

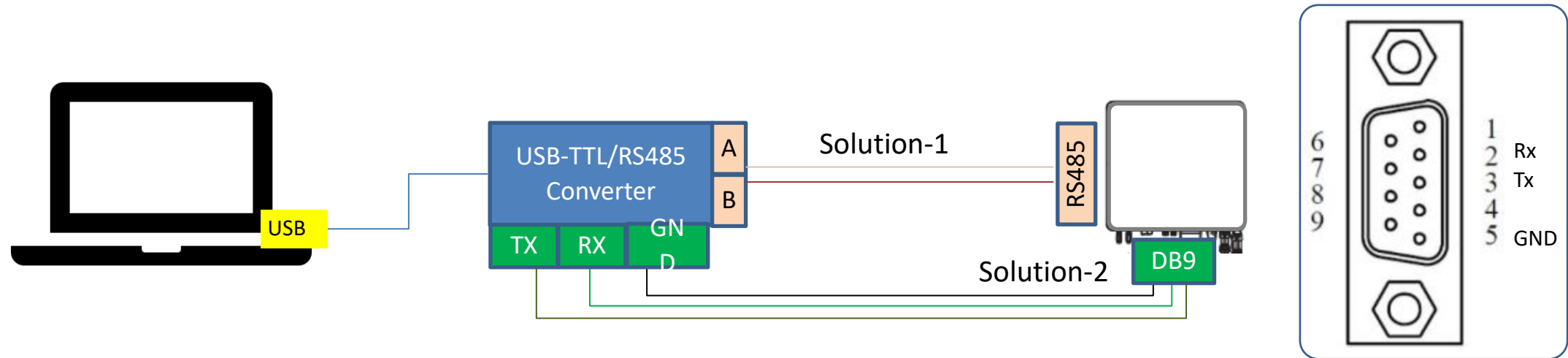


MidNite ONE

Firmware Upgrade Guide

1. Local Upgrade (PC+RS485/DB9)

➤ Tools Preparation & Environment Setup



Laptop (Windows 7/10),
Drive of USB-TTL/RS485 converter,

[Firmware upgrade tool](#),
Firmware packages (xxx.bin),

Converter (USB-RS485, or USB-TTL)

Inverter (Power ON),
Communication cable (RS485 or DB9),

- Notice:** 1) Drive of USB converter uninstalled might cause communication failed,
 2) RS232 converter (12V level) is not applied,
 3) Verifying communication is necessary before firmware upgrading,

1. Local Upgrade (PC+RS485/DB9)

➤ Software Introduction

The screenshot shows the 'InverterUpgradeTool-V1.0.6' application window. It is divided into several sections:

- Operation area (red box):** Located at the top, it contains controls for the upgrade process. It includes a 'COM' dropdown menu set to 'COM17', a 'Modbus address' input field set to '1', a 'Choose file' button, a 'File' button, an 'Upgrade control' button, a 'Start' button, and a 'Set chip ID' checkbox with 'Automatically' selected.
- Status & log area (blue box):** Located in the middle, it displays the progress of the upgrade. It includes a 'Versions before upgrade' section with fields for Main DSP Part No. (050200-05), Main DSP Version (021000), Slave DSP Part No. (050201-00), Slave DSP Version (020000), EMS MCU Part No. (050204-05), EMS MCU Version (021000), DCDC MCU Part No. (050205-00), and DCDC MCU Version (020000). Below this is a 'Versions after upgrade' section with empty fields for the same components. A 'Check versions only' button is at the bottom of this section. The log area on the right shows a series of timestamps and messages, including 'Open file', 'Start', 'Check versions only', 'Connecting with target', 'Checking versions before upgrade', and 'Read the versions successfully'.
- Result area (green box):** Located at the bottom, it contains a 'Check versions only' button.

1. Local Upgrade (PC+RS485/DB9)

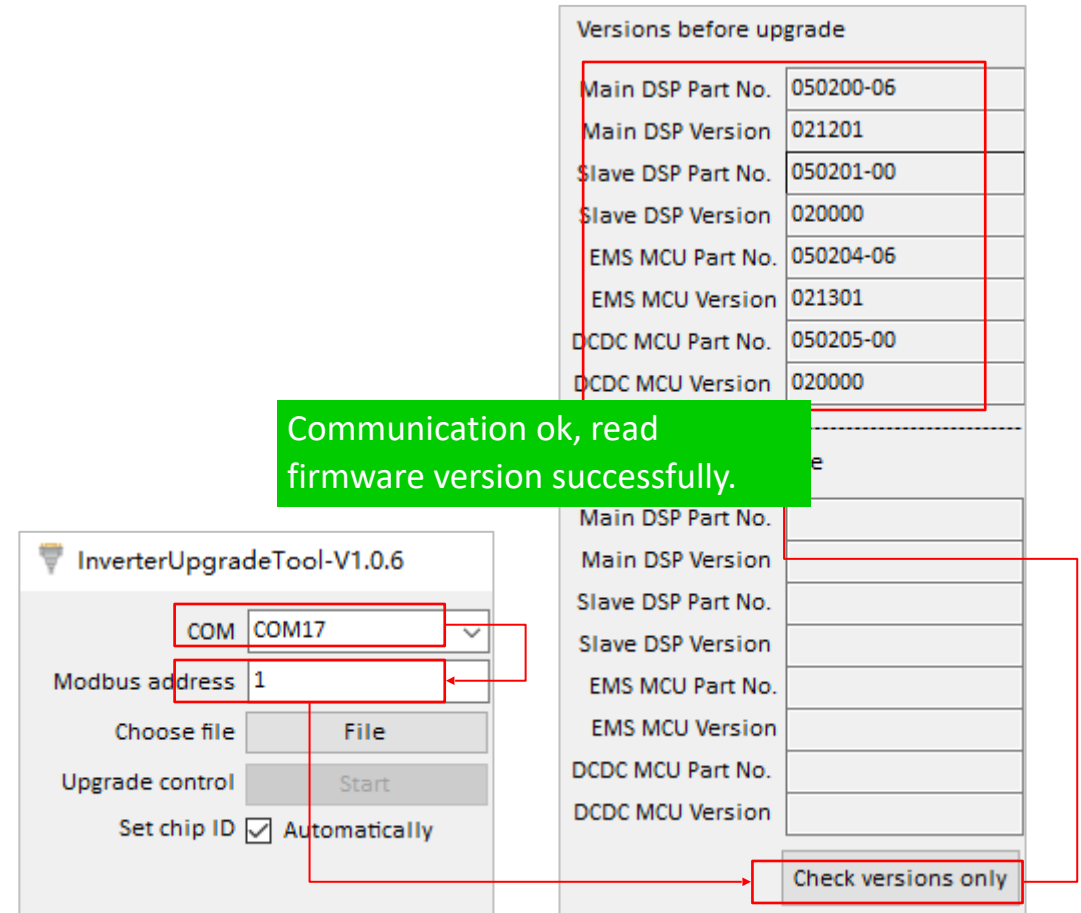
➤ Operation Guide

1, Power ON Inverter by PV/BAT/AC,

2, Connect PC – USB Converter (RS485/DB9) – Inverter,

2.1, Select COM port, confirm inverter Modbus address.

2.2, Verify communication by “Check versions” of FirmwareUpgradeTool.



The screenshot shows the 'InverterUpgradeTool-V1.0.6' window. On the left, the 'COM' port is set to 'COM17' and the 'Modbus address' is '1'. The 'Set chip ID' checkbox is checked and labeled 'Automatically'. The 'Upgrade control' section has a 'Start' button. On the right, the 'Check versions only' button is highlighted. Above this button is a table titled 'Versions before upgrade'.

Versions before upgrade	
Main DSP Part No.	050200-06
Main DSP Version	021201
Slave DSP Part No.	050201-00
Slave DSP Version	020000
EMS MCU Part No.	050204-06
EMS MCU Version	021301
DCDC MCU Part No.	050205-00
DCDC MCU Version	020000

A green text box with a red border contains the message: "Communication ok, read firmware version successfully." Red arrows point from the 'Check versions only' button to the green box and from the 'COM17' dropdown to the 'Check versions only' button.

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➤ Operation Guide

3, Upgrade firmware

Sequence: EMS-MDSP-(DCDC)-SDSP

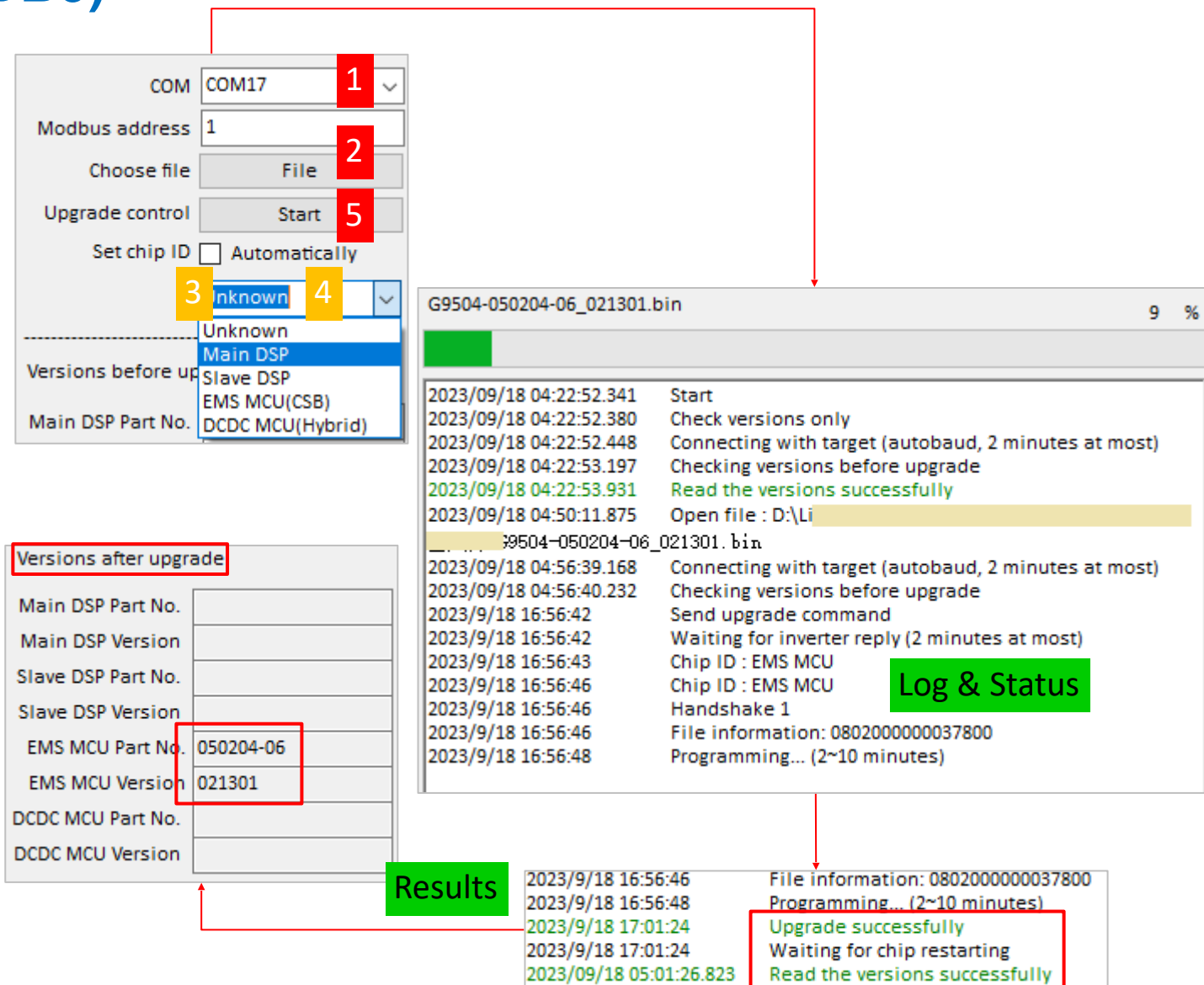
Operation steps:

3.1, confirm COM port,

3.2, choose file,

3.3⁽¹⁾, unselect “automatically set chip ID”, manually select chip to upgrade.

3.4, start,



The screenshot displays the MidNite Solar upgrade software interface. The main configuration window is on the left, and the log window is on the right. The configuration window has several fields and buttons, with red numbers 1 through 5 indicating the sequence of steps: 1. COM port (COM17), 2. Modbus address (1), 3. Choose file (File), 4. Set chip ID (Unknown), and 5. Upgrade control (Start). The log window shows the progress of the upgrade, including the file name G9504-050204-06_021301.bin and the status of the upgrade. The results window at the bottom shows the final status of the upgrade, including the file information and the upgrade success message.

Configuration Window:

- COM: COM17 (1)
- Modbus address: 1 (2)
- Choose file: File (3)
- Upgrade control: Start (5)
- Set chip ID: ☐ Automatically
- Chip ID: Unknown (4)
- Versions before upgrade: Unknown
- Main DSP Part No.: Unknown
- Main DSP Version: Unknown
- Slave DSP Part No.: Unknown
- Slave DSP Version: Unknown
- EMS MCU Part No.: 050204-06
- EMS MCU Version: 021301
- DCDC MCU Part No.: Unknown
- DCDC MCU Version: Unknown

Log Window:

```

2023/09/18 04:22:52.341 Start
2023/09/18 04:22:52.380 Check versions only
2023/09/18 04:22:52.448 Connecting with target (autobaud, 2 minutes at most)
2023/09/18 04:22:53.197 Checking versions before upgrade
2023/09/18 04:22:53.931 Read the versions successfully
2023/09/18 04:50:11.875 Open file : D:\Li
2023/09/18 04:56:39.168 Connecting with target (autobaud, 2 minutes at most)
2023/09/18 04:56:40.232 Checking versions before upgrade
2023/9/18 16:56:42 Send upgrade command
2023/9/18 16:56:42 Waiting for inverter reply (2 minutes at most)
2023/9/18 16:56:43 Chip ID : EMS MCU
2023/9/18 16:56:46 Chip ID : EMS MCU
2023/9/18 16:56:46 Handshake 1
2023/9/18 16:56:46 File information: 0802000000037800
2023/9/18 16:56:48 Programming... (2~10 minutes)
  
```

Results Window:

```

2023/9/18 16:56:46 File information: 0802000000037800
2023/9/18 16:56:48 Programming... (2~10 minutes)
2023/9/18 17:01:24 Upgrade successfully
2023/9/18 17:01:24 Waiting for chip restarting
2023/09/18 05:01:26.823 Read the versions successfully
  
```

Notice: 1) “manually set chip ID” for specific situations, for most situations, you can select “automatically”.

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➤ Operation Guide

4⁽¹⁾, Factory resetting

4.1, close FirmwareUpgradeTool, open SciTool, sending below commands to reset inverter.

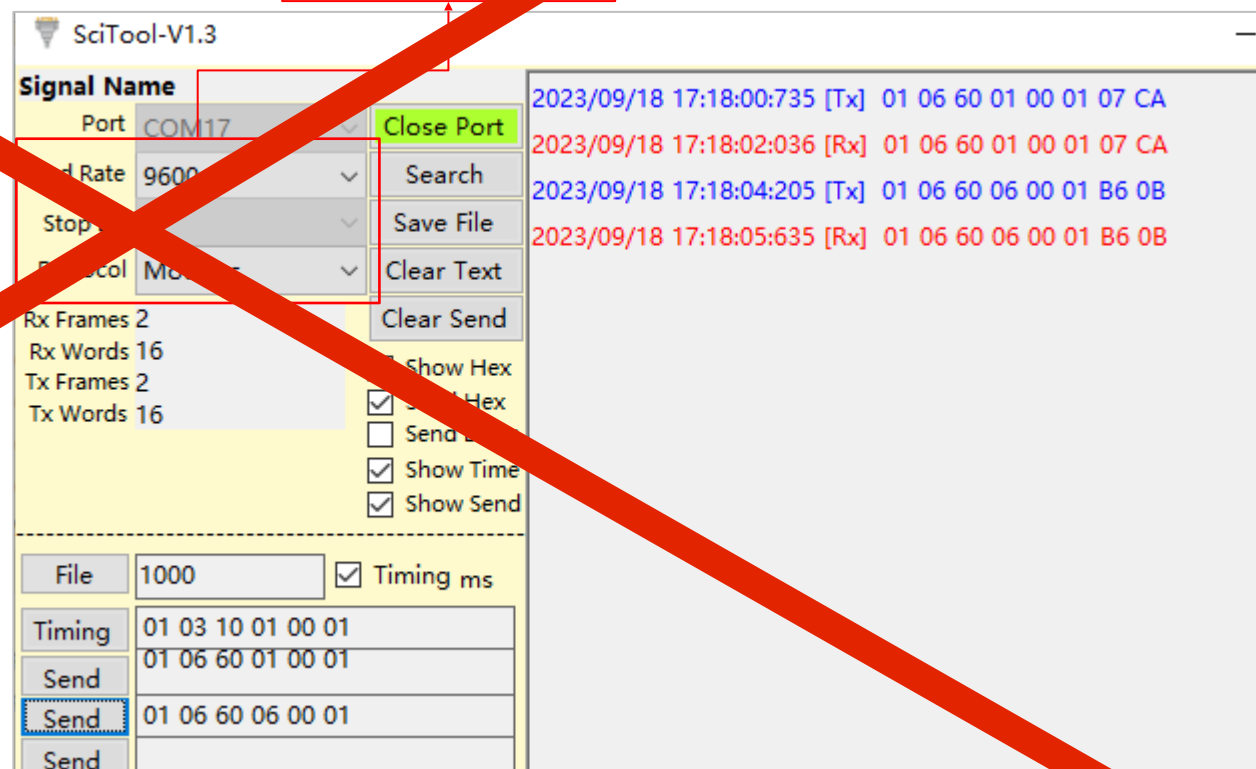
TX: 01 06 60 01 00 01 //Put OFF inverter
RX: 01 06 60 01 00 01

TX: 01 06 60 09 00 01 //Clean historical data
RX: 01 06 60 09 00 01

TX: 01 06 60 06 00 01 //Reset factory (10s)
RX: 01 06 60 06 00 01

Notice: 1) new firmware usually imports new parameters, recommend resetting after upgrading.

Configuration
Baud rate: 9600
Stop bit: 1
Protocol: Modbus





Thank You

MidNite ONE