GN-80 Series

GPS Receiver

Higher sensitivity and faster TTFF has been realized thanks to newly developed signal processing technology and high-speed search engines integrated into each of the GN-80's 16 channels.

In order to track satellite signals, the receiver has to acquire the C/A code first. In the GN-80, a series of the C/A codes with a small amount of shifted phase are initially prepared in the receiver. This way, the more co-relaters the receiver has, the faster it can acquire the satellite signals. We call this approach a high-speed search engine. Actually, by having 16 co-relaters in each of the 16 channels, the speed of acquiring satellite signals has been improved dramatically, resulting in very rapid TTFF in cold start.

Features:

- Faster TTFF: 46 seconds typical in Cold Start has been realized thanks to high-speed search engines integrated into each channel
- Significant improvement in higher sensitivity - 8dB better than our former Model GN-79
- Miniature and lightweight - 40% less than our former Model GN-79
- Low power consumption - 48mA while tracking satellites (1/3 less than previous Model GN-79) without sacrificing performance
- Selection of mounting methods including Vertical and Horizontal mount types
- Selection of various antenna connectors
- WAAS ready available as an option
- Antenna detection circuitry incorporated

Specifications of Furuno GN-80 Series GPS Receiver:

I. General characteristics

1. Receiving/Tracking characteristics		
Frequency		L1 1575.42 MHz
Tracking code		C/A Code only
Number of channels		16 parallel channels
Search engine		256 channels
WAAS		Optionally available
Tracking capability		Code plus Carrier 12 satellites simultaneously up to 1852km/h under 1.2G
Tracking sensitivity		-141 dBm
2. Interface		
Communication port		3.3V CMOS
Communication speed		4800bps/(Optional 9.6K, 19.2K, 38.4K)
Protocol		NMEA0183 (Ver. 2.3)/Optional Binary
Differential data		RTCM-SC104 format
Data update rate		Once per second
Synchronous pulse		1 PPS synchronized with UTC
3. Power supply		
Main power	Voltage	3.3VDC ±0.3V
	Current	64 mA typical at searching satellites
		48 mA typical at tracking satellites
Back-up	Voltage	2.1VDC to Operation voltage
	Current	6 uA
4. Antenna interface		
Impedance		50 ohms
NF		<2dB
Gain		15dB to 35dB (incl. Cable loss)
Antenna detection circuit		Available (detecting short or open)
Antenna cable/connector (soldered to receiver)		BNC (standard), SMA, SMB, MCX, GT-5
5. Datum & others		
Datum		WGS-84 & other 254 datum
6. Environmental characteristics		
Operation temperature		-30 to +80°C Optional -40 to +85°C
Storage temperature		-40 to +85°C
Operation humidity		20 to 95 % at 45°C

II. Time to first fix (TTFF)

Various starts	Conditions at power-up				TTFF
	Position	Time	Almanac	Ephemeris	(Averaged)
Hot start	Valid	Valid	Valid	Valid	8 sec
Warm start	Valid	Valid	Valid	N/A	35 sec
Cold start-1	Available	N/A	N/A	N/A	42 sec
Cold start-2	N/A	N/A	N/A	N/A	46 sec

N/A = Not available

III. Re-acquisition time

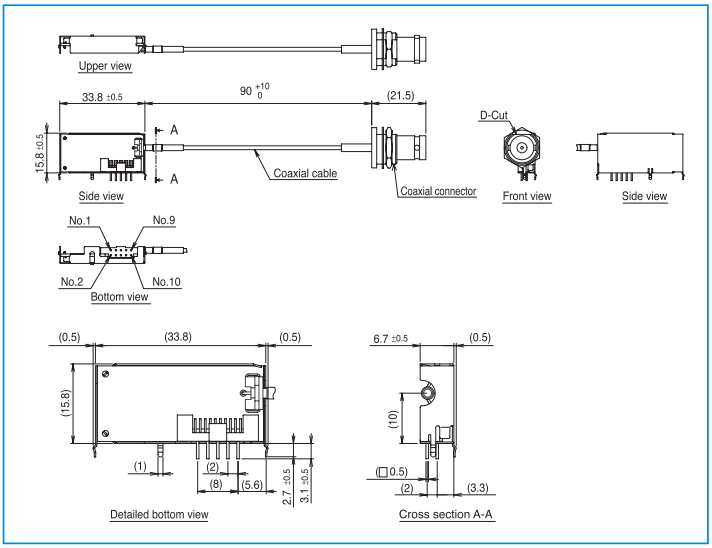
Shut-off time	Re-acquisition time (averaged)
10 sec	2 sec
60 sec	3 sec
10 min	6 sec

These data in item II and item III are based on tests conducted in our factory in December 2002.

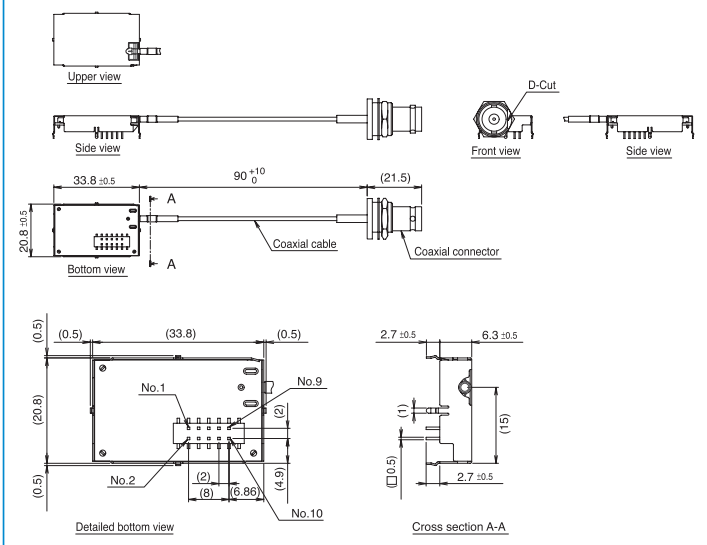
IV. Antenna option

In accordance with the required antenna connector, we can provide Antennas with BNC (5VDC), SMB (5VDC), GT-5 (5VDC) or SMA (3.3 to 5VDC) connector.

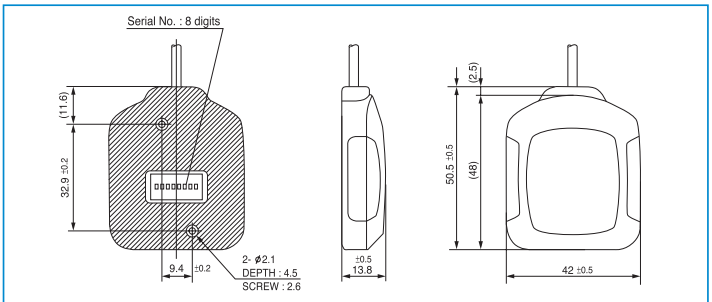
GN-80-V (Vertical type)



GN-80-H (Horizontal type)



GPS Antenna (AU-12-5 Series) outline dimensions



Connector type	BNC connector	SMB connector	GT5 connector
Model name	AU-12-5B	AU-12-5S	AU-12-5G

All specification subject to change without notice

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