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Application Guide H7710 DTU-SMS Description



Contents

Contents	2
Revision History	2
1 Overview	3
2 Description	3
2.1 Attention	
2.2 SMS Operation	4
2.3 DTU SMS remote config	7

Revision History

Updates between document versions are cumulative. Therefore, the latest document version contains all updates made to previous versions.

Doc Version	Product	Release Data	Details
V1.0	H7710 V62 DTU	2017.09.05	First Release

1 Overview

This document shows how the SMS function works of the Hongdian DTU device. Hongdian DTU (Data Transfer Unit) is a serial to modem device, which transfer the serial date to TCP/IP data. H7710 DTU support 3G/4G communication, SMS control and etc.

2 Description

2.1 Attention

1. The test suggests the tools as below:

🔟 m2mtoolsbox.exe

http://www.scom32EN.exe

Wherein, the "m2mtoolsbox" is also called the "DTU Tool" in this document. And the "sscom" is serial port tool, similar to "Hyperterminal", "SecureCRT", and etc.

2. Double serial DTU and single serial port DTU use different methods, please pay attention to your DTU is a single serial version or double serial version at first.

Single serial version:

COM port baud rate of 57600, you can connect DTU Tool for configuration parameters, or you can also use the SSCOM serial debugging tool to display debugging logs and send data.

Dual serial version:

One of the COM port baud rate is 57600, you can let the DTU Tool connected to the configuration parameters, but also allows the SSCOM serial debugger to connect to send and receive data.

Another COM port baud rate of 115200, can not let DTU Tool connected, you can let SSCOM serial debugging tool connected to display the debug log.

When your DTU is a dual serial version, it is recommended that you use two serial ports to connect to the computer for debugging, and 115200 of the COM ports are dedicated to printing logs.

As an ordinary user, you can check whether the DTU is a single serial port:

After your DTU device connected with PC properly. Open SSCOM, use 57600 COM, restart DTU (power off and power up), wait for one minute. SSCOM can display logs as follows, then the DTU

	SSCOM3.2 (Author: NieXiaoMeng . http://www.mcu51.com, Email: n
	[17:16:15]modem==>>10 >>(+CCLK: "17/05/27,13:57:27+32"
	DK D
	[13:57:00]time synchronization success [13:57:00]当前信号值:26 [13:57:00]14C:0+2541
	[13:57:00]CCI:0x6bbf40b [13:57:01]SMS>write (AT+CMGL=4) , ret = 10
	LI3:57:UIJsms>>read modem data [DK]
	[13:57:01]len=6 [13:57:01]at_flag = none, flush buffer [13:57:54]Sreed2:3
5	[13:57:54]switch to at status
	OpenFile FileNm SendFile SaveDa
	ComNum COM19 💌 🛞 CloseCom Help WWW.MCC
	BaudRa 57600 □ DTR □ RTS ▲PCB打样那家强? 当 嘉立创PCB打样-SMT则
1	Jatabijo Send eve 3000 1187 1118 吉加助理粱雁嬉的00

2.2 SMS Operation

Single serial and double serial DTU in function configuration is consistent, the following provide SMS function configuration reference.

1. When DTU is connected to the PC, open m2m tool box(DTU Tool), select the correct COM port and baud rate, as below.

COM 38 Baud rate 57600



When connecting OK, the log of the DTU Tool will show as below

[11:21:22] Getting parameter from device... [11:21:22] Get parameter successfully.

2. Click More->Login , input "admin" as default password to login the tool.

DTU Tool COM38-57600 Parameters Upgrade	Opened		₩ ₹ _ ×
Common System Cellular	r RTU SMS	Running Channel 1	Channel 2 Channel 3 Channel 4 Platform Inquire Setup More
Parameter Name	Para	meter Value	Parameter Note
🔲 DTV ID	13912345678		DTV ID[length <= 32, string.Starting with num, '+' or letter, other b 📥 SetupAll
📃 debug info	INFO		output debug info to serial port [value: OFF, INFO, DEBUG. ERR, WARN
🔲 IP channel online mode	AUTO		IP channel online mode[value: AUTO, WAKE, CTRL]
🔲 IP channel awake mode	SMS+CALL+DATA		IP channel awake mode[combination from 3 options: SMS, CALL, DATA]
DNS address	0.0.0.0		DNS address, 0. 0. 0. 0 means no specify SetupCommon
📃 offline time	0		offline time[integer,0~65535 seconds]
offline mode	IDLE		offline mode: IDLE then offline, TIMING offline
📃 min dialing signal leve	5		do not dial if signal level lower than this value[integer 1~20] 🗏 🛛 🔳
config password	admin		config password[1 <= length <= 6, string]
reconnect times	5		reconnect times with the DSC[integer 1~5]

3. For SMS function and testing, the configurations are as below.

Select "SMS" as the protocol to DSC1, and input "Channel service number" which is for receiving the message. Note: The "Channel service number" should be input the prefix of international telephone code.Such as China is +86, Singapore is +65.

DTU Tool COM38-57600 Parameters Upgrade	Opened			₹ _
Common System Cellula	r RTV SMS Runni:	ng Channel 1	Channel 2 Channel 3 Channel 4 Platform Inquire Setup	Mo
Parameter Name	Parameter	alue	Parameter Note	
protocol to DSC 1	SMS		protocol to DSC[VDP, TCP, VDP+DDP, TCP+DDP, SMS, TCP_SER]	SetupAll
DSC IP address 1	121. 37. 24. 189		DSC IP address	Partort
DSC port 1	52117		DSC port[1~65535]	nescart
DSC domain 1	mdtu. com		DSC domain[length <= 64 bits string]	Restore
🔲 DTV local port 1	4002		DTV local port[integer 0-65535]	SetupCommo
📃 heart beat packet inter	40		heart beat packet interval(seconds)[integer 0 or 5 $^{\sim}65535$, 0 means no ł	-
📃 define register packet	1111cc		define register packet [must be even bits, letters or numbers, not mor	Import
📃 define heart beat packe	•		define heart beat packet[must be even bits, letters or numbers, not mc	Export
📃 Enable loopback test mo	DIS		Enable/disable loopback test mode [value: DIS, EN]	
📃 Data flow control flag	DSCUART		Data flow control mode[NONE, DSC, UART, DSCUART]	Logout
🔲 channel service number	17080696256		channel service number [multiple number divided by ", ", each number le	

4. One more thing, we shall select "UCS2" in "SMS->encode mode".Please be sure to select it for the first time.

	DTU Tool COM38-57600 Opened					
n						
	Parameters Upgrade					
e	Common System Cellular RTV	SMS Running Channel 1 Cha	nnel 2 Channel 3			
	Parameter Name	Parameter Value				
	SMS center number SMS center number[mu					
	encode mode UCS2	e	ncode mode[7bit, 8b			

5. Besides, here we select "Debug" in "Running ->debug info" for more details in the testing.

DTU Tool COM38-57600 Parameters Upgrade	Opened		♥ ♥ _ ×
Common System Cellula	r RTU SMS Runa	ning Channel 1 C	Channel 2 Channel 3 Channel 4 Platform Inquire Setup More
📃 🛛 Parameter Name	Paramete	r Value	Parameter Note
DTV ID	13912345678		DTV ID[length <= 32, string.Starting with num,'+'or letter, other bits can be setted as
🔽 debug info	DEBUG		output debug info to serial port [value: OFF, INFO, DEBUG. ERR, WARN suggest to be off]
🔲 IP channel online mode	AUTO		IP channel online mode[value: AUTO, WAKE,CTRL]
🔲 IP channel awake mode	SMS+CALL+DATA		IP channel awake mode[combination from 3 options: SMS, CALL, DATA]
DNS address	0.0.0.0		DNS address, 0. 0. 0. 0 means no specify
🔲 offline time	0		offline time[integer,0~65535 seconds]
🔲 offline mode	IDLE		offline mode: IDLE then offline, TIMING offline
🔲 min dialing signal lev	ei 5		do not dial if signal level lower than this value[integer 1~20]
🔲 config password	admin		config password[1<=length<=8, string]
🔲 reconnect times	5		reconnect times with the DSC[integer 1~5]
🔲 reconnect interval	60		reconnect interval[integer,0~65535 seconds, 0 means no reconnect until awake]
running mode	MUL		DTV channel running mode, MVL means multiple channels, MVLB means multiple backup
DSC downstream flow de	t 10		[ranze: 0~60 minutes. O means no downstream flow detection. >0 means no DSC downstream

6. Click "Setup", then "More ->Restart " to save and take effect.

7. Then let's turn to the SSCOM tool for function testing.

DTU Τ	001 COM	38-57600	Closed				
-							
Param	neters	Upgrade					
Common	System	Cellular	RTU	SMS	Running	Channel	1 C
	Paramatar	Nome		Por	omotor Vola		
i 🖹 ssco	M3.2 (Aut	hor: NieXia	oMeng .	http://w			
hello							
+CREG: 1	, FFFE, 1E7	C7A7					
OpenFil	e FileNm		4				
ComNum	COM38 💌) <u>c</u> 1	oseCom	Hel			
BaudRa	57600 💌	DTR	E F	RTS			
DataBi	B 🔻	Send	eve 500	U ms/			

Please close the COM port in DTU Tool, and open the SSCOM tool

8. Wait about 1 minutes, SSCOM tool will print log out, if not, please give DTU restart. (but if it's a double serial DTU, connect and select the 115200 COM port to print the log)

After the log is printed, send the data at the SSCOM tool 57600 COM port

OpenFile FileNm		SendFile SaveData Clear
ComNum COM38 💌	CloseCom He	ир WWW. MCU51 .COM
BaudRa <mark>57600 ▼</mark> DataBi 8 ▼ StopBi 1 ▼ VerifylNone ▼	DTR RTS Send eve 5000 ms SendHEX SendNe Data input: SEND	▲PCB打样那家强?当然就是嘉立创 嘉立创PCB打样-SMT贴片-元器件商城 请加助理粱雁婷的QQ:800058315(不 ▲品牌推荐:WiFi/Gprs/GPS【安信司 【点这里升级为SSCOM5.13版】可在
FlowCon None 💌	hello SMS	
vww.mcu51.con S:57	7 R:196	COM38 opened 57600bps 8 CTS=0 DSR

Check the SSCOM print log to indicate the success of the send (or to remember the SSCOM print log, where the single serial DTU is displayed at 57600 COM, and the dual serial DTU is displayed at 115200 COM)

9. Finally, you can see if the phone has received text messages.

2.3 DTU SMS remote config

DTU parameter	Description
ір	DSC ip
port	DSC port
domain	DSC domain
mode	DSC communication mode
apn	GPRS access point name
user	GPRS username
pwd	GPRS password
code	Service code
id	DTU identifier

1. SMS remote config DTU parameter

2. SMS format content reboot DTU --- reset config DSC ip --- set:ip1=210.75.17.180 config DSC port --- set:port1=30900 config DSC domain --- set:domain1=www.mdtu.com config DSC communication mode --- set:mode1=tcp config apn --- set:apn=cmnet config user --- set:user=cmnet config pwd --- set:pwd=cmnet config code --- set:code=*99# config id --- set:id=123000

Or you can make one SMS to config DTU these parameters as shown below set:ip1=210.75.17.180;port1=30900,domain1=www.mdtu.com,mode1=tcp,apn=cmnet, user=cmnet,pwd=cmnet,code=*99#,id=123000

Please note ip1 is for channel1, so ip2 is for channel2...

After SMS is sent, DTU will reply these results: DTU SMS remote config success: **DTU set param success** DTU SMS remote config failure: **DTU set param failed**









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