

PWS2-30K Platform Tools Manual

Sinexcel Inc.

ESMS Tech Support Department

Energy Freedom
Driven By **Sinexcel**[®]

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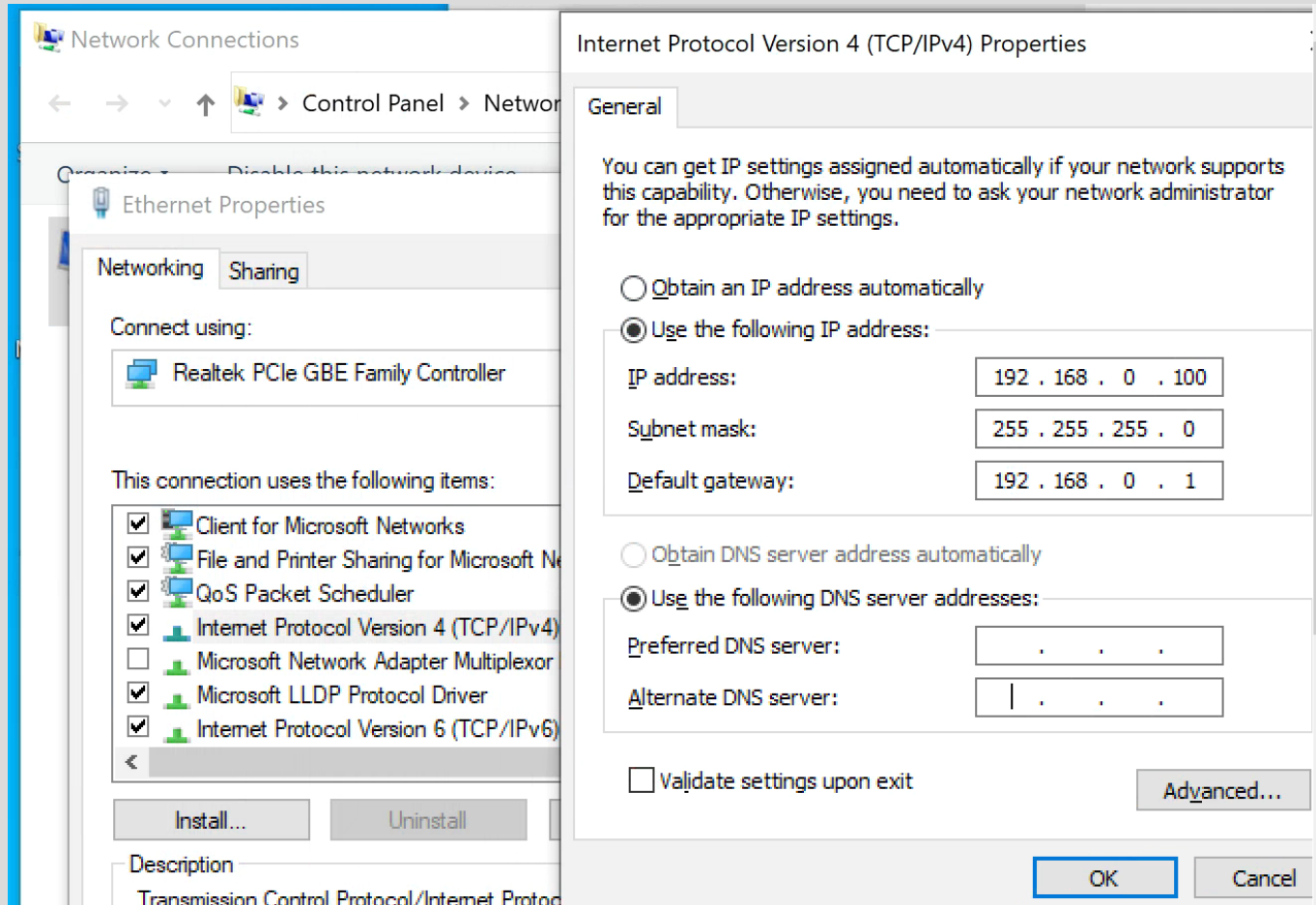
1. Connect with the Ethernet cable

- Use an Ethernet cable to connect to the RJ45 port of the PCS, and the other end to the RJ45 port of computer. (If the computer does not have an RJ45 port, it can be connected through a transfer device)



2. Modify IP address of computer

- Select the start menu on the desktop → Open the control panel → Select Network and Internet Settings → Select Network and Sharing Center → Select Change adapter settings → Click on Ethernet, then right-click and select Properties → Double click on "Internet Protocol Version 4 (TCP/IPv4)" → Select Use the following IP address option, then modify the computer's IP address/subnet mask/default gateway.
- The default IP address of PCS is 192.168.1.11, so it is necessary to set the IP address of the computer to 192.168.1.x. The principle is to keep the PCS and the computer in the same network segment.



3. Communication connection with Platform tools

- Run PWS2_30K_PlatformTools , Enter the IP address of PCS in *PCS IP* (default is 192.168.1.11), then click connect
- If in the *PCS_Information* option, Value is displayed and changes in real time, it means that the communication connection is successful, otherwise it is necessary to check the connection.

Analog	Value	Analog	Value	Analog	Value
InvOutVolt_A_Rms_Value	0.0	InvOutVolt_B_Rms_Value	0.0	InvOutVolt_C_Rms_Value	0.0
PhA_GridCurrent_Rms_Value	0.0	PhB_GridCurrent_Rms_Val...	0.0	PhC_GridCurrent_Rms_Val...	0.0
Grid_Freq	0.00	PhA_ActivePower_Rms_Val...	0.00	PhB_ActivePower_Rms_Val...	0.00
PhC_ActivePower_Rms_Value	0.00	PhA_ReactivePower_Rms_...	0.00	PhB_ReactivePower_Rms_...	0.00
PhC_ReactivePower_Rms_V...	0.00	PhA_ApparentPower	0.00	PhB_ApparentPower	0.00
PhC_ApparentPower	0.00	PhA_PF_Rms_Value	0.00	PhB_PF_Rms_Value	0.00
PhC_PF_Rms_Value	0.00	ActivePower_3Phase	0.00	ReactivePower_3Phase	0.00
ApparentPower_3Phase	0.00	PowerFactor_3Phase	0.00	Dischg_Energy	0.0
Chg_Energy	0.0	Reactive_Energy	0.0	Temperature_Of_AC_Heat...	125
Positive_BUS_Voltage	0.0	Negative_BUS_Voltage	0.0	Target_Active_Power	0.0
Target_Reactive_Power	0.0	Target_Off-grid_Voltage	0.00	Target_Off-grid_Frequency	0.00
DC_Power	0.00	DC_Voltage	0.0	DC_Current	0.0
DC_Chg_Energy	0.0	DC_Dischg_Energy	0.0	Temperature_Of_DCDC_H...	125
PhA_IndCurrent_Rms_Value	0.0	PhB_IndCurrent_Rms_Value	0.0	PhC_IndCurrent_Rms_Value	0.0
PPIInvVphAB	0.0	PPIInvVphBC	0.0	PPIInvVphCA	0.0
Analog_DC_Ind_Current	0.0	PhA_InvVolt_Rms_Value	0.0	PhB_InvVolt_Rms_Value	0.0
PhC_InvVolt_Rms_Value	0.0				

4. DC side parameters setting

- Switch to the *PCS_Set* page to set the protection value on the battery side
- **Password: CSPCS30**
- For specific settings, please refer to the specifications of the batteries actually used in the project. If there are any questions, please contact Sinexcel team in time.

PWS2-30K-PlatformTools V106

PCS IP: 172 . 16 . 5 . 200 Disconnect COM: 19200 Connect Sinexcel-PWS2-30K-

PCS_Information | Status Alarm | PCS_Control_Regulation | **PCS_Set** | Record_Download | PCS_Update | Monitor_Set | Debug

Password:

Serial: -1-1

Voltage level: 380V Input IO configuration: Invalid Save the factory: Save

Voltage system: 3P3W DC soft start external control enable: disable Factory reset: Recover

Frequency level: 60HZ Interface Type: RS-485 Clear data: Clear data

Certification: 1741SA Off-grid parallel enable: disable Clear flags: Clear flag

Off-grid by default: on-grid BMS protocol selection: ALPHA-ESS Reset reboot: Restart

Model selection: Single CPU EMS timeout setting: 0 BMS timeout setting: 0

参考 A相 B相 C相

参考校 A相电网电压 复位校准 逆变电 3800 0 0 0

初始化校准 实际测量 确认校准 逆变电 0 0 0 0

显示 0 校准逆变电压 校准逆变电流 初始化逆变电压 初始化逆变电流

有功调节 0.0 一键测试参数

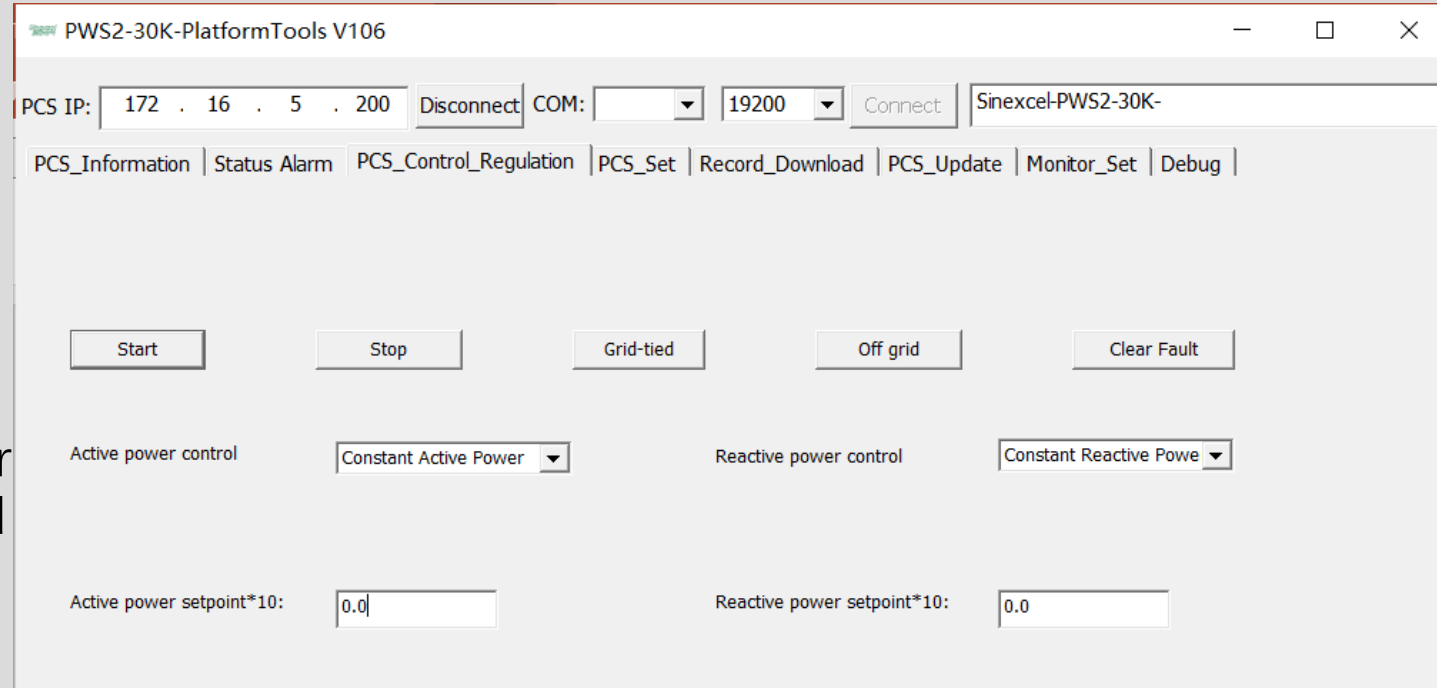
电池参 电池浮充电压 230.0

电池均充电压
均充转浮充电流
最大充电电流
最大放电电流
电池电压保护下限
电池电压保护上限

开机 并网 离网 清除故障 老化模式 校准测试 直流软起允许标志位

5. Remote control and remote debugging

- Switch to the *PCS_Control_Regulation* page to do the following operations :
 - Start: Start the PCS
 - Stop: Stop the PCS
 - Grid-tied: Set PCS to grid-tied mode
 - Off-grid: Set PCS to off-grid mode
 - Clear Fault: Clear faults that can be cleared
 - Active power setpoint*10: Active power setting (The tool has already processed the magnification, no need to multiply by 10)
 - Reactive power setpoint*10 Reactive power setting (The tool has already processed the magnification, no need to multiply by 10)



The screenshot displays the 'PWS2-30K-PlatformTools V106' software interface. At the top, there is a header bar with the title and window controls. Below the header, the 'PCS IP:' field is set to '172 . 16 . 5 . 200', and the 'COM:' field is set to '19200'. The 'Connect' button is highlighted, and the device name 'Sinexcel-PWS2-30K-' is visible in the adjacent field. A navigation bar below the header contains several tabs: 'PCS_Information', 'Status Alarm', 'PCS_Control_Regulation' (which is the active tab), 'PCS_Set', 'Record_Download', 'PCS_Update', 'Monitor_Set', and 'Debug'. The main area of the interface features five buttons: 'Start', 'Stop', 'Grid-tied', 'Off grid', and 'Clear Fault'. Below these buttons, there are two rows of controls. The first row shows 'Active power control' with a dropdown menu set to 'Constant Active Power' and 'Reactive power control' with a dropdown menu set to 'Constant Reactive Powe'. The second row shows 'Active power setpoint*10:' with a text input field containing '0.0' and 'Reactive power setpoint*10:' with a text input field containing '0.0'.

6. Download data

- Switch to the *Record_Download* page to download the relevant data
- Download_Alarm: Alarm log
- Download_OperateRecord: Operation record
- Download_Fault: Fault data records
- Download_Analog: Analog records

- Click *FOLDER_PATH* to find the path where the downloaded file is saved

The screenshot displays the 'PWS2-30K-PlatformTools V106' software interface. At the top, the title bar shows the application name and standard window controls. Below the title bar, there is a configuration section with 'PCS IP:' set to '172 . 16 . 5 . 200', a 'Disconnect' button, 'COM:' set to '19200', and a 'Connect' button. The device name 'Sinexcel-PWS2-30K-' is visible in the top right. A navigation bar contains several tabs: 'PCS_Information', 'Status Alarm', 'PCS_Control_Regulation', 'PCS_Set', 'Record_Download' (which is the active tab), 'PCS_Update', 'Monitor_Set', and 'Debug'. The main area features six buttons for downloading data: 'Download_Alarm', 'Download_OperateRecord', 'Download_Fault', 'Download_Analog', 'Download_Status', and 'Download_Setting'. Below these buttons are two checkboxes: 'Source data conversion' and 'Data Analysis', both of which are currently unchecked. At the bottom, there is an 'Index:' field, a checked checkbox for 'Reserved middle logging', and a button labeled 'FOLDER_PATH'.



IMPORTANT NOTICE When doing the update

99% of the failures to update are caused by these issues.

- Not setting the PCS and the PC to the same subnet
- **Not turning off the firewall**
- Not connecting the PC to the PCS directly but via ethernet switch
- **Not disabling unnecessary adapters, including the WIFI**

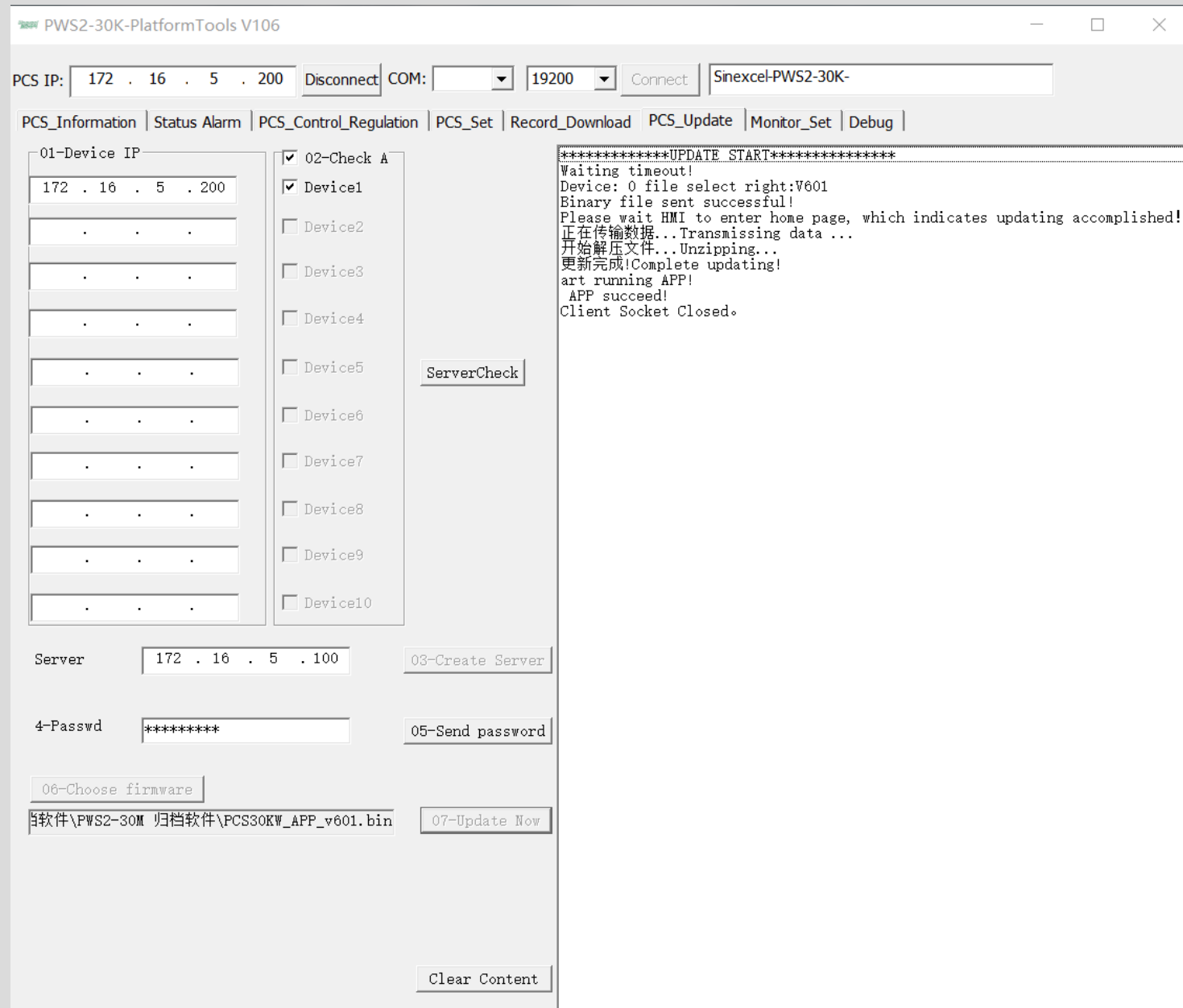
File names of the firmware

File name	Indicates		Symbol
APP.bin	HMI firmware	ST chip	S
		GD chip	
U1.hex	DSP firmware		D
DWIN_SET.zip	HMI display		C

Updating the bottom firmware of the HMI doesn't request a hard reboot.
It's recommended to update the HMI bottom firmware before updating the DSP firmware.

7. Firmware update

- Run PWS2_30K_PlatformTools.exe. If Windows firewall appears, please **DO NOT** block the app. Otherwise there will be unpredictable connection problem.
- Switch to the *PCS Update* page to update the PCS firmware as follows.
- Enter the address of the PCS in 01-Device IP. If there are multiple PCSs to be updated at the same time, enter the IP addresses of other PCSs in the remaining boxes. Only 10 PCSs can be updated at a time.
- Click 02-Check All
- Click ServerCheck to confirm the sever address is the same as computer IP address, and there should be only one server.
- Click 03-Create Server.
- Enter the **password IAP888888** in the 04-Passwd.
- Click 05-Send password.
- After the process on the right blank shows that the IP join, click 06-Choose firmware to select the file that needs to be updated
- After confirming the file is correct and uploaded successfully, click 07-Update Now to start the update



Please always pay attention to the process on the right blank, and restart the PCS after “APP succeed” shows. After confirming that the PCS firmware version is correct, the update is completed. If the update fails, please contact Sinexcel team asap. esms-aftersales@sinexcel.us

8. Monitoring parameters setting and checking

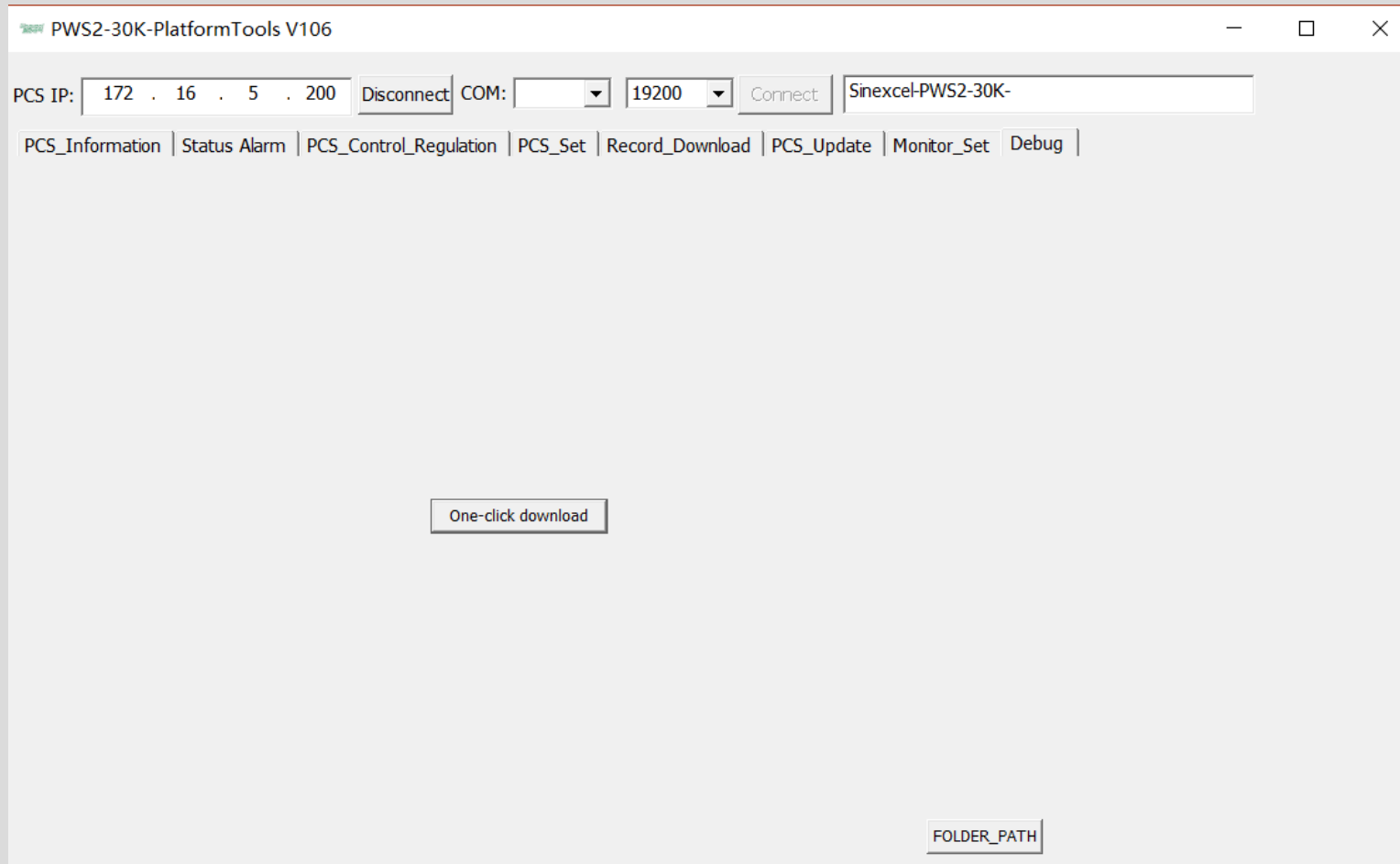
- Switch to *Monitor_Set* to set or check PCS-related monitoring parameters
- BMS: BMS Communication timeout protection time
- RTC_Year: Real date
- TCP: TCP Communication timeout protection time
- RTC_Time: Real time
- Modbus: Modbus ID
- IP Address: PCS IP address
- Baud Rate: RS485 communication baud rate
- Mask: Subnet mask
- Beep Enable: Enable beep
- GateWay: Gateway address
- Machine ID: Firmware type
- Server: Server address
- Serial: PCS serial number
- Mac: PCS Mac address
- Version: PCS firmware version

The screenshot displays the 'PWS2-30K-PlatformTools V106' application window. At the top, there is a header bar with the title and standard window controls. Below the header, there is a configuration area for the PCS IP (172.16.5.200) and COM port (19200), with 'Disconnect' and 'Connect' buttons. A dropdown menu shows 'Sinexcel-PWS2-30K-'. Below this is a navigation bar with tabs: 'PCS_Information', 'Status Alarm', 'PCS_Control_Regulation', 'PCS_Set', 'Record_Download', 'PCS_Update', 'Monitor_Set', and 'Debug'. The 'Monitor_Set' tab is active, showing a 'Communication Setpoint:' section with various parameters and their values in input fields:

Parameter	Value
BMS	0
TCP	0
Modbus	1
Baud Rate:	19200
Beep Enable:	0
Machine ID:	GD
Serial	
Version:	D00S601
RTC_Year:	2022.5.7
RTC_Time:	14.32.38
IP Address	172.16.5.200
Mask :	255.255.254.0
GateWay:	172.16.5.254
Server:	
Mac:	00-24-13-94-27-20

9. One-click download

- Switch to the *Debug* page
- Click One-click download, cause there are too many files, it takes a long time, generally it takes 5 minutes to download all files.
- Click FOLDER_PATH to find the path where the downloaded file is saved



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