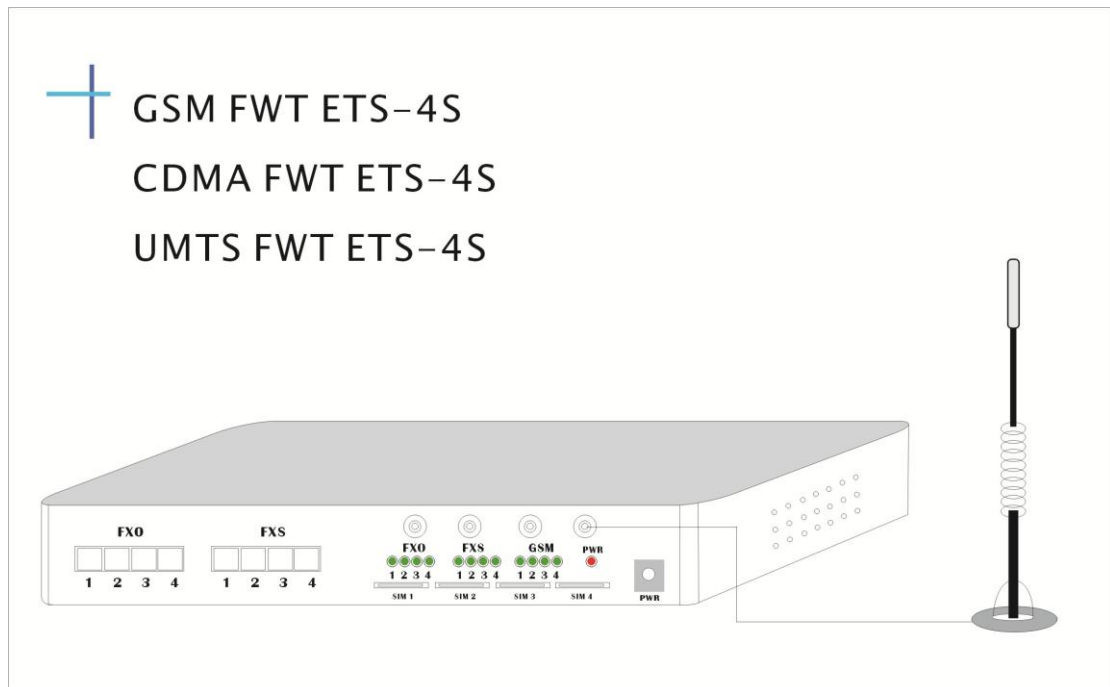


# **GSM FWT ETS-4S**

## **User Manual**



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## **1, General Description**

GSM FWT ETS-4S is a newly designed 4 ports GSM to POTS (Plain Old Telephone Service) line Converter, also known as Fixed Wireless Terminal. The device has 4 line connections that allow 4 regular analog telephones to be connected to 4 Cellular GSM service just like connecting to 4 local PSTN (Public Switched Telephone Network) land-lines. Your calls are connected on the GSM network. This device receives and makes phone calls.

Model GSM FWT ETS-4S is 4 GSM modules + 4 FXS ports.

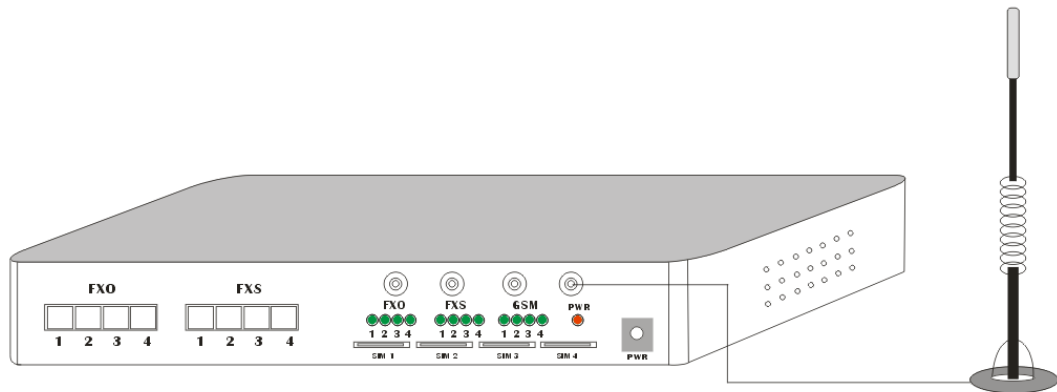
Model GSM FWT ETS-4S/O is 4 GSM modules + 4 FXS ports + 4 FXO ports .

(Also We have CDMA FWT ETS-4S (800Mhz Ruim Support) and WCDMA FWT ETS-4S option).

## **2, Installation and Connections**

1. The GSM FWT ETS-4S has to be in an area with a good GSM network coverage. Poor signal may affect the quality of the voice.
2. Insert the SIM card into the SIM card holder at the back of the GSM FWT ETS-4S.
3. Connect the antenna. In order to ensure a good quality of voice, it is recommended to locate the antenna at least 1.5m from the telephone and from the GSM FWT ETS-4S itself.
4. Plug the RJ-11 cable to the back of the GSM FWT ETS-4S marked as FXS (1-4) and the other end to your telephone.
5. Plug the Power Adapter to the wall power socket and its 12v plug to the Power (PWR) connector on the back of the GSM FWT ETS-4S.
6. Your Telephone will ring twice when the GSM FWT ETS-4S has completed the boot process, it takes about 5 seconds.
7. You can make and receive calls after you can hear the Dial Tone on the telephone and Network Signal indicator (GSM) is ON.

### **GSM FWT ETS-4S Connection Diagram**



### Back Side

<b>FXS</b>	4 RJ11 POTS connector, FXS to connect 4 Telephones or PBX
<b>FXO</b>	4 RJ11 to connect to PSTN line (Only Available to Model GSM FWT ETS-4S/O.
<b>Power input</b>	12v from your Power Adapter
<b>Antenna connection</b>	4 SMA Connector for the GSM antenna
<b>LEDs</b>	LED indicators for status (see LED display explanation)
<b>SIM card slot</b>	4 SIM card slots

### LED Display

<b>Power (red)</b>	Device Powered On indicator
<b>FXO (green)</b>	On when the FXO is in use
<b>FXS (orange)</b>	On when the FXS is in use
<b>GSM(green)</b>	On when the talking is going on

## 3, Functions & Features

- Brand Name: Etross or OEM
- Model Number: ETS-4S
- Type: GSM (GSM FWT ETS-4S); GSM + PSTN (GSM FWT ETS-4S/O)
- Port Number: ETS-4S: 4 ; ETS-4S/O: 8
- SLIC (FXS): 4
- DAA (FXO): 4
- SIM Card slot: 4
- IMEI changeable: support
- LCR(Low cost routing): support
- SMS management: support
- lock network operator: support
- Number transfer: support

1. Use advanced Silicon Lab SLIC (FXS) and DAA (FXO) solution, the compatibility and the voice quality are in the high-level standard;
2. Can use command(by telephone set which connected to ETS-4S) or SMS(by mobile phone) to do function setting, flexible and convenient;
3. Can realize the LCR route between GSM and PSTN by presetting the dial rule;
4. Speed dialing (just like fixed line telephone dialing, no need to dial “#” when you finish your dialing)
5. Number transformation function
6. PIN lock & Network Lock;
7. The FXO interface has escape function

## 4, Technical Specifications

### GSM device:

Module employed: Quectel M35

Air interface standard: Quad band

GSM850/1900MHz,900/1,800Mhz phase 2+ full band

Frequency ranges:

A) GSM 850 GSM 1900:

I) Transmission: 869.2 ~ 893.8MHz I) Transmission: 1, 930 ~ 1, 990MHz

II) Reception: 824.2 ~ 848.2MHz II) Reception: 1, 850 ~ 1, 910MHz

B) GSM 900: GSM 1800:

I) Transmission: 890 ~ 915MHz I) Transmission: 1, 710 ~ 1, 785MHz

II) Reception: 935 ~ 960MHz II) Reception: 1, 805 ~ 1, 880MHz

### CDMA device:

Module employed: Huawei Mc323-a 800Mhz

Air interface standard: CDMA 800Mhz

### UMTS (WCDMA) device:

Module employed: Quectel UC15 series

Frequency Bands	UC15-E
	900/2100MHz@UMTS
	900/1800MHz@GSM
	UC15-A
	850/1900MHz@UMTS
	850/900/1800/1900MHz@GSM
	UC15-T
	850/2100MHz@UMTS
	850/900/1800/1900MHz@GSM

Phone interface: supply RJ-11 Phone Interface

Hanging voltage: 45V

Dialing tone Frequency: 450Hz

Antenna interface: Antenna amplifying >2.5db

RF Sensitivity: <-104DBM

Transmitting power: <3W

Operation temperature: -10c-60C

Storage temperature: -20C-70C

Operation humidity: 45% - 95%

Color: Black

Weight: 1.5kg (full package including accessories)

AC-Adapter: Input: AC 110~240VAC 50~60Hz

Output: 12DC 2A.

AC-Adapter type: EU, US, AU, British (optional)

## **5, Function setting**

### **1) LED display Instruction**

There are 13 LED lights in this equipment, including 1 red light is for the power indicator, 4 blue lights indicate 4 GSM working status, 4 green lights indicate 4 FXS ports working status, 4 orange lights indicate 4 FXO ports working status.

GSM working status:

- |  |                        |
|--|------------------------|
| 1. Check GSM module                            | (300ms on/300ms off)   |
| 2. Check SIM card                              | (600ms on/600ms off)   |
| 3. Wait for PIN code inputting                 | (1500ms on/1500ms off) |
| 4. Check signal                                | (700ms on/1300ms off)  |
| 5. Standby                                     | (100ms on/2900ms off)  |
| 6. Standby (IMSI does not match, can not call) | (100ms on/900ms off)   |
| 7. Incoming calls                              | (20ms on/20ms off)     |
| 8. Outgoing calls                              | (300ms on/300ms off)   |
| 9. Calling                                     | (always on)            |

FXS ports status:

- |                   |                      |
|-------------------|----------------------|
| 1. Initialization | (300ms on/300ms off) |
| 2. OFF-HOOK       | (always on)          |
| 3. ON-HOOK        | (always off)         |
| 4. Ringing        | (20ms on/20ms off)   |

FXO ports status

- |                              |                      |
|------------------------------|----------------------|
| 1. Initialization            | (300ms on/300ms off) |
| 2. The line is not available | (200ms on/800ms off) |
| 3. OFF-HOOK                  | (always on)          |
| 4. ON-HOOK                   | (always off)         |
| 5. Ringing                   | (20ms on/20ms off)   |

## 2),Setting by AT Command

### 1. \*\*\*28167031#

The user should input this command to enter the key setting mode, restart or 10 minutes later the user has to input the command again, then can do the setting.

### 2. \*#32#1234#

Input the PIN code, 32-- command, 1234--PIN code

If GSM is on status waiting for the PIN code inputting, the user can enter the PIN code to GSM by inputting this command.

### 3. \*#62#01\*13560729005#

Setting the SMS administrator number, 62-- command, 01-- administrator serial number, there are total of 4 administrators numbers can be set (01-04), 13560729005-- mobile phone number

### 4. \*#64#000000#

Setting the SMS password, 64-- command, 000000-- password

When the user does the SMS setting, he must firstly input the 'configure etross fwt:xxxxxx'to enter the SMS mode setting, the password is XXXXXX, he can do the setting by inputting this command, the default password is 000000

### 5. \*#99#99#

Restore factory default setting

## 3),Setting by SMS

### 1. configure etross fwt: xxxxxx

The user should input the password before entering the short message setting, restart or 10 minutes later then he has to input the password again, after that he can do the setting, the password is 'xxxxxx', the user can set up by entering the command \*#64#, when the device receives this command, it will reply the SMS instructions. Such as:

"CMD list-1:'version','call in forbidden', 'tone type', 'dial pause', 'bill mode', 'CID format', 'volume', 'band', '# dial', 'prefix length', 'manager'"

"CMD list-2:'digital route', 'digital change', 'digital add', 'digital forbidden', 'imsi', 'imei', 'reboot'"

If the user sends a command without the parameter, the device will reply a short message, the content is the current parameter. 'manager', 'imei' can only do inquiry, but can not do the setting.

For example:

Send 'call in forbidden', the device may reply 'current call in forbidden is:0 (0--disable, 1--enable)'

Send 'version', the device may reply 'FWT-DIGITAL-4 firmware ver:x.x.x.x, hardware ver:x.x, wireless module is xxx'

If the user's mobile phone number has been set to be the administrator number, then it is no need to enter a password, the user can set up directly.

**2. call in forbidden: x**

Bar incoming call setting (x=0 off, x=1 on), the default setting is off

**3. tone type: x**

Dialing Tone setting (x: 0--350+440Hz, 1--425Hz, 2--450Hz), the default setting is 350+440Hz

**4. dial pause: xx**

Interval dialing time setting xx=10-99, the user can set up the interval dialing time from 1.0 second to 9.9 seconds, the default setting is 5.0 seconds

**5. bill mode: x**

Billing Mode setting (x=0-3, 0-- no billing signal, 1--reversal polarity, 2--12 KHz pulse, 3--16 KHz pulse), the default setting is 1, reversal polarity

**6. CLIP format: x**

Caller ID setting (x=0-6, 0-2 is DTMF, 3-6 is FSK), the default setting is 3

**7. volume: xx**

Adjust the GSM Volume (xx=1-16), the default setting is 10

**8. band: x**

Adjust the GSM frequency (x=0-6, if the frequency needs to be adjusted, please contact ETROSS)

**9. # dial: x**

Set up '#' as the quick-dial (x=0 off, x=1 on), the default setting is on.

**10. prefix length :xxxxxxxxxxx**

Setting the prefix length for dialing through GSM, the script is xxxxxxxxxxxx.

Script description:

\* Use the ';' as the separator for each regulation, the part before the ',' is the prefix, and the part after the ',' is the dialing length corresponding to the prefix.

\* If a certain prefix has multiple matches, it can be written in (), such as (0-5) means 0-5 can be matched.

\* Script up to 128 characters

For example: 0755,12;00(1-3),16;

It means for the dialing number which started with 0755, the prefix length 12. For the dialing number which started with 001, 002, 003, the prefix length is 16.

**11. digital route: xxxxxxxxxxxx**

Setting the prefix for dialing through GSM, the script is xxxxxxxxxxxx.

Script description:

- \* Use the ';' as the separator for each regulation
- \* If a certain regulation has multiple matches, it can be written in (), such as (0-5) means 0-5 can be matched.
- \* Script up to 64 characters

For example: 0755;00(1-3);

It means for the dialing number which started with 0755, the dialing number which started with 001, 002, 003 will dial through GSM

## 12. digital change: xxxxxxxxxxxx

Setting digital change for dialing through GSM, the script is xxxxxxxxxxxx

Script description:

- \* Use the ';' as the separator for each regulation
- \* The numbers in the front part of the regulation is the original one, and the numbers in () is the target numbers which will be changed to be. If the prefix of the numbers is consistent with the original numbers, the numbers will be changed to the target numbers in ().
- \* Script up to 64 characters

For example: 00123(0755);017(01019);

It means the prefix 00123 is changed to be 0755, and 017 is changed to be 01019.

## 13. digital add: xxxxxxxxxxxx

Setting digital add for dialing through GSM, the digital added is xxxxxxxxxxxx, up to 16 digits

## 14. digital forbidden: xxxxxxxxxxxx

Setting digital forbidden for dialing through GSM, the script is xxxxxxxxxxxx.

Script description:

- \* Use the ';' as the separator for each regulation
- \* If a certain regulation has multiple matches, it can be written in (), such as (0-5) means 0-5 can be matched.
- \* Script up to 64 characters

For example: 0755;00(1-3);

It means for the numbers which started with 0755, the numbers which started with 001, 002, 003 will be forbidden to dial through GSM.

## 15. imsi: xxxxxxxxxxxx

imsi setting, the script is xxxxxxxxxxxx



Script description:

- \* Use the ';' as the separator for each regulation
- \* For each regulation, it must be at least 3 digits, and up to 5 digits.
- \* Script up to 32 characters

For example: 64001;356;

It refers to the SIM card, which represents the carrier code for 46001 and also starts with the prefix number 356, allows to make a call.

## **6, Making and Answering Calls**

### **Making Calls**

- 1, Lift the handset or select the Hands-free key, you will hear the dialing tone, only then you can start dialing the telephone number.
- 2, Dial the telephone number you like to call
- 3, On completion of dialing the number, you can press “#” to speed up the connection time.
- 4, If you pause during dialing for a duration of more than 3 seconds the GSM FWT ETS-4S will start calling the already dialed telephone number automatically.
- 5, After dialing, if the called telephone is free you will hear the ringing tone, if not free, the terminal sends busy tone to your telephone.

### **Incoming Calls**

When calls are coming in, if the connected telephone has the function of displaying incoming calls, the telephone rings and displays the incoming telephone number. You can lift the handset or press Hands-free to answer the incoming call.

GSM+PSTN fwt with LCR has the function to choose route automatically. When you dial from GSM+PSTN fwt, it will check the prefix no. which you preset into device. Then it will call out through GSM or PSTN according to your preset rules. And GSM / PSTN both support call in .

It will dial out through GSM if you don't connect to PSTN or PSTN line is disconnected , and it will dial out through PSTN if you don't insert SIM card or GSM network has no signal

**Box contents**

<b>Description</b>	<b>Quantity</b>	<b>Remark</b>
<b>GSM FWT ETS-4S</b>	1 unit	GSM/CDMA/UMTS Optional
<b>Power Adapter</b>	1 unit	AC 110-240v to 12v DC
<b>GSM Antenna</b>	4 units	3m cable antenna With Magnetic base
<b>Cable RJ11 to RJ11</b>	4 units	Connecting the device to the telephone
<b>Quick Guide</b>	1 unit	May provide by electronic version

**Warranty Card**

Model name	GSM FWT ETS-4S
Serial number	
Date of Purchase	
Name	
Address	
Telephone	

Fault Description	
Others	