Control Series 

RS485 Double-Meter Controller

(General Function)

Instruction Manual

RS485 Double-Meter Controller Instruction Manual

—general function

1、Model

LY-DIS（RS485.SI）-SJ

2、Appearance

3、Function and use

Connected with computer controlled card of rectifier,adopt RS485 network communication system ,which utilizes two-core twisted pair shielded wire to perform communication, all digital network transmission is high in control accuracy , of zero-decrement, strong in interference rejection, far in communication distance.

The controller has two groups of communication ports, A1, B1 and A2, B2. A1, B1 are near communication ports and connected to the rectifier, while A2, B2 are remote communication ports and connected to the upper machine. RS485 double-chart controller is mainly used for site control of automatic line or RS485 control of a single rectifier. The controller has the following functions:

（1）.Display and set function of voltage and electric current

（2）.Option functions of on/off, voltage stabilization /current stabilization

（3）.Option function of long-distance and local control

（4）.Initialization function of lower computer

（5）.Fault inquiry function and more

4、Installation environment

（1）. Ambient temperature: -10℃ to 45℃

（2）. Height above sea level: ≤1500 m

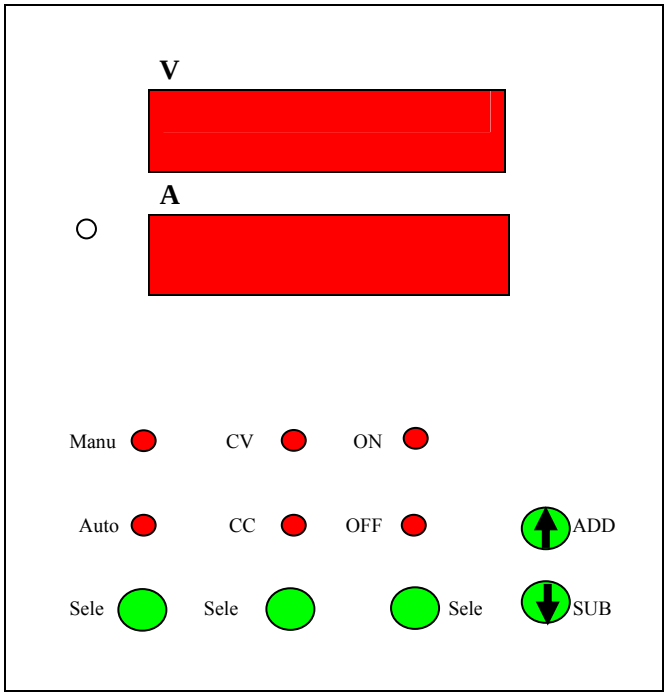
（3）. Relative humidity: ≤85%

（4）. Free from conductive dust, explosive articles, corrosive gas

（5）. Free from strong vibration

（6）. Indoors installment

5、Faceplate introduction



NOTE:

V:Voltage display A:Current display Manu:Manual

CC: Control current (current-stabilized) CV: Control voltage (voltage-stabilized)

Sele:Select Sub:Subtract

6、Terminal Description

A1	GND	B1	A2	GND	B2	K2	GND1	K1	V+	L		N

Note:

① A1 and B1 connected to A and B terminals of rectifier communication

② A2 and B2 connected to A and B terminals of network control

③ K2 and GND1 (not used)

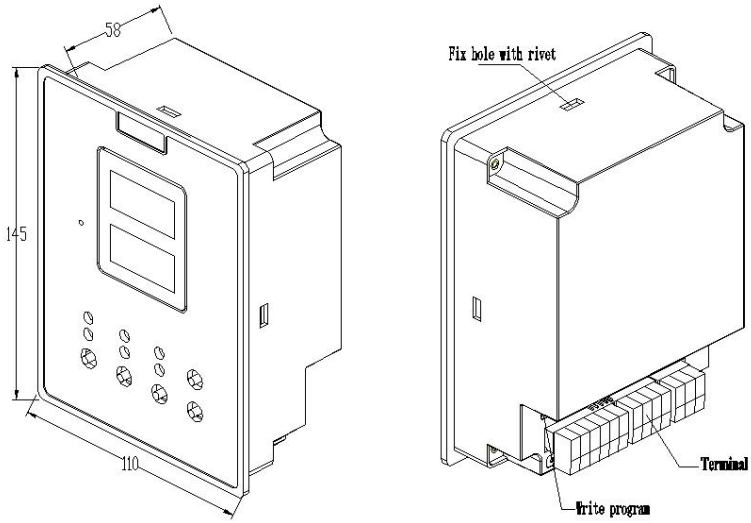
④ K1 and V+ (not used)

⑤ L and N as input points of AC220V ,8VA

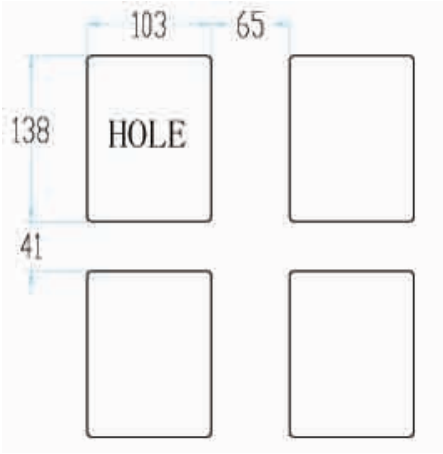
⑥ GND as empty, not connected

7、Installation dimension

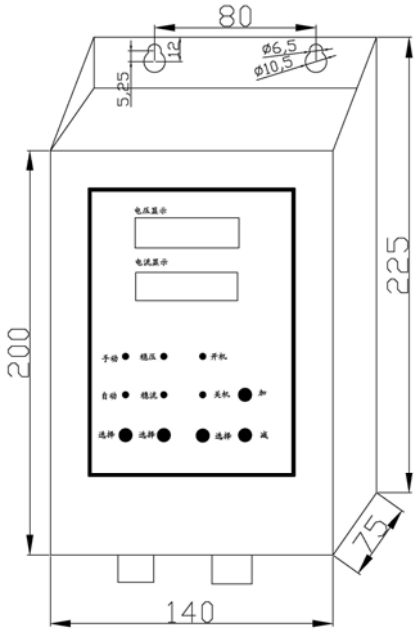
（1）. RS485 double-meter controller overall dimension：



（2）. Multiple RS485 double-chart controllers are installed on the collective control cabinet, with the opening sizes below:



（3）. A single RS485 double-chart controller is installed in an installation box with active accessories, with the sizes below:



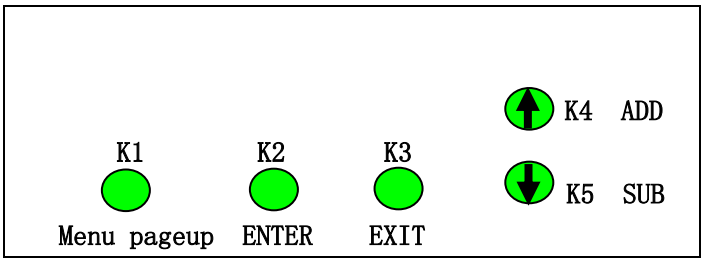
8、Operation

（1）. Operation of basic control keys

When using RS485 double-chart controller to control a rectifier, carry out **Manual/Auto, Voltage Regulation/Current Regulation, and ON/OFF** operations, with the status displayed by an indicator on the panel. When Manual is selected, RS485 double-chart controller is used to control the rectifier; when Auto is selected, an external network controls the rectifier directly.

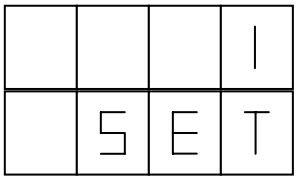
（2）. Parameter setting

① Press key “sub” and hold it, then press key “add” to enter the setting condition. Then taking key “ON/OFF” as “EXIT”, “auto/manual” as “menu pageup”, “CV./CC.” as “ENTER”. Key functions in setting conditions become:



Under the setting conditions, if no function setting, the system will automatically return normal condition in 20s or more.

② Screen will show after setting conditions:



Now this is the first stage menu, including two items of “SET” and “INFO”, switched by means of “K1”, “SET” as setting selection, and “INFO” as information selection.

③ Under “SET”, press “K2” to enter setting; after entering setting menu, set desired value by means of key “add/sub”, setting menu includes the following:

“SETU”———setting stabilized voltage value

“SETA”——— setting stabilized current value

“Addr”———setting address code of communication with rectifier (Consistent with the rectifier address code; when one-to-one control is pursued, it has been set well at factory)

“ALAR”———setting alarm time, in sec. (0-9999), when setting as 0, it means unlimited alarm time(If no requirement from the customer, this function is shielded at factory)

④“INFO” is information menu, including the following:

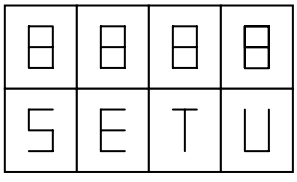
“bJEr”——failure code of the machine（0-Normal；1-Overcurrent；2-Error；3-Overheat）

“COEr”——failure code for communication with rectifier（0-Normal；1-Communication fault）

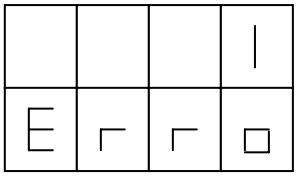
“PLEr”——failure code for communication with host（0-Normal；1-Communication fault）

（3）. Quick setting of current and voltage

①If the “add” key is pressed for more than 1s when voltage regulation status is displayed normally, set the voltage regulation value directly as below:



②If the “add” key is pressed for more than 1s when current regulation status is displayed normally, set the current regulation value directly as below:



③Using the “add” and “sub” keys to set required voltage or current. Without the need to press other key after setting, system voltage or current will automatically increase or decrease to the set voltage or current, keeping displayed voltage or current (actual output voltage or current of rectifier) consistent with the set value.

(4).Other factory settings

Other factory settings are more complicated. To prevent the rectifier from abnormal operation due to a user’s misuse, the factory does not provide relevant data.

9. Cautions

(1). The working power supply of controller is AC220V. Never access to AC380V or insert AC220V plug into other port, as this may burn the controller.

(2). When one-to-one control is conducted between the rectifier and RS485 double-chart controller, the address code for the controller must be consistent with that on the rectifier control card.

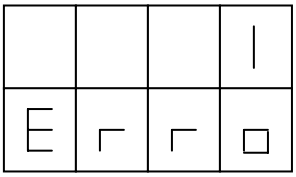
(3). When, in terms of RS485 double-chart controller, there is one remote RS485 double-chart controller, the local RS485 double-chart controller requires the insertion of a terminal resistor. Two shorting pieces S1 and S2 in the controller shall be shorted.

10、Fault Display

（1）. In case of failure of the machine, the lamps of “on” and “off” flashes; if the failure is “superheating”, alarm occurs (optional superheating function), and output is given from output point; when the trouble is removed, alarm will automatically be released, alarm time can be set, when alarm, press and hold key “sub” for 1 sec to release alarm.

（2）In case of failure in communication with host, “auto” and “manual” lamps flashes.0

（3）In case of failure in communication with rectifier, error code is shown on screen as the following:



11. Troubleshooting

(1). No display of controller voltage and current

①. Inspect whether AC220V signal is introduced.

②. Inspect whether AC220V terminal is inserted into other port. If AC220V terminal is inserted into other port by mistake, the controller may be burned out after power-on. The controller must be replaced before the rectifier is operated.

(2).Abnormal communication

① Inspect whether the setting address code for the controller is consistent with the rectifier address code.

② Inspect whether the communication line between the controller and rectifier is in good connection condition and whether poor contact appears.

③ Disconnect the power supply of the rectifier for 5-10s, and power up again.

(3). Over-heat failure

① Inspect whether the cooling fan or cooling waterway for the rectifier is in completely good condition, whether water pressure for the water-cooled rectifier is too low or temperature of effluent water is too high; whether all the fans for air-cooled rectifier operate normally, whether there are enough air inlet and outlet spaces, and whether the ambient temperature exceeds the working temperature of rectifier.

② Inspect whether the temperature switch of rectifier is in good condition.