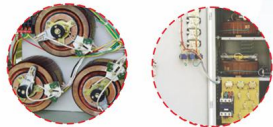


# TNS Series

## AC. Automatic Voltage Regulator

### FEATURES:

- Servo motor type
- Three phase individual control
- High precision regulation output
- Phase failure and wrong phase sequence protection
- Full protection: over voltage, under voltage, overheat, overload, sag, surge, spike and short circuit
- Delay Time to protect the equipment from rapid fluctuations



### SPECIFICATIONS:

Model	TNS-1.5KVA	TNS-3KVA	TNS-4.5KVA	TNS-6KVA	TNS-9KVA	TNS-15KVA
Power	1500VA	3000VA	4500VA	6000VA	9000VA	15000VA
Technology	Three Phase AVR + Individual Phase Control + Digital CPU Control					
Transformer	Servo Motor Type					
Input	Input voltage range	304-456V (260-430V Optional)				
	Input frequency	50/60Hz				
Output	Output voltage	380V (400V/415V Optional)				
	Output precision	± 3%				
Delay Time	6s /180s selectable					
Respond Time	<1s, against 10% variation of input voltage					
Efficiency	≥ 95%					
Phase	Three phase					
Display	Input current	Phase Current: A, B, C				
	Output voltage	Line Voltage: AB, BC, CA Phase Voltage: A, B, C				
LED indicators	Red LED	Working status of phase A, B, C				
	High voltage	Output cutoff by contactor				
	Low voltage	Output cutoff by contactor				
	Phase Failure	Output cutoff by contactor				
Protection	Wrong Phase Sequence	Can't switch on regulator				
	Surge/Spike	Optional, replaceable SPD				
	Manual Bypass	Yes, isolated				
	Over load	Output cutoff by contactor				
	High temperature	Output cutoff by contactor				
Safety standards	Short circuit	Input cutoff by air breaker				
	Insulation Voltage	2,000V / 60s				
	Insulation Resistance	>5MΩ				
	Creepage Distance	>8mm				
	Grounding Resistance	<0, 1mΩ				
	Insulation Class of Coil	Class F (155 °C)				
Cooling Mode	Insulation Class of Coil	Class F (155 °C)				
	Cooling Mode	Smart Cooling Fan				
IP Level	IP Level	IP20				
	Audible Noise	<65dB at 1m distance with full load				
Environmental	Operating temperature	-5 °C - 45 °C				
	Storage temperature	-15 °C - 45 °C				
	Operating relative humidity	10%RH - 90%RH, Non-condensing				

# TNS Series

## AC. Automatic Voltage Regulator

### FEATURES:

- Servo motor type
- Three phase individual control
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### SPECIFICATIONS:

Model	TNS-20KVA	TNS-30KVA	TNS-40KVA	TNS-60KVA	TNS-75KVA	TNS-100KVA
Power	20KVA	30KVA	40KVA	60KVA	75KVA	100KVA
Technology	Three Phase AVR + Individual Phase Control + Digital CPU Control					
Transformer	Servo Motor Type					
Input	Input voltage range	304-456V (260-430V Optional)				
	Input frequency	50/60Hz				
Output	Output voltage	380V (400V/415V Optional)				
	Output precision	± 3%				
Delay Time	6s /180s selectable					
Respond Time	<1s, against 10% variation of input voltage					
Efficiency	≥ 95%					
Phase	Three phase					
Display	Input current	Phase Current: A, B, C				
	Output voltage	Line Voltage: AB, BC, CA Phase Voltage: A, B, C				
LED indicators	Red LED	Working status of phase A, B, C				
	High voltage	Output cutoff by contactor				
	Low voltage	Output cutoff by contactor				
	Phase Failure	Output cutoff by contactor				
Protection	Wrong Phase Sequence	Can't switch on regulator				
	Surge/Spike	Optional, replaceable SPD				
	Manual Bypass	Yes, isolated				
	Over load	Output cutoff by contactor				
	High temperature	Output cutoff by contactor				
Safety standards	Short circuit	Input cutoff by air breaker				
	Insulation Voltage	2,000V / 60s				
	Insulation Resistance	>5MΩ				
	Creepage Distance	>8mm				
	Grounding Resistance	<0, 1mΩ				
	Insulation Class of Coil	Class F (155 °C)				
Cooling Mode	Insulation Class of Coil	Class F (155 °C)				
	Cooling Mode	Smart Cooling Fan				
IP Level	IP Level	IP20				
	Audible Noise	<65dB at 1m distance with full load				
Environmental	Operating temperature	-5 °C - 45 °C				
	Storage temperature	-15 °C - 45 °C				
	Operating relative humidity	10%RH - 90%RH, Non-condensing				