

Mars680-mini is a GPS Mouse receiver build-in well-known U1box 8 GPS chipset. **Mars680-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, automotive etc.



Features

- 72 channel Ublox M8 positioning engine.
- Ultra high sensitivity to -167 dBm.
- GPS L1C/A, SBAS L1C/A, QZSS L1C/A and Galileo E1B/support.
- Supports GLONASS and is ready for Galileo.
- Support BeiDou B1
- Supports UART, USB and RS232 interface.
- Up to 10 Hz update rate.
- LED indicate location fix.
- Ultra low power consumption.<10mW required for TricklePower™ mode
- 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

רח' אודם 14, ת.ד. 7042 פ"ת ▪ טל: 03-9243352 ▪ פקס: 03-9243358
www.hypertech.co.il ▪ sales@hypertech.co.il



Specifications

General		Accuracy	
GPS Chip	Ublox M8	Position	
Frequency	L1, 1575.42MHz	2.5 meters Autonomous 2 meters SBAS	
C/A Code	1.023MHz chip rate		
Channels	72 CH	Time	1ms synchronized to GPS time
		Datum	
Sensitivity		WGS-84	
To – 167Bm Tracking, Superior Urban Canyon Performance		Dynamic Conditions	
		Altitude	<50,000 m
Acquisition Rate		Velocity	<500 m/sec (1,000 knots)
Cold Start	26 sec, average	Acceleration	<4g
Cold start (CGEE*)	25 sec, average		
Hot Start	1 sec, average	GPS Protocol	
Aided Start	2sec, average	Default: NMEA-0183 2.3 compatible with 3.0 Band rate 9600 bps(default), 4800	
Power			
Operation Power	3.3V-5.0 VDC		
Current Consumption	40mA (Tracking)	Device Size	
	37mA (Navigation)	41.0x36.0x15.0 mm	
Environmental			
Operating Temperature	- 40 °C to + 85 °C	Water Proof	
Relative Humidity	5% to 95% non-condensing	IPX6	

Hardware Interface

The Mars680-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.



Mars680-mini Standard PIN OUT

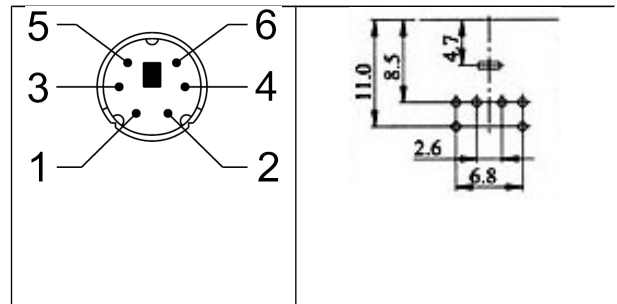
- Pin Assignment of standard PS2 male Din Jack

Mars680-mini-T

Mars680-mini-R

Pin	Signal
1	GND
2	VCC 5.0V
3	N.C.
4	TTL RX
5	N.C.
6	TTL TX

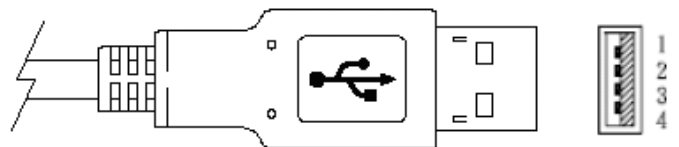
Pin	Signal
1	GND
2	VCC 5.0V
3	RS-232 Rx
4	N.C.
5	RS-232 Tx
6	N.C.



- Pin Assignment of A Type USB connector

Mars680-mini-U

Pin	Signal
1	+5.0 VDC
2	D-
3	D+
4	GND



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היפר-טק
מ ע ר כות

- Pin Assignment of RJ11 connector

Mars680-mini-J

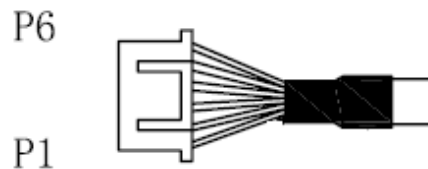
Pin	Signal
PIN1	VCC 5.0V
PIN2	RX (RS232)
PIN3	TX (RS232)
PIN4	GND
PIN5	N.C.
PIN6	N.C.



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

Mars680-mini-H

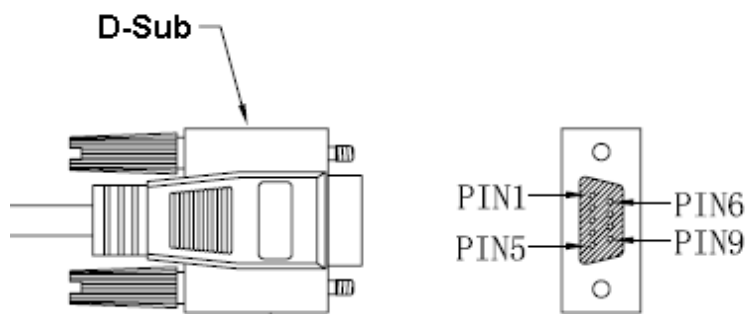
Pin	Signal
PIN1	VCC 5.0V
PIN2	RX (RS232)
PIN3	TX (RS232)
PIN4	GND
PIN5	N.C.
PIN6	N.C.



- Pin Assignment of D-SUB 9 PIN Female connector

Mars680-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

Ordering code

Mars680-mini- X X X

a b c

Default ordering code: Mars680-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

c. Type

G: GPS + Glonass

B: GPS + BeiDou

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