Mars740-mini is a GPS Mouse receiver build-in well-known SiRF StarIV GPS chipset. **Mars740-mini** provides customer high position, velocity and time accuracy performances as well as high sensitivity and tracking capabilities. Customers benefit from the strength of both companies.

Thanks to the low power consumption technology, the GPS-Mouse receiver is ideal for many portable applications such as PDA, Tablet PC, smart phone etc.

Features

- 48 channel SiRF StarIV GSD4e positioning engine.
- Ultra high sensitivity to -163 dBm.
- SBAS (WAAS, MSAS, and EGNOS) support.
- Supports UART and RS232 interface.
- LED indicate location fix.
- Ultra low power consumption.
- Ultra miniature 29 x 29 mm dimension
- Operating temperature range: -40 to 85°C
- RoHS compliant (lead-free)
- Water proof (IPX6)

Applications

- Automotive
- Personal/Portable Navigation (PDA)
- Geographic Surveying
- Sports and Recreation
- Marine Navigation
- Fleet ManagementAVL and Location-Based Services

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היפר-טק מערכות

www.modulestek.com
興聯科技股份有限公司
20F-8, No.107, Sec. 1, Jhongshan Rd.,
Sinjhuang City, Taipei County 242, Taiwan
TEL: +886-2-8522-7628 FAX: +886-2-8522-7784

Specifications

General		Accuracy	
GPS Chip	SiRF Star IV GSD4e chipset	Position	
Frequency	L1, 1575.42MHz	3 meters CEP 2.5 meters CEP, DGPS corrected	
C/A Code	1.023MHz chip rate		
Channels	48 CH	Time	1ms synchronized to GPS time
		Datum	
Sensitivity		WGS-84	
To – 163Bm Tracking, Superior Urban Canyon Performance		**Dynamic Conditions**	
		Altitude	<18,000 m (60,000 feet)
Acquisition Rate		Velocity	<515 m/sec (1,000 knots)
Cold Start	32 sec, average	Acceleration	<4g
Cold start (CGEE*)	15 sec, average	Motional Jerk	<20 m/sec
Hot Start	1 sec, average	**GPS Protocol**	
Reacquisition	< 1sec, average	Default: NMEA-0183 v3.0, Band rate 9600 bps(default), 4800 Data bit : 8, stop bit : 1	
Power			
Operation Power	3.3V-5.0 VDC		
Current Consumption	45mA (Tracking)	**Device Size**	
	42mA (Navigation)	41.0x36.0x15.0 mm	
Environmental			
Operating Temperature	- 40 ℃ to + 85 ℃	**Water Proof**	
Relative Humidity	5% to 95% non-condensing	IPX6	

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Hardware Interface

The Mars740-mini includes an antenna in a unique style waterproof gadget. We can manufacture variable connector cable to suit your demands. Like USB, PHR(JST), GHR(JST), Molex, PS2, RJ11, D-Sub 9..etc. You provide me specification, we manufacture the cable and connector.

Mars740-mini Standard PIN OUT

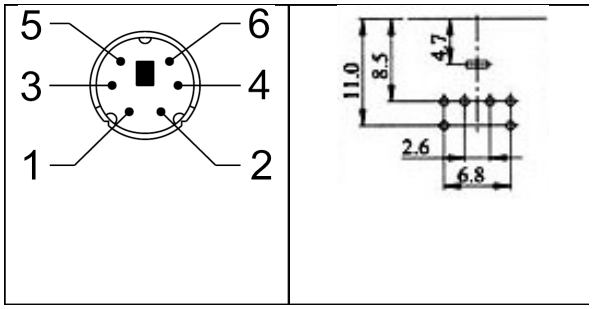
- Pin Assignment of standard PS2 male Din Jack

Mars700-mini-T

Pin	Signal
1	GND
2	VCC 5.0V
3	N.C.
4	TTL_RX
5	N.C.
6	TTL_TX

Mars700-mini-R

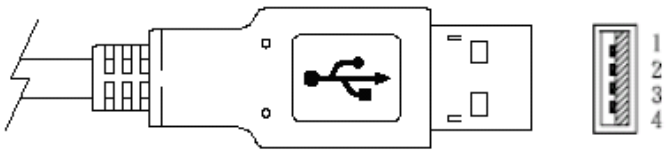
Pin	Signal
1	GND
2	VCC 5.0V
3	RS-232_Rx
4	N.C.
5	RS-232_Tx
6	N.C.



- Pin Assignment of A Type USB connector

Mars700-mini-U

Pin	Signal
1	+5.0 VDC
2	D−
3	D+
4	GND



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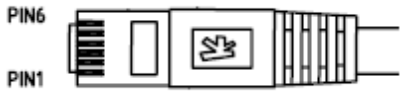
- Pin Assignment of RJ11 connector

Mars740-mini-J

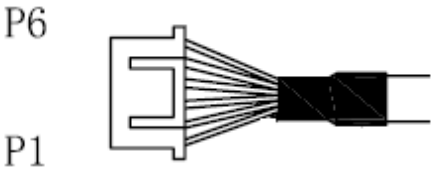
Pin	Signal
PIN1	VCC 5.0V
PIN2	RX (RS232)
PIN3	TX (RS232)
PIN4	GND
PIN5	N.C.
PIN6	N.C.



- Pin Assignment of PHR 6 PIN connector(JST PH Connector pitch 2.0mm)

Mars740-mini-H

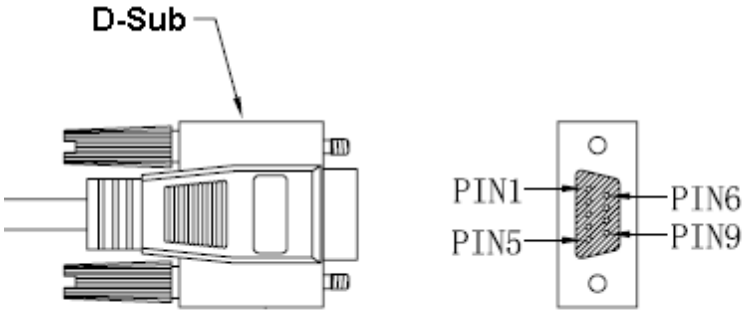
Pin	Signal
PIN1	VCC 5.0V
PIN2	RX (RS232)
PIN3	TX (RS232)
PIN4	GND
PIN5	N.C.
PIN6	N.C.



- Pin Assignment of D-SUB 9 PIN Female connector

Mars700-mini-D

Pin	Signal
PIN1	N.C.
PIN2	TTL-TX
PIN3	TTL-RX
PIN4	N.C.
PIN5	GND
PIN6	VCC 5.0V
PIN7	N.C.
PIN8	N.C.
PIN9	N.C.



NMEA output message

NMEA-0183 V3.0 Output Messages

NMEA Sentence	Description
GGA **(default)**	Global Positioning System Fixed Data
GLL	Geographic Position - Latitude/Longitude
GSA **(default)**	GNSS DOP and Active Satellites
GSV **(default)**	GNSS Satellites in View
RMC **(default)**	Recommended Minimum Specific GNSS data
VTG	Course Over Ground and Ground Speed
ZDA	Time and Date

The detail information please refers to SSFXXXX series GPS module NMEA protocol reference manual.

Ordering code

Mars740-mini- X X

a b

Defautl ordering code: Mars740-mini-T2

a. cable type:

T: PS2 TTL ; **R**: PS2 RS232 ; **U**: USB ;
J: RJ11 ; **H**: PHR6 ; **D**: DB9

b. Baud Rate setting:

1 : 4800 bps; **2** : 9600 bps; **3** : 19200 bps;
4 : 38400 bps; **5** : 57600 bps; **6** : 115200 bps