

Digital Intelligent AVR (Three Phase)

PR three phase series



Specially for 3 phase CNC industrial equipment

New Generation Digital Logic Combined Functional Setting. Complete Capacity and Specifications, CE Certified. The Series is designed of built-in multiple functions digital meters, in conjunction of indicators. The equipment is easy in operation. Joining with a number of patents and anti-mistake engineering design. The producing procedure meet international standard, with high quality and long MTBF, the serial equipment are good for all kinds load and sites.

Features:

- Microprocessor Control Unit (MCU) controlled regulation
- Multi-Phase, Multi-Function and Real-time measuring system Single-Chip (EMP)
- Built-in patented bypass device for equipment protection
- Big range high / low voltage protection device
- Phase loss, instant black-out and short circuit protection device
- Solid-state zero point transform drive circuit
- Start Over Voltage Protection (SOVP)
- Independent regulation and protection design
- Internal abnormal high voltage detecting system
- Signals of the AVR is totally in True RMS treatment
- Internally and externally built multi-function state indicators
- New type 4-digit safety password setting functions
- Electronic double circuitry switch design
- Electronic automatic and manual bypass function selection
- Separate voltage regulation design, 3 phases imbalance 100%
- Taiwan patent no. M492573
- China patent no. CN203278196U
- Double overload and short circuit protection

✧ Scope of Application:



PCB Drilling Machine



Integrated Processing Machine



SMT



EDM

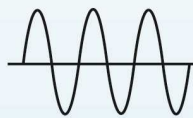
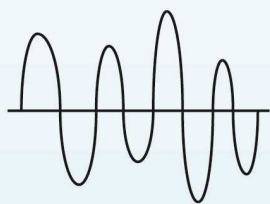


Milling Machine



AI Component Inserting Machine

Digital Intelligent AVR



Digital Linear Voltage Regulating Mode:

Digitalized control joining with linear voltage regulation structure enables equipment to obtain precise and stable voltage

True RMS Voltage:

The voltage signal is processed in true RMS value, and the AVR won't be affected the output voltage accuracy due to waveform distortion

Innovative Panel Design

The indicator color of panel can find the voltage state for each phases of the AVR

Humanized Anti-Mistake Circuit Design:

To prevent from inappropriate operation or touch, the AVR has a very delicate Electronic Double-Circuit Control design, one must simultaneously push two ONs or two OFFs to start or shutdown the AVR

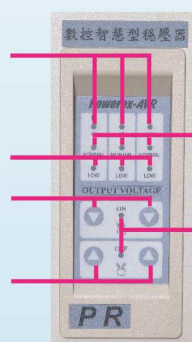
Digital Circuit Instrument Design

Three Phase Output Over Voltage Indicator (Red)

Three Phase Output Low Voltage Indicator (Red)

Electronic Double-Circuit O/P ON Switch

Electronic Double-Circuit O/P OFF Switch



Three Phase Normal Output Voltage Indicator (Green)

AC Output Indicator (Green)
Green Start
Red Break

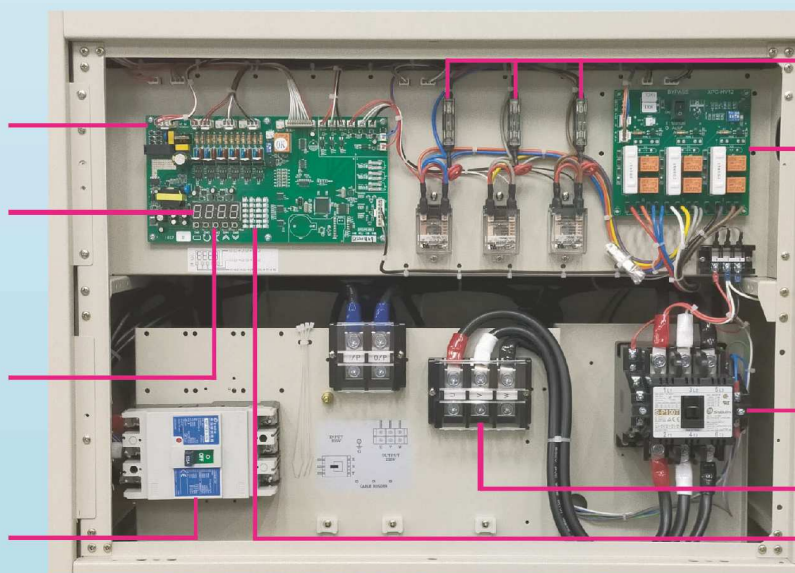
Digital Controlled Main Control Circuit

Digital control intelligent main control PCB with true RMS value digital control and solve the problem which caused by waveform distortion

Digitally display three phase voltages, frequency and all other valued of power system

5 functional setting button for setting protection function values for each phase

Concealed Power Switch equipped with additional Overload Protection



3 Phase separated overload and short circuit protection

Bypass device control board (it's with automatic bypass function for open circuit of voltage stabilizing circuit under AUTO status) (it's still with high/low voltage and phase loss protecting function under bypass status)

Abnormal voltage tripping contactor

Output terminal

Light up of indicators display state of each phase, clear and precise



Grinding Machine



WEDM



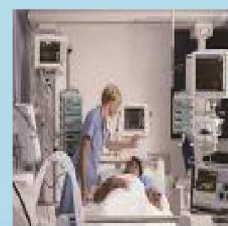
Production Process Equipment



SMT



Laboratory



Medical Monitoring Equipment

● **Big Range High / Low Voltage Protection:**

Whether precise equipment or heavy load equipment or power supply with wide range variation area, the Digital Intelligent 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 equipment.

● **Multi-Function Display Setting and Self- Detection:**

This Digital Intelligent AVR allows site review, setting, adjustment and testing of each phase voltage, frequency...etc. This unit is a voltage regulator and also 3 phase power testing instrument. The AVR is also equipped with self-detection functions and in conjunction of indicator, the present situation can be reported at any time.

● **Largest Angle Adjusting Capability:**

Since the adjustable angle is larger than 690 degrees, plus microprocessor with digital setting control, it can easily reach best precision for output voltage and without occurred with oscillation issues.

● **Main Control Board Are Processed in SMD and SMT:**

The main control elements are processed with SMD and SMT for increasing stability and reliability. And effectively promote the overall efficiency as well as reduce using space.

● **All Signals of The Entire AVR Is Treated in True RMS:**

The only AVR in True RMS operation and measuring both domestically and overseas, which really solve the problem of voltage regulation due to waveform distortion.

● **Solid-State Zero Point Transform Drive Circuit (STD):**

The AVR Control Drive Circuit adopts Solid-State Element and Zero Point Transform techniques, free of noise, free of interference and it makes the AVR output power supply cleaner.

● **Automatic and manual bypass function selection (AMB):**

When the control circuit detects the abnormal high voltage generated inside, in order to prevent damaging to the main components, the AVR will force switching to the bypass automatically at present, and it can also be manually bypass in the usual time.

● **All Module Design:**

The AVR adopts modular design, easy to assemble and disassemble, and cooperate with ICT computer automatic test and reliability test, as the best guarantee of quality.

● **Widest Range Voltage Regulation Capability:**

In order to attain the widest range voltage regulation, the built-in whole range DC Power Supply, allows for single phase and three phase power input at the same time.

● **Adopt Latest EMP and MCU:**

In order to promote computing speed and measuring function, multi-phase, multi-function real time measuring system single chip EMP is adopted, matched with Microprocessor Control Unit provide the AVR further into the computerization stage.

● **All-New Intelligent Voltage Regulation Control Circuit Design:**

The best optimal parameters can be set according to actual condition in use, such as change of input voltage and output load.

● **Double Overload and Short Circuit Protection:**

There are three phase fuses and input circuit breaker internally, when overload and short circuit, the protecting function will work immediately.

● **Phase Loss, Over/Low Voltage Protection:**

When input power is with phase loss or instant black-out, the AVR will trip off and display when it is detected. After power recover, please re-start up the switch to supply the pure and clear power.

● **Protection and Delayed Automatic Restart Function:**

This is in response to the special requirement from customer, after protection trips, the AVR can safely and reliably perform automatic delay restart when there is no one can reset the AVR at the site.

Model No. (PR-)		375 X/N/Y	3100 X/N/Y	3120 X/N/Y	3150 X/N
Capacity (KVA)		75	100	120	150
I/P Range		-A = ±10% -B = ±15%			
O/P Accuracy		±1%			
Voltage		X2 : 3 φ 3W 220V N1 : 3 φ 4W 110/190V Y : I/P : 3 φ 3W O/P : 3 φ 3W Y2 : I/P : 3 φ 3W O/P : 3 φ 4W	X3 : 3 φ 3W 380V N2 : 3 φ 4W 220/380V (with auto type transformer) (with isolated type transformer)		
Main Structure		Digital logic linear voltage regulation mode			
Voltage Regulating Signals		True RMS (Precision of voltage regulation is not affected by waveform distortion)			
Power Factor		0.95~1			
Efficiency		≥98%			
Response time		<0.1 Second			
Waveform Distortion		No distortion			
Protection	High Voltage	Numerical setting of over voltage and delayed action time			
	Low Voltage	Numerical setting of low voltage and delayed action time			
	Phase Loss	The same setting with low voltage			
Bypass		Electronic automatic and manual bypass function selection, it's still with abnormal voltage protecting function when at bypass state			
Indicators	Power	Standard feature			
	Voltage	Standard feature (it can display 3 phase 3 wire and 3 phase 4 wire - 4 digit voltage)			
	Abnormal	Standard feature			
Safety Protection		4-digit safety password setting			
Overload		150% for 10 seconds			
Environment		Temperature:0℃ ~45℃ Humidity:0%~95% RH (Non-Condensing)			