DIGITAL HF 1.5-70MHz POWER & S.W.R. METER

CE

USER'S MANUAL

Key Specifications/Special Features:
Measurement S.W.R.
Measurement RF Power watt (FF / REV)
Battery Level display
Blacklight LCD display
Use time

Specifications:

Max Power input:	120W
VSWR:	1.00:1~19.99 :1
Frequency Range:	1.5MHz-70MHz
Power in:	5V (micro usb)
Li-ion Battery :	3.7V Li-ion Battery
In /Out Impedance :	50 Ω
Size without Socket :	70*75*35 mm
(in and out) Interface:	SO239 (SL16)
Net Weight :	220g

Package

1x	HF S.W.R. Meter
1x	English Instructions
1x	USB charger Cable
1x	USB power Supply

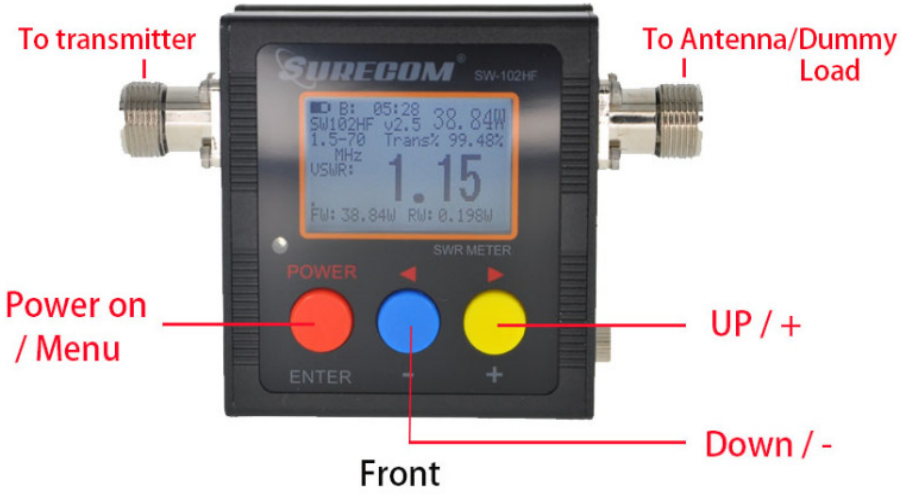
Power ON/OFF: Press [Red button] 2 second to power on or power off

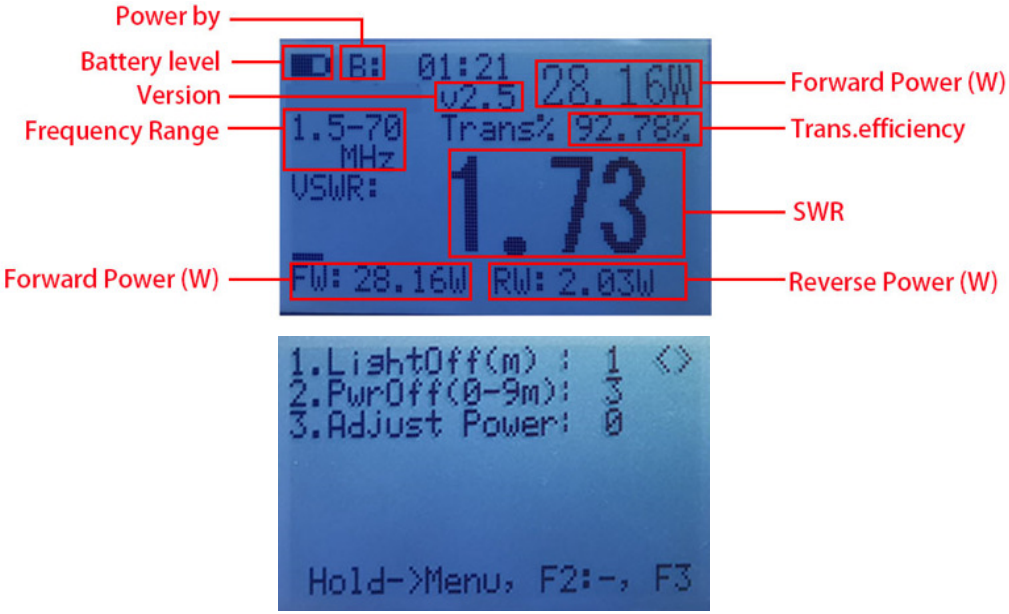
How to Connect your Radio :
TX : Connect to RADIO RF Output
ANT : Connect to ANTENNA or 50 OHM Dummy Load
(Proper adaptor/cable is required if .your device has different type of connectors.)

How to charge your meter :
Connect external USB DC+5V source (e.g. USB charger) to micro USB input
When display is showing 'E', it means the unit is powered by ext. usb in.
When display is showing 'B', it means the unit is powered by internal battery.

How to use a SWR meter to test your antenna : (SWR) : (pic 1)
Measurement V.S.W.R. :
1)Radio RF output connect to meter "TX" socket .
2)Antenna connect to meter "ANT" socket .
3)Push to talke from Radio, METER display is SWR measure data.
* measure SWR, Best must be over input 4W or more.

How to use a meter to measure the RF output Watt of your transceiver:
Measurement Power Watt :
1)Radio RF output connect to meter "TX" socket .
2)50 Ohm Dummy Load connect to meter "ANT" socket .
3)Push to talke from Radio, METER display is Power measure data .
* on 29MHz +/-> 5% , on 50MHz +/- >7%
How to rotate the display:
Press Yellow button and hold to rotate display in 180 degree



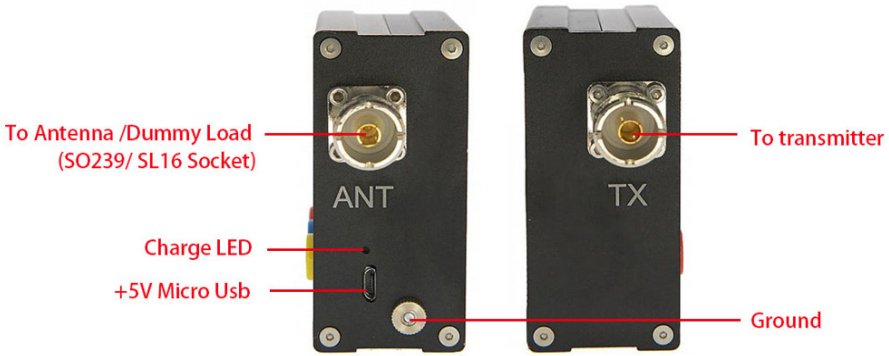


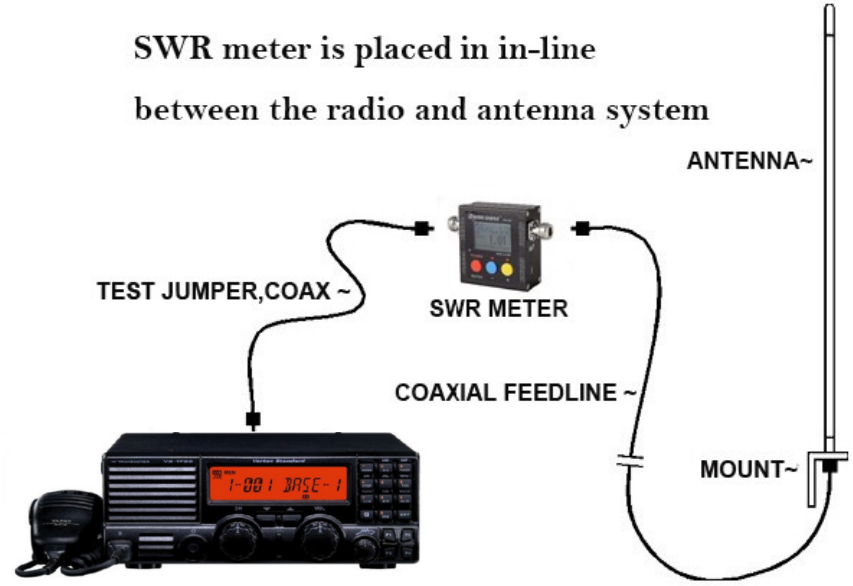
Push [Blue button] for MENU

1	LCD (Back Light off time)	0-9	1	"0" is OFF, 1 min to 9 mins
2	Auto Power Off Time	0-9	3	"0" is ON , 1 min to 9 mins
3	Adjust mesure power offset	-99 to +99	0	"1" is up to 1%,"-1" is down to 1%

* Supplier, the product will add functionality without having to give notice

SET & SAVE:
1. Press MENU [Blue button]
2. Press F1 [Red button)(Select 1-3 Function)
3. Press [Blue button] (-), [Yellow button] (+)
4. Press the [Red button]for 2 seconds
5. Press the [Red button] 2 second and relest ,show the save and exit page
6. [Blue button] for save , [Yellow button] not save and exit





PIC.1

Correctly use the radio to measure S.W.R.

SWR 1.0 - 1.5: The ideal range!
SWR 1.5 - 1.9: There's room for improvement, but SWR in this range should still provide adequate performance.
SWR 2.0 - 2.9: While not good, this likely won't damage your radio with casual use.
SWR 3.0+: Performance will be severely affected, and you're likely to damage your radio with extended transmission use.

IMPORTANT NOTE: Radio damage will only occur when you're TRANSMITTING from an antenna with high SWR readings. Leaving the radio on to receive signals poses no risk to your radio.

SWR Formulas and Calculations

VSWR can be calculated from various parameters. By definition, VSWR is given as ratio of maximum voltage on the line to the minimum voltage.

$$\mathrm{VSWR} = \frac{V_{\max}}{V_{\min}}$$

The same can be expressed in terms of forward and reflected wave voltages.

$$\mathrm{VSWR} = \frac{V_{\mathrm{fwd}} + V_{\mathrm{ref}}}{V_{\mathrm{fwd}} - V_{\mathrm{ref}}}$$

Trouble shooting:

1. No Operation?
-PLease charge with USB cable +5V , or come with PSU .
-Push and hold on the "RED" button .
-Replacement battery when battery dead.
-There are still problems with steps 1. and 2.and 3., please contact service center.

2.Watt /S.W.R. read data is not hold on ?
-Some Radio problem when end of TX
.Radio output TX is not stabilizing.

3.Read the watt data is not accurate ?
-Don't not use the antenna get the watt data.
-Please use the correct power dummy load to measure (must be 50 OHM)
-The data read error when not read the frequency from radio
-The TX input is weak , Input Watt below 0.5Watt

4.Read the S.W.R. data is not accurate?
-Do not affect the test in the following cases, there are objects nearby

5.Display have problem ?
e.g.BLack or Garbled or no Display
-Restart , From METER remove the inside battery.
-There are still problems with steps 1. and 2., please contact Retail shop service center.

6. How to RESET the mirco chip
-Off mode ,Hold the Red button and the display show "restore to default "
-There are still problems with steps 1. and 2., please remove the battery.
**All Specifications are subject to change without notice