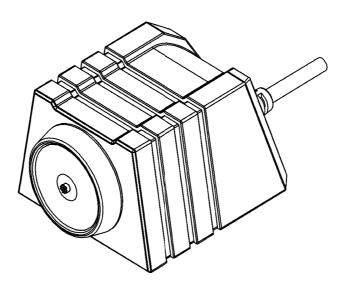
TMR901 Series



Touch Memory Reader User's Manual

GIGA-TMS

REGISTERED TO ISO 9001:2000

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Information

- 1. TMR901 series models:
 - TMR901U Touch Memory Button With USB HID Keyboard Interface Reader
 - TMR901R Touch Memory Button With RS232 Interface Reader
- 2. Standard package includes:
 - One TMR901 Touch Memory Button Reader
 - One demo software & user manual disk.
 - One accessories package.
- 3. Optional accessories (ordered separately)
 - iButton tag
- 4. FCC Compliance:

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interfaces, and (2) this device must accept any interference received, including interference that may cause undesired operation.

5. Trademarks:

The following are the trademarks of Dallas Semiconductor Corporation: Dallas Dallas Semiconductor Touch Memory Button Touch Memory

Introduction

TMR901 is a device, that lets you read the Identification Code (sometimes referred to as an ID-code or Registration number) of Dallas Semiconductor's Touch Memory Buttons. The device is extremely simple to use: all you need to do is press the Touch Memory Button against the touch probe, located on top of the TMR901's housing. ID-code will then be read out, verified against possible read errors and output into your PC via USB interface.

TMR901 reads out and outputs touch-button's ID-code. After the read, you can compare the data send to your PC with the data engraved on the touch button's housing. Fig.1 shows the Touch Memory Button with the ID-code engraved on it. After the read, computer will receive a full 16-digit string, shown below the button.



Fig1. Touch Memory Button from Dallas Semiconductor and it'sunique 16-character registration number.

Each of the 16 characters can be a digit from 0 to 9 or a capital letter from A to F. The ID-code of any Touch Memory Buttons is absolutely unique. Dallas Semiconductor guarantees that no two Touch Memory Buttons will ever be manufactured with the same ID-code. Thus, the Buttons can be used for various automated password entry and in other areas requiring a unique code.

In fact, the 16-character ID-code consists of 3 fields:

Family code	Dallas Semiconductor manufactures more than dozen different Touch Memory models. Each model has a unique family code.
Serial number	This serial number is unique for each and any member of the device family.
CRC	2 control characters, used to verify the correctness of the data.
All together	Unique 16-characters serial number

All Dallas Semiconductor's Touch Memories, regardless of their type and function have this unique registration number and utilize one single standard protocol for registration number readout. Therefore, you can use the TMR901 to read the registration number of any existing Touch Button.

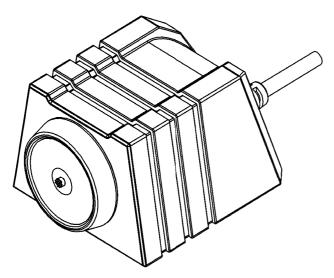
The TMR901 also allows the user to customize the ID-code output format by programming a Prefix and Postfix strings as well as several other options. For more details refer to the "Programming" section of this Manual.

Specification

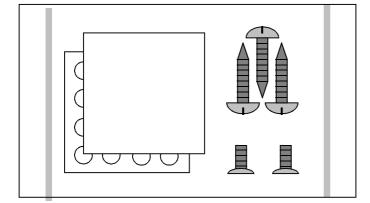
Reading capabilities	Read the ID code of all Touch Buttons conforming to Dallas Semiconductor 1-wire protocol. (*)
PC interface	USB HID Keyboard interface for TMR901U RS232 Interface for TMR901R
Power supply	5V through USB port for TMR901U 5V through RS232 cable DC Jack
Power consumption	90mA max
Certificate	CE、FCC
Dimension	45(L) x 40(W) x 28(H) mm
Weight	75g
Operating Temp	-10 to 60 Deg C
Storage Temp	-20 to 65 Deg C
Humidity	10 ~ 90%

• as described in Dallas semiconductor's "Book of Touch Memory Standards".

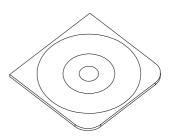
Accessory



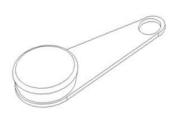
Main Unit (TMR901)



Accessories package

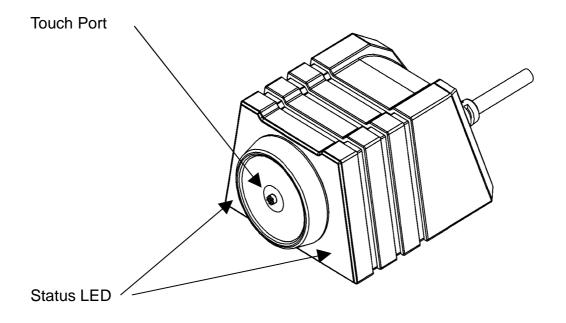


Software and manual (DISK5413)



iButton Tag (Option)

Technical & Operational Description



TMR901 Touch Memory Reader

Located on the upper cover is the touch port. To read the Touch Memory Button, just press it firmly against the touch port.

There is also a 3-color (red, green and orange) status LED. When TMR901 is powered up but no Touch Memory Button is being read, the green light is on. When normal Touch Memory Button read is in progress, the orange light is on.

Status

Status	Green LED	D Red LED Buzzer		Read iButton Tag
Power ON	ON	ON	ON*	X
Ready	OFF	ON	OFF	0
Touch the Tag to the touch port	ON	ON	ON*	0*
Remove the Tag from the touch port	ON	ON	ON*	O*
Firmware Management Mode	OFF	ON	OFF	Х

• means this function can control for iButton configure software.

Cable Pin Assignment & Connection

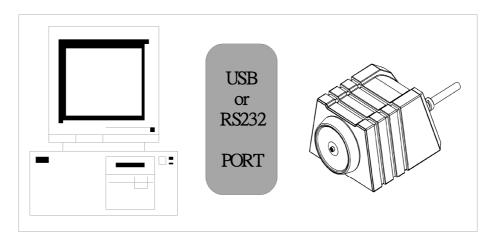
USB :

USB PIN Assignment	Discription
PIN1	VDD
PIN2	D -
PIN3	D+
PIN4	GND

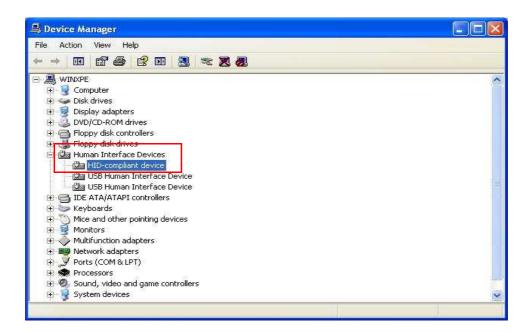
RS232 :

RS232 PIN Assignment	Discription
PIN2	ТХ
PIN3	RX
DC JACK+	VDD
PIN5 & DC JACK-	GND

Connect to PC



Plug the USB cable of TMR901 to any USB port of your PC. Then go to [Control Panel]\ [System]\ [Hardware]\ [Device Manager]\ [Human Interface Devices], and see if "HID-compliant device" appears. If "HID-compliant device" appears, it indicates TMR901U has been detected by your computer.



Software Operation

Connect TMR901 with PC through USB port , then run the demo software "iButton configure".(You can find the software in Disk5413)

Step 1: Main page

iButton Configure V1.0R6	
Product Name	
Firmware Serial Number	
Finnware Version Port	
4Duilt and	Open Save
IBULLON	✓ Cache Mode
	Write
CANFIAIRA	Read
Contlaure	Default
	Test Mode
	HID1 -
	Scan
	Exit

Step 2: Scan for HID Interface

Select "HID Port " and click "SCAN" to communicate TMR901 with PC. The software will detect TMR901 and related setting. If the communication is successful, it will show"Found TMR901" and product information as below :

🖮 iButton C	onfigure V1.0R6					
	Product Name TMR90					
	vare Serial Number — ROM-1 Firmware Version — V1.00F					
		ROM-T1204.V1.00R4(110727))				
	General	iButton			- 1	
				Oper	n	
Interface	HID Keyboard	•		~		
	Need to remove & plugi	n again when the Interface is char	nged	Save	e	
Language	英文 (美國)	•		🔽 Cache	Mode	
	Language is workable w	hen using keyboard interface		Writ	e	
Buzzer	On	•				
				Read	d	
				Defau	lt	
					Sele	ect HID Port
				Test		
				HID1	-	
13:33:46 - Load skir			^	Scar	n	
13:33:46 - Update It 13:33:46 - Update It						
15.55.40 - Optiale II	OILD 1-010 OIL			Exit	t	
L						

Scan for RS232 Interface

Select "COMx Port " and click "SCAN" to communicate TMR901 with PC. The software will detect TMR901 and related setting. If the communication is successful, it will show"Found TMR901" and product information as below :

ľ	🖮 iButton C	onfigure	V1.0	IR6				
		Product N rare Serial Nur Eissen a Ma	mber R					
		rimware ve	Port C	71.00R7(111021) XOM1				
l	Genera	ղ յ		RS232(UART)	iButton	\square	2 1111	
l							Open	
	T . F						Save	
	Interface	USB CDC			e Interface is changed			
ľ	L anguago	英文 (美國				-	Cache Mode	
	Language			ble when using keybo	pard interface		Write	
	Buzzer	On			•			
	102201	Jon					Read	
							Default	
							Tes Select	t COM Port
	17:12:06 - Load skir					^	COM1	
17:12:06 - Update Items Data 17:12:06 - Update Items Data OK							Scan	
	17:12:06 - Opdate It	ems Data OK				*	Exit	

Step 3: General Settings for HID Interface

Click "General" to set "Buzzer (On or Off)", "Language (Keyboard type)". If necessary. Then click "Write" to save the settings to TMR901U.

🖮 iButton Configure V1.0R6	
Product Name TMR901 Firmware Serial Number ROM-T1204 Firmware Version V1.00R4(110727) Port HID1(R_OM-T1204,V1.00R4(110727))	
General iButton	Open
Interface HID Keyboard Need to remove & plugin again when the Interface is change	ed Save
Language 英文 (美國)	Cache Mode
Language is workable when using keyboard interface	Write
Buzzer On	Read
	Default
	Test Mode
	HID1 -
13:33:46 - Load skin finish 13:33:46 - Update Items Data	Scan
13:33:46 - Update Items Data OK	Exit

General Settings for RS232(UART) Interface

Click "General" to set "Buzzer (On or Off)", "Language (Keyboard type)". If necessary. Then click "Write" to save the settings to TMR901R.

📾 iButton Configure V1.0R6	
Product Name TMR901 Firmware Serial Number ROM-T1204 Firmware Version V1.00R7(111021) Port COM1	
General RS232(UART) iButton	Open
Interface USB CDC(Serial Port)	Save
Need to remove & plugin again when the Interface is changed	🔽 Cache Mode
Language 英文 (美國) Language is workable when using keyboard interface	Write
Buzzer On 💽	Read
	Default
	Test Mode
	COM1 🔻
17:12:06 - Load skin finish 17:12:06 - Update Items Data	Scan
17:12:06 - Update Items Data OK	Exit

Click "RS232(UART)" to set "Baudrate"

📾 iButton Configure	: V1.0R6		
Product N Firmware Serial Nu Firmware Ve			
General	RS232(UART)	iButton	Open
Baudrate	19200 bps	-	Save
Parity	None	~	
Data bits	8 data bits	T	Cache Mode
Stop bits	1 stop bit	-	Write
Handshaking	None	~	Read
			Default
			Test Mode
			COM1 💌
17:12:06 - Load skin finish 17:12:06 - Update Items Data		<u>^</u>	Scan
17:12:06 - Update Items Data OK		·	Exit

Step 4: iButton Settings

Select "iButton" to set different iButton formats for data output after reading.

- a. Set the ID start / length of data information.
- b. Choose the Prefix / Postfix output data.
- c. Choose the Delimiter output parameter.
- d. Choose the iButton tag on remove output parameter..

The click "Write" to save the settings to TMR901.

📾 iButton Configure V1	.0R6		
Port	ROM-T1204 V1.00R4(110727) HID1(ROM-T1204,V1.00R4(110727))		
General	iButton		Open
ID Start 1 ID Length 16	• •		Save
Prefix		+ <i>2</i>	🔽 Cache Mode
Suffix (Postfix)		← 🥒	Write
Delimiter CR+LF	•		Read
Оп Кетоуе		+ 0	Default
			Test Mode
			HID1 🔽
15:20:53 - Load skin finish 15:20:53 - Update Items Data			Scan
15:20:54 - Update Items Data OK			Exit

- **Save :** Click "Save" to save all settings as *.cfg file.
- **Open :** If you want to download the settings form the file, click "Open" to open the file and click "Write" to download the settings.
- **Read :** If you want to know the setting of TMR901, click "Read" and download the file to show it on display area.
- Write : If you want to set new settings , click "Writer" to download the settings for TMR901.
- **Default :** Click "Default" to reset TMR901 and get default setting if necessary. Default values are as below (red –lined area).

Test Mode : Click "Test Mode" to into the test function window.

Cache Mode : Cache TMR901 settings for iButton configure software.

Exit : Click "Exit" to close iButton configure software.

Default Settings

Buzzer Language ID format iButton iButton Sound ID Start ID Length Prefix Postfix OnRemove Package Delimiter Check Mode Baudrate On USA Family + ID + CRC Enable Enable 1 16 Empty Empty Empty Empty Data+CR+LF Check without FS&FE 9600 , N , 8 , 1 for RS232(UART) Interface

Data Format

Pack FS
iButton Present / Release Sentinel
iButton Prefix
iButton Data
iButton Suffix
Delimiter
Pack FE

Switching the interface type (USB model only!) between USB HID (Keyboard Emulation) Interface & USB CDC (Virtual Serial RS232) Interface

The default interface of TMR901U is USB HID (Human Interface Device). It also allows you to use iButton Configure software to set the interface of TMR901U to USB CDC (Communications Device Class also known as "Serial RS232"). Please refer to the following steps. Note : Please install USB-CDC (USB to RS232) driver in your PC in advance. For installation details, please refer it to the file "USB-CDC Driver Installation TM970131" inside the disk.

STEP 1. Select " Interface ".

iButton Configure V1.0R6	
Product Name TMR901 Firmware Serial Number ROM-T1204 Firmware Version V1.00R4(110727) Port HID1(ROM-T1204,V1.00R4(1107	27))
General iBut	on Open
Interface HID Keyboard Need to remove & plugin again when the Interfa	ce is changed
Language 英文(美國)	▼ Cache Mode
Language is workable when using keyboard inte Buzzer On	write
	Read
	Default
	Test Mode
	HID1 V
13:33:46 - Loed skin finish 13:33:46 - Update Items Data	Scan
13:33:46 - Update Items Data OK	Exit

STEP 2. Choose "USB CDC(Serial Port)" and then click " write " to save the settings to TMR901U.

📾 iButton Configure V1.0R6	
Product Name TMR901 Firmware Serial Number ROM-T1204 Firmware Version V1.00R3(110630) Port HID1(ROM-T1204,V1.00R3(110630))	
General iButton	Open
Interface USB CDC(Serial Port)	Save
Language 英文(美國)	🔽 Cache Mode
Language is workable when using keyboard interface Buzzer On	Write
	Read
	Default
	Test Mode
	HID1 💌
13:31:42 - Load skin finish 13:31:42 - Update Items Data	Scan
13:31:43 - Update Items Data OK	Exit

STEP 3. Reboot TMR901U and restart iButton Configure software.

📾 i Bu	utton Configure	V1.0R6			
	Product N	lame TMR901U	TMR901U	▼ .	
		mber ROM-T1204			
		rsion V1.00R7(111021) Port COM12			
	General	RS232(UART)	iButton		
			,	Open	
	Baudrate	19200 bps	•	~~~~~	1
	Parity	None	~	Save	
	Data bits	8 data bits	*	Cache Mode	2
	Stop bits	1 stop bit	_	Write	
	Handshaking	None	*		1
				Read	
				Default	
				<u> </u>	
				Test Mode	
12:14:08	8 - Load skin finish			COM12	1
	8 - Update Items Data			Scan	
12:14:08	8 - Update Items Data OK			Exit	

STEP 4. Set " Baudrate "(default is 9600).

STEP 5. Set Output format and then click "Write " to save the settings to TMR901U .

📾 iButton Configure V	1.0R6		
Product Name Firmware Serial Number Firmware Version Por	ROM-T1204 V1.00R7(111021)	TMR901U	<u> </u>
General	RS232(UART)	iButton	Open
ID Start 1 ID Length 16	•		Save
Prefix			🔽 Cache Mode
Suffix (Postfix)			Write
Delimiter CR+I	.F 💌		Read
On Remove			Default
			Test Mode
			COM12 💌
12:14:08 - Load skin finish 12:14:08 - Update Items Data			Scan
12:14:08 - Update Items Data OK			Exit

STEP 6. Click "Exit " to close the software.

Installation

