Please refer to the WIFI connection as shown below:



<u>Fig.1</u>

1) Connect the NMEA data RS232 (or any serial data) to the serial port of the KM-Router



To pin 5 (GND)



From external NMEA data (or any serial data)

Fig.2

2) KM-Router Settings

2.1) Connect the power and switch ON the KM-Router. (refer to the KM-Router quick manual)

2.2) Connect your device (PC, mobile or tablet) to the WIFI network of the KM-Router (Please refer to Fig.3)

2.3) Open the internet browser and type in 223.168.1.253 to access the configuration page (or refer to the KM-router quick manual), refer to Fig.4

### Note :

- Default login ID: admin
- Default login password: admin



Fig.3

223.168.1.253/ser2net.htm **Mi-Link** Settings Network Serial 0 Serial 1 Updated Current Network Mode Default Default 🗸 IP Type DHCP DHCP ∨ Enable AP Enable Enable  $\vee$ AP SSID KM-ROUTER-00001 KM-ROUTER-00001 AP EncType WPA2AES WPA2AES AP Passwd 12345678 12345678 LAN IP Addr 223.168.1,253 223.168.1.253 LAN Mask 255.255.255.0 255.255.255.0 DHCP Server Enable Enable  $\vee$ 

## 2.4) Click on the "Serial 1" Tab and the page below appears (Fig.5)

		Current	Updated
Baudrate		38400	38400
Data Widt	h	8	8 🗸
Parity		NONE	NONE ~
Stop Bit		1	1 ~
Flow Control		Disable	Disable 🗸
Socket Protocol Type		Tcp Server	Tcp Server 😒
Locale Por	t	8081	8081
Packet Fra	ming Lenth	200	200
Packet Fra	ming Timeout	50	50
Packet Framing Interval		10	10
TCP Timeout		0	0
Reconnect Interval		200	200
TCP Keep Alive		1	1
TCP Max 0	Connect	100	100



2.5) Enter the baudrate of the NMEA data (or any serial data) connected to the KM-Router.

*Note:* It is recommended to leave other settings as default.

### 2.6) Click [Apply] to save settings.

E 🖶 ser2net config × + ×		-	ť	9	×
$\leftrightarrow$ $\rightarrow$ $\circlearrowright$ $\bigstar$ $\oslash$ 223.168.1.253/hlk_cmd2.htm	☆	∱≡	h	ß	
16         Secs         Please wait         Reboot					

2.7) After reboot, check the settings. The Current settings should be the same as the Updated settings as shown below (Fig.6):

	Current	Updated	
letwork Mode	Default	Default 🖂	
р Туре	DHCP	DHCP ~	
P Enable	Enable	Enable ~	
AP SSID	KM-ROUTER-00001	KM-ROUTER-00001	
AP EncType	WPA2AES	WPA2AES ~	
P Passwd	12345678	12345678	
AN IP Addr	223.168.1.253	223.168.1.253	
AN Mask	255.255.255.0	255.255.255.0	
HCP Server	Enable	Enable 🖂	

Fig.6

3) Example of transferring the AIS NMEA data from the **ONWA AIS plotter KP-1299A** to **a PC** through the KM-router WIFI

3.1) Connect KP-1299A AIS output to the serial port of KM-router. (refer to Fig.2)

3.2) Download and Install OPENCPN to a PC , https://opencpn.org/OpenCPN/info/downloads.html

3.3) Connect the PC to the WIFI network of the KM-router. (Refer to Fig.3)

3.4) Run OPENCPN and follow the steps as shown in Fig 7.

Note: Fill the settings in the blue box (step 4) according to the settings of the KM-router in the blue boxes as in Fig. 4 and Fig. 5

Navigate View AIS Tools Help			*
© 1	Options	×	
4	🔲 🍘 🥔 🥵 🤉 🖉		
6	Display Charts Connections Ships User Interface Plugins		
5	Enable Type Direction Protocol Network Address Network Port Priority     Metwork Port 7CD 233.4564.363     enable 1		
C T A	Comment:		
	17 Enable Time Direction Destoral Network Address Nationsk Dost Dispits	•	
?	Add Connection Remove Connection		
	Edit Selected Connection		
	O Serial  Network		
	OUDP O GPSD 4	4	
N N N N N N N N N N N N N N N N N N N	Address 223,168,1,253		
	User Comment		
	Priority 1		
	Control checksum		
	Talker ID (blank = default ID) EC		
	APB bearing precision		
	Input filtering		
	Accept only sentences	·	
	ОК	Cancel Apply	
2 NMi		( <del>)</del> ( <del>)</del> 1:97900	
- Ship 22" 16.9443' N 114" 13.9639' E SOG 0.1	kts 22° 21.5648' N 114° 02.0739' E 25	292° 12.0 NMi	

# 3.5) OPENCPN now shows the AIS and GPS data from KP-1299A.



Fig.8

**Note:** To show the "NMEA debug window ", Follow the steps as shown in Fig.9

To OpenCPN 5.0.0+9065270		– ā ×
Navigate View AIS Tools Help		
🔜 NMEA Debug Window		
13:08:40 (TCP:223.168.1.253:8081) !AIVDM, 1, 1, A, B69JI> bhC3?8mP= 18D0i	wav1P06,0*26<0x0D><0x0A>	
348:40 (TCP:223.168.1.253:8081) !AIVDM,1,1,,A,177nTOPP00`:huP <i;hv4< td=""><td>Options X</td><td></td></i;hv4<>	Options X	
13:08:40 (TCP:223.168.1.253:8081) \$GNRMC,050854.00,A,2216.93993,N,114		
13:08:40 (TCP:223.168.1.253:8081) \$GNQF10, 1, M, 0.040, N, 0.073, C, A 5D<08 13:08:40 (TCP:223.168.1.253:8081) \$GNGGA,050854.00,2216.93993, N, 11413		
13:08:40 (TCP:223.168.1.253:8081) !AIVDM,1,1,,A,E>IdCmOIHIHHKHJ@;a2	Display Charts Connections Ships User Interface Plugins	
Filter		- 194 <u>1</u> - 1941 -
5	General	
	Filter NMEA Course and Speed data Filter period (sec)	
Legend	Show NMEA Debug Window 2	
Message accepted	Format uploads for Furuno GP3X	
Input message filtened, output message filtened and dropped	Use Garmin GRMN (Host) mode for uploads	
Input Message filtezed and dropped	Use magnetic bearings in output sentence ECAPB	
Output Message	Data Connections	
Information Message or Message with encus	Easthle Tone Direction Destant Serial Bart Products Directly	
	Serial Input NMEA 0183 COM4 38400 1	
	Comment:	
	Televite Ter Director Dataset Mature Mature Mature Det Directo	
	Network Input TCP 223.168.1.253 8081 1	
	Comment:	
	Add Connection Remove Connection	
	Input filtering	
	ouput neering	
	4	
	OK Cancel Apply	
2 NMI		
		(€ € <sup>1,97800</sup> [♥] =
\ Ship 22° 16.9398' N 114° 13.9658' E SOG 0.0	kts 22° 12.4666' N 114° 01.2273' E 249° 12.7 NMi	

Fig.9

4. Example of transferring the AIS NMEA data from the **ONWA AIS plotter KP-1299A** to a **Mobile device** through KM-router WIFI

- 4.1) Connect KP-1299A AIS output to the serial port of KM-router. (refer to Fig.2)
- 4.2) Download and Install OPENCPN APP



Free Chartplotter and Navigation Software



- 4.3) Connect the Mobile device to the WIFI network of the KM-router. (Refer to Fig.3)
- 4.4) Press setup Icon. (refer to Fig.11)



Fig. 11

### 4.5) Choose "Connections" and Press "Add" (refer to Fig.12)

17:19 🗎 🗗 🚭 🖬		Ö	((1:-	ீய∐ aul	<b>E</b> 70
🏀 OpenCPN		6		M	i
Display ©Charts	0	Conne	ectio	ons	•: •
General Filter NMEA CC Filter period (sec) Show NMEA De Use Furuno GP Use GRMN for t Use mag bearir	IG/SI 1 2bug 3X fo uploa	OG Winde or uplo ads n ECA	ow bads PB	1st	
Data Connections					
Or [ype?or Pric?arn	I/O		Fi	ters	
Add. 2nd Properties BT Sources Input filtering Output filtering	IN	111: 194	one,	Out: 1	vone
		0	к <u>с</u>	ancel	Apply

Fig.12

4.6) Follow the steps in Fig.13 and enter:

Address: 223.168.1.253 DataPort: 8081



Fig.13

OPENCPN now shows the received NMEA data through the WIFI network

