

Voltage & current monitoring device single phase 63a direct connection / DDS238-VAP

Product Description

1. AC 85-300V 50/60HZ

2. Over current protection, over voltage protection, under voltage protection can disable one, two or three of them.

- 3. the device have lightning protection for itself.
- 4. Voltage and Current Accuracy 0.5%
- 5. Its own power consumption <0.5W
- 6. Can be manually and automatically reconnect.
- 7. Can set the delay on and delay off time
- 8. Can be used as a normal switch

9. Can be used as a cycle switch. Remarks The product does not have a battery. If the external power supply is out of power, the cycle time starts from 0.

- 10. Electricity metering accuracy Class 1
- 11. Backlight mode is optional, convenient for user scene selection
- 12. Malignant load identification limit (pure resistive load), for apartments Rental housing restrictions Fast

85~300V
85-300V (default 270V)
85-300V (default 170V)
1-63A (default 40A)
1-80A(default 60A special
order)
50/60Hz
2-255V (default 2s)
137
1 🗤
~1VA
0~9999.9kWh
10.5%
<u>+</u> 0.5 %
<u>+</u> 1% (IEC62053-21)
-25~+70
-40~+80
85%
2500m
E2
100000 cycles

heat Electromagnetic Kettle Electric rice cooker and other resistive highpower equipment.

1. General Description

DDS238-VAP type multi-function Protective Device is designed to measure single phase two wire AC active energy and used in overvoltage protection, under voltage protection and over-current protection. In case of over-voltage fault, under-voltage fault or over-current fault in line, this product can instantly power off the load to prevent electrical equipment from being burnt. The over-voltage, under-voltage and over-current values of this product can all be set up by yourself and can be adjusted on the basis of local practical condition. It is a long use-life product with the advantage of high stability, high over load capability, low power loss and wide working voltage range.

2.Product features

2.1 LCD display with backlight , can display total active energy (kWh) , real time current (A) , voltage(V) , active power (W) .

2.2 LCD display kWh (4 digital+1 decimal), Bi-directional total active energy measurement ,reverse active energy measure in the total active energy

2.3 Product self-design has function of lighting protection

2.4 Overvoltage protection, under voltage protection and over-current protection can select auto-Reclosing mode or manual--Reclosing mode

2.5 In case of over-voltage fault, under-voltage fault or over current fault in single phase line, the product can power off the line and can automatically restore connecting the line over a time delay after voltage of the lien is recovered to normal condition.

2.6 In case of transient over voltage in line, the product can protect the equipment from false operation. 2.7 In case that the line subjects to unstable voltage or sudden power-off and power-on due to loosened connection and other fault, the product will disconnect the line.

2.8 When fault voltage of the line reaches the peak, the product itself will not be damaged.

2.9 Under over-current protection mode, you also can select Malignant load protection (Pure Resistive Load limit) which is used for Apartments and Student Dormitories electric safety

2.10 You can select the circuit output cycle switch on/off mode

2.11 Led indication of overvoltage protection, under voltage protection and over-current protection

2.12 Diversified design for the protection, you can closed t any one of overvoltage protection, under voltage protection and over-current protection in any time

3.Specification and Technical Parameters

Input working voltage	85~300V		
Overvoltage protection value	85-300V (default 270V)		
Under voltage protection value	85-300V (default 170V)		
	1-63A (default 40A)		
Over current protection value	1-80A(default 60A special		
	order)		
Rated frequency	50/60Hz		
Delay in switch on after power off	2-255V (default 2s)		
Voltage circuit power	1 W		
consumption	1 🗤		
Current circuit power	<1VΔ		
consumption			
Active energy display range	0~9999.9kWh		
Voltage/current/active power	±0.5%		
accurate	<u>+</u> 0.3 %		
Active energy accurate	<u>+</u> 1% (IEC62053-21)		
Operating temperature	-25~+70		
Storage temperature	-40~+80		
Relative humidity	85%		
Altitude	2500m		
Electromagnetic Environment	E2		
Mechanical life	100000 cycles		

4.LCD display and mode setting

4.1 Window sketch



4.2 Function mode and displa	ay code instruction
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LCD Code	Parameters setting	default	Max.	Min.	Marking
de	Function mode	1	7	1	
De1	Mode 1				overvoltage protection, under voltage protection and over-current protection automatic switch off/on
De2	Mode 2				overvoltage protection, under voltage protection and over-current protection automatic switch off/manual switch on
De3	Mode 3				Close function of overvoltage protection, under voltage protection and over-current protection ,always keep the output load switch off
De4	Mode 4				Close function of overvoltage protection, under voltage protection

					and over-current
					protection ,always keep
		_			the output load switch on
De5	Mode 5, unit: second	5	999	1	Close function of
De6	Mode 5, unit: minute	5	999	1	overvoltage protection,
					and over current
De7	Mode 5 unit: hour	5	000	1	protection keep the
Der	Wode 5, unit. nour	5		1	output load switch on /off
					in cycle
					Mode 1 means always
					lighting,mode 2 means it
					will lighting last 30s after
Bg	Backlight mode	2	2	1	you push the button . it
					will light out after 30s if
					ho any operation with
					It means switch on the
~~~	Delay time in load			_	output load after how
SS	switch on after input	2s	255s	2s	many times when product
	power on				input power on again
					If the value exceed the
Uo	Overvoltage protection	270V	300 V	85 V	range, the LCD will
00	value	2704	500 1	05 1	display off and closed this
					protection function
					This value must be
	Overvoltage recovery				smaller than overvoltage
UoH	value	265 V	300 V	85 V	default set as overvoltage
	value				protection value -5V
					when you save
					If the value exceed the
тп	Under voltage protection	170 V	300 V	85 V	range, the LCD will
UL	value	170 V	300 V	05 V	display off and closed this
					protection function
					This value must be
	Under veltage recovery				smaller than under
ULH	value	175 V	300 V	85 V	or it will default set as
	value				under voltage protection
					value +5V when you save
	overvolte as / under				It means the fault must be
	voltage fault judgmont				last how many times then
SU	time	3s	60s	0.1s	it will make output load
					switch off when happen
					tault
	Over				If the value exceed the
Io	current protection value	40A	63 A	1 A	display off and closed this
	current protection value				protection function
					If the value exceed the
Ic	Malignant load	05 4	5 .	05 1	range, the LCD will
10	Protection value (Pure Resistive Load limit)	0.3 A	JA	0.5 A	display off and closed this
	Resistive Loau IIIIIII)				protection function

SI	Over current fault judgment time	3s	60s	0.1s	It means the fault must be last how many times then it will make output load switch off when happen fault
SH	Delay time setting for recovery load after output load switch off protection	60s	512s	1s	It means the product must wait for how many times then make the output switch on again after happen protection
op	Delay time set for cycle switchunder function mode 5/6/7	5	999	1	The time unit is different under mode5/6/7
CL	Delay time set for cycle switch onunder function mode 5/6/7	5	999	1	The time unit is different under mode5/6/7
Er1	Last five records of protection reason		5	1	

Note 1: Under voltage protection value must be smaller than Overvoltage recovery value, or it will restore factory setting.

Note 2: Under the setting mode, mode 1 to 7 all can display the function mode, backlight mode, Delay time in load switch on after input power on, but the following display will difference according to the function mode.

4.3 Key operation instruction

4.3.1 Press and hold on the set key for 3s, entering into setting status and if go on hold the set key, it can select different function mode. then you can set different value by pressing the up key or down key to increase or decrease the detailed value. if you hold up key or down key at all, the value will increase or decrease at all.

4.3.2 Under the function mode, hold on the set key for 3s, it will save and exit to normal display status. if you have no any operation more than 30s, it will also exit to normal display status. if you press the he up key or down in the meantime, all data will restore factory setting

4.3.4 Under the normal display status , you can display voltage/current/active energy/active power step by step by pressing the up key or down . the LCD will display step by step automatically

4.3.5 Under the function mode 2, you can press the he up key or down in the meantime to make the output load switch on after happen protection /switch off

4.3.6 Under the function mode 1 and 2, it the press the down key to check the last five records of protection reason(Er1 Er5) under the display firstly layer is Er1, the second layer number : 1 means the overvoltage protection, 2 means under voltage protection, 3 means over-current protection, 4 means

4.3.7 Under the function mode 3 and 4, all protection function will be closed . the product is only as normal switch for keep the output load is switch on/off

4.3.8 Under the function mode 5/6/7, all protection function will be closed. the product is only as normal switch for keep the output load is switch on/off in cycle.

4.4 LCD display instruction

4.4.1 normal working status LCD display



RMS voltage and current





RMS active power (W)

Total active energy (kWh)

4.4.2 Under function mode setting and value setting LCD display







170V under voltage protection



if over-current fault last 3s, output load switch off





175V under voltage recovery



Delay 60s for recovery load after output load switch off protection



Delay 2s in load switch on after input power on



if over/under voltage fault last 3s, output load switch off



Er1 means the recent 1 time records , anther 1 means the reason is overvoltage protection



270V overvoltage protection



40A over-current protection



265V overvoltage recovery



3A Malignant load protection (Pure Resistive Load limit)

4.4.3 Under function mode s5/6/7 LCD display



#### 5.Usage

5.1The product can be installed on 35 mm din rail ,it should be install in the water proof box indoor or outdoor . The product should be install fully in accordance with connection diagram on the terminal cover, it is better to use copper as the leading wire for connection. All screws should be tightened. 5.2 installation dimension





Wire connection must connect as sequence of the above 2 type diagram

# 6.Note

6.1 The input and output shall be corrected connected on the basis of the product marking. (Where in, the load current shall be less than protective current of the product. )

6.2 Neutral line N cannot be improperly connected and shall be reliably wired; otherwise, the protector may not work normally.

6.3 Before powering on, please carefully check whether the wiring is correct, whether the load matches with protective current of the product and whether the binding screw is tightened; otherwise, the product may be damaged.

6.4 After powering on the product, don't touch any live part to avoid electric shock.

6.5 This product shall be combined with micro circuit breaker to play a role of short-circuit protection; otherwise, the product may not be able to realize load limit protection in case that input or load end of the product appears short circuit.

6.6 As the product has automatic reset function, after the product plays the role of protection and acts, it is necessary to remove the load (electric appliance) and check the circuit; otherwise the product will be frequently connected and disconnected to the load. Finally, the product or its circuit may be burnt due to frequent overload connection and disconnection for long time.