DPR Digital SCR Controller Operating Manual

Installation Note:

1. Before using the controller, first determine the controller's input / output range and type, meet your needs, and read the operating instructions.
2. Please use the vertical installation, up to the best cooling effect.
3. For more SCR installation, please note the distance to ensure the best heat dissipation.
4. There is sufficient ventilation distance on the upper and lower sides and the control box needs to have a vent and install a fan to facilitate air convection.

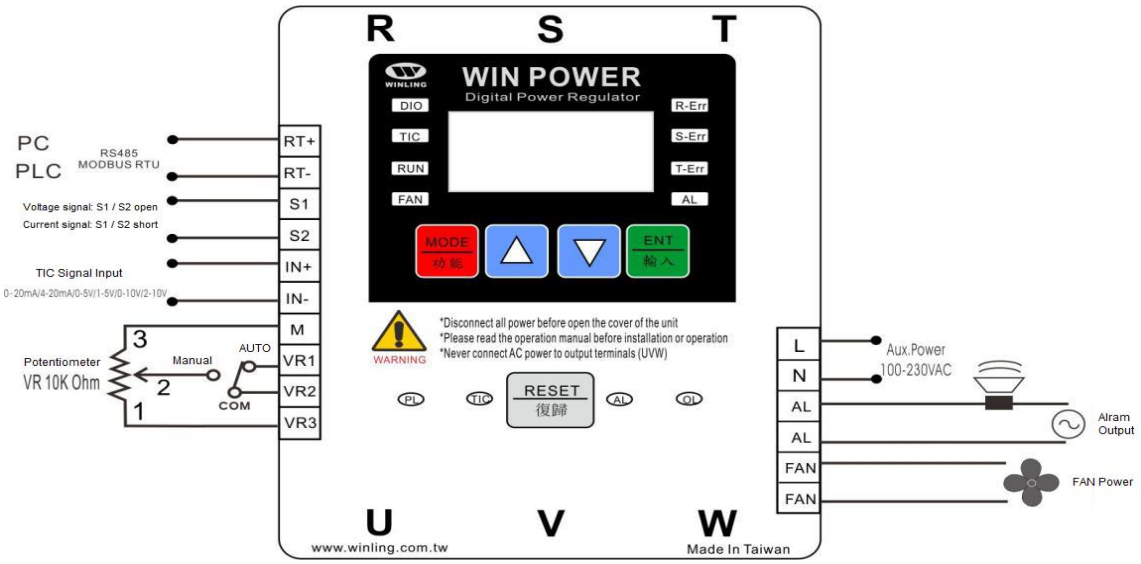
Danger:

1. Note! Dangerous !
2. Do not touch the AC power terminals after the controller is powered off to avoid electric shock !
3. When implementing the controller power supply wiring, make sure the power supply is off !

Warning:

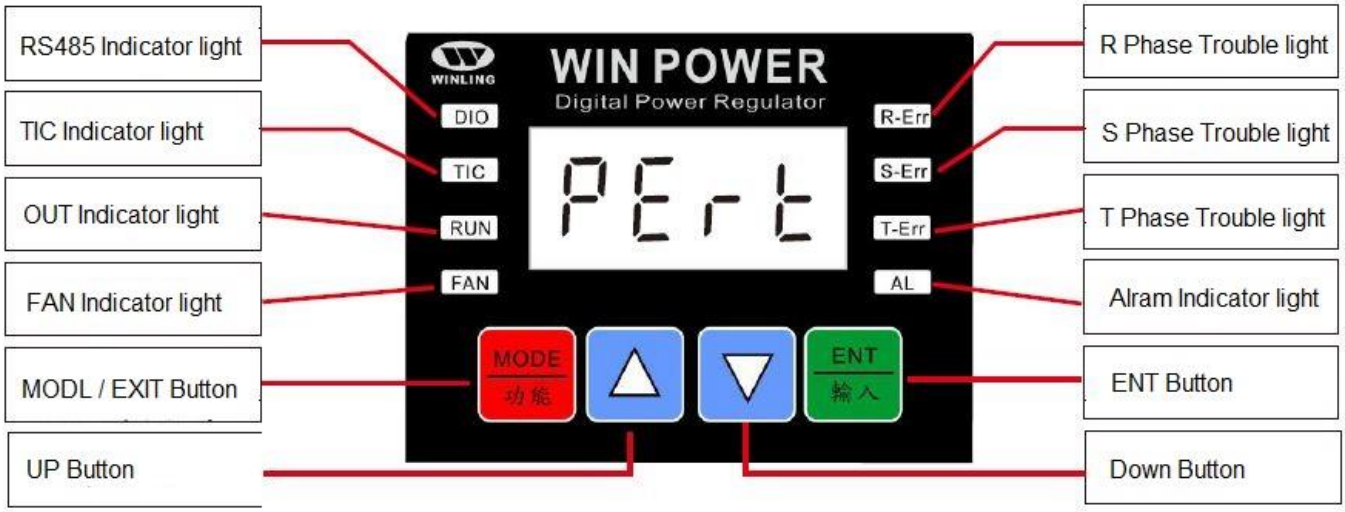
1. Before connecting the controller, make sure that the position of the A C power supply fitting pin is correct. Otherwise, the controller may cause serious damage to the controller.
2. Before power transmission, please make sure that the power supply voltage and the controller specifications are consistent, otherwise the power transmission may cause damage to the controller.
3. Make sure that the wiring is connected to the terminals of the correct use <R.S.T , U.V.W> and wiring according to the standard electrical codes to avoid personnel and equipment hazards.
4. Please select the crimp terminal and wire diameter suitable for the screw, and lock the screw, so as to avoid overheating due to the contact point.
5. Do not install the controller in high frequency interference, corrosive gas and high temperature and high humidity <normal working environment: 0 ~ 50 ℃, 20 ~ 90% R H>.
6. To avoid noise interference, keep the auxiliary power supply and the input signal wiring away from the power supply line and the load power cord.
7. When replacing the fuse, make sure that the power system is turned off to avoid the risk of electric shock

Operation panel description:



Contact Description:

1. RT + / RT-: RS485 Modbus RTU pin
2. S1 / S2: voltage / current input signal hardware pin, Voltage signal: S1 / S2 open , Current signal: S1 / S2 short
3. IN + / IN-: TIC signal input pin
4. M: Manual adjustment with DC power output pin, (5VDC or 10VDC auto switch)
5. VR1 / VR2 / VR3: Adjust the output potentiometer pin manually
6. L / N: Auxiliary power supply pin (100-230VAC)
7. AL / AL: alarm output contact (normally open, there is abnormal short circuit)
8. FAN / FAN: fan power output pin
   (If the L / N power supply is 110VAC, the two-pin output is 110VAC, L / N power supply is 2200VAC, the two-pin output is 220VAC)
9. R.S.T three-phase main power supply
10. U.V.W load power supply



LED Indicator Description:

DIO (Green)	RS485 communication indicator: when the RS485 communication, long bright or flashing.
TIC (Green)	TIC input indicator (digital): When the TIC (thermometer) input signal is greater than 4mA or when there is a signal, Less than 4mA or no signal is not lit.
RUN (Green)	SCR output indicator: display SCR output status, phase control for the light and dark instructions, the more bright the greater the output.
FAN (Green)	Fan operation indicator: This model contains electronic temperature detection circuit, the temperature is higher than 45 ℃ when the fan ON, When the temperature is below 40 ° C (the fan will automatically test for 12 seconds at the time of operation, it will not be controlled by temperature.
R-ERR (Red)	R-phase abnormal light: (FUSE open, LOAD open, SCR breakdown, LOAD unbalanced) flashing
S-ERR (Red)	S-phase abnormal light: (FUSE open, LOAD open, SCR breakdown, LOAD unbalanced) flashing
T-ERR (Red)	T-phase abnormal light: (FUSE open, LOAD open, SCR breakdown, LOAD unbalanced) flashing
AL (Red)	Alarm output light: ALARM alarm action long bright
PL (Green)	Auxiliary power indicator: When the auxiliary power supply is long
TIC (Green)	TIC input indicator (analog): TIC (thermostat) input signal indicates that the greater the input the greater the amount.
OL (Red)	Overload indicator: When the load short-circuit or load current is greater than the rated current 7 times when the OL light, then SCR Stop output. ALARM contact output with lock function. You must press the RESET key or reopen the auxiliary power to start the machine.

Parameter setting & operation

Level 1:

Run the display (press the [MODE] key to start, press [UP] or [DOWN] to view, and then press [ENT] to fix the displayed item value.

ITEM	Display	Description	Default value
PErt	**0 ~ 100**	**Output Percentage Display 0 to 100%**	**0**
tic	**mA or VDC**	**Displays the selected input signal type**	**mA**
rbUS	**0 ~ 1023**	**RS485 Input controller value**	**0**
HEAt	**-20 ~ 100**	**Heat-sink temperature display**	**0**

Level 2:

To display the setting parameters: Press the [MODE] key for 5 sec to start, then press [UP] or [DOWN] to view

Level 3:

Change the parameter setting: In the second order display has been set parameters, and then press [ENT] + [UP] 5 sec to start resetting parameters, Press [UP] or [DOWN] to change the parameter, then press [ENT] to confirm

ITEM	Setting Selected	Description	Default value
t ic	mA or VDC	Selected input signal type 0-20mA/4-20mA/0-5V/1-5V/0-10V/2-10V	4-20mA
St.UP	0.1 ~ 60.0 Sec	Soft starters time setting	2.0 Sec
r.St.	Alarm & Stop	R,S,T Power supply trouble, SCR stop operation or continue operation setting	Stop
JUMP	NULL & ALRAM	S1 / S2 setting error, alarm ON or OFF setting	ALRAM
H.Ltd	0 ~ 100	Output maximum limit setting	100
L.Ltd	0 ~ 100	Output minimum limit setting	0
cnd	TIC & M.Bus	Input control mode setting	TIC
n.StP	0 & LAST	When the Modbus signal is disconnected, the SCR remains running or stops setting	0
out	RUN & STOP	SCR RUN or STOP Setting	RUN
id	1 ~ 247	Modbus ID No.	1
baUd	9600 & 19200	Communication Baud Rate	9600
dAtA	N-8-1 / N-8-2 E-8-1 / O-8-1	Communication Parity Check	N-8-1
t.out	0 ~ 30 Sec	Detects Modbus communication error time	30
FAn	Auto & no	Fan control mode selection	AUTO
tESt	0 ~ 100	Manual input mode, test SCR output	0

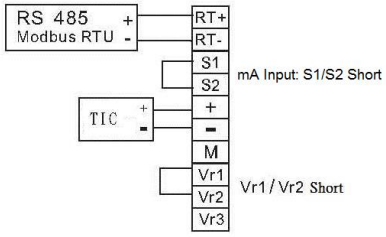
SCR Error display

ITEM	Display	Description	ITEM	Display	Description
oPEn	r . S . t	R,S,T No Power	oH	80 ~ 100	Heat-sink Over temperature
FUSE	R	R-Phase Fuse blown	JUMP	Err	S1/S2 JUMP Setting erro
FUSE	S	S-Phase Fuse blown	out	STOP	SCR STOP
FUSE	T	T-Phase Fuse blown			

Wiring instructions

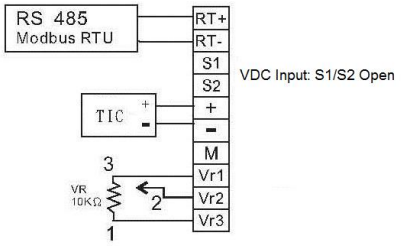
1. Current input signal (0-20mA & 4-20mA)
(S1 / S2 CLOSE, input impedance 250 OHM)

(If you need to connect the VR, Please remove the VR1 / VR2 short part)

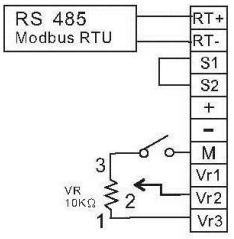


2. Voltage input signal (0-5V / 1-5V / 0-10V)
(S1 / S2 OPEN, input impedance 10K OHM)

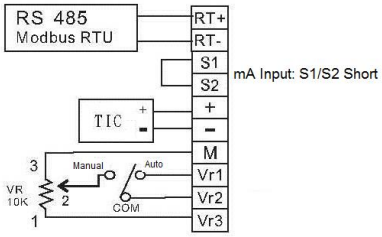
(If you not need to connect the VR, Please will VR1 / VRS short)



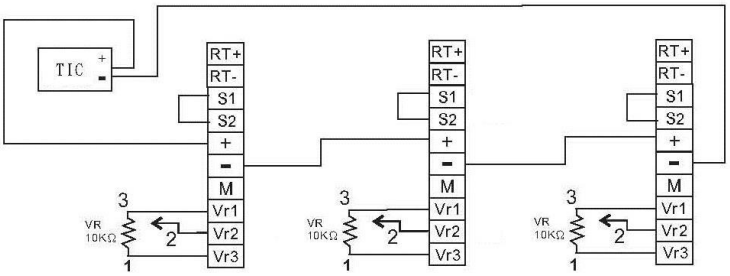
3. Manual control



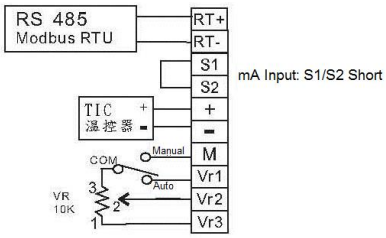
4. Manual & automatic control



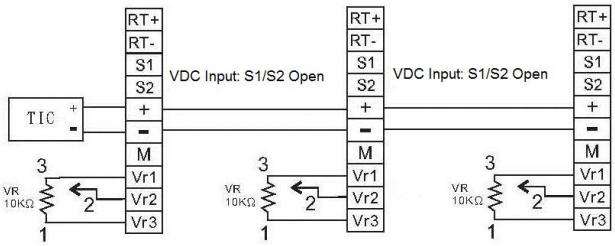
6. One input signal controls multiple SCRs
Current input signal (0-20mA & 4-20mA)



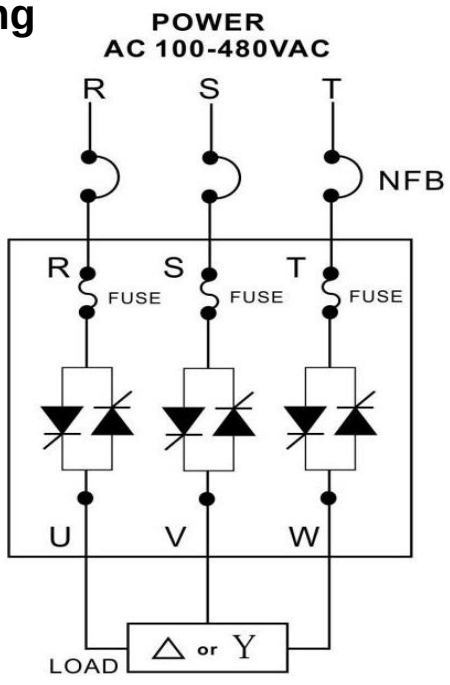
5. Manual & automatic control
(VR limit control)

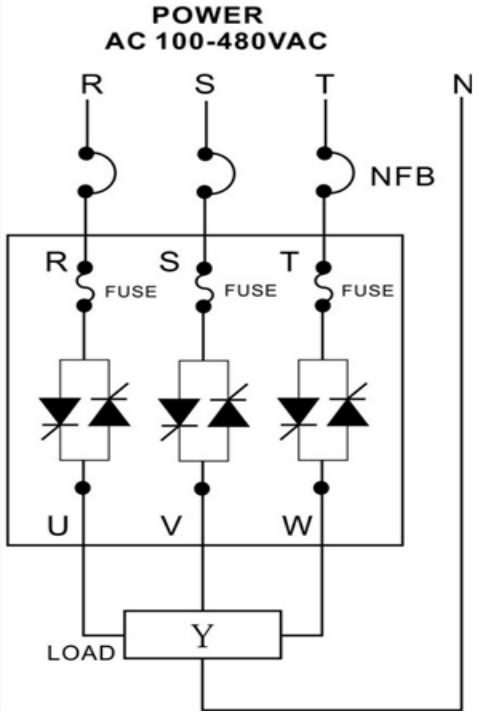


7. One input signal controls multiple SCRs
(S1 / S2 OPEN, input impedance 10K OHM)



Load Wiring





Modbus RTU Mode Protocol Address Map

Data	Data Description(2bytes)	R/W	Default	Limit
40001	Output 0~100%	R	0	0~100
40002	TIC Input Value (Unit 0.1mA or 0.1V)	R	0	0~20/4~20mA:0.0~20.0mA, 0~5/1~5V:0.0~5.0v, 0~10/2~10V:0.0~10.0v
40003	Temperature -20~100C	R		-20~100℃
40004	TIC Input 0~20mA / 4~20mA / 0~5V / 1~5V / 0~10V / 2~10V	R/W	4~20mA	0 : 0~20mA / 1 : 4~20mA / 2 : 0~5V / 3 : 1~5V / 4 : 0~10V / 5 : 2~10V
40005	OutputDelay 0~62	R/W	10	0 : 0.3s / 1 : 0.5s / 2 : 0.7s / 3~62 : 1s~60s
40006	RST Protect Status (Alarm / Stop)	R/W	Alarm	0 : Alarm / 1 : Stop
40007	Jump Detect (Null / Alram)	R/W	Alram	0 : Null / 1 : Alram
40008	Output Max 0~100%	R/W	100	0~100
40009	Output Min 0~100%	R/W	0	0~100
40010	Input Control Command	R/W	TIC	0 : TIC / 1: ModBus
40011	Modbus Input Value (10bits)	R/W	0	0~1023
40012	Modbus Stop Control Command	R/W	0	0 : 0 / 1: Last
40013	Output Control Command	R/W	Run	0 : Run / 1 : Stop
40014	Baud Rate 9600 / 19200 bps	R/W	9600	0 : 9600bps / 1 : 19200bps
40015	Communication mode N-8-1/N-8-2/E-8-1/O-8-1	R/W	N-8-1	0 : N-8-1 / 1 : N-8-2 / 2 : E-8-1 / 3 : O-8-1
40016	ID Code (1~247)	R/W	1	1~247
40017	Timeout (0~30)Secs	R/W	30	0~30
40018	Fan Control & Status	R/W	Auto	Bit0(Fan Mode):0=>Auto/1=>On Bit1(Fan Status):0=>Off/1=>On
40019	Warning Massage	R	0	Bit0=OH , Bit1:R.S.T Open , Bit2=Fuse R , Bit3=Fuse S , Bit4=Fuse T , Bit5=Jump error

WINLING TECHNOLOGY LTD.

4F.-5,No.6,Ln.609,Sec.5,Chongxin Rd.,
Sanchong City,New Taipei City 24159,Taiwan
Tel:886-2-29996610 Fax:886-2-29996620
E-mail: winling@winling.com.tw
WEB: www.winling.com.tw