# **NET10 GNSS Receiver**

**User Manual** 



Edition: V1.0\_20210520

# Statement

#### **Please read carefully:**

Thank you very much for purchasing our product. For instructions on how to use this product, please be sure to read the user manual.

This user manual is for your receiver only. If your receiver does not match the situation in the user manual, the actual situation of the receiver shall prevail.

The information in this document is subject to change without notice; We reserve the right to change or improve its products as well the content without any obligation to notify individual or organization of such changes or improvements. For any questions, please contact the customer service center or contact our authorized dealer.

Customer safety is important. Please carefully read the precautions and instructions in the user manual. To avoid accidental damage, use only original supplied parts. If you do not use the system or connect incompatible accessories in accordance with the correct procedures, it may cause damage to the equipment and may even endanger others and your safety. In this regard, the company does not assume any responsibility.



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# Our servey

# 1. Product Description

NET10 is designed as high-precision GNSS receiver. The traditional permanent reference stations have many functions and not easy for use. NET10 can be easily installed and configurate through the web user interface. Combine with the choke-ring antenna, NET10 provides stable and reliable correction data.

#### Main features:

- Robust housing with IP67 protection
- Support ethernet or WiFi connection
- Support Bluetooth and RS232
- Easy configuration via WebUI
- Support NTRIP Caster, server, and client mode

### 2. Appearance

There are four indicators on NET10: satellite, data recording, data transmitting and power supply.



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# 3. Technical Specifications

GNSS							
	GPS: L1CA/L1P/L1C/L2P/L2C/L5	Communication					
	BDS: B1I/B2I/B3I/B1C/B2a/B2b/	Bluetooth	BT5.0 + EDR, compatible with BLE				
	ACEBOC	WIFI	802.11 b/g/n/ac				
	GLONASS: G1/G2/G3, P1/P2	Ethernet	Support				
Satellites Tracking	GALILEO: E1/E5a/E5b/E6/ALTBOC		1 x Lemo-0, 2-pin, DC in				
	QZSS: L1CA/L1C/L2C/L5/LEX	_	1 x DB9 female, RS232				
	IRNSS: L5	Port	1 x RJ45 ethernet				
	SBAS*: L1/L5		1 x GNSS TNC female				
	L-Band: Atlas H10/H30/Basic	Baud Rate	9600 ~ 115200 bps				
Channels Clause Baseria Marca	800	Web UI	Support				
Signal Reacquisition	< 1 sec	- NMEA Output	NMFA0183				
	< 60 sec		RTCM2.X. RTCM3.X. CMR. CMR+. DGPS.				
Warm Start	< 30 sec	Correction Data	BINEX, RAW				
Hot Start	< 10 sec	Data Recording	Support 8 recording simultaneously				
Initialization Reliability	> 99.9%	Recording Format	Binary, RINEX, BINEX				
Opdate Rate	10 Hz standard, up to 20 Hz		2s, 5s, 10s, 15s, 30s, 60s				
Operation System		Recording Interval <sup>2</sup>	1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz				
Internal Memory	32 GB		1 x Bluetooth				
Deufeumenee			1 x Serial port				
Performance	Ul 2 mm + 0.1 mm	<ul> <li>Data Stream</li> </ul>	3 x NTRIP server streams 1 x NTRIP client streams				
High Precision Static	H: 2 mm + 0.1 ppm						
	V. 5 mm + 0.4 ppm	<u> </u>	5 x Socket (TCP/UDP) streams				
Static/Fast Static	H: 2.5 mm + 0.1 ppm	Smart Alert	Email alert				
	V. 5.5 mm + 0.4 ppm		FTP server				
RTK	N: 15 mm + 1 ppm	FIP Function	FTP client (FTP push)				
	H-03m	<ul> <li>NTP Server</li> </ul>	Support				
Code Differential	V: 0.6 m	Others	DDNS, SNMPD, Firewall, VPN				
	H:03m	_					
SBAS	V: 0.6 m	Physical					
	Atlas H10: 4 cm RMS	Dimension	131 x 36.5 x 97 mm				
I-Band	Atlas H30: 15 cm RMS	Weight	435 g				
	Atlas Basic: 30 cm RMS	Operating Temperature	-40°C ∼ +65°C				
1PPS	10 ns	Storage Temperature	-45°C ~ +80°C				
	•	Water/Dust Proof	IP67				
Power Supply		Humidity	Up to 95%				
Power	2-pin DC in	Indicators	Power, satellite, recording, datalink				
Valtara	8~36 VDC	Button	1 x Reset button				
voltage	with over-voltage protection						

# 4. Basic Operations

#### • Connect the GNSS antenna

To receive satellite signals, NET10 needs to be connected to an external antenna with TNC port.

#### • Connect the power supply

NET10 does not have internal battery. To run the device, the external power supply is needed. Please use the original adapter to avoid any danger. Once device is connected to the 2-pin power cable, it will automatically power on. Disconnect the 2-pin power cable to power off the device.

#### Reset Button

Press the reset button 3 seconds to reset some basic settings. To reset all settings including network setting, press the reset button for 1 minutes.



# 5. WebUI Settings

When device is powered on, use computer or tablet to search and connect the device hotspot.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ch2-cn
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	sg2-cn
(i.	NET13A2100001 No Internet, open Properties
	Disconnect
°//	eSurvey-5F-5G
(k.	E2003A21000017
(k.	NET20D9061004E
• Netv Chan	work & Internet settings ge settings, such as making a connection metered.
<i>lla</i> Wi-Fi	∯⇒ 0γ0 Mobile Airplane mode thotspot

Open web browser and access IP "192.168.10.1", the username is "admin", password is "password". User can change the language and click "Log in" to show the Web user interface.



### [Summary]

This page shows the basic information including device running time, device serial number, GNSS board, position, storage, and power supply status.

Summary	× +			-	0	×
← → C ① ▲ Not se	cure   192.168.10.1/index.php	Ŕ	28 Q	é 💌	* (	) i
NETTO Referen	ice Station					
Communi						
Summary Sustem Information						
Reference Station	Station Name	Test	7			
Ntrip Server	Run Time	0 day 1 hour 3 min	1			
Recording						
Port Configuration			_			
I/O Configuration V	Device Model	NET10	_			
Network 🗸	Device Serial	NET13A2100001	4			
Administration V	GNSS Model	P20	_			
Download	GNSS Serial	21819968				
Language English						
	Longitude	121°31' 49.37483"	٦			
	Latitude	31° 5' 3.89513"				
	Height	61.401 m	1			
	GNSS Status	Single				
	Local Time	2021-05-20 12:21:25				
	Internal Memory	297.631 MB / 447.760 MB (66% Free)	1			
	Data Memory	25510 GB / 27.510 GB (92% Free)	1			
			-			
	Battery Power	- X4	٦			
	Power Source	External	1			



### [System Information]

This page shows more details about the firmware version, GNSS functionality.

System Information × +	- 0	¢
← → C 介 A Not secure 192,168,10,1/index.php	2 N 🕒 🕷 A 🚺	
NET 10 D - Course of Charles		
NETIO Reference Station		
Summary		
System Information Station Name	Test	
LGPS Status Expire Date	20210728	
Satellites Time Zone	GMT+08.00	
Map		
Reference Station V	1 + mm + *	
Ntrip Server Device Model	NE 10	
Port Configuration Hardware Manalem	NE 1 3A2 10001	
VO Configuration V BOOT Version	017	
Network V OS Version	4.1.6-0121-M1G2	
Administration V APP Version	2.12-210422	
Download Web Version	2.12	
Language English V MCU Version	0003	
Logout		
	paa	
GNSS Model	P20 28440220	
CNSS Marduran Version	21013700	
GNSS Firmware Version	6.04a03x2	
GNSS Functionality	OPT=:10Hz:RTK12_L5MULTI_GNSS:HEADING:ATLAS_LBAND.China_Only	
Internal Memory	297.631 MB / 847.760 MB (66% Free)	
Data Memory	25.610 GB / 27.610 GB (92% Free)	
Battery Power		
Power Source	External	

### [GPS Status]

This page shows details about the position status including PDOP, HDOP, HRMS and VRMS.

Ca COS Status X 1			- 0 ×
← → C ① ▲ Not secure   192.168.10.1/in	ndex.php	7	20 28 👒 💌 🛪 💔 E
NET10 Reference Station	1		
Suppose			
System Information			
System Information	Local Time	2021-05-20 12:21:40 (GPS Time + 8)	
GPS Status	Satellites	38	
Satellites	Longitude	121"31' 49.37485"	
Map	Latitude	31* 5' 3 89466"	
Reference Station V	Height	61.465 m	
Ntrip Server	Status	Single	
Recording	PDOP	0.872	
Port Configuration	HDOP	0.463	
Network	HRMS	0 926	
Administration >>	VRMS	1.479	
Download			
Language English V	Station Number	0111	
Logout	Base Longitude	113°21' 59.82440"	
	Base Latitude	23° 7' 35.67690"	
	Base Height	30.000 m	
	MET Type	2211A	
	Pressure	- hPa	
	Temperature	- YC	_
	Humidity	- %RH	
	Antenna Type	A382.02.14	
	Antenna Height	0 mm	
	Measurement Mode	Antenna Phase Center	_



### [Satellites]

#### Satellites view in list or plot.



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### [Map]

× + cure | 192.168.28.1 아 ☆ 말 다 제 # # 0 CΔ A No NET10 Reference Station 12家晴江田平 0 MINH OHIT 検加天天 ○ ○.28束 8 -----書相留意 〇 前 〇中: 6 「二田家西」 上海夏 Oint ○府亚特 法高粱税 P NET10 0 ○上海集珍毛坊 利限公司 ● 上海波羅寶屋 有限公司 0 ● 上海越克边走川汽车 发动机零件有限公司 上海车市机器 Оняци 0 Quirt Q 教育美国主广场 〇 0

The online map requires the computer or tablet to connect network.

### [Reference Station]

"Working Mode": to select base/rover mode. "Antenna": configurate the antenna parameters. "Coordinate and antenna height measurement": when setup base station, the base coordinate and antenna measurement height is required.

Reference Station × +					- 0 >
← → C ☆ ▲ Not secure   192.168.10.1/index	php				야 ☆ 33 💺 🗷 🗯 🚺
NET10 Reference Station					
THE I TO Reference Station					
Summani					
System Information					
Reference Station 🗸	Observer Name	OBSERVER	]		
Reference Station	Agency Name	AGENCY			
Tracking Satellites	Station Name	Test			
Ntrip Server	Marker Number	0~			
Recording	Marker Type	GEODETIC V			
Port Configuration	Receiver Number	0 -			
Network V	Country Code	CHN - China	~		
Administration 🗸	Site ID				
Download	Time Zone	GMT+08:00 ¥			
Language English V	Web Server Protocol	HTTP V			
	HTTP Server Port	80			
Language   English V	Working Mode	O Rose  Pawar			
	Antenna Type	HX-GG486A	Download     Choose File	No file chosen Upload	
Language English V	Antenna Serial				
Logout	R(mm)	0	]		
	H(mm)	0			
	HL1(mm)	116	]		
Language English V	HL2(mm)	142			
Language   English V	Coordinate System	Geodetic Coordinates (B.L.H	4) ¥		
Logout	Base Longitude	113 21	[59 ][8244004		
	Base Latitude	23 7	36 6769012	ſ	Load Current Position Cancel Base Position
	Base Height(m)	30.000			
	Height of the point on the ground(m)	0	<u>]</u>		
					HIT.
	Antenna Height(mm)	0			H2 H2
					Antonna 😤
					height-
	Measurement Made	Astenna Dhasa Canter - M	1		(***)
	measurement more	Pendina Phase Conter	1		Height of the point on the ground-
	Submit			Reload	

# **O-survey**

Below image shows how NET10 calculate the antenna phase center height when measuring from the bottom of antenna mount.

		Antenna Type	UA-35	~	Download
		Antenna Serial	esurveyanten	na	
		R(mm)	76		
		H(mm)	46		
		HL1(mm) a	47.5		
		HL2(mm) b	42.5		
		Coordinate System	Geodetic Coo	rdinates (B,L,H)	*
		Base Longitude	121	° 31 '	49
		Base Latitude	31	° 5	3
		Base Height(m) C	50		
	Height	of the point on the ground(m) d	50		
		Antenna Height(mm) e	0		
a = height from antenna bottom to L1 phase cente b = height from antenna bottom to L2 phase cente c = antenna phase center height d = ground point elevation value e = antenna measurement height (from ground to b	r r the bottom of antenna)	Measurement Mode	Bottom of ante	enna mount 🗸	>
c = (a + b)/2 + e + d					

### [GNSS Configuration]

To configurate cut-off angle and constellations.

Ø GNSS Configuration x +					-	. 0	×
← → C ① ▲ Not secure   192.168.10.1/	index.php		0 <b>4</b> ☆	37	De 💌	*	0 :
NET10 Reference Station	n						
Summary System Information Reference Station		GNSS Configuration					
Reference Station	Cutoff Angle	10					
Tracking Satellites	1PPS	C Enable  Disable		_		_	-
Ntrip Server	Smooth Pseudorange	O Enable   Disable					
Recording	BDS	Enable      Disable					
VO Configuration	GPS	Enable      Disable					
Network V	GLONASS	● Enable ○ Disable					
Administration V	Galileo	Enable O Disable					
Download	QZSS	O Enable   Disable					
Logout	SBAS	O Enable   Disable					
	Atlas	C Enable   Disable					
	RTK MODE	NORMAL O SUREFIX					
	Submit	Raload					



### [Tracking Satellites]

To enable or disable satellite tracking.

Tracking Satellites X	+										-	. 0	×
← → C ☆ ▲ Not secure	192.168.10.1/index.p	hp								<b>0</b> 7 ☆	12 🗣 関	* 0	1
NET10 Reference	Station												
Summary System Information Reference Station Reference Station	GPS	Don't track	Glonass	Don't track	Tr BeiDou	acking Satellites Don't track	Galileo	Don't track	QZSS	Don't track			4
Tracking Satellites	G1		R1		C1		E1		J193				
Ntrip Server	G2		R2	0	C2		E2		J194				- 1
Recording Port Configuration	G3	•	R3	0	C3		E3		J195				- 1
I/O Configuration	G4		R4		C4		E4		J196				- 1
Network V	G5		R5		C5		E5		J197				
Download	G6		R6		C6		E6		J198				- 1
Language English 👻	G7		R7		C7		E7		J199				- 1
Logout	G8		R8		C8		E8		J200				- 1
	G9		R9		C9		E9		J201				- 1
	G10		R10		C10		E10		J202				
	G11		R11		C11		E11						
	G12		R12		C12		E12						
	G13		R13		C13		E13						
	G14		R14		C14		E14						
	G15		R15		C15		E15						
	G16		R16		C16		E16						
	G17		R17		C17		E17						
	G18		R18	0	C18		E18						
	G19		R19		C19		E19						
	G20		R20		C20		E20						
	G21		R21		C21		E21						
	G22		R22		C22		E22						
	G23		R23		C23		E23						
	G24	0	R24	0	C24		E24						
	G25				C25		E25						
	G26				C26		E26						

### [NTRIP Server]

In base mode, NET10 can transmit correction streams to NTRIP Caster. Up to 3 data streams are supported simultaneously. When NET10 itself enables the "NTRIP Caster" function in "port configuration" page, here the "Server Address" is "127.0.0.1".

🛛 Ntrip Server 🗙 🕇									- a ×
← → C ☆ ▲ Not secure   192.168.28.10	8/index.php								아 ☆ 郞 💺 🖲 🏚 🚺 🗄
NET10 Reference Station	n								
Summary System Information V Reference Station V Nitrip Server Recording						Ntrip Server			
Port Configuration	Name	Server Address	Mount	point	Data Type	Status	Start Time	Data Size	Operation
Network V	Test1	119.45.59.192:2101	NET10_F	RTCM32	RTCM32	transmitting	2021-05-20 12:39:41	183.290 KB	Edit Start Stop
Administration 🗸	Test2	119.45.59.192.2101	NET10_	RTCM3	RTCM32	transmitting	2021-05-20 12:43:18	21.601 KB	Edit Start Stop
Language English	Test3	119.45.59.192.2101	NET10	CMR	RTCM32	transmitting	2021-05-20 12:43:27	13.524 KB	Edit Start Stop
	Ntrip Server 1	▼ Name		Test1					
		Server Address		119 45 59 192					
		Server Port		2101					
		Version		V1.0 ¥					
		Password							
		Mountpoint		NET10_RTCM3	12				
		Data Type		O RTCM3.0 C	CMR O CMR+ 🦲	RTCM3.2 O ROX O D	OGPS O RAW		
		Interval		1HZ 🗸					
		Ephemeris Frequency		Onchanged V					
		Auto Connect		🖲 Enable 🔿 [	Disable				
		Submit				Delete		Reload	



### [Recording]

Configurate raw data recording and FTP upload. Up to 8 sessions are supported simultaneously. The original raw file format is \*.dat, it supports to be converted to RINEX format. To save the memory, user can choose to compress the data in \*.zip format.

Summary System Information Reference Station Ntrip Server		Raw Data Recording Configuration											
Recording Port Configuration													
I/O Configuration	Schedule Name	Interval		Path	Status	Start Time	Duration Tme	File Size		Operatio	on		
Network 🗸	Session1	15	INTERNAL/Ses	ision1/2021/05/20/Test140E.da	t recording	2021-05-20 12:45:01	60 min	383.922 KB	Edi	Start	Stop		
Administration V	Session2	18	INTERNAL/Ses	ision2/2021/05/20/Test140E.da	t recording	2021-05-20 12:45:01	60 min	383.922 KB	Edi		Stop		
Language English V	Session3	15	INTERNAL/Ses	ision3/2021/05/20/Test140E.zip	waiting	undefined	60 min	234.968 KB	Edi	Start	Stop		
Logout	session4	15	INTERNAL/ses	ision4/2021/05/20/Test140E.zip	recording	2021-05-20 12:46:01	60 min	234.988 KB	Edi	Start	Stop		
	session5	18	INTERNALISES	ision5/2021/05/20/Test140E.zip	recording	2021-05-20 12:46:54	60 min	95.070 KB	Ed		Stop		
	sessiono	15	INTERNALISES	isiono/2021/05/20/Test140E.zip	recording	2021-05-20 12:46:54	60 min	95.070 KB	Edi	) Start	Stop		
	session/	10			Idia	undefined	60 min	08	Edi	Otart	Stop		
	session8	18			idie	undefined	60 min	0.8	Edi	Start	5100		
	Recording - Session1 ¥												
		Schedule Nan	10	Session1									
		Path Type		Session/Date 👻									
		File Name		ssssdddf.yyt 👻	)								
		File System		/Internal ¥						_			
		Interval											
		Duration Tm	•										
		Auto		• Fable O Disble									
	In	tegral Point Re	cord	Enable O Disable									
		File Push		C Entité C Disable									
					Push Paramete	rs							
		Protocol		◎ FTP ○ GEO ○ RADIO	0								
	F	TP Server Add	1055										
		FTP Server Po	irt										
		FTP User											
		FTP Passwor	d										
		Remote Direct	жу										
		Convert		Enable ODisable									
				Rinex 3.02	Mixed Nav								
				Compress zip v									
				Antenna Phase Center									
				File Push									
	Compress(Global) : [Zip	•											
		Sul	omit		Delete		Reload						

### [Port Configuration]

NET10 supports Bluetooth, COM3 RS232, NTRIP Client, NTRIP Caster and 5 TCP/UDP sockets.

Port Configuration x +							- Ø ×
← → C 介 ▲ Not secure 192.168.28.10	8/index.php						x x x x x x .
NET10 Reference Station	n						
Summary							
System Information V							
Ntrip Server	Ports Summary :						
Recording	Port	Status	Baud Rate	Protocol	Mode	IP Port	Function
Port Configuration	Bluetooth	Enable	100 C	100 B	100 C		CMD
I/O Configuration V	COM3	Enable	115200	RS232	100 C		DEBUG
Administration V	Ntrip Client	Disable		NTRIP	CLIENT	183.60.177.84:2012	Access data
Download	Ntrip Caster	Disable		NTRIP	CASTER	6070	Caster
Language English V	Socket 1	Disable		TCP	SERVER	6060	RAW
Logout	Socket 2	Disable		TCP	SERVER	9000	RAW
	Socket 3	Disable		TCP	SERVER	9001	RAW
	Socket 4	Disable		TCP	SERVER	9001	RAW
	Socket 5	Disable		TCP	SERVER	9001	RAW
	I/O Configuration : Bluetooth						
	Bluetooth		🖲 Enable 🔿 Disable				
	Function		CMD(Input/Output) V				
		Submit			Reload		

# [Port Configuration-Bluetooth]

Bluetooth mode supports CMD(input/output), NMEA(output), RTK(correction data input/output), raw output and BINEX output.

Port Configuration × +							- 0 ×
← → C ☆ ▲ Not secure   192.168.28.10	08/index.php						🖈 🐹 💺 💌 🗯 🚺 E
NET10 Reference Statio	n						
Summary System Information V Reference Station V	Ports Summary :						
Recording	Port	Status	Baud Rate	Protocol	Mode	IP Port	Function
Port Configuration	Bluetooth	Enable	-	-			CMD
Network V	Nitio Client	Diaable	115200	NTDID	CLIENT	403 50 477 04 3043	DEBUG
Administration 🗸	Nutp Client	Disable		NTRIP	CASTED	6070	Castar
Download	Socket 1	Disable		TCP	SEDVED	6050	DAW
Logout	Socket 2	Disable		TCP	SERVER	9000	RAW
	Socket 3	Disable	-	TCP	SERVER	9001	RAW
	Socket 4	Disable		TCP	SERVER	9001	RAW
	Socket 5	Disable		TCP	SERVER	9001	RAW
	I/O Configuration : Bluetooth V						
	Biueto	-	Enable O Disable				
	Funct	Submit	Cut (report Cutport) Cut (report Cutport) NTR(report) RTR(cutport) RTR(cutport) RTR(Cutport) BINEX(Cutport) BINEX(Cutport)		Reload		

In NMEA setting, when "Convert Coordinate" is enabled, "FVI" message will output the local NEZH coordinate.

Port Configuration × +								- 0	×
← → C ↔ A Not secure 192.168.28.10	08/index.php						☆ 12 🔤		<b>n</b> :
NET10 Reference Statio	n								
Summary System Information	Dente Commence								
Ntrip Server	Ports automaty .	Status	Revel Date	Breteval	Mada	ID Dog	Function		
Recording	Bluetooth	Enable	Daud Kate	Protocol	Mode	iFFor	CMD/DTCM2		
VO Configuration	COMB	Enable	115200	 D\$232			DEBUG		
Network 🗸	Ntrip Client	Disable		NTRIP	CLIENT	183 60 177 84 2012	Access data		-
Administration V	Ntrip Caster	Disable		NTRIP	CASTER	6070	Caster		-
Download	Socket 1	Disable		TCP	SERVER	6060	RAW		-
Logout	Socket 2	Disable		TCP	SERVER	9000	RAW		-
	Socket 3	Disable		TCP	SERVER	9001	RAW		_
	Socket 4	Disable		TCP	SERVER	9001	RAW		-
	Socket 5	Disable		TCP	SERVER	9001	RAW		-
	I/O Configuration : Bluetooth								
	Blue	tooth	Enable O Disable	le					
	Fund	ction	NMEA(Output)	2					
	NM	ΙΕΛ	GGA: 1HZ ▼ GSA: RMC: 0ff ▼ VTG: HDT: 0ff ▼ FVI: ATTSTAT: 0ff ▼ FV GGA2: 0ff ▼ BIN	Off         V         GSV:         Off         V         ZI           Off         V         GST:         Off         V         GI           Off         V         HPR:         Off         V         KS3           RTKSTAT:         Off         V         VCT:         Off         SI           3:         Off         V         BIN5:         Off         V         BIN5:	AL: Off V L: Off V T: Off V V RD1: Off V IN209: Off V				
		Submit			Reload				

# **O-survey**

#### [Port Configuration-COM3]

COM3 supports Debug(input/output), CMD(input/output), NMEA(output), RTK(correction data input/output), raw output and BINEX output.

Port Configuration × +							- 0 ×
← → C ☆ ▲ Not secure   192.168.28.1	108/index.php						x 🐹 💺 👅 🛪 🚺 E
NET10 Reference Statio	on						
Summary System Information V Reference Station V	Ports Summary :						
Recording	Port	Status	Baud Rate	Protocol	Mode	IP Port	Function
Port Configuration	Bluetooth	Enable	100 C	100 C	100 C		CMD
Network	COM3	Enable	115200	RS232	-	-	DEBUG
Administration V	Ntrip Client	Disable		NTRIP	CLIENT	183.60.177.84:2012	Access data
Download	Ntrip Caster	Disable	-	NIRP	CASTER	6070	Caster
Language English V	Socket 1	Disable		TCP	SERVER	6060	Reiv
Engloar	Socket 3	Disable		TCP	SERVER	9001	RAW
	Socket 4	Disable		TCP	SERVER	9001	RAW
	Socket 5	Disable		TCP	SERVER	9001	RAW
	I/O Configuration : COM3						
	COM	13	Enable      Disable				
	Baud	Rate	115200 ¥				
	Func	Submit	DEBUG(hputChapu) DEBUG(hputChapu) CMD(hputChapu) NMEA(chapu) RTK(hput RTK(hput) RTK(hput) BINEX(Chapu) BINEX(Chapu)		Reload		

### [NTRIP Client]

In "Reference station" page, when "rover" mode is selected. Setup NTRIP client parameter to receive the correction data.

Port Configuration × +							- 0 ×
← → C ① A Not secure 192.168.28.105	Vindex.nhp						🕁 🕺 🖿 🕷 🎒 E
NET10 Reference Station	1						
Summary							
System Information V Reference Station	Dente Guerrana a						
Ntrip Server	Ports summary :					100 10	
Recording	Port	Status	Baud Rate	Protocol	Mode	IP Port	Function
Port Configuration	Bluetooth	Enable		-	1		CMD
Network	COM3	Enable	115200	RS232	-	-	DEBUG
Administration 🗸	Ntrip Client	Disable		NTRIP	CLIENT	183.60.177.84.2012	Access data
Download	Ntrip Caster	Disable		NTRIP	CASTER	6070	Caster
Language English V	Socket 1	Disable		TCP	SERVER	6060	RAIV
Logout	Socket 2	Disable		TCP	SERVER	9000	RAW
	Socket 3	Disable		TCP	SERVER	9001	RAW
	Socket 4	Disable		TCP	SERVER	9001	RAW
	Socket 5	Disable		TCP	SERVER	9001	RAIV
	Ntrip Client v						
	Ntrip CI	lent	Enable O Disable				
	IP:Po	rt	183.60.177.84.2012				
	Versio	on	V1.0 ¥				
	Mountp	oint	TEST	Get Mountpoint			
	Upload	GGA	10S 🗸				
	Use	r	user				
	Passw	ord					
		Submit			Reload		



#### [NTRIP Caster]

NET10 has built-in NTRIP caster platform to forwarding the correction data. To let the user access the mountpoint, the ethernet network should have port forwarding rules for the port.

Port Configuration	× +						- ø ×
← → C ☆ ▲ Not secur	re 192.168.28.108/index.php						🖈 踞 💺 🗷 🖈 🚺 🗄
NET10 Reference	e Station						
NET10 Reference	Ports Summary : Ports Summary : Port Buenout COUS Nilip Cien Socket 7 Socket 7 Socket 5 Socket 5	Status N Enable Enable er Disable er Disable Disable Disable Disable Disable Disable	Eaud Rate    	Protocol R5232 NTRIP NTRIP TCP TCP TCP TCP TCP TCP	Mode CLENT CASTER SERVER SERVER SERVER SERVER SERVER SERVER	IP Post 	Function CMD DEBUG Access data Caster RAW RAW RAW RAW RAW RAW
	Ntrip Caster 👻						
		Ntrip Caster	Enable O Disable				
		Port	6070				
		Submit			Reload		

### [Socket]

In socket setting, user can configurate TCP/UDP mode to transmit data.

Port Configuration × +	+						- Ø ×
← → C ☆ ▲ Not secure   1	92.168.28.108/index.php						☆ 話 💺 🗶 券 🚺 E
NET10 Reference S	Station						
Summary							
System Information V							
Ntrip Server	Ports summary :						
Recording	Port	Status	Baud Rate	Protocol	Mode	IP Port	Function
Port Configuration	Bluetooth	Enable	-	-	100 C		CMD
Network V	COM3	Enable	115200	HSZ3Z	- 01/51/7		DEBUG
Administration 🗸	Ntrip Client	Disable		NTRIP	CLIENT	103.00.177.04.2012	Access data
Download	Socket 1	Disable		TCD	CASTER	6070	DAW
Language English	Socket 2	Disable	-	TCP	SERVER	6000	DAW
	Socket 3	Disable		TCP	SERVER	9001	RAW
	Socket 4	Disable		TCP	SERVER	9001	BAW
	Socket 5	Disable		TCP	SERVER	9001	RAW
	I/O Configuration :						
	Sacket 1 👻						
	Socket	1	Enable O Disable	1			
	Туре		TCP V				
	Mode		Server 🕶				
	Port		6060				
	Function	n	NMEA(Output) V				
			CMD(Input/Output)	0# w GSV-0# w 7DA-	05		
			RTK(Input)	Off V GST: Off V GLL:	Off V		
	NMEA		RAW(Output)	H V HPR: Off V KSXT:			
			BINEX(Output)	Off V BIN5: Off V BIN2	209: Off V		
	Record		O Enable   Disable				
		Pulsed			Delead		
		Submit			Reload		
L							



### [Convert Coordinate]

NET10 supports local grid coordinate output. When "Convert coordinate" is enabled and the coordinate parameter is setup, NMEA message "FVI" in "Port Configuration" can output NEH values.

Ø Convert Coordinate x +				- 0 >
← → C ☆ ▲ Not secure   192.168.28.10	8/index.php			🔉 調 💺 📜 🎓 🌖
NET10 Reference Station	n			
Summary				
System Information V				
Reference Station V Ntrip Server			Convert Coordinate	
Recording	Enable Output	C Enable O Disable		
Port Configuration			Destination Datum	
Convert Coordinate	Datum	Custom ~	1	
Trace back Settings	Semi-Major Axis(a)	0		
Administration	Bot-Flattening(1/7)	U	Source Darameter	
Download	Use Seven Parameter		over on a second s	
Language English V	dX(m)	0		
Logoar	d'Y(m)	0		
	dZ(m)	0		
	RotateX(")	0		
	RotateY(")	0		
	RotateZ(")	0		
	Scale(ppm)	0		
			Projection Parameter	
	Projection Type	Gauss	v	
	CenterMeridian(*)	0		
	Scale	1		
	North(m)	0		
	Last(m)	0		
	Ret-neight	0		
	Base Lon(1)	0		
	Parallal1	0		
	Parellel?	0		
			Four Parameter	
	Use Four Parameter			
	dX(m)	0		
	dY(m)	0		
	Rotate(")	0		
	Scale(ppm)	0		
	Submit		Reload	

### [Track back Settings]

The device can upload the position and device serial number information to TCP server.

				- 0 ×
← → C ① ▲ Not secure 192.168.28.108	8/index.php			x 🐹 💺 🗯 🖈 🚺 E
NET10 Reference Station	<u>n</u>			
Summary				
System Information V				
Reference Station 🗸			Trace back Settings	
Ntrip Server	Start	Enable      Disable		
Recording Port Configuration	Factors Address			
I/O Configuration	Server Address			
Convert Coordinate	Server Port			
Trace back Settings	Username			
Network 🗸	Password			
Administration V	Interval(s)			
Language English V				
Logout				
	Submit		Reload	



 $@\mathsf{GELOC}, 2021-05-20T17:02:51, 31.0844208400, 121.5303884860, 58.6100, \mathsf{nan}, \mathsf{-nan}, 58.6100, 37, 1, 0.972, 2.450, 4.568, 0, 0.0730, 53.7220, \mathsf{NET13A2100001}, \mathsf{,,*4F}$ 

String	Туре	Meaning	Note
@GELOC	string	Header	
Time	Number	Date and time	Second precision
Lat	number	Latitude	Unit: degree
Lon	number	Longitude	Unit: degree
Alt	number	Altitude	Unit: meter
North	number	North	Unit: meter, available when coordinate system is enabled
East	number	East	Unit: meter, available when coordinate system is enabled
Height	number	Elevation	Unit: meter
SatNum	number	Used satellites	
PosStat	number	Solution status	0 = No position
			1 = Single
			2 = DGNSS
			4 = Fixed
			5 = Float
PDOP	number		
HRMS	number		
VRMS	number		
Age	number	Delay time	
Speed	number	Speed	Unit: km/h
Dir	number	Direction/Heading	Unit: degree
SN	string	Serial number	
,,,,	-	Reserved	
Check	CheckSum	CRCB check	Check the message

### [Network]

To setup the ethernet or wireless network. Please note, once the wireless net is changed to "Client" mode, the WebUI will be stopped and not able to access. For user who is not familiar with the device, we do not suggest change the wireless net setting.

Network X	+									-	0 ×
← → C ☆ ▲ Not secure	192.168.28.108/index.php							☆	27 🔤		<b>▶ ①</b> ∃
NET10 Reference	Station										
112110 Reference	Station										
Summary											
System Information											
Reference Station V			т	he Running Nets	work						
Ntrip Server Recording	Priority Network	● Wired Net ○ Wireless Net	t								
Port Configuration	Switch Strategy	Local Network      Public I	letwork O	Disable							
I/O Configuration 🗸	Current Network	WAN									
Network V	Default Gateway	192.168.28.253									
Dynamic DNS	DNS	114.114.114.114 8.8.8.8	~								
FTP Server	PING	Timeout : (s) Counts	1								
NTP Server											- 1
SNMPD											
VPN Client			De	vice Network Se	ttings						
Administration 🗸	Wired Net	🖲 wan 🔾 lan									
Download	DHCP	Enable O Disable									
Logout	IP	192.168.28.108									
-	Mask	255.255.255.0									
	Gateway	192.168.28.253									
	MAC address	64:69:4E:09:4F:28									
	Link Status	Link connected									
	Status	Internet access									
											_
							 				_
	Wireless Net	○ Client ● Hotspot ○ Dis	able								
	MAC address	74.7A.90.5E.47.87					 			_	- 1
	SSID	NET13A2100001							_	_	
	Password	NONE									- 1
	IP	192.168.10.1									
	Submit				Reload						
						_					



# [Dynamic DNS]

This function can be used when NET10 itself as NTRIP Caster. If user does not have static IP, dynamic DNS service is suggested.

O Dynamic DNS × +					-	o ×
← → C ☆ ▲ Not secure   192.168.28.103	3/index.php		☆ 麗	De 1	* 1	<b>()</b> :
NET10 Reference Station	1					
Summary System Information Reference Station		Dynamic DHS				
Recording	Dynamic DNS	Enable O Disable				
Port Configuration	Service Provider	Custom V dyndns.com				
Network 🗸	Host Name					
Network	Username					_
FTP Server						-
NTP Server	UNL					
Firewall					_	
I VPN Client Administration ✓ Download Logout					Æ	
	Submit	Ratoad				

### [FTP Server]

To configurate NET10 as FTP server. User can access NET10 storage with the correct username and password.

S FTP Server x +	- 0 X
← → C 🏠 🔺 Not secure   192.168.28.108/index.php	x) 🖬 🍡 🗷 🛧 🕐 :
NET10 Reference Station	
Summary	
Reference Station	FTP Server
Ntrip Server	Easting w
Recording Encountion	
I/O Configuration	
Network V	
Network	
FTP Server	
NTP Server Submit	Reload
SNMPD	
VPN Client	
Administration 🗸	
Download	
Logout	



### [NTP Server]

NET10 time is from the satellite. When enabled, the devices like computer which is under the same network can sync the time with NET10.

O NTP Server X +	- 0 ×
← → C û 🛦 Not secure   192.168.28.108/index.php	全 왕 💺 🖲 🛊 🚺 日
NET10 Reference Station	
Summary System Information V Reference Station V NTPD	
Recording NTP Server Enable O Disable	
Pert Cerifyanian Vi Configuration Vi Con	
I Firewall Submit Retown Reto	

# [SNMPD]

- 0 ×		× +	SNMPD × +
x X 🕸 🖉 🛪 🚺 E		cure 192.168.28.108/index.php	← → C ① ▲ Not secure 192.168.28.108
		ce Station	NET10 Reference Station
			Summary Sustan Information
	SNMPD		Reference Station
	Enable O Disable	SNMPD	Ntrip Server
	(Please separate by ',')	Trap IP	Port Configuration
		Allow Access IP	I/O Configuration V
		1	Network
	Reload	Submit	Dynamic DNS
			NTP Server
			SNMPD
			VPN Client
			Administration V Download
			Language English V
			Logout
	Retort		Network   Dynamic DNS   Dynamic DNS   FITP Server   NTP Server   NTP Server   SNMPD   Firewall   VPHC Genet Accounting Logoud Logoud



### [Firewall]

To configurate the IP address access in blacklist or whitelist.

Ø Firevall × +			-	0 X
← → C ① ▲ Not secure   192.168.2	8.105/index.php		x 🖬 🖬 🖊 🏞	•
NET10 Reference Stati	ion			
Summary				
Reference Station		Firewall		
Ntrip Server	Network Services Filter	Enable      Disable		
Port Configuration	Filter Table Type	Riack List V		
I/O Configuration V	THUT INDIVITIES			
Network V	010		0	
Dynamic DNS	Source IP		Operation	
INTP Server	Add			
SNMPD				
Firewall	Submit	Reload		
Administration V				
Download				
Logout				

### [VPN Client]

To configurate the VPN settings.

Ø VPN Client × +					- 0	9 ×			
← → C ☆ ▲ Not secure   192.168.28.10	08/index.php			☆ 歸 🔤	* *	<b>(</b> ) :			
<b>NET10 Reference Statio</b>	n								
Summary									
System Information V Reference Station			VBN Client						
Ntrip Server			VPN Client						
Recording									
Port Configuration	Settings	Settings							
Network	VPN Client	Enable      Disable							
Network	VPN Protocol	PPTP V							
Dynamic DNS	VPN Server IP								
INTP Server	User		]						
SNMPD	Password								
Firewall	Authentication Algorithm	Auto 🗸							
Administration	Encryption Algorithm	Auto 🗸							
Download	MTU	1450	[10001460]						
Language English V	MRU	1450	[10001460]						
Logout	IP								
	Mask								
	Gateway								
	Submit		Reload						



#### [Alerts]

NET10 support email alert when temperature is above the limitation, internal storage is almost full, satellite number is to less or when the device is moved away.

Alerts		× +								- 0	×
< → C ∆ /	A Not	ecure   192.168.28.10	8/index.php					\$	27 🗣 🖡		<b>()</b> :
NET10 Re	fere	nce Statio	n								
Summary											
Reference Station	ž					Alerte					
Ntrip Server						Alerts					
Recording			E-Mail Alerts	Enab	le 🔿 Disable						
Port Configuration			SMTP Server			: Encryption : Off 👻					
I/O Configuration	~		From E-Mail Address			]					
Network I Network	~		E-Mail Login Name					Test			
Dynamic DNS			E-Mail Login Password			1					
FTP Server			To F.Mail Address			1					
NTP Server			TO C HIM PROVIDE			]					
SNMPD											
I VPN Client			SMS Alerts	Enab	le O Disable						
Administration	$\sim$		Phone Number	1379819	1635	1		Test			_
Alerts				r							
Registration											
Remote Debug			Temperature is above a limit 70 °C		Internal Disk sp	ace is close to be full (under 500Mb)		GNSS satellites drop below an amount 5			
System Managemen	ıt		Difference between estimated coordinates and base coordinates over 40	m							_
Download					1						
Language English V											
Logout			Submit				Reload				

### [Registration]

Register the device and GNSS board. For the GNSS board, it is used mainly to register the L-band Atlas function.

			-	0 ×
← → C ☆ ▲ Not secure   192.168.2	18.108/index.php		x 🖬 🗣 📕 🛪	0 :
NET10 Reference Stati	ion			
Summary Reference Station V Reference Station V Recording Petr Configuration I/O Configuration V Petro K Dyname LNS I/The Server I/The Server I/Th	Registration O GNSS Board Registration     Device Serial     Old AutoCode     Expire Date     Register Stands     AutoCode     Submit	NET13A210001 812A22309515558058325842715FA 2011728 NORMAL	Ratead	
Registration X +			-	ø ×
NET10 Reference Stati	ion		× 10 kg 🕷 🕅	
Summary System Information V Reference Station V Ning Server Recording Port Configuration	Registration     GNSS Board Registration     GNSS Sould	Таканан		



### [Configuration Set]

Registration × +				- 0 ×
← → C ☆ ▲ Not secure   192.168.28.108/inc	dex.php			x) 🗟 💺 🖲 🛪 🚺 E
NET10 Reference Station				
Summary System Information Reference Status Port Configuration Port Configuration VIC Configuration VI	Config Files System config Service config User config	Save collg	Restre corig Doose File 140 file doson Cheese File 140 file doson Cheese File 140 file doson	Upload Upload Upload Upload

\_\_\_\_\_

# [Remote Debug]

Remote Debug X +				-	. 0	×
← → C ☆ ▲ Not secure 192.168.28.108	3/index.php		☆ ¥		* 0	
NET10 Reference Station	1					
Summary						
System Information						
Reference Station V		Remote Debug				
Recording	Enable	Enable O Disable				
Port Configuration	IP : Port					7
I/O Configuration V						- 1
Network	Submit	Reload				
Dynamic DNS	Coorting	1.000-Mail				
INTP Server						
SNMPD						
Firewall						
Administration V						
Alerts						
Configuration Set						
Remote Debug						
System Management						
Language English V						
Logout						

### [System Management]

This page is used to update firmware version, view logs, change WiFi password, do self-test, restart device, reset GNSS board, reset factory settings, format internal disk.

System Management X +	- 0	×
← → C ☆ ▲ Not secure   192.168.28.108/ir	ndezphp 🗘 🗟 👆 🚺	i.
	· · · · · · · · · · · · · · · · · · ·	í.
NET10 Reference Station		
NETTO Reference Station		
Summary		
System Information 🗸		
Reference Station 🗸	Online Upgrade	
Ntrip Server		
Recording	1. Upload File Choose File No file chosen Upgrade	
Port Configuration		
Network by		
I Network		
Dynamic DNS	View Logs	
FTP Server		
NTP Server	1. APP Log Download View	
SNMPD	2.05 Los Domited Tran	
Firewall	2. Of Log Domitod Ver	
VPN Client	3. NET Log Download View	
Administration V		
Registration	4. Audit Log Downland Vew	
Configuration Set		
Remote Debug		
System Management	Faculty	
Download	aecunty	
Language English V	C Enable Login Authentication	
	Current User : admin	
	Old Password	
	New Password Change	
	Ce Enable Quest	
	New Guest Password Change	
	Self feld Riesland Device Freed OLM Factory Reset Formal Internal Dak Net Feld	

### [Download]

Download the recorded data.

O Download		×	+												-	6	3 X
€ ⇒ С О	A Not	secure	192.168.28.1	38/index.php									ñ	26	•	*	• •
NET10 R	efere	nce	Statio	n													
Summary																	
System Information	~																
Neterence Station	~			0.1.1			_	01	Augustus Theory		10 d - 70	An excellent					
Recording				Select	_	Name	_	Size	Creation Time	Mo	dification Time	Operation					
Port Configuration						INTERNAL		10.053M	-			FTP Push Package Delete					
I/O Configuration	~			Select All	Package	Delete Selected	Prev	1 1 (1/1) Next									
Network	~																
Network																	
Dynamic DNS																	
FTP Server																	
NTP Server																	
SNMPD																	
Firewall																	
Administration	~																
Alerts																	
Registration																	
Configuration Set																	
Remote Debug																	
System Manageme	ent																
Download																	
Language English	~																
Logout																	

# Warranty Policy

#### The Guarantees Rights

•e-survey supports free exchange or refund within 7 days from the day when you have received the products, where the device appears "performance failure", which confirmed by e-survey repaircenter.

∎e-survey supports free maintenance or exchange within 15 days from the day when you have received the products, where the device appears "performance failure", which confirmed by e-survey repair center.

∎e-survey supports free maintenance or exchange the same type of device within one year from the day when you have received the products, where the device appears "performance failure", which is still not in working conditions after two repairs.

e-survey supports a 24-month warranty service for the device host and a 3-month free warranty service for the accessory from the day when you have received the products.

#### Warranty service

If the device host meets the warranty conditions, the warranty service can be obtained according to the warranty card and the purchasing invoice. If the proof of purchase and the warranty card cannot be provided, and e-survey will use the delivery time as the standard for the warranty period.

If it is a non-warranty product, and the repair center will handle the maintenance of the extra-fee.

After the device is repaired, the same fault is con-firmed by the repair center and e-survey will provide a 3-month free warranty service.

The transportation, delivery and disposal costs incurred during the delivery or inspection of the product to e-survey shall be borne by the user. The freight generated by the repair or inspection equipment returned to the user shall be borne by e-sur-vey.

Equipment that needs to be repaired or sent for inspection, please back up the data in the machine in time.

During the warranty period, the parts normally used for maintenance are free.

The parts that have been replaced during the repair are owned by e-survey.

e-survey is not responsible for non-product standard and software or applications that are not certified by the company.

#### Following conditions are not within the scope of the warranty and service

The device host and accessories have been subjected to: abnormal or improper use, improper storage of abnormal conditions, unauthorized disassembly or alteration, accidents, damage caused by improper installation.

Damage caused by improper use of user, such as liquid injection, damage due to external force, etc.

Failure to use, repair or transport caused by the equipment's instruction manual.

Damage to the product is caused by external, including but not limited to, abnormal and unpredictable factors such as satellite systems, geomagnetism, static electricity, physical pressure, etc.

Damage caused by force majeure such as earth- quakes, floods, wars, etc.

Other conditions that cannot comply with the relevant provisions of the Guarantees Rights.



# To be the leading provider of high-precision professional, solution & service in the global geospatial industry



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