



MICRO-KIT USEMANUAL

OMNIK NEW ENERGY



General

Omnik data collector MICRO - KIT is my company developed intelligent data acquisition products. MICRO - KIT can effective communication with any Omnik MICRO inverter, and the information of omnik MICRO inverter monitoring and storage, let users can easily see the whole network in real-time data of each module. MICRO - KIT includes an integrated HTTP server, can be simple and efficient for the MICRO inverter data for storage, and MICRO - KIT equipped with browser-based user interface, with concise, friendly interface as purpose, to provide users with real-time system-level access, the user can set the various operation parameters through the interface, and monitor the operation condition of various state parameters and statistics of various parameter values. MICRO - KIT is communication through the Internet and the web server, and the inverter real-time data upload, no matter where the user is, as long as there is network, ensures that customers can pay attention to the MICRO inverter device information in real time.

MICRO - KIT main characteristics are as follows:

1、MICRO-KIT through wireless Nrf2.4 G among each node of the network data coverage radius of 50 meters (2.4 G)

- 2、10/100 m adaptive network。
- 3、The current version supports 99 micro inverter networking.
- 4、2 x16 LCD display is simple and important information.



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1 Interface specifications

MICRO-KIT Interface and button as shown in the figure below.



1.1 RS232

Don't output system information (user not)

1.2 Internet

With Ethernet cable connected to the router LAN port access to computers, or locally connected to the computer directly to the monitor $_{\circ}$

1.3 power

DC-5V-1A power input.

1.4 Key

Collapse when the application system need to download the application to the MICRO - KIT, hold down the button for 5 seconds (liquid crystal display on IP 192.168.1.99), set the computer IP to the same network segment, and then the browser login to download the application.



2 Installation

2.1 General conditions

MICRO - KIT installation is concise, before installation, please ensure that the installation site has the following basic requirements:

- 1、 Standard 220 vac ac socket
- 2. A stable Internet connection
- 3. A router with Ethernet interface functions or local area network (LAN)
- 4、 Support access to MICRO KIT browsers (ie 9 +, FIREFOX9 +, CHROME10 +, safari 4

+)

5. Used in MICRO -KIT space or the installation of the KIT with metope

MICRO - KIT running environment requirements:

1. Installation environment away from dust, liquid and acidic or objects and with corrosive gases

2. Installation site only should satisfy environment - 45 $\,^\circ\!{
m C}$ to + 65 $\,^\circ\!{
m C}$

2.2 MICRO-KIT Installation

MICRO - KIT can be put on the table, which can be installed on the wall. Below is the installation steps on the wall

□ Step 1 a cool, dry, confirm the installation position, should try to make the MICRO - KIT from heating device (such as oven, heater, etc.)

- Step 2, the two wall with a screw or wall anchor according to the level of the 100 mm distance is fixed on the wall, one of the largest screw head diameter is 0.35 inches, it is recommended to use # 8 type screw
- Step 3, the MICRO KIT back fixed installed in step 2 screw holes are aligned, the MICRO - fit KIT, sliding down, make the screw caps into MICRO - KIT mounting holes

Note: MICRO - KIT is IP21 protection grade, can not installed in the outdoor or damp, dust, corrosion environment. Avoid direct sunlight, impact and extrusion. Because of the influence of metal components of the wireless signal, so PVMICRO - KIT antenna components and metal to keep a distance of at least 10 cm.



2.3 MICRO-KIT connection

Power Connection

Insert one end of the MICRO - KIT of ac power cord KIT of MICRO - power line interface, and then insert the other end of the standard 220 vac ac socket.

Internet Connection

Network connection has a local computer connection monitoring and limited LAN connection in two ways $_{\circ}$

mun	connection	Specific connection method
1	local computer connection	Insert one end of the cable on the MICRO - KIT so, on the other end connected to the computer directly to the, which can realize local monitoring.
2	Limited LAN connection	First insert one end of the cable to the MICRO - KIT so on, and then insert the other end cable broadband router in the free port, through the cable KIT and MICRO - LAN routers connected together.

2.4 Initialize the set to confirm the installation is complete

After the installation is complete, the MICRO - KIT, turning on the power supply switch on confirm MICRO - KIT is installed successfully.

Electricity starts, MICRO - KIT comes with information interface will, in turn, according to the following information

1、BOOTLOADER Normal boot display:

BOOT SYSsetup....

2、System initialization process:

10:26:30

System setup....



3、Network initialization:

10:27:55

ETH_BSP_Config

4. Initialization is completed, access to the IP network:

10:27:55

IP:0.0.0.0

5、Get the IP:

10:27:55

IP:192.168.1.122

6. Other important information of the program runs:

0.16kW	0.07kWh
ALL:05	LINK:01

At this point, installation is successful. MICRO - KIT comes with LCD screen display IP: 192.168.1. XXX, users can use this IP, connected via a browser login MICRO - KIT to detect real-time data $_{\circ}$



3 MICRO-KIT Basic data query functions

After users to install the MICRO - KIT, according to the MICRO - KIT comes with IP displayed on the LCD screen, use the browser to log in MICRO - KIT. The user can through the two ways of connecting MICRO - KIT $_{\circ}$

main1	Directly through the Ethernet port to MICRO - KIT are connected to the PC,
	the PC browser input MICRO - KIT comes with LCD screen display IP for a
	visit.。
main2	KIT and MICRO - personal computer through a router LAN networking,
	OMNIK monitoring site for a visit.

3.1 MICRO-KIT main interface

Main interface shown below, the basic information of the interface display system, including real-time Total Power (Total Output Power), history, generating capacity (Total Energy), the generating capacity, Energy) and save carbon (CO2 Saved). The user can in the interface to switch from the system language. English and Chinese languages. Note: ensure the inverse and MICRO - KIT are in working condition monitoring to the data.

Omnik New Energy						
Home View Config Device ID	Eventa Pwin	iquiry Upgrade	?			
	Total De	vice: 01 Link: 00	Unlink: 01			View as: English Italiano
Total Output Power 0.00 kW Total Energy 42.90 kWh Today Energy 0.04 kWh CO2 Saved 0.03 kg Plant Status -	10900d6	VOLPV VOLGI D. OV D. OV	R FREQ POWER D. OHZ D. OW	ENERGY 44Wh	TEMP 0.0C	TIME 2000-00-00 00:00:00



Main interface to provide micro inverter system, connected inverter, not connected digits, as shown in the figure below.

Home	View	Config	Device ID	Events	Pwinquiry	Upgrade	?			
			Tota	Device: 10	Link: 09	Unlink:	01	View as: English	I	Italiano

3.2 System basic information

The basic information for users to view the system and the implementation of the data.

(1) MICRO-KIT basic information

Click View Plant Info Can enter the MICRO - KIT basic information interface,

this interface contains the information as below :

- a. The configuration of the system is currently some of the ID and time information
- b. MICRO KIT network configuration information
- c. The client sends remote data need to configure the IP address and port number

View Config	Device ID	Eventa Pwinquiry	Upgrade	?		
Plant Info						
System Inventory						
DE Toformeline		System Infor	mation:			
Kr Thiormacon		Firm Ware:		SODAC-0.1.04		
Real Time Data		Hard Ware:		00.00.00.00		
nergy		Build Time:		10 -33 -00	(YY-MM-DD)	
kWh		Send Date Time	e:	150	(300e-900e)	
		NetWork Info	rmation:			
ved		Mac Address:		cctbbtast99:	88 : 08	
t		Mac Address Rf	Fi -	f1:03:01:09:	00:00	
		Enable DHCP		S		
tatus		IP address:		192. 158. 01. 1		
		Gateway:		192.168.01.0	L	
		NetMaska		255.255.255.		
		DNS:		202. 101. 172.	35	
		Client Set:				
		Enable Client				
		Dest IP address	51	33, 33, 13, 00		
		Dest Port:		313	(8000-65535)	



(2) View the micro inverse hardware and software version number

Click Home or View System Inventory, To view inside the micro inverter system hardware and software version number, the first display content in the order: inverter ID, hardware version, software version number, status, installation time.

Omnik New Energy			
Home View Config Device ID	Eventa Pwinquiry Upgrade ?		
	Total Devices 01 Links 00 Unlinks 01	View as: English	Italiano
Total Output Power 0.00 kW Total Energy 42.90 kWh Today Energy 0.04 kWh CO2 Saved 0.03 kg Plant Status -	ID HW PN-Ver PW PN-Ver 110900d5 0003100F-V0e.00.01 00010001-V00.02.0b BuildTime:2015-03-16 10:02	InstalTime 15-04-03	Status 00

(3) Check the communication module hardware and software version number

Click Home or View RF Information Check in communication module in the system hardware and software version number, display the following figure. One display content in the order: communication module ID hardware version, software version number, status. The first line shows the basic information for the terminal communication module.



Omnik New Energy					
Home View Config Device ID	Eventa Pwinquiry	Upgrøde ?			
	Total Device: 01	Link: 00 Unlink: 01		View as: English	Italiano
Total Output Power 0.00 kW Total Energy 42.90 kWh Today Energy 0.04 kWh CO2 Saved 0.03 kg Plant Status -	ID DTU:f1030109 11090046	HARDVISION H00a0-00.00.01 NA	SOFTVISION S000a-00.00.01 NA	SGL 06 NA	

(4) To view real-time data

Click Home or View Real Time Data Enter the implementation of data for interface, the user can view the micro inverter in the system the implementation of the data, as shown in the figure below, the first display content in the order: node ID, PV grid voltage, voltage, power grid frequency, power, electricity, temperature and time.



Omnik New Energy		
Home View Config Device ID	Events Pwinquiry Upgrade ?	
	Total Device: 01 Link: 00 Unlink: 01	View as: English Italiano
Total Output Power 0.00 kW Total Energy 42.90 kWh Today Energy 0.04 kWh CO2 Saved 0.03 kg Plant Status -	ID VOLPV VOLGIR FREQ POWER ENERGY TEMP 110900d5 0.0V 0.0V 0.0Hz 0.0W 44Wh 0.0C	TIME 2000-00-00:00:00:00

3.3 system power query

Click Pwinquiry to query the system output, as shown in the figure below $_{\circ}$

Note: for electricity on a daily basis of inquiries, also can query by the month.

Daily queries: input specific date need to query, accurate to date, click on the "Day query and query" button.

The query by the month; Specific need query input date, accurate to Month, click on "the Month query" button.



Om	nik Ne	ew En	ergy							
lome	View	Config	Events	Pwinquiry	Upgrade	Registr	ation ?			
				_						
Total (Dutput P	ower		E	ora ripa û	ov. 14 04	23 04-	- Marth Data)	Day query	Nonth guery
0.3	2 kW				ergyinqui	W.14 -00	co (16)	ar-month-bate)		
				ID		ENERGY	WEEK	MONTH	HISTORY	TIME
Total E	Energy			110	4001b	0000	0042	0042	18169	2014-06-03
0.9	7 kWh	1		110	4001a	0000	00219	0124	0124	2014-06-03
				110	4001e	24120	24120	10311	10311	2014-06-03
02 S	aved			110	4001b	0000	0042	0042	18169	2014-06-04
0.70	6 t			110	4001a	65161	66124	66185	66185	2014-06-04
				110	4001e	0080	24200	10391	10391	2014-06-04
ant s	otatus			110	4001b	0000	0000	0042	18169	2014-06-05
-				110	4001a	0000	0000	66185	66185	2014-06-05
				110	4001e	0000	0000	10391	10391	2014-06-05
				110	4001f	0000	0000	0000	0000	2014-06-05
				110	4001b	0000	0000	0042	18169	2014-06-06
				110	4001a	0000	0000	66185	66185	2014-06-06
				110	4001e	0000	0000	10391	10391	2014-06-06
				110	4001f	0000	0000	0000	0000	2014-06-06

3.4 Ground fault display and ruled out

●*MNIK*~

Click Config GFDI Fault, Into the ground fault display and interface, the user interface to see whether there is a miniature inverter ground fault. If any ground Fault, in the actual solution after failure, can click on the Clear Fault contact grounding fault alarm.

	CONTRACTOR	Events Prinquiry	opgrade ?		
Total Outpu	Para Settings	GfdiFault: you o	an dick the botton to dear this ala	rm	
0.00 KV	System Config	Machine	ID State	Operat	ion
Total Energy	Date/Time	11050	099 GFDI Fa	Clear	Fault
0.00 kW	Vh	J			
COD Cound					
COZ Saved					
0.00 t					
Plant Status					
-					



3.5 Set the time

Click Config Date/Time Enter the time setting interface, this interface can set the system time, according to the year, month, day, hours, minutes, seconds, fill in the sequence.

Omnik M			
Home View	Config Device ID) Events Pwinquiry Upgrade ?	
	GEDLEAUR		
Total Output	LimitPower		
0.00 kW	Para Settings	Date & Time: Date: 14 - 09 - 25 (vv-ww-nn)	
Total Energy	System Config	Time: 09 : 03 : 31 (HH:MM:SS)	
0.00 kW	Date/Time		
CO2 Saved			
0.00 t			
Diant Ctature			Send
-			
	_		



4 Add the inverse ID configuration

4.1 System login

System login to need some permission for the page, you will need to login user name and password, the default admin/admin, as shown in the figure below. IN the config system config Modify the user name and password in the interface.

Om	M nik Ne	NI/	ergy										
Home	View	Config	Device ID	Events	Pwinquiry	Upgrade	?						
										View	as: English	ī	Italian
Total 0.0 Today 0.0 CO2 S 0.0 Plant 1	Output F O kW Energy O kWh Gaved O t Status	Power					USERNAME: PASSWORD: ER	admin TER	CLEAR				

4.2 Configure the inverse system ID

Configuration node ID has manual and automatic two ways

(1) Manual configuration system node ID

Professional users can click Device ID Manual ConfigTo manually configure system node ID interface, as shown in the figure below. Professional users need to be in in the interface "Machine Id" Option to manually add the ID, Click ADD ID is added to the list. After adding all ID, click the REG ID ID to register into the system.

Note: if there is no Device ID options, can log on to http://192.168.1.XXX/deviceid.htm, can appear



	Config Device ID	Events Pwin	quiry Upgrade ?			
	Manual Config					
Total Output Do	Auto Scan				_	
	wei	Machin	e Id:	dd ID Reg ID	Total Registered	d: 02
0.00 KVV		ID Nu	mber State		Operation	
Total Energy		110500a3	On	Open	Close	Delete
0.00 kWh		11050024	On	Open	Close	Delete
°O3 Canad						
0.00 ι						
lant Status						
-						

(2) Automatic configuration node ID

Professional users can click Device ID Auto Scan Automatic configuration system node ID into the interface, as shown in the figure below. In this interface, the system will automatically search for ID, search after the completion of the click on "Reg ID" button to add a user ID to the list.





Home	View	Config	Device ID	Events	Pwinquiry	Upgrade	7				
			Manual Config	Г							
7-1-1	r		Auto Scan								
Total	Output F	ower		s	an Times:	Min Tota	Devices:	ScanID	RegID	Total Scanned: 17	
0.0	0 kW			ID							
				110	500a3						
Total E	Energy			110	50024						
0.0		、		110	40114						
0.0				110	500c7						
<u>(0)</u>	bove			110	40115						
	aveu			110	40111						
0.0	0 t			110	40112						
				110	40116						
Plant 9	Status			110	500c9						
				110	30101						
				110	40103						
				110	500c6						
				110	40117						
				110	40118						
				110	40113						
				110	500c3						
				110	40102						

Note: if the M600 machine, after searching the ID, need to read the version number to the correct access to the inverter. The micro inverter version number in View System Inventory In view, as shown in the figure below.

Home	View	Config	Device ID	Events	Pwinquiry	Upgrade	?			
	Plant In	fo	_	Total Devi	ce: 06	Link: 00	Unlink: 06		View as: English	<u>Italia</u>
	System 1	Inventory		ID	HW PN-Ver	FV	/ PN-Ver		InstallTime	Status
Total (RF Infor	mation		11150002	NA	N	A		NA	NA
0.0				110b0044	0011118f-V	05.00.00 0	0110001-V00.02.07	BuildTime:2015-02-03 13:3	7 00-00-00	00
	Real Tim	ne Data		110b0044	NA	N	A		NA	NA
Total E	nergy			110b00b1	0011118f-V	05.00.00 0	0110001-V00.02.07	BuildTime:2015-02-03 13:3	7 00-00-00	00
6.20				110b00b1	NA	N	A		NA	NA
0.2				110b004d	MA	М	٨		NA	MA

4.3 Real-time fault query

Professional users can click Event Current Event Into the real-time fault query interface, the interface, as shown in the figure below.



Omnik New Energy						
Home View Config Device ID	Events	Pwinquiry	Upgrade	?		
	Current Ev	ent				
	Historical E	ivent		CTATUC	NOTICE	THE
Total Output Power	110	40103	EVENT NUB	0000	0000	2000-00-00.00:00:00
0.00 kW		10105	0000	0000	0000	2000 00 00 00.00.00
Total Energy						
0.00 kWh						
CO2 Saved						
0.00 t						
Plant Status						
-						

4.4 Historical fault query

Professional users can click Event Historical Event Into the real-time fault query interface, the interface, as shown in the figure below. Can query by day or by month. When the data is more than one page by page shows data up and down.



ome View Config	Events P	vinquiry Upgra	de Registration	?		
	Current Event					
Total Output Power 0.30 kW	Historical Event	Event inqui	ny; 14 .06 .23	(Y-M-D) PeD	n PgUp DayE	t MonthEt
		ID	EVENT NUB	STATUS	NOTICE	TIME
otal Energy	_	1105009b	0005	0007	0014	2014-06-23 13:51:45
0.95 kWh		1105009b	0001	0007	0015	2014-06-23 13:51:47
		1105009b	0001	0007	0017	2014-06-23 13:51:49
:02 Saved		1105009b	0000	0002	0019	2014-06-23 13:51:52
0.75 t		1105009b	0000	0004	0019	2014-06-23 13:52:02
		1105009b	0005	0007	0022	2014-06-23 14:24:51
lant Status		1105009b	0001	0007	0023	2014-06-23 14:24:53
		1105009b	0001	0007	0024	2014-06-23 14:24:54
		1105009b	0001	0007	0026	2014-06-23 14:24:56
		1105009b	0000	0002	0026	2014-06-23 14:24:57
		1105009b	0000	0003	0026	2014-06-23 14:25:05
		1105009b	0000	0004	0026	2014-06-23 14:25:07
		1105009b	0001	0007	0028	2014-06-23 17:08:55
		11050095	0000	0002	0028	2014-06-23 17:08:57
2.168.3.100/historyevent.htm	m					

4.5 Network monitoring

According to the above steps to connect local monitoring, Click "configuration-system config", Make sure that the client set configuration values as shown in the figure below, if not, please change to consistent with the following figure:

Client Set:			
Enable Client	2		
Server address:	Omnik		
Server ip:	213.136.74.76		
Dest Port:	10005	(8000-65535)	
Repeat set:			
Enable Repeat	0		
Repeat Address1:	0000		
Repeat Address2:	0000		
	Send		



5 MICRO INVERTER monitoring system

5.1 general

Insert one end of the cable to the MICRO - so on KIT, and then insert the other end cable broadband router in the free port, through the cable KIT and MICRO - LAN routers connected together. Ensure the inverse and MICRO - KIT in working status, and to ensure that the router can be connected to the Internet. And then provide the feedback form to OMNIK, by OMNIK application account for the customer and give the customer, then customer log on to http://213.136.74.76:8081/Omnik/ web page, then go up the account information can be monitored.

Note: the current monitoring site does not have the function that the customer account registered monitoring.

Log

here

in

5.2 MICRO INVERTER monitoring

1. Customers to use OMNIK provide account to log in, the following figure:



2. After logging in customer has power plant shows the diagram below:





3. Click power station name into the overview screen, to see the day, month, year and total generating capacity.



4. Click menu bar real-time monitoring, monitoring to each component output and working situation: the diagram below:







5. History, click on the menu bar and detected in the power generation and power of history, and can export data, the following figure:



6. Click on the data analysis, can be in irradiation, temperature, the analysis of the micro reverse power and failure of the history of inquiry, the following figure:







6 Contact us

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Appendix: feedback form

Custor name	mer	account		Custor	mer acco				
Power			Power			Power statio	n power		
station	1		station intr						
name			oduction						
Power			longitude			latitude			
station	l								
addres	SS				1		1		1
line	Colu	MICR	MICRO-INV	Set	The	Componen	Comp	Comp	The
Num	mn	O-KIT	ERTER SN	of	comp	t	onent	onent	install
bers	num	SN		strin	onent	placement	toward	Angle	ation
	ber			g of	model	(horizontal/	S		time
				Num	S	vertical)			
				bers					

Note: the customer account number and password, name, address, row number and column number, MICRO - KIT SN, MICRO inverse SN, is required, the rest if there is no need to fill in.

Customer account password: customer login account password (can be set by the customer)

Row number and column number: the arrangement of the component serial number Another: a MICRO - KIT as well as the corresponding need to monitor the inverse please fill out a form. If you have multiple systems, please fill out the form.

After fill in this form, please email to OMNIK company email zhiping.wang@omnik-solar.com.