

HM-TR Series UHF Wireless Transparent Data Transceiver

General

The HM-TR series UHF wireless transparent data transceiver, developed by Hope Microelectronics Co. Ltd, is designed for applications that need wireless data transmission. It features high data rate, longer transmission distance, programmable frequencies, configurable transmission protocol is self controlled and completely transparent to users. The module can be embedded to your existing design so that low cost high performance wireless data communication can be utilized easily.

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Features

1. FSK (Frequency Shift Keying) modulation, high interference immunity
2. 2-way half-duplex communication
3. 315/433/868/915MHz ISM band, globally license free.
4. Programmable frequencies, allowing be used in FDMA (Frequency Division Multiple Access) applications
5. Self controlled RF to UART protocol translation, reliable and easy to use.
6. Configurable UART format, with data rate from 300~19200bps
7. Using ENABLE pin to control duty-cycle to satisfy different application requirements
8. High performance, long transmission range. >300m in open area
9. Standard UART interface, with TTL or RS232 logic level available
10. Compact size, standard 0.1" pinch SIP connector and SMA antenna socket
11. No RF tuning needed in application

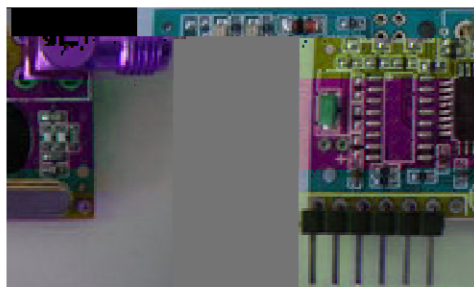
Application Areas

Remote control
Wireless metering
Access control
Identity discrimination
Data collection
IT home appliances
Smart house products
Data store and forward repeater

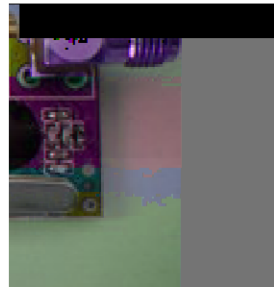
1. Remote control, remote measurement system
2. Wireless metering
3. Access control
4. Identity discrimination
5. Data collection
6. IT home appliances
7. Smart house products
8. Data store and forward repeater

Overview and Pin assignment

HM-TR/232



HM-TR/TTL



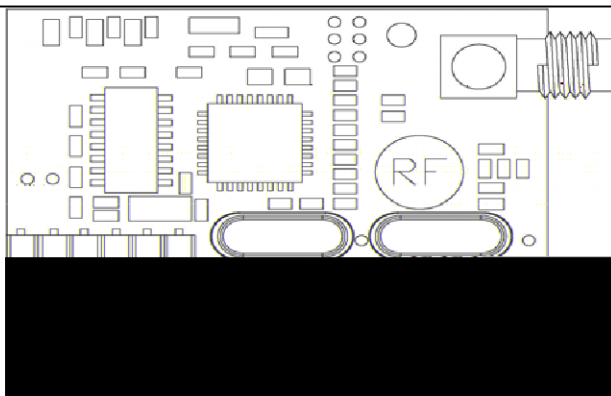
'TTL' version

Note: The '232' version has a on-board MAX232CSE converter, which is not fitted on the

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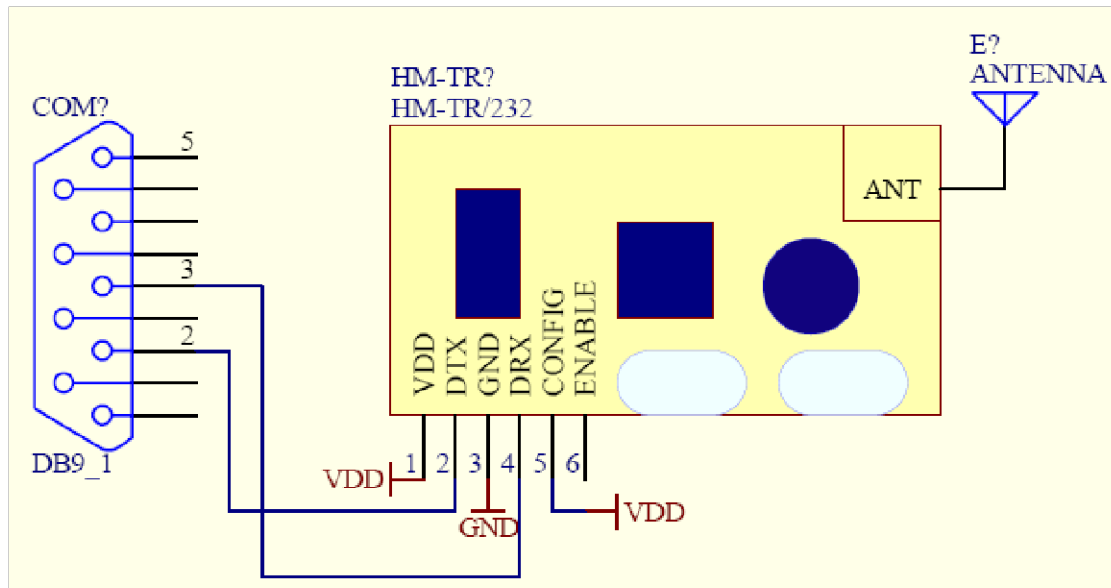


Pin	name	note
1	VDD	Power supply
2	DTX	Data output from module
3	GND	Ground
4	DRX	Data input to module
5	CONFIG	If this pin is high at power on, module will enter configure mode, while it communicates if set low
6	ENABLE	If this pin is low in normal mode, the module will enter sleep mode immediately. Assert high will awaken

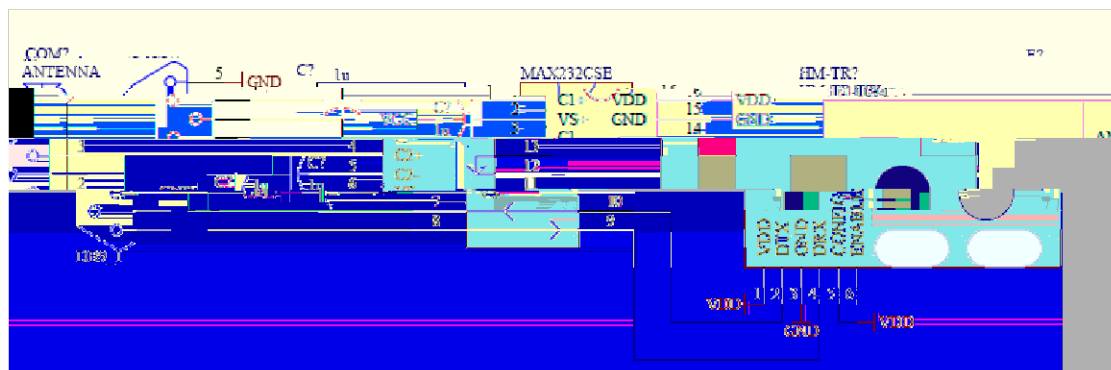
Parameters

pamameter	condition	min	typical	max	
Power supply		4.5	5.0	5.0	V
Operate temperature		-35	25	80	°C
Operate frequency	HM-TR433	430.24	434	439.75	MHz
	HM-TR868	860.48	869	879.51	
	HM-TR915	900.72	915	929.27	
Max output power	HM-TR433	3	5		dBm
	HM-TR868	-2	0		
	HM-TR915	-2	0		
Transmitting power		Pmax-21	Pmax	Pmax	dBm
Receive sensitivity	HM-TR433		-105	-100	dBm
	HM-TR868		-102	-95	
	HM-TR915		-102	-95	
TX current	HM-TR433			26	mA
	HM-TR868			28.5	
	HM-TR915			30	
RX current	HM-TR433			15	mA
	HM-TR868			16	
	HM-TR915			17	

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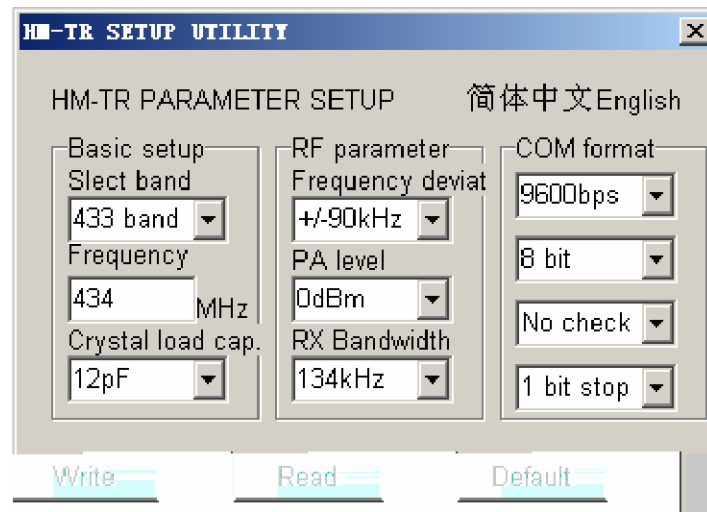
Configure mode connection (HM-TR/232)



Configure mode connection (HM-TR/TTL)

In configure mode, the module work parameters can be setup via the HM-TR setup utility, with the communication format between module and computer fixed at: 9600, 8, N, 1. see below:

HM-TR SETUP UTILITY



“Read” button: Read the parameters the module currently use;

“Write” button: Write new configuration to module;

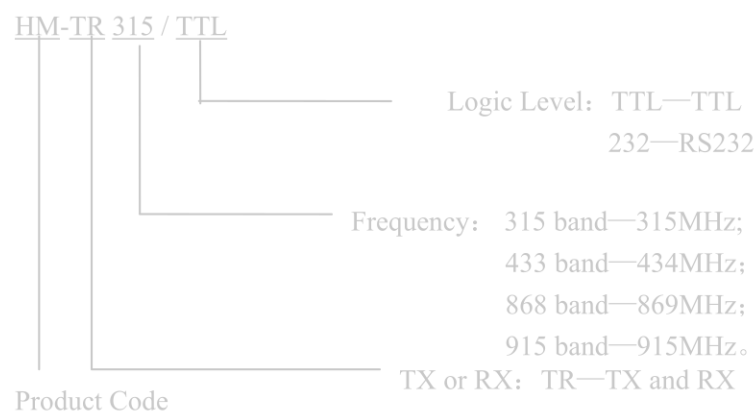
“Default” button: Recover module parameters as default value

Ordering Information

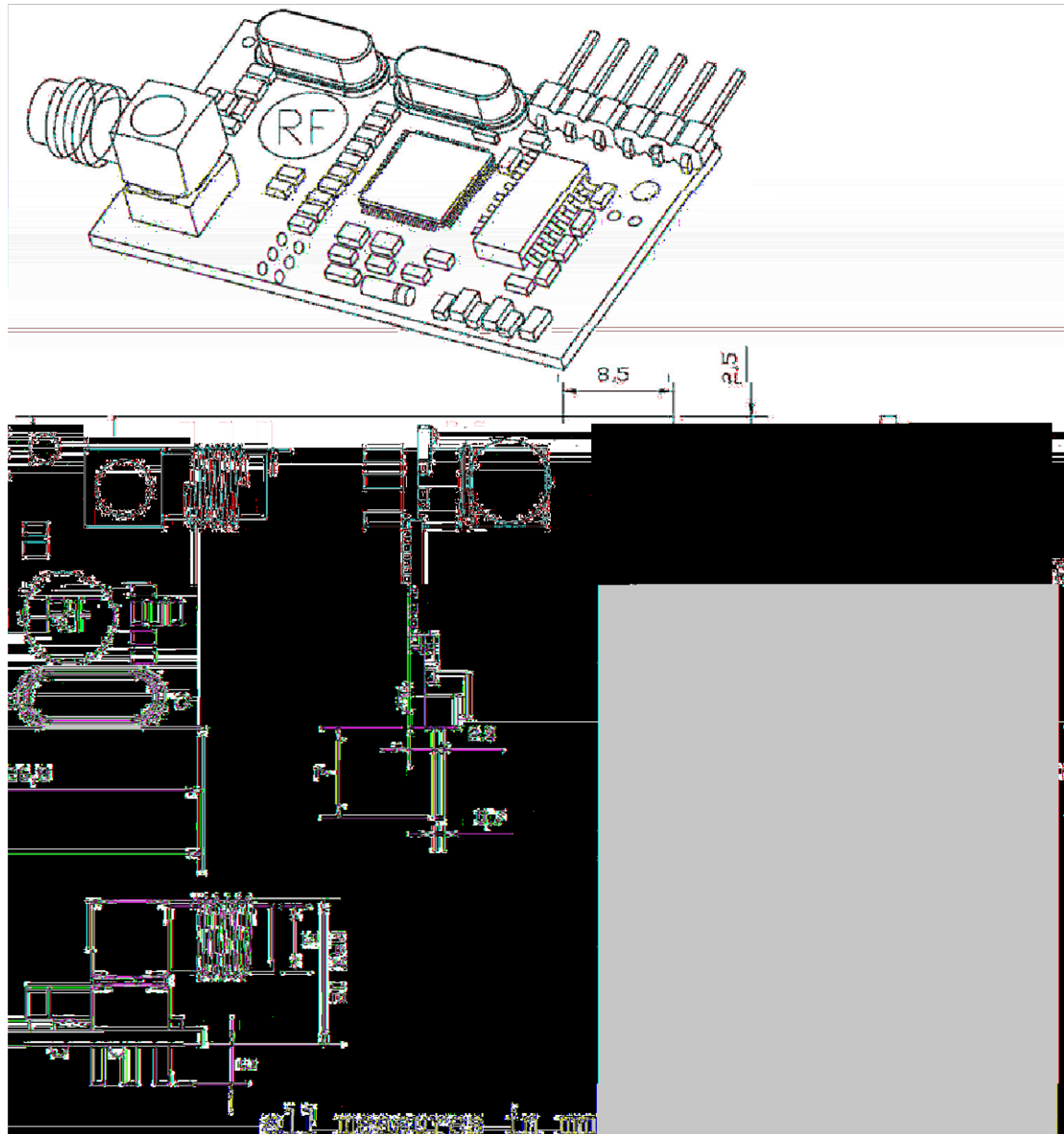
Model	Logic Level
HM-TRxxx/TTL	TTL
HM-TRxxx/232	RS232

~~232~~ versions usually are used in PC or equivalent, **TTL** version suited for simple 5V MCU system.

Module Naming Rule



Mechanical outline:



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