ Y: Input\ 3\ \phi\ 3W\ 380V,\ Output\ 3\ \phi\ 3W\ 220V\ (with\ auto\ type\ transformer) \\ Y0:Y\ type\ with\ special\ specification \\ Y2: Input\ 3\ \phi\ 3W \qquad ,\ Output\ 3\ \phi\ 4W \qquad (with\ isolated\ type\ transformer) \\ Y5:Y2\ type\ with\ special\ specification \\$											
Input Range		Nominal Voltage: 15% (±10%,±20%,±25% can be customized) Frequency: 50/60Hz±5%											
Output Accuracy		≤1%											
Power Factor		0.95~1											
Efficiency		≧98%											
Response Time		< 0.1 Second											
Waveform Distortion		No distortion											
Protection	High Voltage	Standard Feature (can be Various / Multi / Big range pre-set and LED displayed)											
	Low Voltage	Standard Feature (can be Various / Multi / Big range pre-set and LED displayed)											
	Phase Failure	Standard Feature (can be Various / Multi / Big range pre-set and LED displayed)											
Bypass		Standard Feature (with High / Low Voltage, Phase Failure, Instant Black-Out Protection at work)											
Indicators	Power					Sta	andard F	eature					
	Voltage					Sta	andard F	eature					
	Abnormal	Standard Feature											
Overload		150% for 10 seconds											
Environment		Temperature: 0°C ~45°C Humidity: 0%~95% RH (Non-Condensing)											