

# Marine GPS Receiver & Locator

## MODEL: GM65UL

Small size and ruggedness, demand of vehicle locating and marine navigation GPS Receiver that will sustain harsh environment.



GM65UL is a Mini Marine GPS receiver build-in well-known U-blox6 chipset. GM65UL 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

- u-blox 6 solution
- 50-channel GPS
- SBAS (WAAS, EGNOS, MSAS, GAGAN)
- GALILEO Ready
- A-GPS
- UART, USB interface supported
- 25.0 x 25.0 x 4.0 mm patch antenna
- Wire-to-board connecter
- RoHS compliant
- Water proof IP67

### Applications

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

## Technical Specifications

### 1. Electrical Characteristics

1.1 Chipset	u-Blox	ublox6
1.2 General	Frequency	L1 1575.42MHz GALILEO Open Service L1
	Channels, C/A code	50 channels, C/A code
1.3 Accuracy	Autonomous	2.5 meters
1.4 DGPS Accuracy	SBAS	2.0 meters
1.5 Acquisition Rate	Reacquisition	< 1 sec, typical
	Cold start	29 sec, typical
	Warm start	29 sec, typical
	Hot start	<1 sec, typical
1.6 Sensitivity	Tracking	-160dBm
	Acquisition/Reacquisition	-147dBm
1.7 Dynamic Condition	Altitude	50,000 meters max.
	Velocity	500 meters /sec max.
1.8 Power	Main Power	5.0 VDC +- 0.5%
	Supply current	
	Tracking	75 mA
	Acquisition	95 mA
1.9 Serial Port	Electrical interface	UART
	Protocols	
	NMEA-0183	8 data bits, no parity, 1 stop bits 4800 bps GSV,RMC,GSA,GGA,VTG,ZDA
	UBX (ublox proprietary)	57600 bps
	Baud Rate	4800/9600/19200/115200
<b>2. Environmental Characteristics</b>		
2.1 Temperature	Operating range	-40 °C to + 85 °C
2.2 Mechanical dimensions	L x W x H	60mm(Dia.) x 45mm(H)
	Weight:	65grams (w/o cable & connector).
2.3 Interface	I/O connector	UART RS232
2.4 CABLE	UL2464/26Awg -0.5M-PS2(M) or 5M-M12(F) or ----	
2.5 Base mounting	Bulkhead mount with 0.8 inch threaded wing nut (standard accessory) FB6 2.5mm SUS L-Mounting	
2.6 Water Proof	IP67	
2.7 Color:	Standard in ivory white, other colours available upon request.	

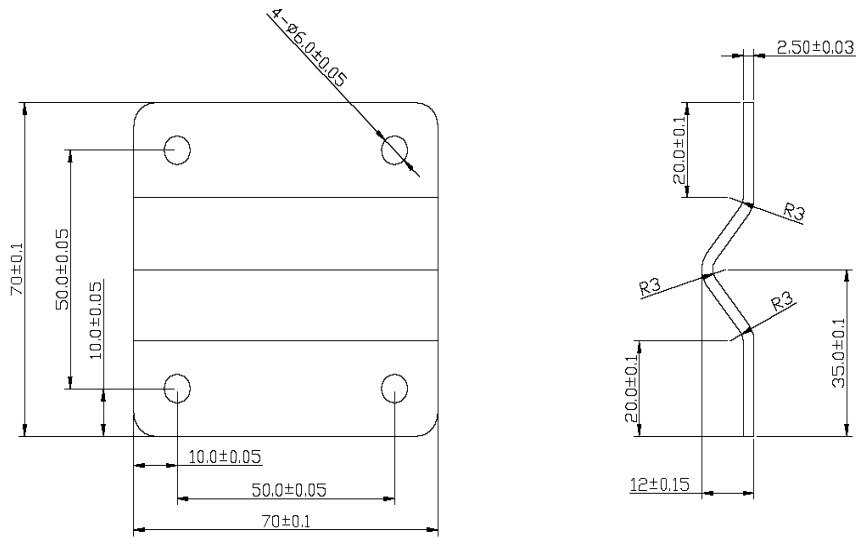
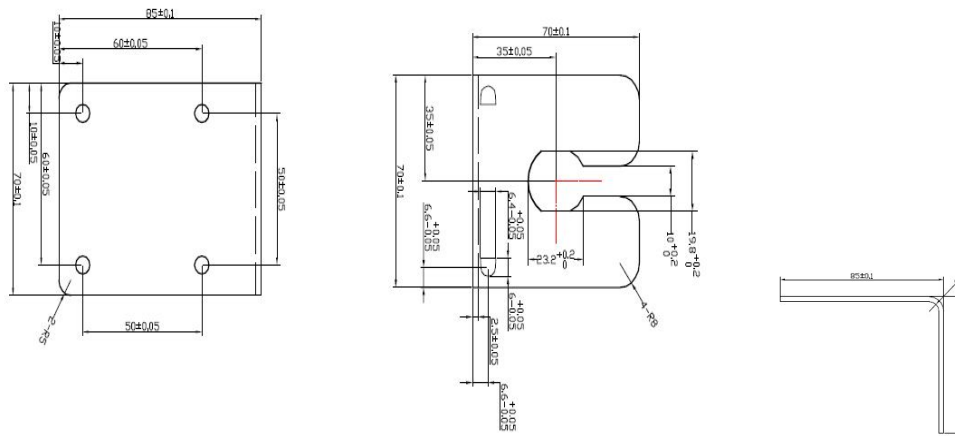
*All specifications are subject to change without notice*

## SUS L-Mounting

### Madel : FB-6



**Size :**



**Standard :**



**Optional Cable :**

**5M**



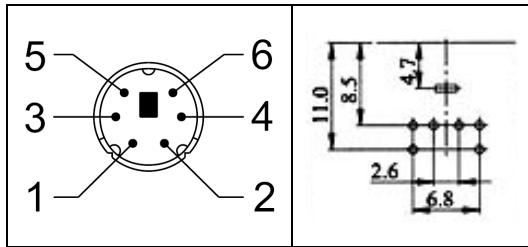
**10M**



**15M**



## Pin Assignment of standard PS2 male Din Jack



Pin	Signal
1	GND
2	+5V
3	N.C.( RS-232_Rx on demand)
4	TTL_RX
5	N.C.( RS-232_Tx on demand)
6	TTL_TX

## Optional RS232 Interface cable & Power cable :

**GM65A**



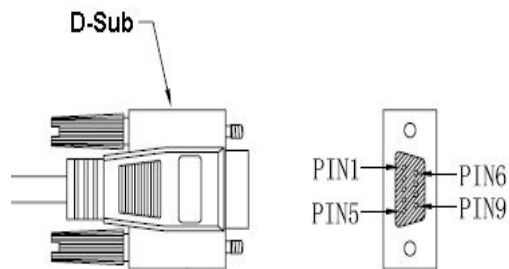
**GM65B**



**GM65C**



## Pin Assignment of D-SUB 9 PIN Female connector



<b>GM62A</b>			<b>GM62B</b>		<b>GM62C</b>
DB9(F) – RS232 & Power cable			OPEN – RS232 & Power cable		DB9
PIN1	N.C	VCC 12~40V to 5V	Red	Vcc	VCC 5V
PIN2	RS232-TX		Green	RS232-TX	RS232-TX
PIN3	RS232-RX		White or Blue	RS232-RX	RS232-RX
PIN4	N.C.		Yellow	TTL - TX	N.C.
PIN5	GND	GDN	Orange	TTL - RX	GND
PIN6	N.C.		Black	GND	N.C.
PIN7	N.C.		Shielded wire	GND	N.C.
PIN8	N.C.				N.C.
PIN9	N.C.				N.C.

## Output NMEA Messages

Table 3 NMEA-0183 V2.3 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 (default)	Course Over Ground and Ground Speed
ZDA (default)	Time and Date