#### **Downloading the software**

From the Darfon Solar website download the file "H5000/H5001 Application Software". You can follow the link below.

<u>http://www.darfonsolar.com/downloads/?product\_id=14&download\_type\_id=8</u>

DARFON Discover - Products	How to Buy Warr	anty Resources -	Contact - Company -	Monitoring Porta
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Downloads				
General Downloads				
his section contains white papers, application notes and case studies.				
Document	Type	File Size	Download	
How to use H5000 as Emergency Power in Puerto Rico	App Notes	2.36 MB	<u>+</u>	
Inverter Comparison for G320	White Paper	0.51 MB	Ŧ	
Advantages of 1P T-Cables	White Paper	0.12 MB		
Surge Supression For MIG300	White Paper	0.17 MB	*	
Product Specific Downloads	Filter	Nr H5000 th brid Invest	ar Softwara	
'his section contains product brochures, manuals, warranties and certif	ication documents.	Sy. House Hybrid Invert	Soltware	0
Document	File Size	Download		
H5000/H5001 Application Software	0.42 MB	1		



#### Adding the Software to your Computer

- Create a working directory for the software
- Unzip the download file in your working directory and you are done.
- Your folder contents should look like the one below.

Name	Date modified	Туре	Size
퉲 en-US	6/21/2018 11:51 AM	File folder	
퉬 zh-TW	6/21/2018 11:51 AM	File folder	
CaliDefault	10/17/2017 3:37 PM	Text Document	1 KB
Darfon HyBrid AP Tool	6/21/2018 12:09 PM	Application	517 KB
Darfon HyBrid AP Tool.pdb	6/21/2018 12:09 PM	PDB File	420 KB
DebugLog	6/21/2018 12:09 PM	Text Document	0 KB
ModbusDefinition	6/18/2015 2:31 PM	Text Document	2 KB
Parameter	7/16/2015 3:48 PM	Text Document	1 KB
README	6/11/2018 11:25 AM	Text Document	1 KB
Setting	6/21/2018 12:09 PM	Configuration sett	1 KB



# Talking to the Inverter

- You will need a USB-A to USAB-B cable on hand before you start.
- Remove the access cover that is held in place by 2 philips screws



- Connect the USB cable to the inverter as shown below.
- Connect the other end of the cable to a USB port on your laptop.





#### Launch the Darfon Hybrid AP Tool

Name	Date modified	Туре	Size
🕕 en-US	6/21/2018 11:51 AM	File folder	
🚺 zh-TW	6/21/2018 11:51 AM	File folder	
CaliDefault	10/17/2017 3:37 PM	Text Document	1 KB
Darfon HyBrid AP Tool	6/21/2018 12:09 PM	Application	517 KB
Darfon HyBrid AP Tool.pdb	6/21/2018 12:09 PM	PDB File	420 KB
DebugLog	6/21/2018 12:09 PM	Text Document	0 KB
ModbusDefinition	6/18/2015 2:31 PM	Text Document	2 KB
Parameter	7/16/2015 3:48 PM	Text Document	1 KB
README	6/11/2018 11:25 AM	Text Document	1 KB
Setting	6/21/2018 12:09 PM	Configuration sett	1 KB



A user level login requires no password.

You can see a nice amount of what is happening with your inverter very easily. Nothing can be changed from this login level.

ID	User	•	
Password	1		
Locin	Cancel		



You must set the Serial COM Port. The Baudrate is 9600 and the computer will assign the COM port. In this case, my computer allocated COM15. Click on OK.

om Setting		
Port	COM15	Ŧ
Baudrate	9600	•
	C	<u></u>



This is the default screen for the User login.

- An installer level login requires the password "Installer1234". The password is case sensitive. Also, please note that we do NOT publish this password in the manual.
- You will also need to set the COM port for this login as you did with the User login.

		Com Setting		
ID Installer	•	Port	COM15	ž
Password		Baudrate	9600	*
Login Cancel		1		

• From this login you can make substantial changes to the way the H5000 works.

Caution: You can make the system perform better or a lot worse depending on what you do here.

Darfon Hybrid AP Tool V1.16	(Installer)			and the second s		
Options						
Main System Farameter	Setting					
			ĩ			
	Read All Parameter					
Device Or01-0r03						
Grid Voltage:	· Produce Mon:	Rule 21 Enable: 💹	AC Coupling:			
Model:	. Produce Day:	PV Parallel:	Fre Control:		Read	
Serial Numberl:	DSP1 Ver:	DV Off Grid:				
Serial Number0:	DSP2 Ver:	Heco 1:			Write	
Produce Year:	EEPROM Ver:	Heco 2:				
Remote Setting						
Ox90~0x9E Operation Mode:	Max	Battary Charging Current:	Feed-in Dover	_		
High Price Period Sta	rt Hour: Batt	erv Shutdown Voltage:				
High Price Period Sta	r Min: Batt	ery Floating Charging Voltage:				
High Price Period End	Hour: Batt	ery Reserve Percent:			Read	
High Price Period End	Min: Volt	/VAr Q(V):	•			
Multi-module:	- Star	t Frequency:			11-11-1	
Battery Type:	👻 End	Frequency:			write	
Remote Real-time Setti	ing Info					
0xA0-0xAF						
Charge/Discharge Sett	ing :					
Charge Power:					Read	
Discharge Power:						
Derroe:					Write	
RTC						
07/31/2018 15:05:08	🗄 🛅 Current	Time				
Record:	Dave					
veccour.						



Clicking on "Read All Parameters" will collect the current register contents from the inverter.

Darfon Hybrid AP Tool VIIG (Instalier)	
Orticore	
in System Parameter Setting	
Read All Parameter	
- Paristan	
0x01-0x0A	
Grid Voltage: 2407 - Produce Mon: 3 Bule 21 Enable: AC Coupling:	
Model: REGOL - Produce Day: 27 DV Barallel: E Fre Control:	Read
Serial Number1: 8040 DSP1 Ver: 50 pv Orf Grid:	
Serial Number0: 05 DSP2 Ver: 330 Heco 1:	Write
Produce Year: 2018 EEDROM Ver: 16 Heco 2:	
Remote Setting	
0250-0252	
uperation mode: Residential • Max Battery Charging Current: 60 Feed-in Power:	0
High Price Period Start Hour: 0 Battery Shutdown Voltage: 440	
High Price Period Star Min: 0 Battery Hosting Charging Voltage: 864	
High Fine Feriod End Hour: 0 Battery Meserve Percent: 40	AREQ
High Fice Feriod and Min: 0 Volt/Vet Q(V); Specified Power factor •	#
mata moute. Single Batta requency.	Write
servey type. Dafon • And frequency:	
Seman Seal-time Satting Info	
0xA0-0xAF	
Charge/Discharge Setting : Charge 👻	
Charge Power: 0	Read
Discharge Power: 0	
Ramp Rate Percentage: 0	1477
Degree: Disable + 0	WILLE
7	
RTC	
07/31/2012 15:05:08 👉 🛅 CurrentTime	
Second: 0 Day	-
Second: 0 Day:	· ·

Options		1								
sin System Para	neter Setting				-					
		Read All P	irameter							
Device Coll-000A Crid Voltage: Model: Berial Number1: Produce Year: Produce Year: Pamote Setting Coperation Mode: High Price Peri High Price Peri High Price Peri High Price Peri Multi-module: Battery Type:	2407 • HEGO1 • 8040 85 2018	Produce Mon: Produce Day: DGP1 Ver: DGP2 Ver: EEDROM Ver: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 27 50 338 16 Battery S Battery S Battery S Battery X Volt/VAr Start Fre End Freque	Bule 21 Enable: PV Farallel: SV Off Grid: Heco 1: Heco 2: Mry Charging Current: Hutdown Voltege: Hoating Charging Volt Marrow Farcent: Q(V): Specified B Menty:	60 440 sge: 564 40	AC Coupling: Fre Control: Feed-in	Power:	0	Zead Write Zead Write	
Remote Real-time 0xA0-0xA7 Charge/Discharg Charge Power: Discharge Power Ramp Rate Perce Degree: RTC 07/31/2018 15:	Setting Info a Setting : tage: Disa Disa	Charge 0 0 ble v 0	CurrentTime						Read Write	

Read and write registers by sections to reduce the potential of changing a register you didn't mean to.

- Press "Read" to get the current values form the inverter.
- Make your changes.
- Then Press "Write" to implement the changes.
- Turn off the inverter with the rocker switch. Wait for 15 seconds before turning the system back on.
- Press "Read" to confirm the new values are set in the EEPROM.

in System Paras	neter Setting	Read All Po	iraneter							
Device 0x01-0x0A Grid Voltage: Model: Serial Number1: Serial Number0: Produce Year:	240V • H5001 • 8040 85 2018	Produce Mon: Produce Day: DSP1 Ver: DSP2 Ver: EEPROM Ver:	3 Bu 27 PV 50 PV 338 Re 16 Re	le 21 Enable:		AC Coupling:	]		Zead Write	
Remote Setting Ox80-Ox9E Operation Mode: High Price Perio High Price Perio High Price Perio High Price Perio Multi-module: Battery Type:	Remidential od Start Hour: od Star Min: od End Hour: od End Min:	0 0 0 Single Derfon	Max Battery Chai Battery Shutdown Battery Floatin Battery Reserve Volt/VAz Q(V): Start Frequency:     End Frequency:	rging Current: n Voltage: g Charging Voltage: Percent: Specified Power:	60 440 564 40 factor	Feed-in Power:		0	2med Write	
Remote Real-time 0xA0-0xAF Charge/Discharge Charge Fower: Discharge Fower: Ramp Rate Percer Degree:	Setting Info Setting :	Charge 0 0 0 ble • 0	•						Pead Write	
RTC 07/31/2018 15:0	05:08	te e	CurrentTime							

There are check boxes that activate specific features.

- The 2 most commonly used are PV Off Grid and Rule 21.
- Check "PV Off Grid", if your system is a true off grid installation. Several changes are made to power flow and how deeply the battery is discharged.
- Check "Rule 21 Enable", if you are in California or any state that requires Rule 21 compliancy.

Darfon Hybrid AP Tool VI16 (Installer) Options ain System Parameter Setting				<i>0</i>		
Device 0x01-0x0A	Read All 3	arameter				Ó
Grid Voltage: 240V • Model: H5001 • Serial Number1: 8040 Serial Number0: 85	Produce Mon: Produce Day: DSP1 Ver: DSP2 Ver:	3 27 50 338	Rule 21 Enable: DV Off Szid: Heco 1:	0	AC Coupling: Read	
Produce Year: 2018 Penote Setting OutS-OutS Operation Mode: Residential Righ Frice Period Start Num: High Frice Period End Mour: High Price Period End Min: Multi-module: Sattery Type:	EIDROM Ver:	<ul> <li>Max Batter;</li> <li>Battery Shi</li> <li>Battery Fli</li> <li>Battery Res</li> <li>Volt/VAr Q</li> <li>Start Freques</li> <li>End Freques</li> </ul>	Heco 2: y Charging Current: atdown Voltage: osting Charging Volta- serve Percent: (V): Specified Bo sency: ncy:	60 440 ge: 364 40 wes facto	Feed-in Power: 0 Paed Write	
Remote Real-time Setting Info OxAO-OxAT Charge Flower: Discharge Flower: Ramp Rate Percentage: Begree:	Charge 0 0 0 able • 0	-			Read	
RTC 07/31/2018 15:05:08 Becond: 0 De	inter al la constante de la co	CurrentTime				

- For Rule 21, you will need to know what the local utility values are.
- Check "Rule 21 Enable"
- Set the Volt/Var, Start Frequency and End Frequency values.
- Press "Write", then restart the inverter.

## Integrate Fortress Battery to H5001/H5000

System Paras	meter Setting	Read All P	arameter					
Device Sx01-0x0A Grid Voltage: Model: Serial Number0: Produce Year: Amonte Setting Devention Mode: High Price Peric High Price Peric High Price Peric Migh Price Peric Migh Price Peric Migh Price Peric Migh Price Peric Sattery Type:	2407 • BESOL + BOOL + B	Produce Mon: Produce Day: DSP1 Ver: DSP2 Ver: EEPROM Ver: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 27 50 338 16 Max Battery Sh Battery Sh Battery Fi Battery T Battery T Battery Sh Battery T Battery Sh Battery S	Pule 21 Enable: PV Parallel: PV Of Grid: Reco 1: Neco 2: Y Charging Current: indown Voltage: sating Charging Voltag	60 440 age: 564 40	AC Coupling:	2 and Write	
emote Real-time #A0-0xA7 Charge/Discharge Charge Power: Discharge Power: Discharge Power: Degree: Degree: ttc 07/31/2018 15:0	Setting Info • Setting : : ntage: Diset	Charge 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	• CurrentTime				Jaad Write	

A) Select Battery type: Lead Acid

B) The most common fields that need to be adjusted are

- Max Battery Charging current: 50A
- Battery Shutdown Voltage: 50.7V
- Battery Floating Charging Voltage: 54.4V

#### Please refer the parameter for Fortress Batteries in the next page!

Note: Voltage values are read as if there is a decimal point between the two rightmost digits. So 446 is 44.6V and 564 is 56.4V.

#### **Fortress Lithium Battery Parameters**

#### Make Sure you select Battery Type: Lead Acid!

Battery Type:	Lead Acid	
Battery Parameters	80% DoD, 6000 cycles	90% DoD, 3000 cycles
Max Battery Charging current	50A per Battery	60A per Battery
Battery Shutdown Voltage	50.7V	48.4V
Battery Floating Charging Voltage	54.4V	

