



## ACKSYS APNUS026 How to Get GNSS NMEA Data



# ACKSYS APNUS026 How to Get GNSS NMEA Data User Guide

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**ACKSYS APNUS026 How to Get GNSS NMEA Data**

SETUP TOOLS STATUS	
PHYSICAL INTERFACES WIFI CELLULAR LAN 1 LAN 2 VIRTUAL INTERFACES BRIDGING NETWORK VPN ROUTING / FIREWALL SECURITY QOS SERVICES	<h3>WAN SETTINGS - LTE</h3> <p>On this page you can configure a WAN interface.</p> <h4>CELLULAR</h4> <div> <span>General Setup</span> <span>SIM 1</span> <span>Advanced Settings</span> </div> <p><b>SIM card 1 PIN code</b></p> <div> <input type="password"/> <span>Enter the correct SLOT 1 PIN code or you might lock your sim card!</span> </div> <p><b>SIM card 1 access point (APN)</b></p> <div> <input type="text" value="sl2sfr"/> <span>Required except for LTE-only connections</span> </div> <p><b>Authentication protocol</b></p> <div> <input type="text" value="SIM only"/> </div>

## Specifications

- **GPS:** Global Positioning System
- **NMEA:** National Marine & Electronics Association
- **GNSS:** Global Navigation Satellite System
- **SNMP:** Simple Network Management Protocol

## Product Information

- The Acksys Router family includes models such as RailBox, AirWan, and AirBox, which have an embedded internal GPS module.
- This allows the routers to perform additional tasks with GPS location data.

## Product Usage Instructions

### Introduction

- Fleet managers can track their vehicles' locations and statuses by installing GPS devices on fleet vehicles using Acksys routers. GPS data helps in monitoring fleet efficiency and solving compliance, efficiency, and safety issues.

### Scenario Details

- NMEA is the common data format supported by GNSS equipment. The GNSS system embedded in Acksys Cellular routers can track the positions of GPS, Galileo, GLONASS, and Beidou satellites to determine precise locations.

### Installation Overview and Prerequisites

- Before starting the configuration process, ensure you have a clear understanding of the setup you wish to achieve and meet the prerequisites outlined in the How-To guide.

### GNSS Configuration Architecture

- Learn how to access the Acksys router's internal GPS NMEA data from an external GPS client like WaveManager in this guide.

## ACKSYS Router Configuration

- Configure the Acksys Cellular router to have a server ready for receiving external GPS NMEA data. Specify the WAN Cellular interface settings as instructed to enable GPS data transmission.

### Configuring WAN Interface

1. Access the router's GUI.
2. Navigate to Setup > Physical Interfaces.
3. Enable the WAN Interface.

### Configuring WIFI Interface

Note that the WIFI interface will not be used in this configuration.

## Glossary

- **GPS:** Global Positioning System
- **GPS** is the generic term used to describe the satellite-based timing and positioning system operated by the United States Department of Defense (DoD), Galileo (European), GLONASS (Russian) and Beidou (Chinese).
- **NMEA:** National Marine & Electronics Association
- **GNSS:** Global Navigation Satellite System
- **SNMP:** Simple Network Management Protocol

## Introduction

- By installing GPS devices such as Acksys routers on fleet vehicles or buses, fleet managers can track their trucks or buses' locations and statuses, as well as get important insights about their fleet's efficiency.
- Fleet managers use GPS daily to keep track of their fleets and other assets.
- They can get information that helps them solve issues such as compliance, efficiency, and safety reason why Commercial fleets often use GPS to monitor their fleet vehicles.

### Scenario details

- Some models from the Acksys Router family (RailBox, AirWan, AirBox, etc..) have embedded an internal GPS module.
- This means that besides Cellular router conventional tasks (giving Internet connectivity to connected devices), they can also perform additional tasks with the GPS location.
- First defined by the National Marine Electronics Association, NMEA is currently the most common data format supported by GNSS equipment. It allows connecting different types of hardware and software

## Installation Overview and Prerequisites

- Before we begin, let's overview the configuration that we are attempting to achieve and the prerequisites that

make it possible in this How-To note.

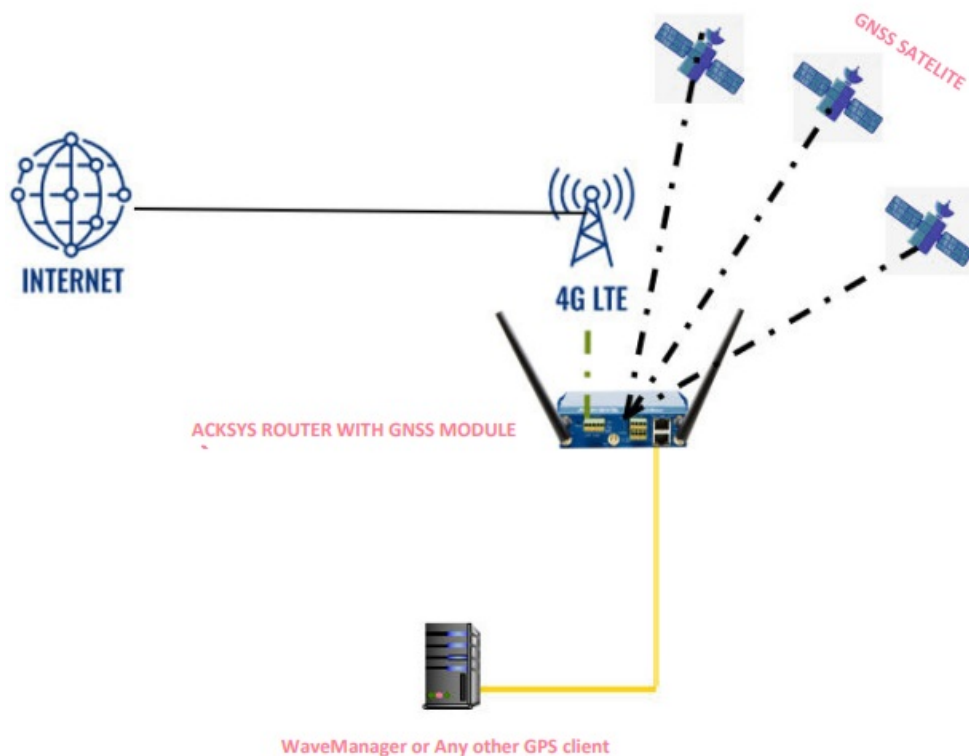
- **GPS Server:** One Cellular AirBox router or any type of Acksys Cellular Router
- **Connect the GPS** antenna to the GPS connector
- **A valid SIM card** from an ISP
- **A GPS NMEA frame Receiver Client:** WaveManager or any type of GPS received Server
- **Laptop to configure** the router

## GNSS System types

- There are different types of GNSS systems in the world and the GNSS component embedded with Acksys Cellular router automatically can track the position of the four existing satellite systems, GPS (American), Galileo (European) GLONASS (Russian), Beidou (Chinese)
- The purpose of the GNSS system is to provide signals from space and transmit timing and positioning data to the GNSS receivers located on Earth.
- The receivers further use these data to determine your precise location.

## GNSS Configuration architecture

- In this How-To, we will explain in detail how to access directly the Acksys router's internal GPS NMEA data from an external GPS client.




## ACKSYS Router configuration

- We may need the Acksys Cellular router to have a server prepared for the event of an external client receiver, so the GPS NMEA data is sent through it.
- For this configuration it will be enough to specify In this note, the WIFI interface will not be configured but we will use the default LAN setting and configure the WAN Cellular interface.

## Configuring WAN Interface

- If you have familiarized yourself with the configuration scheme and we can start configuring the router using instructions provided in this section:
- in GUI and go to Setup → Physical Interfaces → Enable the WAN Interface.

WAN INTERFACE		
	<b>3G/4G/LTE Cellular radio (Cellular)</b>	
	<b>FRIENDLY NAME</b>	<b>ACTIONS</b>
	Cellular	Interface disabled

- Click the “Edit” button located to the right and configure the WAN Interface.
- General Setup
- Select IPv6 in the IP family
- Check Replace default route
- Set 0 as routing metric 0 for a default gateway
- Check Use peer DNS in case DNS is on the LAN to use the ISP DNS
- Save

WAN SETTINGS - CELLULAR	
On this page you can configure a WAN interface.	
<b>CELLULAR</b>	
General Setup   SIM 1   SIM 2   Advanced Settings	
Network description	LTE <small>Friendly name for your network</small>
Default SIM card	<input checked="" type="radio"/> SIM 1 <input type="radio"/> SIM 2 <small>SIM slot selected at startup</small>
IP Family	IPv4
Protocol	Wireless wide area network
Replace default route	<input checked="" type="checkbox"/> Replace the default route to use the cellular interface after successful connect
Default gateway metric	0 <small>Gateway priority when several default gateways are configured; lowest is chosen. (Used only when a default gateway is defined on this interface)</small>
Use peer DNS	<input checked="" type="checkbox"/> Configure the local DNS server to use the name servers advertised by the cellular peer

- Select the correct SIM slot (in case of dual SIM) and fill out APN with the connection information provided by the ISP (in this case SFR SIM card is used): sl2sfr

SETUP   TOOLS   STATUS	
<b>PHYSICAL INTERFACES</b> WIFI CELLULAR LAN 1 LAN 2	<b>WAN SETTINGS - LTE</b>
On this page you can configure a WAN interface.	
<b>CELLULAR</b>	
General Setup   SIM 1   Advanced Settings	
SIM card 1 PIN code	•••• <small>Enter the correct SLOT 1 PIN code or you might lock your sim card!</small>
SIM card 1 access point (APN)	sl2sfr <small>Required except for LTE-only connections</small>
Authentication protocol	SIM only

- Enable AT transaction logs for better understanding in troubleshooting in case of issue.
- Save and apply the config

**SETUP** **TOOLS** **STATUS**

**PHYSICAL INTERFACES**

- WIFI
- CELLULAR
- LAN 1
- LAN 2

**VIRTUAL INTERFACES**

- BRIDGING
- NETWORK
- VPN
- ROUTING / FIREWALL
- SECURITY
- QOS
- SERVICES

**WAN SETTINGS - LTE**

On this page you can configure a WAN interface.

**CELLULAR**

General Setup | **SIM 1** | Advanced Settings

Always disabled at startup ☐

State at startup: Default

Log AT transactions at "debug" level ☒ Use only at Support Service request, since it can flood the system log

- Save and apply the config
- To check the NMEA frame in CLI, we need to enable Cellular Log Level to Debug for more GNSS information in the log.
- Go in Tools Logs Setting → Cellular → Log Setting

**CELLULAR LOG SETTINGS (CELLULAR)**

Log level: Debug

- Save and apply the config

## Configuring WIFI Interface

- In this note, the WIFI interface will not be enabled or used.

**WI-FI INTERFACE**

**Wi-Fi 4 (802.11n) Wireless interface**

CHANNEL	802.11 MODE	SSID	ROLE	SECURITY	ACTIONS
Automatic	802.11b+g+n	acksys	Access Point (infrastructure)	none	Interface disabled

## Configuring LAN Interface

- In this note, we will use the default IP address of the router 192.168.1.253 in this section:
- Go in GUI and go to Setup → Physical Interfaces → LAN setting Interface.

**NETWORK - LAN**

On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and tick the names of several network interfaces.

**COMMON CONFIGURATION**

General Setup | **Interfaces Settings** | Advanced Settings

Enable interface ☒

Network description: LAN

Protocol: static

IPv6-Address:

Default IPv6 gateway:

Delegated prefix length: 60

Allowed prefix classes: all

IPv4-Address: 192.168.1.253

IPv4-Netmask: 255.255.255.0

Default IPv4 gateway:

Default gateway metric: 0

DNS server(s):

## NETWORK - LAN

On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and tick the names of several network interfaces

COMMON CONFIGURATION	
General Setup	Interfaces Settings
<b>Bridge interfaces</b> <input checked="" type="checkbox"/> ? creates a bridge over specified interface(s)	
<b>Enable STP/RSTP</b>	<input type="checkbox"/> ? Enables the Spanning Tree Protocol on this bridge <b>WARNING:</b> Some cautions must be taken with wireless interfaces, please see user guide
<b>Enable LLDP forwarding</b>	<input type="checkbox"/> ? Enables the LLDP frame forwarding.
<b>bridge VLAN</b>	<input type="checkbox"/> ? Enable VLAN management in bridge. You must configure the bridge VLANs before enabling this option (setup->bridging)
<b>Interface</b>	<input checked="" type="checkbox"/> ? WiFi adapter: WiFi (currently disabled) - acksys (network: lan) <input checked="" type="checkbox"/> ? Ethernet adapter: LAN1 (network: lan) <input checked="" type="checkbox"/> ? Ethernet adapter: LAN2 (network: lan)
<b>MTU</b>	<input type="text" value="1500"/>

## Configuring GNSS Agent

- If you have familiarized yourself with the configuration scheme and have all of the devices in order, we can start configuring the router using the instructions provided in this section.
- Login to the router's WebUI and go to Setup → Services→GNSS Agent. Do this on the router.

### GLOBAL NAVIGATION SATELLITE SYSTEM

Activate the embedded GNSS receiver and configure the gpsd server

GPSD	
<b>Enable</b>	<input checked="" type="checkbox"/> ? Allows internal services to use the GNSS
<b>Use as time source</b>	<input checked="" type="checkbox"/> ? Allows to use the GNSS as time source. This source has low precision, use NTP service for more precision
<b>Serve external clients</b>	<input checked="" type="checkbox"/> ? Allows external users to connect to this gpsd server
<b>Listen port</b>	<input type="text" value="2947"/> ? Port on which gpsd will listen
<b>Position logging period</b>	<input type="text" value="4"/> ? Number of seconds between positioning records in the system log (at 'info' level); 0 or empty to disable
<b>URI for map link (Device Info page)</b>	<input type="text" value="OpenStreetMap@ link"/> ? '%1' and '%2' in the URI are replaced by latitude and longitude in signed dotted-decimal notation, e.g. '-48.000000' URI must not contain doublequotes Any string missing a column ':' will disable the link

## Enable

- Allow use of the location service.

## Serve external clients

- Allow devices outside of the product to query its position using the gpsd protocol.
- If disabled, the position can still be queried with SNMP, displayed on the Status→Device Information page, or logged to an external log server.

## Listen port

- **Change TCP server port for external clients:** 2947

## Position logging period

- Periodically add an entry in the system log indicating the current position

## URI for map link

- The current position that appears on the Status→Device Information page is embedded in a web link, allowing for example to display a map using external services.
- Here you can choose among renowned public services, or set up a link to your preferred web server.
- To disable the link entirely, choose custom and enter a dash or a hash mark (anything but a column).
- If the string %1 appears in the link, it will be replaced with the latitude, and %2 will be replaced with the longitude.
- It is also possible to retrieve NMEA Data in locally or on a remote GNSS Client as a receiver if you want to read NMEA DATA on another device.
- Login to the router's WebUI and go to Setup → Services → Statistic.

### Do this on the router:

- Enable GPS statistic
- **GPS server IP address:** 127.0.0.1
- **GPS server port:** 2947
- Save and apply

The screenshot shows the router's WebUI configuration page. On the left is a sidebar with links: SSH, STATISTICS, WIRELESS, INITSCRIPTS, and WIRELESS. The main content area has two sections:

**ACKSYS TELEMETRY**

- Allow to send information to WaveManager: ☒
- Enable telemetry: ☒
- Acksys telemetry server port: 8628
- Output interval: 5 (Note: Acksys telemetry will check if there is any new statistics data available at this frequency. To avoid data accumulation, this value should be less than overall sample interval. (in seconds))
- Max buffer size: 102400 (Note: This value will determine the size of buffer and also how much data will be stored in case connection with server is lost. (in bytes))

**GPS STATISTIC**

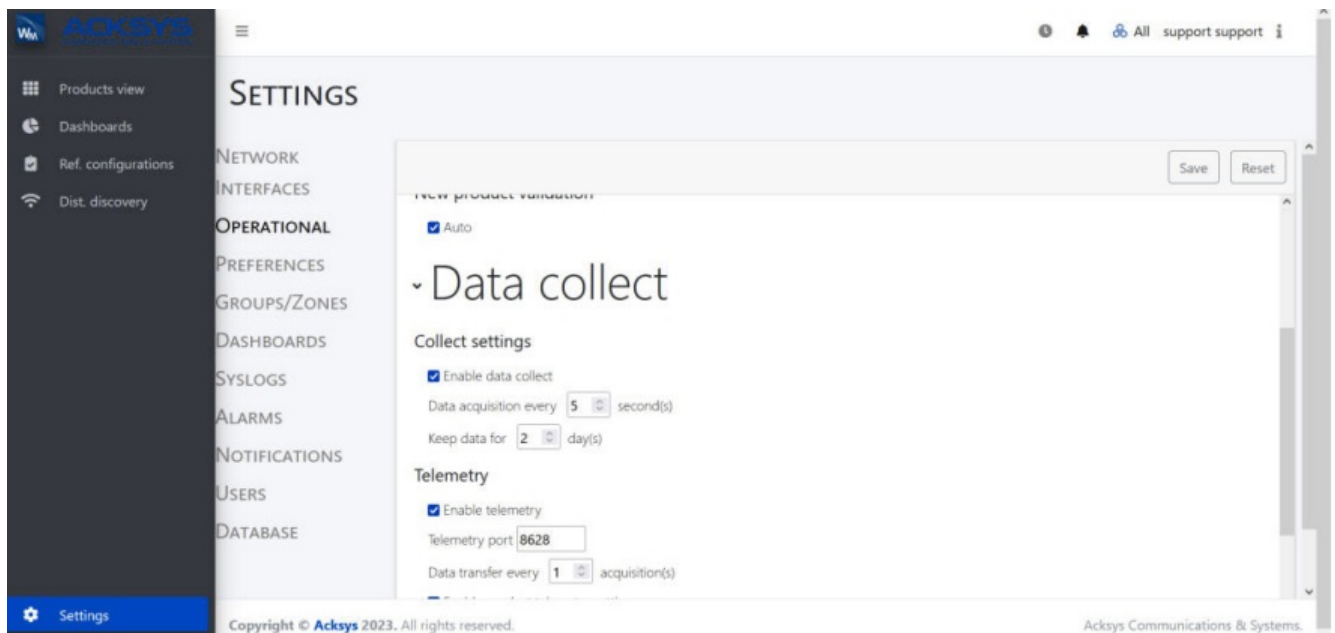
- Allow to send GPS information to WaveManager: ☒
- Enable GPS statistics: ☒
- GPS server ip address: 127.0.0.1 (Note: The ip address of a GPS server. If this product provides GPS service, please enter "127.0.0.1".)
- GPS server port: 2947

- **NOTE:** GPS Server IP address 127.0.0.1 because the Acksys cellular router provides GPS service and the Telemetry service is used to send logs to WaveManager Server in this note.

### Configuring WaveManager to access GNSS POSITION via Telemetry

- In this note, we will also use WaveManager Server to receive GNSS position therefore we will enable Telemetry service.
- To enable Telemetry service on WaveManager in Setting→ Data Collect → Operational→ enable Data Collect →Save.





- In this note, we will also use WaveManager Server to receive GNSS position therefore we will enable Telemetry service. To enable Telemetry service on WaveManager in Setting→ Data Collect → Operational→ enable Data Collect →Save

## STATUS

If you've followed all the steps presented above, your configuration should be finished, and let's have an overview of the status of the Cellular and GNSS.

## WAN Router Wireless Status

In GUI go to Status → Cellular

### CELLULAR STATUS


Warning: scanning will break established connections which use that radio.

Cellular interfaces									
RADIO	MODEM INFORMATIONS	ATTACHED	OPERATOR MCC/MNC	BASE STATION LAC/CID	ACCESS TECHNOLOGY	INFRASTRUCTURE BAND CHANNELS	RSSI	BER	SCAN
Cellular	Password accepted IMSI: 208101188844640 IMEI: 866758042299632 model: EC25 rev A6.3 EMEA band: LTEFDD: B1/B3/B5/B7/B8/B20 LETDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: B3/B8	home	F SFR 208/10	46506 / 159942403	gsm FDD LTE	LTE LTE BAND 3 ARFCN: 1501	-67	0	Scan

## WAN Router: Network Status

To verify the connection, click on Status>Network as shown in the screenshot below where the WAN interface receives the Internet IP address.

In GUI go to Status → Network

LTE						
IP CONFIGURATION						
IPv4 Stack						
IPv4: 100.104.156.203 Netmask: 29 MTU: 1500						
IPv6 Stack						
IPv6: fe80::8143:169f:14e2:308a Netmask: 64 Scope: link						
DHCP info: Lease time: 7200s						
DNS server: 172.20.2.39 172.20.2.10						
GRAPH	PHYSICAL INTERFACE	MAC ADDRESS	TX COUNT (IN BYTES)	RX COUNT (IN BYTES)	INTERFACE MODE	MTU
	Cellular	00:00:00:00:00:00	23039	44147	Operator (home): F SFR SIM: Password accepted	1500

## WAN Router Network Testing

GNSS Agent can show position only if the WAN router get internet therefore we do network connectivity test with ping on google DNS works with success as shown the screenshot below.

```
root@GPS-Agent:~# ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8): 56 data bytes
64 bytes from 8.8.8.8: seq=0 ttl=115 time=55.917 ms
64 bytes from 8.8.8.8: seq=1 ttl=115 time=656.157 ms
64 bytes from 8.8.8.8: seq=2 ttl=115 time=474.894 ms
64 bytes from 8.8.8.8: seq=3 ttl=115 time=378.489 ms
64 bytes from 8.8.8.8: seq=4 ttl=115 time=311.806 ms
64 bytes from 8.8.8.8: seq=5 ttl=115 time=285.724 ms
64 bytes from 8.8.8.8: seq=6 ttl=115 time=72.721 ms
64 bytes from 8.8.8.8: seq=7 ttl=115 time=484.698 ms
64 bytes from 8.8.8.8: seq=8 ttl=115 time=300.996 ms
64 bytes from 8.8.8.8: seq=9 ttl=115 time=110.102 ms
64 bytes from 8.8.8.8: seq=10 ttl=115 time=311.840 ms
64 bytes from 8.8.8.8: seq=11 ttl=115 time=258.432 ms
64 bytes from 8.8.8.8: seq=12 ttl=115 time=364.148 ms

--- 8.8.8.8 ping statistics ---
13 packets transmitted, 13 packets received, 0% packet loss
round-trip min/avg/max = 55.917/312.763/656.157 ms
```

## GNSS DATA COLLECT

### WAN Router: CLI GNSS

- To verify the NMEA data, we can enable SSH service in Tools→ Service→ enable SSH with the command log file after enabling the GNSS log level to Debug.
- Once you have configured the router, if you connect in CLI on the AirBox router IP, we will get the NMEA data in real-time, 1 data per 4 seconds according to my configuration as shown in the screenshot below.

```
root@Acksys:~# logread -f | grep "2:3"
Fri Mar 31 14:40:20 2023 user.info : 2:3:20230331:144020.000:48.799547:2.351979:101.700000:0.000000:3.100000
Fri Mar 31 14:40:24 2023 user.info : 2:3:20230331:144024.000:48.799547:2.351979:101.600000:0.000000:3.100000
Fri Mar 31 14:40:28 2023 user.info : 2:3:20230331:144028.000:48.799547:2.351980:101.600000:0.000000:3.100000
Fri Mar 31 14:40:32 2023 user.info : 2:3:20230331:144032.000:48.799547:2.351980:101.600000:0.000000:3.100000
Fri Mar 31 14:40:36 2023 user.info : 2:3:20230331:144036.000:48.799542:2.352016:101.200000:0.000000:309.700000
Fri Mar 31 14:40:40 2023 user.info : 2:3:20230331:144040.000:48.799598:2.351893:101.100000:0.000000:309.700000
Fri Mar 31 14:40:44 2023 user.info : 2:3:20230331:144044.000:48.799594:2.351930:102.400000:0.000000:309.700000
Fri Mar 31 14:40:48 2023 user.info : 2:3:20230331:144048.000:48.799588:2.351942:102.000000:0.000000:309.700000
Fri Mar 31 14:40:52 2023 user.info : 2:3:20230331:144052.000:48.799563:2.352001:100.900000:0.000000:309.700000
Fri Mar 31 14:40:56 2023 user.info : 2:3:20230331:144056.000:48.799571:2.351981:101.300000:0.000000:309.700000
Fri Mar 31 14:41:00 2023 user.info : 2:3:20230331:144100.000:48.799571:2.351982:101.300000:0.000000:309.700000
Fri Mar 31 14:41:04 2023 user.info : 2:3:20230331:144102.000:48.799571:2.351981:101.300000:0.000000:309.700000
```

## Configuring MIB Browser to access GNSS NMEA Data via SNMP

Positioning information can also be read directly via SNMP on any MIB Browser and any remote Management system by using OIDS from Acksys MIB from the GNSS-current-position table as shown in the screenshot below.

File Edit Operations Tools Bookmarks Help

Address: 192.168.1.253 Advanced... CID: 1.3.6.1.4.1.28097.10.11.2.0 Operations: Get Next Go

SNMP MIBs

- acksysProductID
- c-key-management
- alarmSettings
- powerStatus
- networkStatus
- networkConfiguration
- serviceStatus
  - ss-webserver
  - ss-dhcp
  - ss-ntp
  - ss-radius
  - ss-snmp
  - ss-dns
  - ss-system
  - ss-gnss
    - gnss-current-position
    - positionValid
    - fixdate
    - fixtime
    - latitude
    - longitude
    - altitude
    - speedkmh
    - courseDegrees
    - fixdimension
    - gnssAllPositions
  - ss-tcn
  - ss-async-sysupgrade
- serviceConfiguration

Result Table

Name/CID	Value	Type	IP Port
gnssAllPositions.0	2-3-20230403-104425.000-48.817158-2.007729-122.800000.0	OctetString	192.168...
firmwareExists.0	false (1)	Integer	192.168...
firmwareInfo.0		OctetString	192.168...
sysupgradeMissed.0	false (1)	Integer	192.168...
configHttpServer.0	disable (1)	Integer	192.168...
configHttpServerPort.0	0	Integer	192.168...
configHttpsServer.0	disable (1)	Integer	192.168...
configHttpsPort.0	0	Integer	192.168...
configHttpsCertificate.0	1	OctetString	192.168...
configDhcpSubnet.3.108.97.110	lan	OctetString	192.168...
configNtp.0	0	Integer	192.168...
configDnsRebindProtection.0	enable (2)	Integer	192.168...
configDnsRebindLocalhost.0	enable (2)	Integer	192.168...
configCollectdEnable.0	enable (2)	Integer	192.168...
configCollectdSamplingInterval.0	5	Integer	192.168...
configCollectdGPSEnable.0	enable (2)	Integer	192.168...
configCollectdGPSServerAddr.0	127.0.0.1	IpAddress	192.168...
configCollectdGPSServerPort.0	2947	Integer	192.168...
configCollectdGPSCConnTimeout.0	5	Integer	192.168...
configCollectdGPSSReqInterval.0	5	Integer	192.168...
configCollectdWirelessScanResult.0	disable (1)	Integer	192.168...
configCollectdWinfo.0	enable (2)	Integer	192.168...
configAcksysTelemetryEnable.0	enable (2)	Integer	192.168...
configAcksysTelemetryServerPort.0	8628	Integer	192.168...
configAcksysTelemetryOutputInterval.0	5	Integer	192.168...
configAcksysTelemetryMaxBufferSize.0	102400	Integer	192.168...
configAsyncUpgradeDoUpgrade.0	0	Integer	192.168...
configAsyncUpgradeTimerEnable.0	disable (1)	Integer	192.168...
configAsyncUpgradeTimerEnable.0		Null	192.168...
positionValid.0	true (2)	Integer	192.168...
fixdate.0	20230403	OctetString	192.168...
fixtime.0	104449.000	OctetString	192.168...
latitude.0	48.817157	OctetString	192.168...
longitude.0	2.007729	OctetString	192.168...
altitude.0	122.800000	OctetString	192.168...
speedkmh.0	0.000000	OctetString	192.168...
courseDegrees.0	0.000000	OctetString	192.168...
fixdimension.0	0.000000	OctetString	192.168...

Name: gnss-current-position  
 CID: 1.3.6.1.4.1.28097.9.8.1  
 MIB: ACKSYS-MIB  
 Syntax:  
 Access:  
 Status:  
 DefVal:  
 Indexes:

- The string displayed in the system log and the string obtained through the 'gnssAllPositions' SNMP
- OID has the same format. It consists in a series of column-separated values in the following order.

Valid flag 1 if the position is undefined, 2 if the following data is valid	
Dimension	2 if only latitude/longitude are known, 3 if elevation (altitude) is also valid, 0 or 1 if the position is unknown
Date	Last fix date. YYMMDD (year, month, day) or empty if invalid
Time	Last fix time. If time is available: HHMMSS.ddd (hour, minute, second, dot, milliseconds). If time is unavailable: ssssssssss (integer number of seconds since 1/1/1970) as known to the product. Always greater than 1000000.
Latitude	±DD.dddddd degrees from the equator, 6 decimal places, a minus sign means south of the equator
Longitude	±DD.dddddd degrees from Greenwich, 6 decimal places, a minus sign means west of Greenwich
Altitude	HHH.hhhhhh Height above mean sea level, in meters

Speed	K.vvvvvv Horizontal displacement speed in kilometers per hour, 6 decimal places
Direction	DDD.dddddd degrees from true north, 6 decimal places, DDD ranges from 0 to 359

## WAN Router: GNSS Status

- You can retrieve the current position Via GUI on “Device Information” page as shown in the screenshot below

### DEVICE INFORMATION

FIRMWARE INFORMATION	
WaveOs version:	4.21.0.3-V4.22.0.1-V4.18.0.1-63-ge7f3cd96e4 (BETA version)
Boot loader version:	3.4.1.1
Firmware ID:	E2148.AC.1
SSH access:	enabled (by configuration)
DEVICE INFORMATION	
Host name:	GPS Agent
Model:	AirBox/14
Product version:	V1
Motherboard ID:	000019029fa8
GNSS info:	<a href="#">latitude: 48.81715815°</a> <a href="#">longitude: 2.0077294°</a> speed: 0 km/h direction: motionless

## WaveManager: GNSS Status

- We can retrieve the current position Via WaveManager on “Device Information” page (Latitude and Longitude) as shown in the screenshot below.

The screenshot displays the ACKSYS WaveManager web interface. On the left is a sidebar with navigation options: Products view, Dashboards, Ref. configurations, and Dist. discovery. The main area shows a list of devices, with 'AirBox/14' selected. A detailed view of this device is shown on the right, including fields for Discovery date, Last connection, IP Address, Mask, Gateway, Group, Product Id, Firmware, Version, Latitude, and Longitude. The Longitude field is highlighted with a red box, showing the value 2.0077302. The Description field shows 'GPS Agent'.

- Email: [support@acksys.fr](mailto:support@acksys.fr)
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## FAQ

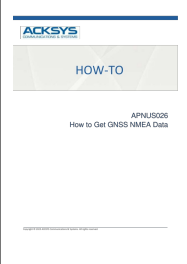
- **Q: What is NMEA?**

- **A:** NMEA stands for National Marine & Electronics Association and is a common data format supported by GNSS equipment.

- **Q: What are the GNSS systems supported by Acksys routers?**

- **A:** Acksys routers can track the positions of GPS (American), Galileo (European), GLONASS (Russian), and Beidou (Chinese) satellite systems.

## Documents / Resources

	<p><a href="#">ACKSYS APNUS026 How to Get GNSS NMEA Data</a> [pdf] User Guide</p> <p>APNUS026-4, HWTO-NMEA, APNUS026 How to Get GNSS NMEA Data, APNUS026, How to Get GNSS NMEA Data, GNSS NMEA Data, NMEA Data</p>
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## References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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