

Inverter configuration and monitoring is critical for a solar system, it can ensure the proper operation and maximum generation. traditional ways of configuration and monitoring includes RS232, RS485, RF, LAN etc. it's time to see some innovative designs, and here comes the Growatt MAX series brand new inverter which makes your inverter in control in every way.

Communication interface overview

rowatt

See in the chart below how comprehensive it is, no matter locally or remotely you want to monitor the inverter, you have multiple options, MAX 50-80KTL3 LV(MV) inverter has powerful human machine interface that can clearly indicate the operating status of inverter, also can easily achieve local and remote communication along with daily maintenance.



Figure 1 MAX human machine interface

Local monitoring and configuration

Multifunctional LED panel

Not like regular LED indicator, this innovative led panel of Growatt Max series inverter shows inverter working status, communication status, fault, warnings, and also approximate power with the 8 led bars in a ring. catch the basic inverter information at a glance, quick and easy.



Figure 2 LED display

Dual USB ports

Want all details that you can't read on the led panel? use the 2 USB ports to connect either to your laptop or mobile phone(with Growatt Wi-Fi dongle), functions are similar, choose whichever is more convenient for you.





USB A + WiFi + ShinePhone APP, check and set inverter parameters

Plug the Growatt USB-WiFi dongle directly to USB A port. After the inverter is on, module will generate a local WiFi signal, connect your mobile phone to this WiFi signal, then you can start local monitoring and configuration.



USB B + Shinebus + PC, check and set inverter parameters

Connect inverter's USB B port and computer's USB port with a USB cable, set the COM port and communication baud rate to 38400, done, now you can browse all details of your inverter on your laptop.

LOT N LCI OL	LayOut Langua	ge Hel	P										
0/11:	Device Info Grid	CMD P	rameter	Auto Test	FW Upda	ate Product	Set Smart	Diagnosi	s Modbus	Test			
086 💌	System Informat 78 Varian: 71 Sarial No: 516	tion 1.0 (tisk- 15745005	78791063)	Status Status Eachte	Informa Info: day:	fion Faiting 89. TMML	Countdow Eac-tota	n: 20 1: 89.	THE	AC Informat	384.1	5 383.3	T 383. 3
will ate:	Device Model: AD	01076270	LWSSA	AC Not PF:	A.:	0W 1	AC VA: IV VerMM	0.0 ode: DC	IVA Source	AC Fower (93)	0	0	0
	BodhusVersion: VI.	49		FoultC	ode:	Noll	YarzCode	: Nol	1	AC Freq Oiz)		49.98	
9400 💌	PV Information	PV1	PW2	PV3	P¥4	PV5	246	PVT	PV8	SVG/APF	R	5	т
	FV Voltage (V)	16.9	16.5	19.7	19.4	16.5	15.9	0	0	CT_I (A)	0	0	0
W Aðar:	PV Current GO	0	0	0	0	0	0	0	0	CT_Q(Var)	0	0	0
	String Information	on Stri	Str3	Str5	Str7	Str9	Stril	Str13	Str15	CTHAR_I (A)	0		0
	Str Voltage (V)	15.4	16	19.2	18.9	16.1	15.4	0	0	COMP_Q (Var)	0	0	0
	Str Current (A)	0	0	0	0	0	0	0	0	COMP HAR_I(A)	0	0	0
		Str2	Str4	Str6	Str8	Str10	Str12	Str14	Str16	SVG/APP Statu		Score	
	Str voltage (V)	16.4	16	19.2	18.9	16.1	15.4	0	0	InternalInfo	mation	,	
60	Str current (A)	0	0	0	0	0	0	0	0	+30	s .	BUS B	15
	PID Information	PID1	PID2	PID3	PID4	F105	FIDS	F107	PIDS	Volt (V) 16. 13W	5 2 BOOST	Internall	Interns
	FID Voltage (V)	496.8	498	499	498.4	499.0	497.9	0	0	T (° C) 40.1	40.8	33.5	30.3
	FID Current (ak)	1.1	1.1	1.1	1.1	1.1	1.1	0	0	ISO (kfl); 0		lerateffodet	7
	PID Status: 2	PID Faul	tCode:	0									

Figure 4 ShineBus monitoring page

With ShineBus you can use computer to do the maintenance, monitoring and debugging, further you can export the data in Excel format.

						a		
Deutre Into	Grid CMD	Parameter	Auto Test	FW Update	Product Set	Smart Diagnosis	Modbus Test	

Figure 5 ShineBus function bar

USB A + flash disk, firmware upgrading and Data Export

Copy the upgrading firmware into flash disk, then plug it to the inverter's USB A port, the inverter will automatically finish the firmware upgrading within 3 minutes.

Copy the data into flash disk and put it in the inverter's USB A port, the inverter will automatically put the I-V curve data, real-time waveform and fault waveform record into the flash disk.

Remote monitoring

Got a fixed network or mobile network? use it to connect to our cloud server which is free of charge, store data online, and check data online, anywhere, any time

RS485 + ShineMaster + OSS remote monitoring



Figure 6 RS485 monitoring diagram

MAX 50-80KTL3 LV(MV) inverter's RS 485 can be used for up to 32 inverters communication, Suitable Scenarios and features:

· Large capacity solar plant with multiple inverters, RS485 communication is more stable than others.

· Commercial rooftops where it is hard to install optical fiber, you can use RS485 and router for long distance communication.



Figure 7 RS485 ports

GPRS communication (optional)



Figure 8 GPRS monitoring

Opps, fixed network is not available? no worry, Growatt MAX 50-80KTL3 LV(MV) has in-built GPRS module, insert a sim card and connect to mobile network, plug the antenna to inverter, scan the QR code with ShinePhone APP and add the inverter, done, now you can check all details online with either web browser on PC or on your mobile phone.

For GPRS monitoring you need plug the antenna into the antenna port, like following figure:



Figure 9 GPRS Antenna Port

<	Param	eters		< SASF803014					
SASF									
M de				276.5k	2813 Current	3.2w power 10	0.41MWh		
Firmw TI1.0/tia	are version A57281024	N A0B0D0T6	lode PFU1M8SA	Daily pov	ver curve				
	Voltage(V)	Current(A)	Power(W)	50000.0					
PV1	627.3	7.3	4579.2	40000.0 30000.0					
PV2	634.8	8.2	5205.3	20000.0		WV	M N		
PV3	633.3	8.7	5509.7	0.0 01	20 04:40	08:00 11:20	14:40		
PV4	636.3	7.9	5026.7	Control	Parameters	Data	Event log		

Figure 10 ShinePhone APP monitoring page

Firmware upgrade and Data export

No matter where you are, Growatt OSS(online service system) is always there, once your inverter connected to our cloud, you can upgrade firmware remotely, easy and convenient, no need to travel to site, no need extra tools, everything done at office, just easy.

Growatt	Growatt online upgrade system								
Giowatt			Co	nfiguration upgrade		Upgrading	Upgrade record		
Inverter upgrade			Datalog	Inverter		Date		Search for	
Storage upgrade	No.	Inverter	Datalog	Time	Firmware version	Internal version	Upgrade	Path	
	1	FPA2702005	4KZ370139D	2017-10-09 16:28:19	TH1.0	thaa0504	datalog connect time out	/ShinePano/Rudolf - Growatt Germ.	
Hybrid inverter upgrade	2	FPA2702005	4KZ370139D	2017-10-09 16:08:53	TH1.0	thaa0504	user cancle or datalog connect tir	n/ShinePano/Rudolf - Growatt Germ.	
	3	FPA2702005	4KZ370139D	2017-10-09 15:28:22	TH1.0	thaa0504	downloading firmware to datalog	/ShinePano/Rudolf - Growatt Germ.	
Upload firmware	4	FPA2702005	4KZ370139D	2017-10-09 15:28:22	TH1.0	thaa0504	set datalog 4KZ370139D set pv d	e/ShinePano/Rudolf - Growatt Germ.	
	5	FPA2702005	4KZ370139D	2017-10-09 15:28:22	TH1.0	thaa0504	set datalog 4KZ370139D set pv d	e/ShinePano/Rudolf - Growatt Germ.	
Upgrade Instructions	6	FPA2702005	4KZ370139D	2017-10-09 15:30:59	TH1.0	thaa0504	New inverter firmware upgrade	/ShinePano/Rudolf - Growatt Germ.	
	7	HEB1713001	4KZ3646089	2017-10-01 18:28:40	TH1.0	thaa0507	The user canceled the upgrade	/ShinePano/thaa-XX07/thaa-xx07	
	8	HEB1713001	4KZ3646089	2017-10-01 18:28:30	TH1.0	thaa0507	逆变器升级成功	/ShinePano/thaa-XX07/thaa-xx07	
	9	HEB1713001	4KZ3646089	2017-10-01 18:28:25	TH1.0	thaa0507	送支器升级成功	/ShinePano/thaa-XX07/thaa-xx07	
	10	HEB1713001	4KZ3646089	2017-10-01 18:28:21	TH1.0	thaa0507	送衰器升级成功	/ShinePano/thaa-XX07/thaa-xx07	

Figure 11 OSS remote upgrading



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