

### Low Voltage VT & AVR & CT & PT

### **Automatic Voltage Regulator**



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TDGC2, TDGC2J TSGC2, TSGC2J Contact Voltage Regulator (Variable Transformer)



TND1(SVC) TNS1(SVC) Automatic Voltage

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Regulator



Single-phase Automatic Voltage Regulator



TZ AC Relay-type Voltage Regulator

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TNDZ(DBW)
TNSZ(SBW)
Pillar Type AC





TND3(TSD) Wall-hung Type AC Automatic Voltage Regalator

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### TDGC2, TDGC2J Single-phase Contact Voltage Regulator TSGC2, TSGC2J Three-phase Contact Voltage Regulator (Variable Transformer)

### 1. General

1.1 Application:

TDGC2, TDGC2J、TSGC2,TSGC2J type contact voltage regulators are normal cooling automatic coupling mode, can be widely applied to industries (metallurgy, chemical, instruments and meters, electromechanical manufacturing, lighting industry, etc.), scientific experiments, public facilities, household electrical appliances and so on to regulate voltage regulation, temperature control, lighting adjustment, power control, etc.

1.2 Standards: IEC/EN 61558, Q/ZT130.

# 2. Type designation

Code of protection type (humid tropics TH, dry torrid TA)

Rated capacity

Economical

Design serialnumber

Contact type

Normal cooling

D: Single-phase, S: Three-phase

Symbol of voltage regulator

# 3. Normal working conditions and mounting conditions

- 3.1 Normal working conditions
- 3.1.1 Altitude: ≤1000m.
- 3.1.2 Ambient temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , the overage value should not exeed+30°C within a month, and+20°C with a year.
- 3.1.3 Relative humidity

Average relative humidity of the dampest month shall be  $\leq$ 90%, and the average minimum temperature of the same month shall be 25°C;

- 3.1.4 Waveform of supply voltage
  - Waveform of supply voltage approximates to sine wave;
- 3.1.5 The three-phase supply voltage should be symmetrical For three-phase voltage regulator, its three-phase supply voltage should be symmetrical approximately.
- 3.1.6 Installation environment
  - a. It can not be used in parallel connection;
  - b. Indoors;
  - c. The installation site should be free from the air, steam, dust, dirt or chemical deposition that will seriously affect the insulation of voltage regulator, also be far away from other explosive or corrosive medium.
  - d. The installation site should be free from severe vibration or bump.
- 3.2 Special working conditions

In case of special working conditions that are beyond the above-mentioned items, please give declaration to us.



### **Contact Voltage Regulator**



### 4. Technical data

Model	Rated capacity	Phase (S)	Rated frequency	Rated input voltage	Rated output voltage	Rated output current
TDGC2-0.2	0.2kVA	1	50Hz	220V	0~250V	0.8A
TDGC2, TDGC2J-0.5	0.5kVA	1	50Hz	220V	0~250V	2A
TDGC2, TDGC2J-1	1kVA	1	50Hz	220V	0~250V	4A
TDGC2, TDGC2J-2	2kVA	1	50Hz	220V	0~250V	8A
TDGC2, TDGC2J-3	3kVA	1	50Hz	220V	0~250V	12A
TDGC2, TDGC2J-5	5kVA	1	50Hz	220V	0~250V	20A
TDGC2J-7	7kVA	1	50Hz	220V	0~250V	28A
TDGC2, TDGC2J-10	10kVA	1	50Hz	220V	0~250V	40A
TDGC2, TDGC2J-15	15kVA	1	50Hz	220V	0~250V	60A
TDGC2J-20	20kVA	1	50Hz	220V	0~250V	80A
TDGC2J-30	30kVA	1	50Hz	220V	0~250V	120A
TDGC2J-40	40kVA	1	50Hz	220V	0~250V	160A
TDGC2J-60	60kVA	1	50Hz	220V	0~250V	240A
TSGC2-1.5	1.5kVA	3	50Hz	380V	0~430V	2A
TSGC2, TSGC2J-3	3kVA	3	50Hz	380V	0~430V	4A
TSGC2, TSGC2J-6	6kVA	3	50Hz	380V	0~430V	8A
TSGC2, TSGC2J-9	9kVA	3	50Hz	380V	0~430V	12A
TSGC2, TSGC2J-15	15kVA	3	50Hz	380V	0~430V	20A
TSGC2J-20	20kVA	3	50Hz	380V	0~430V	27A
TSGC2J-30	30kVA	3	50Hz	380V	0~430V	40A
TSGC2J-40	40kVA	3	50Hz	380V	0~430V	54A
TSGC2J-60	60kVA	3	50Hz	380V	0~430V	80A

### 5. Others

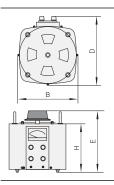
This product has advantages like no waveform distortion, compact design, light weight, high efficiency, convenient operation, safe and reliable, running for long period and so on, so it is an ideal AC voltage regulation power supply.

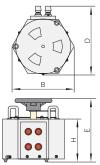
### 6. Overall and mounting dimensions (mm)

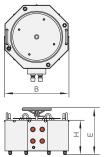
- 6.1 Overall dimensions of TDGC2 (refer to fig.1).
- 6.2 Overall dimensions of TDGC2J (refer to fig.2 and 3).
- 6.3 Overall dimensions of TSGC2 (refer to fig.4).
- 6.4 Overall dimensions of TSGC2J (refer to fig.5 and 6)

Fig.1 Fig.2 Fig.3

Fig.5

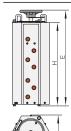


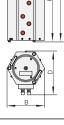












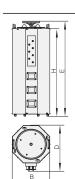


Fig.6





		Overall and mounting	ng dimensions (mm)		<u>-</u>
Model	B max	D max	E max	H max	Fig.
TDGC2-0.2	116	130	130	100	
TDGC2-0.5	135	156	142	112	
TDGC2-1	182	207	172	135	Fig.1
TDGC2-2	182	207	200	155	Fig.1
TDGC2-3	210	235	210	155	Fig.1
TDGC2-5	265	330	270	210	Fig.1
TDGC2-10	265	345	430	350	
TDGC2-15	265	345	590	525	
TDGC2J-0.5	132	140	150	120	Fig.2
TDGC2J-1	186	205	215	165	Fig.2
TDGC2J-2	230	245	215	165	Fig.2
TDGC2J-3	266	285	215	165	Fig.3
TDGC2J-5	350	390	265	200	Fig.3
TDGC2J-7	350	390	275	210	
TDGC2J-10	350	430	420	360	Fig.3
TDGC2J-10Y	420	460	290	230	
TDGC2J-15	350	430	585	520	
TDGC2J-20	350	430	615	550	
TDGC2J-30	362	460	1100	1000	
TDGC2J-40	362	460	1140	1080	
TDGC2J-60	560	500	1310	1240	
TSGC2-1.5	135	180	340	310	Fig.4
TSGC2-3	182	245	440	390	Fig.4
TSGC2-6	182	245	480	430	Fig.4
TSGC2-9	210	280	480	430	Fig.4
TSGC2-15	265	345	590	530	Fig.5
TSGC2J-3	186	220	520	460	Fig.5
TSGC2J-6	230	260	520	460	Fig.5
TSGC2J-9	266	285	530	460	
TSGC2J-15	350	430	585	520	
TSGC2J-20	350	430	615	550	
TSGC2J-30	362	460	1100	1020	Fig.6
TSGC2J-40	362	460	1140	1080	Fig.6
TSGC2J-60	560	500	1310	1240	Fig.6

### **Automatic Voltage Regulator**



### TND1(SVC) Single-phase Automatic Voltage Regulator TNS1(SVC) Three-phase Automatic Voltage Regulator

### 1. General

### 1.1 Application:

TND/TNS(SVC) series full-automatic AC voltage regulator collects sample and amplifies it and automaticly control circuit, and drives the servomotor to rotate the rocker arm and brush in required direction, and finally adjusts the output voltage to the rated value, finally reaches the aim of stabilizing the voltage. It can be widely used in areas, where the mains voltage often comes across sharp fluctuation or sharp seasonal variation, such as industrial production, scientific research medical treatment & hygiene, household electrical appliances, it can provide any loads with excellent power supply.

1.2 Features: Elegant appearance, compact structure, light weight, low power waste, complete protection functions, stable and reliable, low output waveform distortion and so on.



### 2. Type designation

TN 1 (SVC)- 7 T

Cooling type. AN means: convective cooling (AN will be omitted in model description); AF means: draw out the hot-air with fan or blow on the product direct.

Rated capacity of regulator (kVA)

Servo AC voltage stabilizer (Foreign model)

Design serial number

D: single-phase, S: three-phase

Automatic voltage regulator (high precise automatic AC voltage regulator)

### 3. Operation conditions

- 3.1 Ambient temperature:  $-15^{\circ}\text{C} \sim +45^{\circ}\text{C}$ .
- 3.2 Relative humidity  $\leq$  90%(at +25°C).
- 3.3 Altitude: ≤1000m.
- 3.4 Working environment: Indoors, be free from chemical deposition, dirt, harmful corrosive medium, or flammable or explosive gas.



### 4. Technical data

Model	TND	TNS
No. of phase	single	three
Input voltage (V)	160V~250V	280V~430V(3-phase, 4-lines)
Output voltage (V)	220V±4%	380V±4%(3-phase, 4-lines)
Frequency (Hz)	50	-60
Adjusting time(s)	≤3s when the input voltage ch	nanges within the range of 20V
harmonic distortion	No addition	nal distortion
Output over-voltage protection setting value	246±4V Phase volta	ge 246±4V
Output under-voltage protection setting value	180±8V Phase volta	ge 180±8V

### 5. Technical characteristics

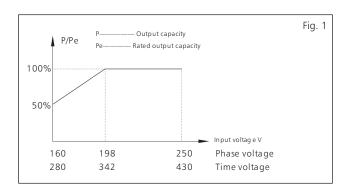
### 5.1 Output capacity

The relation between output capacity and input voltage refer to as fig. 1

When input voltage less than 198V, the output capacity of product will decrease, the working capacity of stabilizer shall come down; when you choose output voltage of 110V, the out put capacity shall be not more than 50% rated capacity, to prevent overload.

### 5.2 Overload capacity

The stabilizer is not allowed for working overloading long time, when the input phase voltage fluctuate within 198V  $\sim 250 V$  (line voltage from 342V  $\sim 430 V$ ), at emergent case, it is allowed towork as specified in sheet 1.





### 6. Overall dimensions and weights

Phase number	Model & Spec.	Overall dimensions (mm)	Packing dimensions (mm)	Pcs	Weight (kg)	Gross weight (kg)
	TND1(SVC)-0.5	195×205×150	235×215×175	1	4.5	4.8
	TND1(SVC)-1	215×235×165	260×250×200	1	6.1	6.8
	TND1(SVC)-1.5	215×235×165	260×250×200	1	6.8	7.5
	TND1(SVC)-2	225×285×220	330×260×260	1	9.5	10
Single-	TND1(SVC)-3	245×305×240	360×300×270	1	12.5	13
phase	TND1(SVC)-5	225×350×285	385×265×310	1	16.5	17
	TND1(SVC)-10/AF(vertical)	285×320×520	390×410×610	1	38.5	47
	TND1(SVC)-10(horizontal)	245×430×370	310×475×410	1	33	35.5
	TND1(SVC)-15/AF	325×430×620	415×550×720	1	58.5	68.5
	TND1(SVC)-20/AF	325×430×620	415×550×720	1	71.5	81.5
	TND1(SVC)-30/AF	405×730×805	510×830×965	1	140	156
	TNS1(SVC)-1.5	490×325×160	525×375×200	1	16	16.5
	TNS1(SVC)-3	490×325×160	525×375×200	1	19.5	20
	TNS1(SVC)-4.5	490×325×160	525×375×200	1	20.5	22
	TNS1(SVC)-6	275×345×615	360×475×715	1	33.5	37
Three-	TNS1(SVC)-9	330×360×730	420×475×825	1	46	50
phase	TNS1(SVC)-15	360×385×855	440×510×945	1	60.5	66
	TNS1(SVC)-20	475×460×920	590×580×1020	1	135	155
	TNS1(SVC)-30/AF	475×460×920	590×580×1020	1	139.5	160
	TNS1(SVC)-45/AF	480×780×1050	600×850×1200	1	191	213
	TNS1(SVC)-60/AF	480×780×1050	600×850×1200	1	230	250

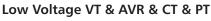
### 7. Selection notice

- a. Input and output of three-phase products of this series are of three-phase four-wire connected, please wire them with neutral line before using.
  - Example of type selection: Three-phase motor 2.2kW 1pcs, 5.5kW 1pcs, when selecting the voltage regulator, its capacity should be  $\geq$  (2.2kW+5.5kW) $\times$ 2.5=19.25kVA, so,
  - the selected product should be three-phase SVC-20kVA at least.
- b. When the three-phase voltage regalator is applied to single-phase or three-phase , max capacity of each phase should be one third of rated capacity.
- c. When the input phase voltage is lower than 198V, the output capacity of voltage regulator will be reduced, then the loads should be reduced correspondingly, otherwise, it may be overloaded; when the output voltage is 110V, then the output capacity should not be beyond 50% of rated capacity, otherwise, it may be overloaded. Please refer to fig.1 for detail characters.

Sheet 1 Safe consult coefficient of choosing regulator capacity

Load kind	Consumer samples	Safe coefficient	Chosen capacity rate	
Complete resistive loads	Incandescent lamp, resistant coil, electric cooker	1.1~1.3	>1.1~1.3 times of total rated capacity	
Inductive, capacitive loads	Fluorescent lamp, fan, pump, air-conditioner, refrigerator and etc.	2.5~3	>2.5~3 times of total rated capacity	

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### TND2 Single-phase Automatic Voltage Regulator

### 1. General

### 1.1 Application:

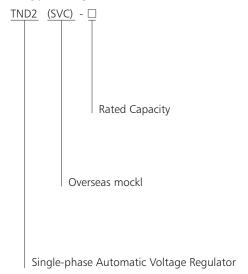
When the mains voltage is unstable or when the load changes, the AVR will automatically sample and amplify the control circuit, and drive the servomotor to rotate the rocker arm and brush in required direction, and adjust the output voltage to the rated value level to stabilize the voltage.

### 1.2 Features:

This type of voltage stabilizer has advantages of elegant appearance, compact structure, thin thickness, light weight, low power waste, stable and reliable, low output waveform distortion and so on. It can be widely used in areas where the mains voltage has sharp fluctuation or has sharp seasonal variation, such as industrial production, scientific research, medical treatment & hygiene, household electrical appliances, it can provide any loads with excellent power supply.

# Automatic Voltage Regulator

### 2. Type designation



### 3. Operation conditions

- 3.1 Ambient temperature:  $-15^{\circ}\text{C} \sim +45^{\circ}\text{C}$ .
- 3.2 Relative humidity  $\leq 90\%$  (at  $+25^{\circ}$ C).
- 3.3 Atluosp heric pressure: 86KPa-106KPa.
- 3.4 Working environment: Indoors, be free from chemical deposition, dirt, harmful corrosive medium, or flammable or explosive gas.

### Low Voltage VT & AVR & CT & PT

### **Automatic Voltage Regulator**

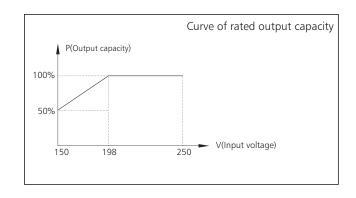
### 4. Main teehnical performance and parameters

Model	TND2				
	William Control of the Control of th				
No. of phase	Single phase				
Input voltage (V)	160-250				
Output voltage (V)	220V±4% 110V±6%				
Frequency (Hz)	50-60				
Adjusting time(S)	$\leq$ 1(When the input voltage changes within the range of 10%)				
Distortion	No additional distortion				
Efficiency	>90%				
Delay time	5±2minuts, 5±2seconds				
Over-voltage	246±4V				
Under-voltage	180±8V				
Rated impulse withstand voltage	1500V (in cold status, I min)				
Insulation resistance	≥5M Ω				

### 5. Features

Output capacity

Please refer to fig.1 for the relationship between output capacity and input voltage. When the input voltage is lower than 198V, the capacity should be reduced, when the output voltage is 110V, then the output capacity should not be beyond 50% of rated capacity, otherwise, it may be over.

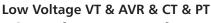


### 6. Overall and mounting dimensions

Phase(S)	Model & Spec.	Overall dimensions (mm)	Packing dimension (mm)	Pcs	Net weight (kg)	Gross weight (kg)
	TND2-0.5 kVA	230×220×85	260×250×120	2	3.5	4.0
	TND2-1 kVA	280×240×140	320×280×180	2	5.5	6
	TND2-1.5 kVA	280×240×140	320×280×180	2	6	6.5
Single- phase	TND2-2 kVA	280×240×140	320×280×180	1	9	9.5
p.1.5.2	TND2-3 kVA	280×240×140	320×280×180	1	11.5	12
	TND2-5 kVA	350×320×165	400×365×210	1	17	18
	TND2-7 kVA	350×320×165	400×365×210	1	22	23

### 7. Selection notice

When the load is capacitive or inductive (such as motor, computer), as the load has heavy pickup current, please select the voltage regulator whose capacity is  $2.5{\sim}3$  times of load capacity.







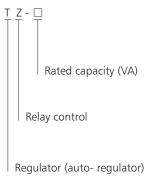
### **TZ Series AC Relay-type Voltage Regulator**

### 1. Scope of application

TZ series AC Relay-type Voltage Regulator adopts electronic circuitry and control relay to change the transformer tap to adjust the output voltageThe product of series has various functions of protecting for over-voltage and short circuit and so on. It is small volume, elegant appearance and has been widely used in the area where the mains voltage has sharp fluctuation or has sharp seasonal variation. It is the ideal protective device for a great variety of instrument.

# **Automatic Voltage Regulator**

### 2. Type designation



### 3. Normal working and mounting conditions

The conditions of Normal working and installation.

- 3.1 Ambient temperature:  $-15^{\circ}$ C $\sim +45^{\circ}$ C; The average value within 24h shall not exceed +35°C
- 3.2 Relative humidity: less than 90% (25℃).
- 3.3 Atmospheric pressure: 86kPa~106kPa.
- 3.4 Rated frequency: 50Hz.
- 3.5 Working environment: No chemical precipitate and dirt, no harmful erosion medium and inflammable and explosive gas indoor
- 3.6 Indoor use.
- 3.7 It can not be used in parallel connection.

### Low Voltage VT & AVR & CT & PT

### **Automatic Voltage Regulator**



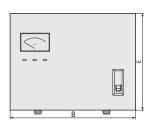
### 4. Main technical performance and parameters

Basic technical performance and parameters as sheet 1

Model	Rated capability	Phase	Rated frequency	Range of input voltage	Rated output voltage	The value of output over-voltage protection	Rated output current	
TZ-500	500			160~260	220(1±8%)	246±4		2.3
TZ-1000	1000						4.5	
TZ-1500	1500	1	EO				6.8	
TZ-2000	2000	'	50		220(1 ± 8 /8)		9.1	
TZ-3000	3000						13.6	
TZ-5000	5000						22.7	

### 5. Overall and mounting dimensions

Fig 1 The outline of TZ series regulator

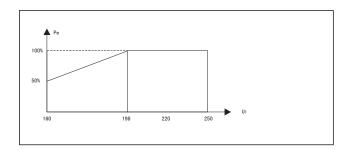




Marilal	Overall dimensions(mm)						
Model	В	D	E				
TZ-500	195	205	150				
TZ-1000	215	235	165				
TZ-1500	215	235	165				
TZ-2000	225	285	220				
TZ-3000	225	285	220				
TZ-5000	245	305	240				

### 6. Other

When the input voltage is less than 198V, the product output must drop the capacity to use, the product's output capacity curve as figure  $2\,$ 



### 7. Order notice

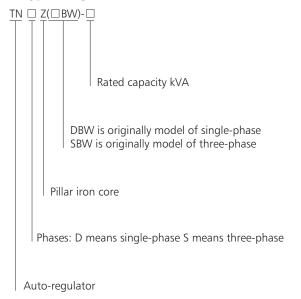
When ordering the regulator, please according to the rated capability. starting surge current. inductive load or capacitive load to choose the correct type. And the output capacity should have certain surplus capacity, when used for impact load, the surplus capacity should be larger.

The specific selection safety coefficient as sheet 3. When ordering you should also consider the factor of when the input voltage is less than 198V, the product's output must drop the capacity to use, the product's output capacity curve as figure 2



# Low Voltage VT & AVR & CT & PT Automatic Voltage Regulator

### 2. Type designation



# TNDZ(DBW), TNSZ(SBW) Pillar Type AC Automatic Regulator with Compensated

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### 1. General

Application: used in the application requiring stable voltage, such as telecommunication, broadcasting & TV, elevator, silicone controlled apparatus, numerical control machine tool, and various production lines, etc.

### 3. Operation conditions

3.1 Temperature:  $-15^{\circ}\text{C} \sim +45^{\circ}\text{C}$ ;

3.2 Altitude:≤1000m;

3.3 Relative humidity: 15%~90%(20  $^{\circ}\text{C}$  ).

# Low Voltage VT & AVR & CT & PT Automatic Voltage Regulator

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### 4. Technical parameter and performance

Model	Rated capacity (kVA)	Phase	Frequency (Hz)	Input voltage range	Rated output voltage	Accuracy of regulate voltage	The protect value of output overvoltage	The protect value of output under- voltage	Response time	Rated output current (A)
TNDZ(DBW)-20	20									91
TNDZ(DBW)-30	30								When input	136
TNDZ(DBW)-50	50		50	176		(4. 5)0(	242	198	voltage steps	227
TNDZ(DBW)-75	75	1	~ 60	~ 264	220	±(1±5)%	± 2.2	± 2.2	15V,the output response	341
TNDZ(DBW)-100	100								time≤1.5s	455
TNDZ(DBW)-150	150									682
TNDZ(DBW)-200	200									909
TNSZ(SBW)-30	30									46
TNSZ(SBW)-50	50									76
TNSZ(SBW)-75	75									114
TNSZ(SBW)-100	100		50 304		380	±(1±5)%	418 ± 3.8	342 ± 3.8	When input voltage steps 25V,the output response time≤1.5s	152
TNSZ(SBW)-150	150			304						228
TNSZ(SBW)-180	180									273
TNSZ(SBW)-200	200									304
TNSZ(SBW)-225	225									342
TNSZ(SBW)-250	250	3								380
TNSZ(SBW)-300	300		60	456						456
TNSZ(SBW)-320	320									486
TNSZ(SBW)-350	350									532
TNSZ(SBW)-400	400									608
TNSZ(SBW)-450	450									684
TNSZ(SBW)-500	500									760
TNSZ(SBW)-600	600									912
TNSZ(SBW)-800	800									1216
TNSZ(SBW)-1000	1000									1519
TNSZ(SBW)-1200	1200									1823

Note1: It is no the functi on of output under volt age what eigibility item when normal regulations product ex-facture, unless the customer request.

Note2: If have other requires you can discuss with manufacture. Such as output voltage is 400V, or output voltage three-phase 220V, and the range of regulate voltage between  $\pm 3\%$  can negotiate to order.

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### Low Voltage VT & AVR & CT & PT Automatic Voltage Regulator

### 5. Functions and features

- 5.1 When fault of phase sequence by power supply or maintenance of transformer, the voltage regulator will automatically check and adjust to ensure the normal working of the regulator.
- 5.2 Adoption of new technology can reduce contactors to increase the reliability of voltage regulator.
- 5.3 With over-voltage protection and alarming When the voltage is stable, the input voltage is beyond the threshold(456V) or output voltage beyond the threshold(426V±7V), the voltage regulator will cut the power supply and alarm until the input and output voltage reduce to the normal value.
- 5.4 With the function of automatic start when power supply resumes.
- 5.5 With starting delay.

### 6. Specifications, overall dimensions and weights

Model	Rated capacity	Overall dimensions (mm)	Net weight (kg)
	20kVA	800×610×1380	200
	30kVA	800×610×1380	230
	50kVA	850×690×1450	305
TNDZ(DBW)	75kVA	850×690×1450	350
single-phase	100kVA	1000×800×1850	400
	150kVA	1100×800×1900	450
	200kVA	1250×1020×2050	500
	30kVA	750×610×1250	230
	50kVA	800×610×1375	285
	75kVA	850×690×1450	355
	100kVA	850×690×1450	408
	150kVA	1150×970×1900	630
	180kVA	1150×970×1900	665
	200kVA	1150×970×1900	700
	225kVA	1150×970×1900	750
TNSZ(SBW)	250kVA	1150×970×1900	870
three-phase	300kVA	1250×1020×2050	1010
	320kVA	1250×1020×2050	1050
	350kVA	1400×1070×2250	1100
	400kVA	1400×1070×2250	1200
	450kVA	1400×1070×2250	1550
	500kVA	1400×1070×2250	1600
	600kVA	1400×1070×2250×2	950×2
	800kVA	1150×970×2250×3	1100×3
	1000kVA	1150×970×2250×3	1150×3
	1200kVA	1150×970×2250×4	1150×4

### 7. Selection notice

- 7.1 Considering impact by inrush current, the safety coefficient should be 1.5-3 times. The safety coefficient is determined by the load.
- 7.2 This product should be connected to the natural line when the input and output circuit is three phase four line.
- 7.3 The capacity of single phase should be less than 1/3 of the product.

### **Automatic Voltage Regulator**



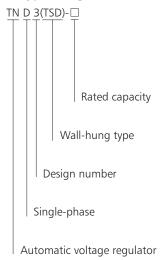


# TND3(TSD) Wall-hung Type AC Automatic Voltage Regalator

### 1. General

Application: TSD series wall-mounted AC voltage regulator supplys power for equipment such as computers, duplicating machines, industrial precision equipment, medical apparatuses, household electrical appliances, etc.

### 2. Type designation



# 3. Normal working conditions and mounting conditions

- 3.1 Ambient temperature:  $-15^{\circ}\text{C} \sim +45^{\circ}\text{C}$ .
- 3.2 Relative humidity  $\leq$  90% (at +25°C).
- 3.3 Atmospheric pressure: 86kPa~106 kPa.
- 3.4 Working environment: Indoors, be free from chemical deposition, dirt, harmful corrosive medium, or flammable or explosive gas.



### 4. Technical data and technical performance

Model		TND3(TSD)-3	TND3(TSD)-5	TND3(TSD)-7
Rated output	t capacity (kVA)	3	5	7
Range of rate	ed input voltage (V)	160~250	160~250	160~250
Over load pro	otective current (input) (A)	15	25	32
Rated	220V Voltage stabilizing accuracy	±4%	±4%	±4%
output	110V Voltage stabilizing accuracy	±8%	±8%	±8%
voltage (V)	Over-voltage protection	246±4V	246±4V	246±4V
	Under-voltage protection	$180\pm8V$	180±8V	180±8V
Delay time	Short delay	5±2s	5±2s	5±2s
	Long delay	5±2min	5±2min	5±2min

### 5. Others

Features:

- a. The voltage stabilizer can work uninterruptedly, with advantages of low waveform distortion, stable voltage regulation, no instantaneous power failure, it guarantees the safety and normal operation of top-grade household appliances and computers that with memory function, its accuracy of output voltage stabilization is  $220V\pm1\sim3\%$  adjustable.
- Novel style, elegant appearance:
   The product adopts wall-mounted structure, which enables it to possess convenient installation and small space occupying area.
   The soft color and streamline outline seem to melt into modern room decoration, let you enjoy the graceful life.
- c. Wide range of input voltage, strong load characteristic.
- d. Complete functions such as over-voltage and under-voltage indication and protection, long time delay, short time delay, etc.
- e. Utility power/ voltage stabilization switching function, direct utility power also is available if it is necessary.
- f. There are 220V and 110V two circuits for rated output voltage;
- g. Indication of input and output voltage.
- h. Carbon brush: It adopts the latest developed carbon brush. that has high performance, which sharply prolongs the service life of voltage stabilizer.

# 6. Outline & installation size shown as fig.1 and table1

Fig.1 Outline & installation size diagram

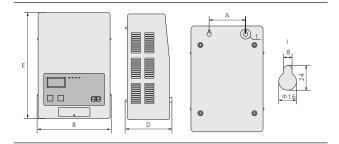


Table 1 Outline & installation size

Model & spec.	Outline size (mm)			Installation size (mm)	Net weight
wiodei & spec.	Bmax	Dmax	Emax	A±3	(kg)
TND3(TSD)-3	265	155	400	135	11.7
TND3(TSD)-5	285	170	440	165	15.5
TND3(TSD)-7	285	170	440	165	22.5

### 7. Selection notice

- 7.1 When the loads are capacitive or inductive, as the load has heavy pickup current, please select the voltage stabilizer whose capacity is  $2.5\sim3$  times of load power.
- 7.2 When the input phase voltage is lower than 198V, the output capacity of voltage stabilizer will be reduced, then the loads should be reduced correspondingly, otherwise, it may be overloaded; when the output voltage is 110V, then the output capacity should not be beyond 50% of rated capacity, otherwise, it may be overloaded.
  Refer to fig. 2 for specific characteristics.

