

DF703Waste Bin Detector Configuration Manual _LoRaWAN



V1.1 Date: 2021-07-21



Changed

V1.1 Modify DF703 device picture. **V1.0** DF703 initial version.



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1 Overview

This document describes how to modify device parameters through the serial port, such as detection time, cycle upload interval, full alarm threshold, battery alarm threshold, faire alarm threshold, fall alarm threshold, and how to modify LoRaWAN parameters through serial port, such as deveui, appeui, band frequency, and so on.

The main steps are as follows:

1>Tools2>Connect TTL to sensor3>Send the command through the serial port software

2 Modify Device Parameters

2.1 Required tools

• TTL and wires; TTL is a complimentary accessory, please check it when receiving the goods. As shown in Figure 2.1;

• Serial port software;

• DF703 device;

Note: Due to the update, the TTL appearance you may receive is inconsistent with the picture.



Firgure2.1



Serial port software: , exe If you have other serial software, you can also

use it.

2.2 Connect TTL to sensor



1 Connect the TTL tool to the debug interface of DF703 device

Please referr to Figure 2.4. Note: only need to make GND_DF703 to GND_TTL when use our TTL tool.

The GND, RX, and TX positions of the DF703 device and the TTL tool are marked in Figure 2.2 and Figure 2.3. Please refer to it.

2 Connect the TTL's USB interface to your computer



Firgure2.2



Firgure2.3



Firgure2.4







Firgure2.5

2.3 Send the command through the serial port software

After completing the two steps 2.1 and 2.2, you can refer to this step to configure the corresponding parameters through the serial port software.

Step1 serial port software setting

COM Num.: You can check the port number used in "Device Manager -> Port" on your computer Baudrate: 115200 Parity bit: NONE Data bit: 8 Stop bit: 1 **Note:** Do not select the "Receive as hex" option. As shown in Figure 2.6:



· · /	CommUart Assistant (V3.8)	×
COMSettings PortNum COM6 BaudR 115200 DPaity NONE DPaity NONE DataB 8 StopB 1 Close Receive to file Show timestamp Receive as hex Receive pause Save Clear Send Options Data from file	CONDurt Assistant (V8.8) COM port data receive [ERROR] Cannot open COM port	
☐ Auto checksum ☐ Auto clear input ☐ Send as hex ☐ Send cyclic Interval 50 ms Load Clear	 	Send
t💣 Ready!	Send: 0 Recv: 0	Reset

Firgure2.6

Step2 Power DF703 device on

Connect battery or you can restart DF703 device by magnet if you have powered it on before.

Step3 Send command

When the serial port starts to output device information, you can send command in ASCII. If the configuration is successful, you can receive a reply from sensor.

For example:

Note: The following commands are reference examples, please refer to the product protocol documentation for a more detailed description of the commands.

Example 1 Configure the periodic upload interval to 10h

Command in ASCII: 80029999010A81

Reply from sensor: UPloadTime: 10 h

Note: The reply means modify this configuraiton successfully.



	ConnUart Assistant (V3.8)	(×
COMSettings	COM port data receive	4
PortNum COM6 🖃	[2021-05-18 13:53:45:142] 0 3	^
BaudR 115200 -		
DPaitu NONE	Rising 1 :12556, Rolling 2 :12330 12693 [12556] [0]	
DataR 8	In blind area, rising average time 580 (9xmm)	
StopB	[cholount: 1 16 1 [2021-05-18 13:53:45:272] 0 3	
🔴 Close		
	Rising 1 :12484,	
Recv Options	In blind area, rising average time 580 (9xmm)	
Receive to file		
I♥ Show timestamp □ Receive of her	EchoCount: 2 16 1 [2021-05-18 13:53:45:324] 0 3	
F Receive nause		
Sawa Class	Rising 1 :12511,	
Dave Crear	[2021-05-18 13:53:45:376] Falling 2 :12292, 12656, [12	2511] [2]
Send Options	In blind area, rising average time 580 (9xmm)	
🗌 🗖 Data from file	R L C	
Auto checksum	UPloadTime: 10 h Reply	
Send as hex		
🗖 Send cyclic		~
Interval 50 ms	2002000010481	
Load Clear	Command	Send
💓 Ready!	Send:14 Recv:5376	Reset //

Notes:

1 After the device enters the sleep state, the device cannot receive the command; Please restart the device by magnet and send the command again.

2 If the serial port does not output any information after the device is powered on or restarted, and the parameters cannot be configured; you can check whether the TTL is correctly connected to the device. If the RX and TX are connected incorrectly, the parameters cannot be configured.

3 Modify LoRaWAN Parameters

Steps:

- 1>Connect TTL to sensor
- 2>Making sensor into debug mode
- 3>Sending AT command to modify configuration

Please connect the TTL to sensor according part2.1 and 2.2, then start making sensor to debug mode and modify its configuration, such as deveui, appeui, band frequency and so on.

3.1 Making sensor into debug mode

1> cycle send @ in 50ms



	CommUart Assistant (V3.8)	:
COMSettings PortNum COM6 BaudR 115200 DPaity NONE DataB 8 StopB 1	COM port data receive	
Close Recev Options Receive to file Show timestamp Receive as hex Receive pause		
Save Clear Send Options Data from file Auto checksum Auto clear input Send as hex Send anglia		
Interval 50 ms Load Clear	@	Stop
🗲 Sending data	Send:11 Recv:0	Reset

2> Restart DF703 device by magnet.

3> After restarting sensor, you will receive the information from sensor, then Please enter 3,



	CommUart Assistant (V3.8)	-	
COMSettings	COM port data receive		44
PortNum COM6 🖃	[2021-05-18 15:07:15:102] or 4		^
BaudB 115200 -	Please Select Mode: 1 or 2		
DRaitu NONE -	2021-05-10 15.01.15.155 or 5 or 4		
DataB 8	[2021-05-18 15:07:15:209] Please Select Mode: 1 or 2 or 3	or 4	
StopB 1	[2021-05-18 15:07:15:359] Please Select Mode: 1 or 2 or 3	or 4	
Close	[2021-05-18 15:07:15:463] Please Select Mode: 1 or 2 or 3	or 4	
Recv Options	[2021-05-18 15:07:15:567] Please Select Mode: 1 or 2 or 3	or 4	
🗖 Receive to file	[2021-05-18 15:07:15:619] Please Select Mode: 1 or 2 or 3		
🔽 Show timestamp	[2021-05-18 15:07:15:623] or 4		
TReceive as hex	[2021-05-18 15:07:15:773] Please Select Mode: 1 or 2 or 3	or 4	
Save Clear	[2021-05-18 15:07:15:877] Please Select Mode: 1 or 2 or 3	or 4	
Send Options	[2021-05-18 15:07:15:982] Please Select Mode: 1 or 2 or 3	or 4	
Data from file Auto checksum	[2021-05-18 15:07:16:035] Please Select Mode: 1 or 2 or 3	or 4	
Auto clear input	[2021-05-18 15:07:16:187] Please Select Mode: 1 or 2 or 3	or 4	
Send as hex Send cyclic	[2021-05-18 15:07:16:291] Please Select Mode: 1 or 2 or 3	or 4	~
Interval 50 ms	@	Ct-	
Load Clear		510	μ
🕼 Sending data	Send : 159 Recv : 2406	Reset	

After restarting

••	ConnUart	Assistant	(V3. 8)	r.					1	-	
COMSettings PortNum COM6	COM port data rec	eive	PE DETENT	moue.	1 0.		01		••	T	~
BaudR 115200 -	【2021-05-18 15	:08:58:473】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
DPaity NONE	【2021-05-18 15	:08:59:476】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
DataB 8	【2021-05-18 15	:09:00:479】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
	【2021-05-18 15	:09:01:486】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
	【2021-05-18 15	:09:02:485】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
Recv Options	【2021-05-18 15	:09:03:490] Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
Show timestamp	【2021-05-18 15	:09:04:492】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
T Receive pause	【2021-05-18 15	:09:05:494】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
Save Clear	【2021-05-18 15	:09:06:497】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
Send Options	【2021-05-18 15	:09:07:503】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
T Data from file	【2021-05-18 15	:09:08:503】Plea	se Select	Mode:	1 o:	r 2	or	3	or	4	
☐ Auto clear input ☐ Send as hex	【2021-05-18 15	::09:09:40 <mark>7</mark>] Rema	p Vart3 B	audRate	: 9	800					
T Send cyclic											~
Interval 50 ms Load <u>Clear</u>	3									Ser	nd
🝠 COMSettings		Ser	nd : 763	Red	ov : 1	717	78	-	R	ese	t //

After enter"3"



4> change the baud rate according the the prompts

••	ConnUart Assistant (V3.8)
COMSettings	COM port data receive
PortNum COM6 -	LULI US 10 15.00.51.210 112 ase Select Mode. 1 01 2 01 5 01 7
BaudR 115200 -	[2021-05-18 15:08:58:473] Please Select Mode: 1 or 2 or 3 or 4
DPaity 4000	【2021-05-18 15:08:59:476】Please Select Mode: 1 or 2 or 3 or 4
DataB 14400 StopP 19200	[2021-05-18 15:09:00:479] Please Select Mode: 1 or 2 or 3 or 4
38400 56000 57500	[2021-05-18 15:09:01:486] Please Select Mode: 1 or 2 or 3 or 4
	[2021-05-18 15:09:02:485] Please Select Mode: 1 or 2 or 3 or 4
Recv Options Receive to file	[2021-05-18 15:09:03:490] Please Select Mode: 1 or 2 or 3 or 4
Show timestamp	[2021-05-18 15:09:04:492] Please Select Mode: 1 or 2 or 3 or 4
Keceive as hex Receive pause	[2021-05-18 15:09:05:494] Please Select Mode: 1 or 2 or 3 or 4
Save Clear	【2021-05-18 15:09:06:497】 Please Select Mode: 1 or 2 or 3 or 4
Send Options	【2021-05-18 15:09:07:503】 Please Select Mode: 1 or 2 or 3 or 4
Data from file Auto checksum	【2021-05-18 15:09:08:503】 Please Select Mode: 1 or 2 or 3 or 4
Auto clear input	[2021-05-18 15:09:09:407] Remap Vart3 BaudRate: 9600
F Send dy Ack	· ·
Interval 50 ms	3
Load Clear	Send
🕼 Ready!	Send : 763 Recv : 17178 Reset

	CommUart Assistant (V3.8)	1	- 🗆 ×
COMSettings			7
PortNum CUM6			. ^
BaudR 9600	ZU21-05-10 15.00.50.4(3] flease Select mode. 1 or 2 or 3	or	4
DPaity NONE	[2021-05-18 15:08:59:476] Please Select Mode: 1 or 2 or 3	or	4
	[2021-05-18 15:09:00:479] Please Select Mode: 1 or 2 or 3) or	4
	[2021-05-18 15:09:01:486] Please Select Mode: 1 or 2 or 3) or	4
Close	[2021-05-18 15:09:02:485] Please Select Mode: 1 or 2 or 3) or	4
Recv Options	[2021-05-18 15:09:03:490] Please Select Mode: 1 or 2 or 3) or	4
✓ Show timestamp	[2021-05-18 15:09:04:492] Please Select Mode: 1 or 2 or 3) or	4
│ Keceive as hex └─ Receive pause	[2021-05-18 15:09:05:494] Please Select Mode: 1 or 2 or 3	or o	4
<u>Save</u> <u>Clear</u>	[2021-05-18 15:09:06:497] Please Select Mode: 1 or 2 or 3	or or	4
Send Options	[2021-05-18 15:09:07:503] Please Select Mode: 1 or 2 or 3	or o	4
🗌 Uata trom file 🥅 Auto checksum	[2021-05-18 15:09:08:503] Please Select Mode: 1 or 2 or 3) or	4
Auto clear input Send as hex	[2021-05-18 15:09:09:407] Remap Vart3 BaudRate: 9600		
Send cyclic			~
Interval 50 ms	3		
Load Clear			Send
💓 PortNum	Send : 763 Recv : 17178	R	eset

Switching baud rate to 9600



3.2 Modify its configuration by AT command

In the debug mode, you can use the AT commands to modify configuration (deveui, appeui, appkey, band and so on)

For example: Reading devaddr, deveui and appeui

<u>Command</u>: AT+ID Enter the command in the serial port software, click Enter, and click Send, as shown in Figure

<u>Command response</u>:

+ID: DevAddr, 00:00:37:2F

+ID: DevEui, 8C:F9:57:20:00:37:2F

+ID:AppEui, 8C:F9:57:20:00:00:00

🔽 Data from file	RendRete: 9600			
│ Auto checksum │ Auto clear input │ Send as hex	+ID: DevAddr, 00:00:37:: +ID: DevEui, 8C:F9:57:20 +ID: AppEui, 8C:F9:57:20	2¥ 0:00:00:37:2¥ 0:00:00:00:00		
🦳 Send cyclic				~
Interval 50 ms Load <u>Clear</u>	AT+ID			Send
💣 Ready!	11	Send : 647	Recv : 8361	Reset

Note:

1 If you need to configure other LoRaWAN parameters, such as DevEui, AppEui, etc., send the corresponding command on this serial port. Only need to change the command, please refer to the LoRaWAN module AT command manual to find your needs.

2 After configuring the LoRaWAN parameter and restarting the device with a magnet, you can exit the debug mode to make it work in normal mode.