



Mini Center Control Box

LM-MCC20

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Chapter 1. Installation instructions

1	Power adapter	This equipment supports DC12V 1A input. In order to make the equipment work properly, please do not replace our standard power adapter easily.
2	Power off	Turn off all the power supply, unplug the power plug, etc. to ensure the safety of you and the equipment.
3	Cables	It is not possible to place objects on power lines, signal lines, communication lines and other cables. Cables should be avoided from being trampled or squeezed to prevent leakage or short circuit.
4	Signal cables	When the signal line is inserted or pulled from the equipment, the equipment needs to be cut off so as not to damage the equipment. If not, The damage is not in warranty
5	Heat dissipating hole	There may be openings on the outside surface of the equipment for heat dissipation. Do not block these openings to avoid heat accumulation, damage to the equipment or cause fire hazards.
6	Equipment placement	Equipment should be reasonably placed, such as standard rack, chassis, cabinet, or placed on a stable and flat work table to prevent equipment from falling.
7	Environment	The environment of equipment should pay attention to dustproof and moistureproof, especially prevent liquid from soaking and splashing into the equipment.
8	Repair	All maintenance work should be done by professional maintenance personnel. Do not attempt to repair equipment without training. To avoid the danger of electric shock, do not unlock the case.
9	Safety precautions	<p>1, there is electricity inside the equipment, non professional maintenance personnel shall not open the chassis, in order to avoid any danger.</p> <p>2, strictly prohibit water droplet or water splashing, strictly prohibit putting any liquid container container on the equipment.</p> <p>3, in order to prevent fire, the equipment should not be near the fire source.</p> <p>4, in order to fully ventilate, the front and back panels of the equipment should maintain at least 20CM gap.</p> <p>5, If the equipment makes strange noise, smoke or odor, the power plug should be unplugged immediately and handled by professional maintenance personnel.</p> <p>6, in case of thunder or long absence, please unplug the power supply.</p> <p>7, do not plug any object from the ventilation hole of the equipment, so as to avoid damage to the equipment or electric shock.</p> <p>8, it is not suitable to place this equipment in near water or other damp places.</p>

		<p>9, it is not suitable to place this equipment near heat sink or other high temperature places.</p> <p>10, please properly arrange the power cord to prevent breakage.</p> <p>11, under the following circumstances, the power plug of this equipment should be removed and handled by professional maintenance personnel.</p> <ol style="list-style-type: none"> 1) when the plug power cord is damaged or worn; 2) when liquid splashes into the equipment. 3) when the equipment falls or the chassis is damaged. 4) when the equipment has obvious functional abnormalities or performance changes; 5) Regularly check whether the fan is working properly, if the fan is not working, it should be immediately unplugged and switched off the power supply of the equipment, handled by professionals.
<p>This equipment is not suitable for non professionals to operate and debug. Users must receive professional training and guidance.</p>		

Chapter 2. Product overview

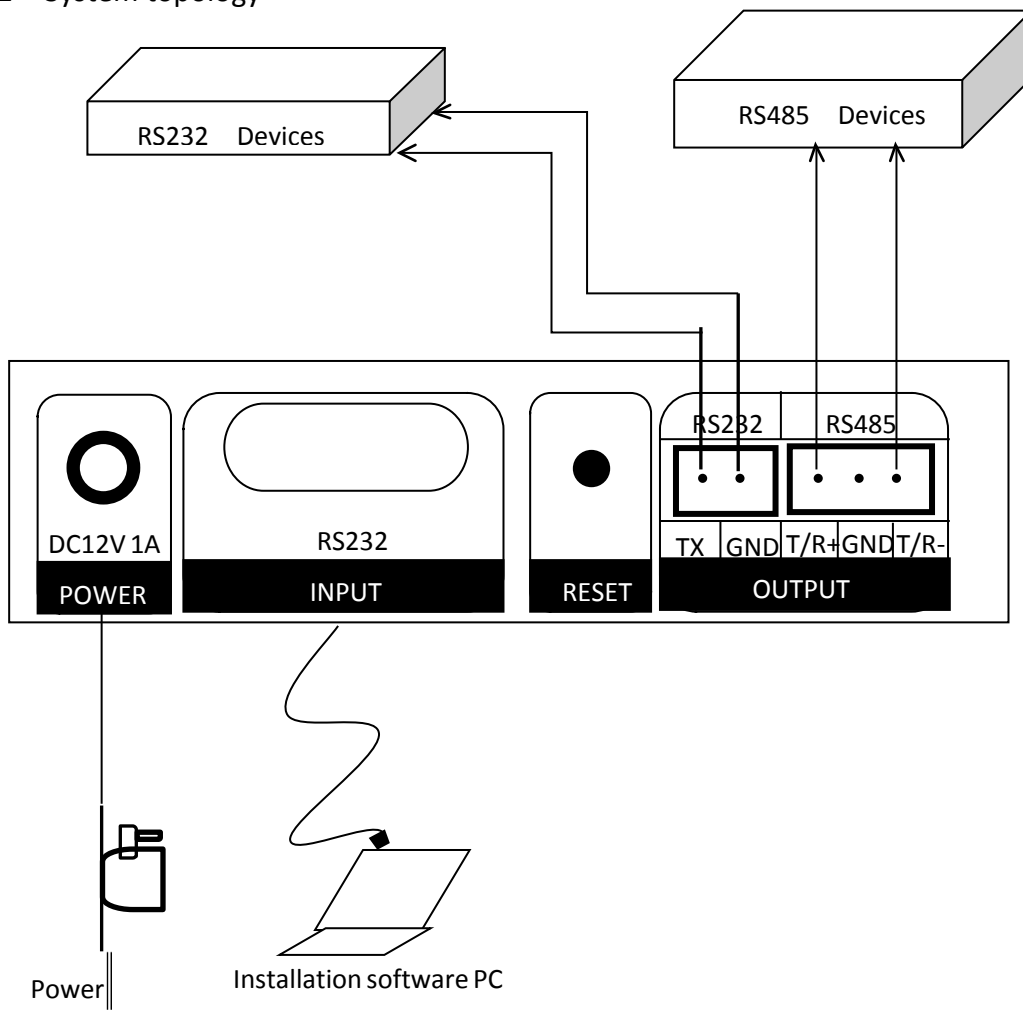
This device is a miniature central control processor. A single device can write 20 sets of different attributes and protocols, and send the corresponding input attributes and protocols synchronously through RS232 and RS485 interfacers. The central control system is equipped with simple and friendly operation interface software. Engineering and technical personnel can operate without professional programming technology.

2.1 Specification

Name	Spec
Input	
RS232	DB9 interface for writing protocols and properties
Output	
RS232	2PIN green interface: TX、GND
RS485	3PIN green interface: T/R+、GND、T/R-
Other	

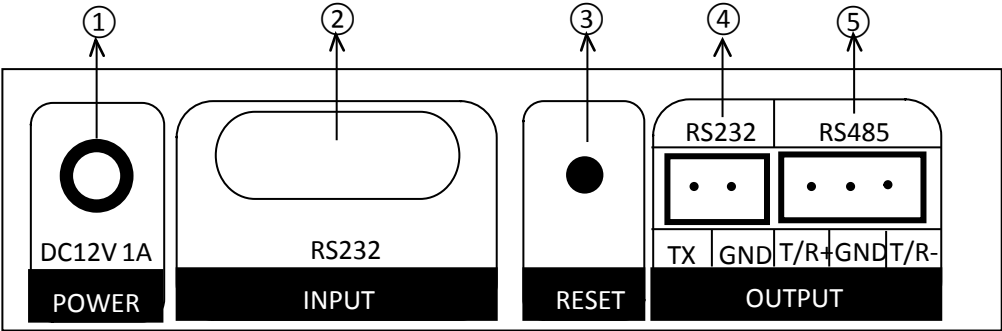
Reset	reset
Power supply	DC12V 1A
Power waste	3W
Size	
Demension	115mm(L) x106mm(D) x30mm (H)
Weight	0.5Kg

2.2 System topology



	This device	Other device
RS232	TX	RX
	GND	GND
RS485	T/R+	RS285+
	GND	GND/NC
	T/R-	RS485-

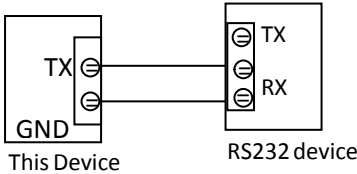
Chapter 3. Panel introduction



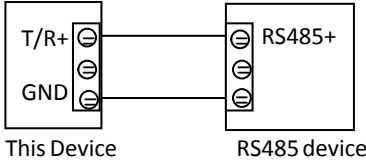
①	DC 12V 1A input	②	RS232 input
③	Reset	④	RS232 output
⑤	RS485 output		

Chapter 4. Communication connection diagram

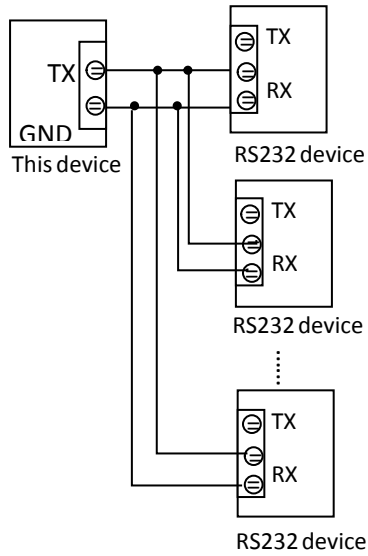
4.1 RS232 Point-to-point communication



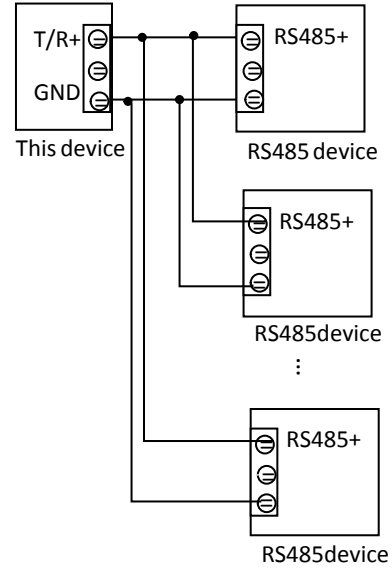
4.3 RS485 Point to point / two wire half duplex communication



4.2 RS232 Point-to-point communication



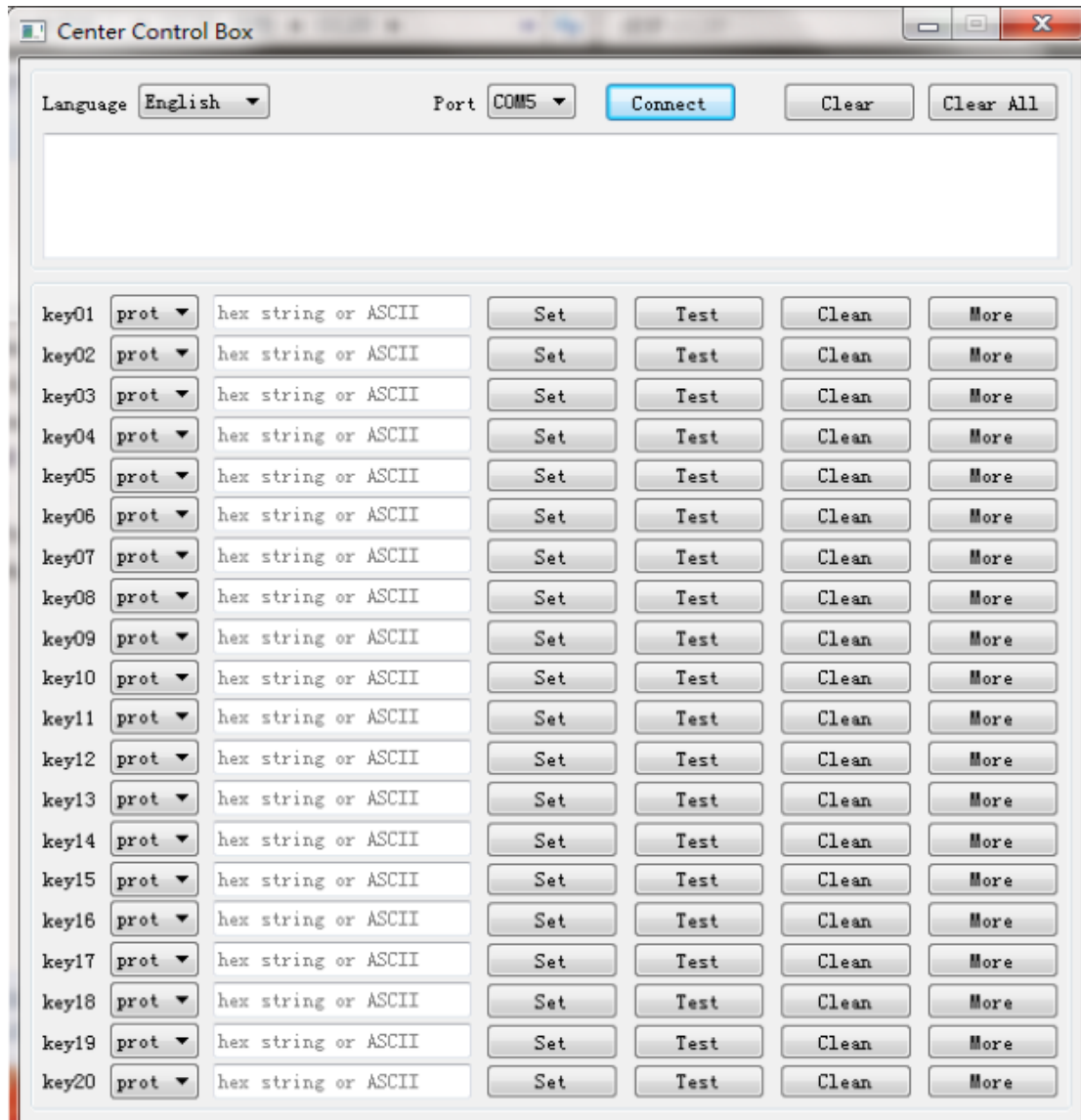
4.4 RS485 Point to point / two wire half duplex communication



Chapter 4. Software operation introduction

This device presents a CD-ROM, which contains special control software. This control software is green installation-free software. It only needs to copy the software from the CD-ROM to the computer and double-click "Center Control Box.exe" to run.

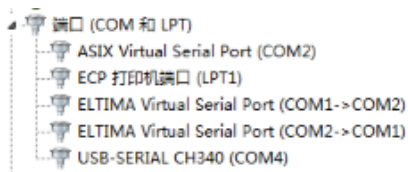
The overall software interface is shown below:



Function Description:

4.1 language selection: this software supports simplified Chinese, traditional Chinese, English optional.

4.2 Serial Port: Select the corresponding port number, the specific port number can be queried in the computer, right-click desktop in computer -> properties -> Device Manager -> ports (com and LPT)



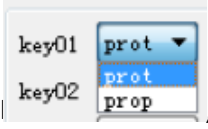
Find the port number corresponding to the current serial

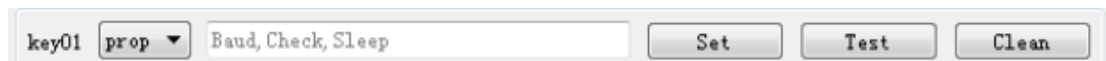
port.

4.3 Connection: select the corresponding port number and click on the connection.

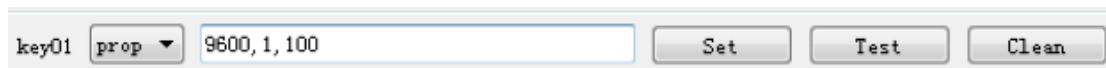
4.4 Input control commands and properties, taking Key01 as an example:

Key01 corresponds to the panel key 1, which is to write the properties and protocols sent to the

key 1, and click the drop-down arrow behind the key01 protocol , Set properties first, as shown below:

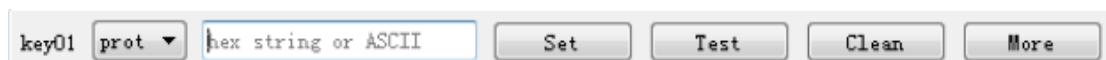


Here we need to set the baud rate, check and sleep, such as input 9600, 1, 100, which means the baud rate is 9600, check bit is 1, delay 100 ms. For the check bit of NONE, write 1 or 0 here. Delay 100 ms is the protocol sending delay 100 ms before sending the subsequent command, so as not to send too fast and make the machine unresponsive. After input, click on the settings (the software will automatically gray 3 seconds after clicking on the set, that is to prevent repeated clicks, repeated settings).

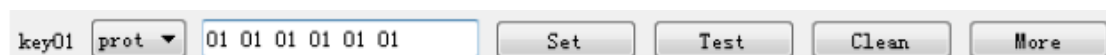


At the same time, the machine will follow the sound after press the set, indicating the success.

Protocol:

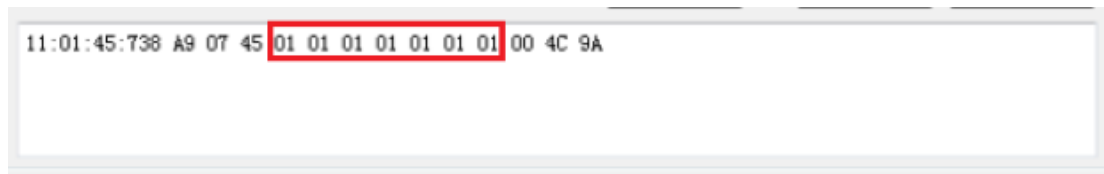


Protocol input, this device can support hex string and ASCII protocol, can support single group protocol, can also support multi-group protocol sending, single group input such as: 01 01 01 01 01 01 01 01 01 01, click set (this software will automatically gray 3 seconds after clicking set, that is to prevent repeated clicks, repeated settings).




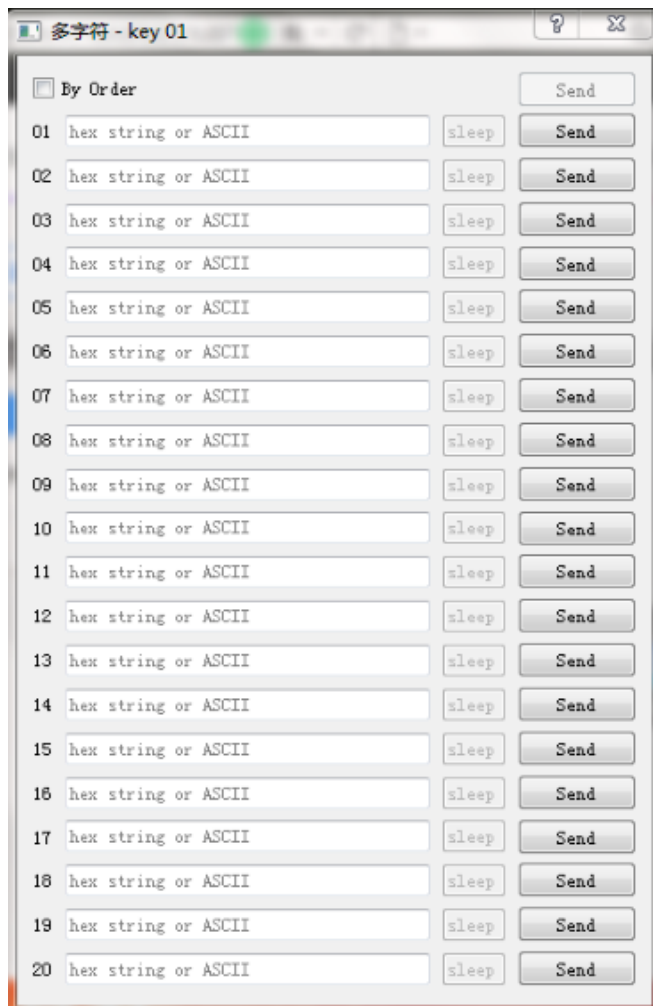
At the same time, the machine will follow the sound after setting the settings, indicating the success. If you want to know if the writing is successful and correct, you can click on the test, and

the blank bar above will appear print information (if there is no print information, or print information is incomplete, you can click on the test several times more to see).

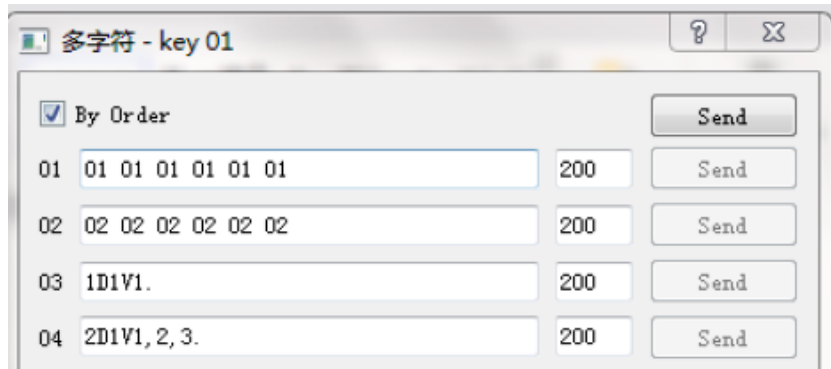


This shows that the protocol has been written successfully.

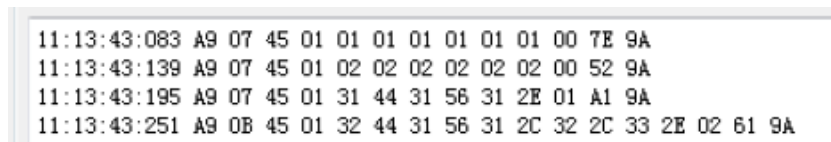
If you need to write more than one group of protocol, click , Then there will be a subsidiary bar on the right side.




Write each protocol that needs to be written. The delay is recommended to be 200 ms or more.
 If a protocol is found to be missing during the test, the delay should be set a little longer. The following figure shows:




Click test to view print information:



Print information too much, you can click  ,Emptying print information;

If the command is incorrect or unnecessary, click the corresponding button  ,Clear the properties and protocols of this key;

If you need to clear all key properties and commands, Click  .