Master User Manual

FCC Information.
This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna
• Increase the separation between the equipment and receiver
• Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
• Consult the dealer or an experienced radio/TV technician for help
This device complies with Part 15 of the FCC rules.
Operation is subject to the following two conditions:
• This device may not cause harmful interference.
• This device must accept any interference received, including interference that may cause undesired operation

Canada information:
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

How to start:

1, Install the two antennas, make sure they are perpendicular to the ground, otherwise communication distance will be affected.

2, Connect the Ethernet cable or RS232 cable for data link. The Ethernet is more quick and steady than the COM port. The default setting of the Master is: IP address 192.168.1.121, Subnet mask 255.255.255.0, Default gateway 192.168.1.1, user can change this setting through COM port or PC direct connection. The Master can obtain a IP address automatically with a DHCP protocol.

3, Plug in power.

4, Configure the Master.

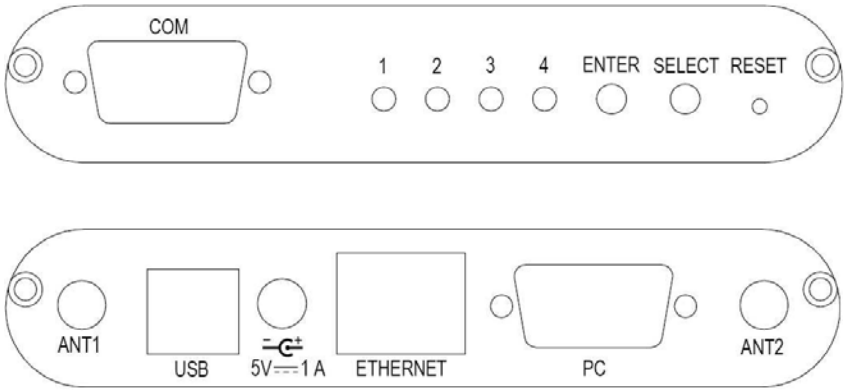
5, Add devices to the Master, add product to the Master.

6, Configure the devices.

7, Set Master date and time, clean old data.

8, Read pour data, the master supports different protocols: Skylink which is integrated in Skyman API, Harton, Berg, Web API. Any of them can be used as a data reading protocol, but DO NOT use them at the same time.

Panel:



LED indication:

All the 4 LEDs are double color: Red and Green.

Normal mode:

	Red	Green	Blink Red	Blink Green
LED 1	Power	-	-	-
LED 2	-	-	RF link	RF link
LED 3	-	-	PC link	RF link
LED 4	-	-	Card Write	Card Read

Boot load mode:

	Red	Green	Blink Red	Blink Green
LED 1	Boot mode	-	-	-
LED 2	Boot mode	-		
LED 3	-	-	PC link	RF link
LED 4	-	-	Card Write	Card Read

Key mode:

In the key mode, the LED(s) blinking means waiting for “ENTER” key, if no key press within 3 seconds, master will return to normal mode. If the LED(s) is on, it means the master is in corresponding mode.

LEDs(Green)	Description
LED 1	Force the COM port (the one near the antenna) work in Skylink protocol temporarily.
LED 2	-
LED 3	-
LED 4	-
LED 1 & LED2	-
LED 3 & LED4	-
LED 2 & LED3	Respond to all devices RF data even the devices are not in the master device list.
LED 1 & LED4	Use DHCP to obtain IP address etc from the router and set the IP

	address temporarily , master will return to normal mode if succeed. After master program version 'V1.1.758', master save the IP address, Default gateway, Subnet mask and DNS .
LED 1 & LED2 & LED3 & LED4	Return to normal mode

Button functions:

SELECT button:

Select button function, LED(s) blink before ENTER is pushed, return to normal work mode if no key is pushed within 4 seconds.

ENTER button:

Normal work mode, when push ENTER key master enters last button function directly and waiting for ENTER key confirmation or time out.

If the LED(s) is blinking key function mode, confirm entering current key function.

RESET button:

Set the Master IP with 192.168.1.121, 255.255.255.0, 192.168.1.1, set the Protocol with skylink protocol, set COM port setting with 38400,8,None,1,None. If hold the button for about 5 seconds, reset the hole PCB;

Various ports:

USB : In boot load mode, the USB works as a removable disk, user can handle the card memory. In normal work mode, the USB is only for power supply.

COM port on front panel: This port can connect to a micro-printer, or a debug device.

COM port on back panel: Can connect to a PC or POS to send pour data etc.

Ethernet port: Can connect a router or directly to a PC. PC program can read pour data, configure the master and device, set Master time, add devices etc. In addition, from this port user can visit the Master's web page.

Update program:

1) Enter boot load mode, power off the Master, hold the ENTER and SELECT button, plug in the power, release the button when the LED 1 and LED 2 turn on green, then LED 1 and LED 2 turn on red. If the Skyman API is using, send a flash correlative command, the Master will automatically enter boot mode.

2) Write/Verify program and configuration using an API command. Memory card can be read and write via USB port.

3) Send reset command to reset the Master.

4) Note:

a, Master will keep in boot mode if the application program is not present.

b, Master will exit boot load mode if no command is received in a period time.

c, Only eeprom and flash correlative commands are supported in boot mode, other commands work in only normal work mode.

Error indication:

When power up, Master will check its hardware, if something is wrong Master will give a beep which indicates different errors .

Beep	Error message
S	OK
L	Power error, the input voltage is too high or too low
LS	RAM memory error
SS	RTC error, either the hardware is not good or the time is not correct.
LL	initialization
LSS	Cannot operate the memory card.
SLS	RF chip does not work
SSL	Fail to initialize the Ethernet chip
SLL	Cannot read the System files

L: long beep, S:short beep.