

# Starwin uSat Flat-Panel Fixed Terminal FL60F-M Datasheet



## Description

The uSat terminal deploys cutting-edge flat array antenna system, which features flat shape and high gain. This is a completely new and novel antenna system designed and produced for a new generation of flat-type fully integrated satellite communication terminals. All components – antenna system, RF units, satellite router, WiFi devices and power supply are integrated into a flat compact terminal enclosure in subtle ways.

The uSat has completely changed the form of traditional VSAT terminals that normally uses the parabolic antenna systems for tens of years, providing users a new, unique satellite communication system that is both easy to deploy and operate. It aims to replace parabolic-shape antenna products that have been characterized by discrete type of installation, operation, debugging and maintenance.

**China Starwin Science & Technology Co., Ltd.**

Tel: +8629-88664381, E-mail: [sales@starwincom.com](mailto:sales@starwincom.com), <http://www.starwincom.com>

**Copyright © Starwin**

Due to fast, simple and easy deployment, the uSat flat fixed terminals are suitable for applications such as emergency services, disaster recovery, military, security, government and enterprise communication. This uSat terminals can be deployed within a very short time to achieve reliable data, voice and video transmission services in areas without terrestrial networks or in places where a temporary communication is required.

## Features:

- \* Plug and Play (AC, DC optional);
- \* All in one with flat panel, modem, BUC, LNB, WiFi, power supply (AC, DC optional);
- \* No installation cost, free of maintenance;
- \* Working for IOT and Broadband Access.


## Specification:

Antenna		
Model No.		FL60F-M
Antenna Type		Slotted waveguide array antenna
Equivalent to parabolic antenna size		0.6m
RF Performance		
Frequency Range	Tx	13.75~14.50GHz
	Rx	10.95~12.75GHz
Polarization		Linear Horizontal / Vertical
Rx Gain		≥35dBi
Tx Gain		≥36dBi
G/T		13dB/K
EIRP		43dBW (6W BUC)
First Sidelobe		≤ -15dB
Power And RF Performance		
AC Power Supply		85~264V AC
DC Supply Adapter		24V DC±5%, 120W (Optional)
Typical Satellite Modem <sup>1</sup>		Any Modem whose size is below 200mmx280mm
Typical BUC		3W / 6W / 8W / 16W
Typical LNB		PLL LNB 30K for TDMA systems PLL LNB 5K for SCPC systems
Power Consumption <sup>2</sup>	3W BUC	45W (Manual Searching Satellite)
		65W (Access Network)
	6W BUC	45W (Manual Searching Satellite)
		85W (Access Network)
	16W BUC	45W (Manual Searching Satellite)
		155W (Access Network)
Mechanical Performance		

**China Starwin Science & Technology Co., Ltd.**

Tel: +8629-88664381, E-mail: [sales@starwincom.com](mailto:sales@starwincom.com), <http://www.starwincom.com>

**Copyright © Starwin**

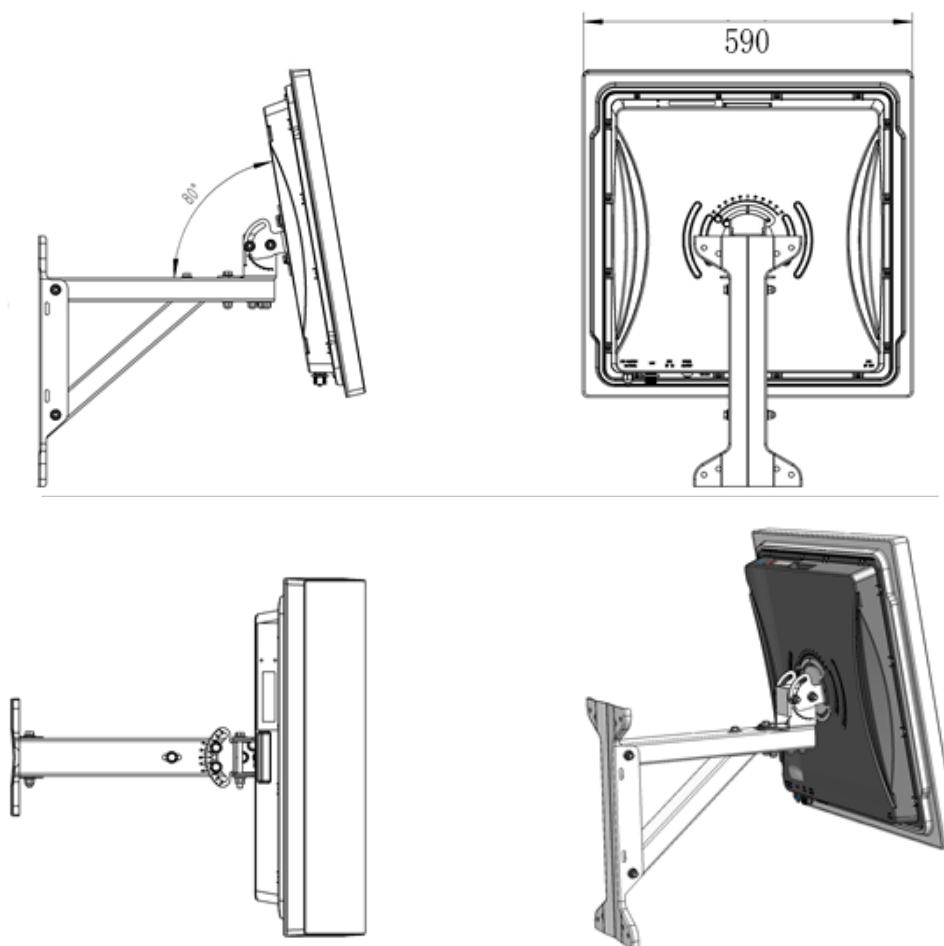
Satellite Acquisition	Manually pointing to satellite, level error<0.2°
Azimuth Range	±70°
Elevation Range	0°~ 90°
Polarization	±50°
Terminal Dimensions (Exclude mounting bracket)	L 23.23 × W 23.23 × H 3.74 in. L 590× W 590× H 95 mm
Terminal Weight (Exclude mounting bracket)	≤12Kg 26.5 lb. (Max)
<b>Environmental Performance</b>	
Operational Wind	20.5m/s (74km/h)
Operational Temperature	-25°C to +50°C
Ingress Protection	IP66
Humidity	0 ~ 95%
96h Salt Fog Test	GJB 150.11A-2009
Low Pressure (Altitude) Test	GJB 150.2A-2009
High / Low Temperature Test	GJB 150.3A-2009/GJB 150.4A-2009
Temperature Shock Test	GJB 150.5A-2009
Vibration Test	GJB 150.16A-2009
<b>Interfaces</b>	
Power	AC Power SP/SD13-3 Cores waterproof aviation connector
Tx <sup>3</sup>	BUC IN F-Type Connector
Rx <sup>4</sup>	LNB OUT F-Type Connector
LAN	1× RJ45 10/100/1000
	1× RJ45 Modem Debug <sup>5</sup>
Debug <sup>6</sup>	SP/SD13-7 Cores waterproof aviation connector
<b>Other Function</b>	
Wireless Router	IEEE 802.11b/g/n at 2.4GHz Access number: 30 Coverage (Unobstructed):50~100m
5G/LTE Module (optional)	Integrated multi-WAN with global 5G & LTE capabilities
Bluetooth Device	V4.2
GNSS Device Supports	GPS/GLONASS/BeiDou-2/Galileo
Color	PANTONE P 168-12 U 

Accessories	
Power Supply Cable	10m (393 in.)
Network Cable	10m (393 in.)
Approval	
FCC	
Intelsat Approval	
CE	

Note:

1. According to customer's requirements.
2. The Terminal's power consumption is related to the Terminal model, Modem and BUC. This document takes the iDirect IQ200 Modem as an example to illustrate the Terminal's power consumption.
3. External modem connection, or switch between internal and external modem.
4. Downlink spectrum monitoring, or switching internal and external modem.
5. Modem upgrade/update interface.
6. ACU upgrade/update interface.

## Terminal Dimensions:



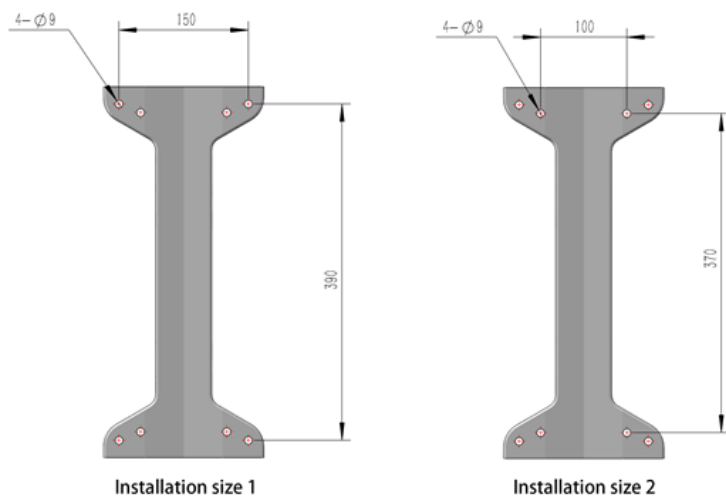
**China Starwin Science & Technology Co., Ltd.**

Tel: +8629-88664381, E-mail: [sales@starwincom.com](mailto:sales@starwincom.com), <http://www.starwincom.com>

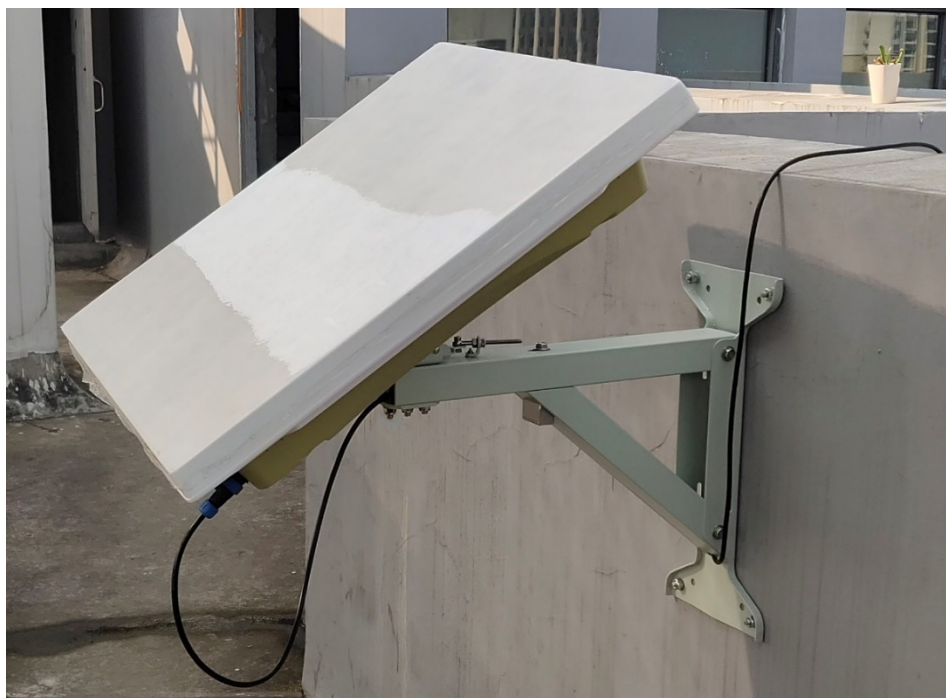
**Copyright © Starwin**



## Installation Method:



### 1. Wall mount



## 2. Pole mount



## 3. Tripod mount



**China Starwin Science & Technology Co., Ltd.**

Tel: +8629-88664381, E-mail: [sales@starwincom.com](mailto:sales@starwincom.com), <http://www.starwincom.com>

**Copyright © Starwin**

## Terminal Package:

Carton packaging



The dimension of carton packaging is  $660 \times 660 \times 260$ mm

The net weight is 19 kg, gross weight is 22 Kg.

## Application Case:

Unmanned site:



Communication:



**China Starwin Science & Technology Co., Ltd.**

Tel: +8629-88664381, E-mail: [sales@starwincom.com](mailto:sales@starwincom.com), <http://www.starwincom.com>

**Copyright © Starwin**



Personal application:



**China Starwin Science & Technology Co., Ltd.**

Tel: +8629-88664381, E-mail: [sales@starwincom.com](mailto:sales@starwincom.com), <http://www.starwincom.com>

**Copyright © Starwin**