

PM5500/PM5600/PM5700 SERIES FIRMWARE UPGRADE TOOL

Document Version	Date	FW Upgrade Tool Version	Remarks
2.5	28-Sep-2021	2.5	Document control introduced and document version matched with tool version. Tool now supports PM5560, PM5580, PM5563 meter models upgrade to firmware revision 4.1.3 and later.
3.4	03-Mar-2022	3.4	Firmware upgrade support for PM5561 meter model. Tool now supports PM5561 meter model upgrade to firmware revision 12.0.4 and later. Tool now supports PM5560, PM5580, PM5563 meter models upgrade to firmware revision 4.1.8 and later.
3.10	22-April-2022	3.10	Firmware upgrade support for PM5650 meter model. Tool only supports PM5650 meter model upgrade to firmware revision 4.10.3 and later. Tool now supports PM5560 meter model upgrade from firmware version 2.8.3 to 4.2.1.
3.6.0	31-Jan-2024	3.6.0	Firmware upgrade support for PM5760, PM5660, PM5570, PM5661, and PM5761 meter models. Change in FTP file removal process. Cybersecurity improvements.
3.8.0	25-Feb-2024	3.8.0	Mass firmware upgrade support for PM5560 and PM5563 meter models. The firmware upgrade supports up to 10 devices at a time. Waiting for host fix during the meter upgrade resolved.


User Instructions

NOTE: This document must be used in conjunction with the latest version of the PM5500 / PM5600 / PM5700 series user manual.

Firmware Upgrade:

Following are the pre-requisites required for the firmware upgrade:

- Latest compatible firmware upgrade package (download the latest firmware upgrade package from www.se.com).
- Latest firmware upgrade tool which is included in the firmware upgrade package.

 CAUTION
PERMANENT EQUIPMENT DAMAGE Always use the firmware upgrade tool version which is available with the compatible firmware upgrade package. Failure to follow these instructions can result in irreparable damage to your meter.

- PC with Windows 10 or later version operating system connected directly to the meter through Ethernet cable.
- Uninterrupted power supply to the control power input of the meter, with stable Ethernet communication.
- Meters configured with STATIC IP under **Stored** method.
- ION Setup configuration tool.

Steps:

NOTE:

NOTICE
PERMANENT EQUIPMENT DAMAGE <ul style="list-style-type: none"> • Do not interrupt the auxiliary control power during the firmware upgrade. • Ensure stable Ethernet communication during the upgrade process to prevent any potential firmware corruption or incomplete firmware upgrade. • Ensure ICMP is enabled in the network for the firmware upgrade. If ICMP is not enabled in the network and the firmware upgrade was initiated but unsuccessful, do not power cycle the meter. Failure to follow these instructions can result in irreparable damage to your meter.

- The firmware upgrade tool supports up to 10 devices at a time during the upgrade process.
- For the firmware upgrade method to be successful, do not change the file names.
- During the firmware upgrade process, all configuration settings and write operations must be stopped.
- The firmware upgrade process can support up to eight TCP connections for read operations. If there are more than eight TCP read connections, the firmware upgrade may be unsuccessful.
- Ensure the firmware upgrade is successful in the tool and verify that the meter is in operational state. After completing the upgrade, wait for one minute before proceeding to the next meters for upgrade process.

- If any meter stops responding, wait until all other meters have completed their upgrade. Then, verify by opening the webpage. For unsuccessful meter upgrades, close and reopen the tool, and then retry the upgrade without power restarting the meter. Refer to the following image:

PM5000 Firmware Upgrade Tool V3.8

File Tools Options Help

FW File: C:\Users\SESAB02986\Desktop\FW\PM556x_upgrade_4.4.5_Release_Rdkeyv2.sedp Target Firmware Version: 4.4.5

IP Address	Current Firmware Version	Product Name	Status	Progress
<input checked="" type="checkbox"/> 10.233.43.173	2.8.3	PM5560	Ping test successful	90%
<input checked="" type="checkbox"/> 10.233.43.174	2.8.3	PM5560	Ping test, count : 17	90%
<input checked="" type="checkbox"/> 10.233.43.175	2.8.3	PM5560	Ping test successful	90%
<input checked="" type="checkbox"/> 10.233.43.176	2.8.3	PM5560	Reading current firmware version, Try Count: 10	30%
<input checked="" type="checkbox"/> 10.233.43.177	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage	100%
<input checked="" type="checkbox"/> 10.233.43.178	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage	100%
<input checked="" type="checkbox"/> 10.233.43.179	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage	100%
<input checked="" type="checkbox"/> 10.233.43.180	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage	100%
<input checked="" type="checkbox"/> 10.233.43.181	Check Webpage	PM5563	Upgrade Completed. Double click here to open webpage	100%
<input checked="" type="checkbox"/> 10.233.43.182	2.8.3	PM5560	Ping test successful	90%

- If the meter is connected to network and configured in DHCP mode:
 - Disconnect the meter from the network.
 - Switch the IP method to **Stored**.
- If the meter is connected to network and configured with the STATIC IP address, proceed to **step 1**.
- If PM55XX supports HTTP, set the HTTP port number to 80 through webpages (**Settings > Advanced Ethernet Settings**) or through ION Setup.
- If PM55XX supports HTTPS, set the HTTPS port number to 443 through webpages (**Settings > Communication > Advanced Ethernet Settings**) or through ION Setup.
- For PM5561 meter model with firmware versions 10.7.3 or 10.8.2, if the FTP server is **Disabled**, you need to **Enable** the FTP server through the meter display.
- The firmware upgrade process for PM5561/PM5661/PM5761 meter models cannot be performed when MID/MIR lock is enabled. You need to remove the MID/MIR lock using the meter display to perform the firmware upgrade process.

1. Check that the IP domain of the PC is set to the same as that of the meter and ensure that the meter is communicating with the PC, for example, by running a ping test.
2. Open the **Config.csv** file included in the firmware upgrade tool package.
3. Modify the **Config.csv** file in **Notepad** and enter the meter's configuration in the following order without the <> brackets and spaces after the commas:

<IP Address>,<Modbus Slave ID>,<Web-master username>,<Web-master password>,<Product-Master username>,<Product-Master password>

NOTE: Before saving the Config.csv file, make sure it contains only a single line of text and that the last character of this line is the Product-Master password with no spaces, dots, commas, or other characters.


Example: 192.168.0.10,255,user1,pass1,user2,pass2

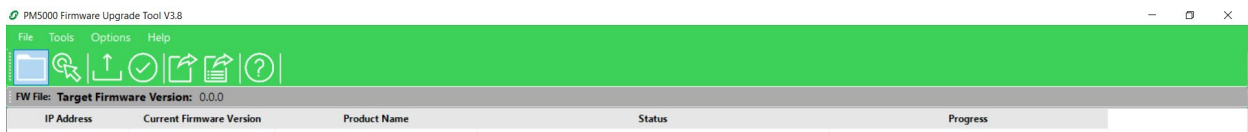
NOTE: A sample "config.csv" file is available in the tool package. You can modify its contents, save, and use it.

- Select the “**PM5000fwupgrade.exe**” to open the firmware upgrade tool.

NOTE: Ensure that you are using the latest version of the firmware upgrade tool for the upgrade process.



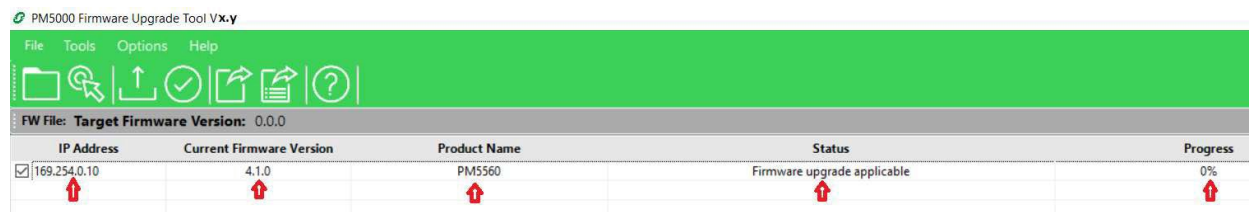
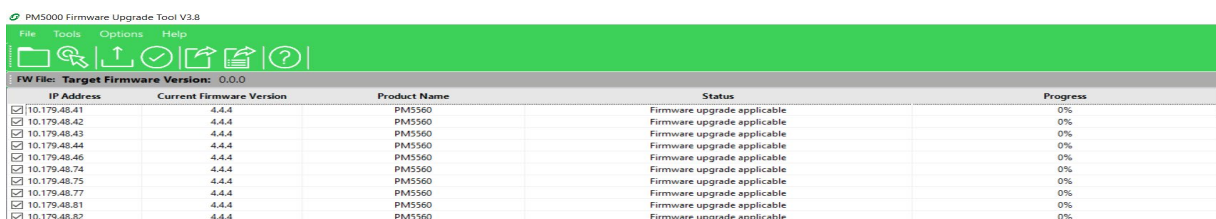
- Navigate to **File -> Open** OR select the  icon to choose the **config.csv** file.




- Check the **.csv** file for the device IP, slave address, username, and password details as shown below:

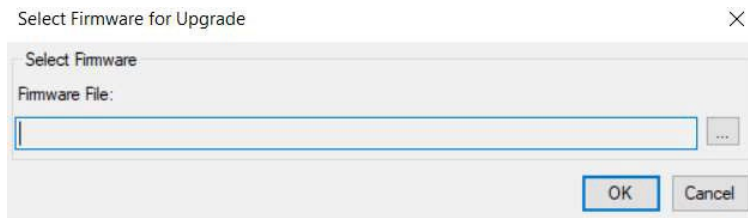
10.233.43.173	255	user1	pass1	user2	pass2
10.233.43.174	255	user1	pass1	user2	pass2
10.233.43.175	255	user1	pass1	user2	pass2
10.233.43.176	255	user1	pass1	user2	pass2
10.233.43.177	255	user1	pass1	user2	pass2
10.233.43.178	255	user1	pass1	user2	pass2
10.233.43.179	255	user1	pass1	user2	pass2
10.233.43.180	255	user1	pass1	user2	pass2
10.233.43.181	255	user1	pass1	user2	pass2
10.233.43.182	255	user1	pass1	user2	pass2

- Before proceeding, ensure to review the information displayed by the firmware upgrade tool, which includes the IP address, current firmware version, product name, and status.

IP Address	Current Firmware Version	Product Name	Status	Progress
10.179.48.41	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.42	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.43	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.44	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.46	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.74	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.75	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.77	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.81	4.4.4	PM5560	Firmware upgrade applicable	0%
10.179.48.82	4.4.4	PM5560	Firmware upgrade applicable	0%

8. Navigate to **Tools > Select Firmware** OR select the  icon to choose the firmware file to upload.




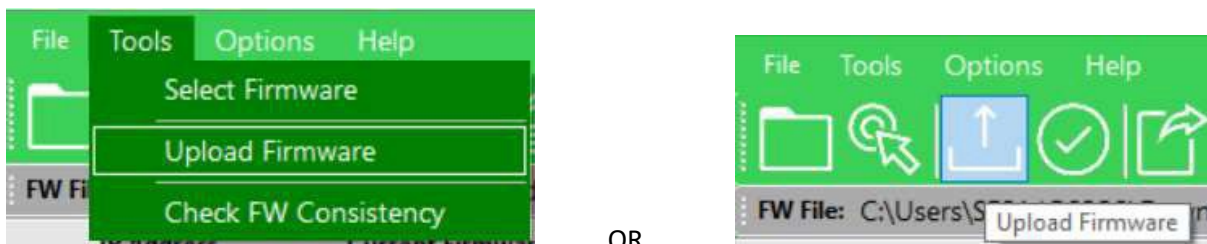
9. Select the **.sedp** firmware file to upload to the device.



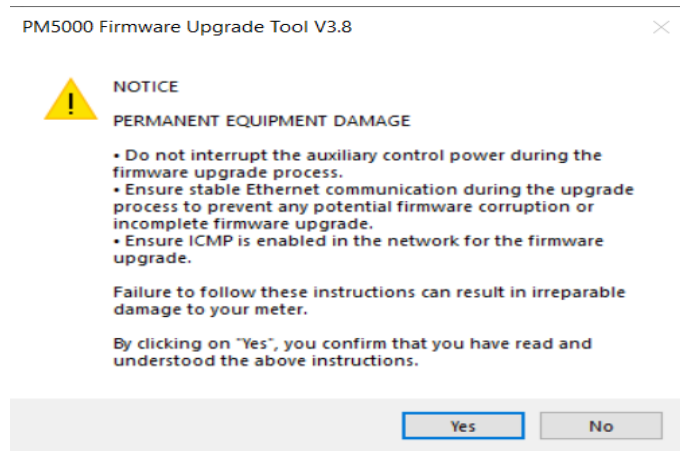
The **.sedp** firmware file path and version are displayed in the tool bar.



10. Navigate to **Tools > Upload Firmware** OR select the  icon to upload the firmware to the connected device.



11. A pop-up message will be displayed. Please ensure that you read and understand the message. Select "Yes" to proceed with the upgrade process.



During the firmware upgrade process, all the options in the window will be disabled until the upgrade is completed and the device status is displayed in the **Status** column. Following are the screenshots to show the progress of firmware upgrade:

IP Address	Current Firmware Version	Product Name	Status	Progress
<input checked="" type="checkbox"/> 169.254.0.10	4.1.0	PM5560	FTP port available	0%

IP Address	Current Firmware Version	Product Name	Status	Progress
<input checked="" type="checkbox"/> 169.254.0.10	4.1.0	PM5560	File Uploaded FWAPack.cms	45%

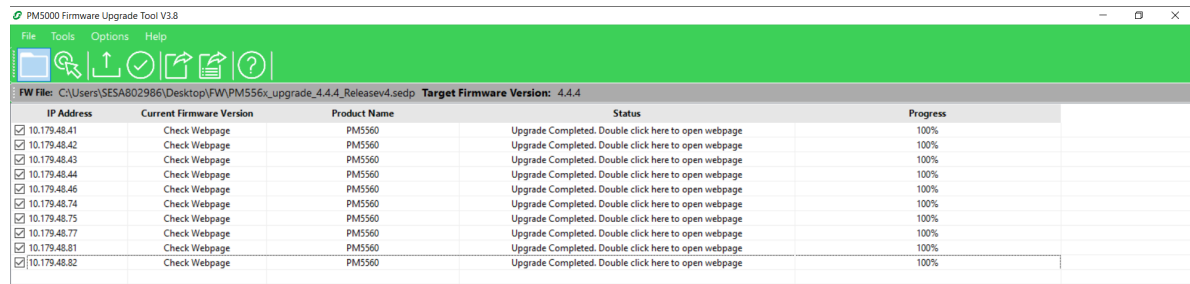
IP Address	Current Firmware Version	Product Name	Status	Progress
<input checked="" type="checkbox"/> 169.254.0.10	4.1.0	PM5560	Device is preparing to complete the upgrade process.	95%

IP Address	Current Firmware Version	Product Name	Status
<input checked="" type="checkbox"/> 169.254.0.10	4.1.0	PM5560	Ping test successful

IP Address	Current Firmware Version	Product Name	Status
<input checked="" type="checkbox"/> 169.254.0.10	4.1.0	PM5560	Upgrading File FWAPack.bin

IP Address	Current Firmware Version	Product Name	Status
<input checked="" type="checkbox"/> 169.254.0.10	4.1.0	PM5560	Upgrading File ComCard.bin

Once the upgrade is completed, the tool will display a message to indicate that the upgrade is complete with a status of 100%.



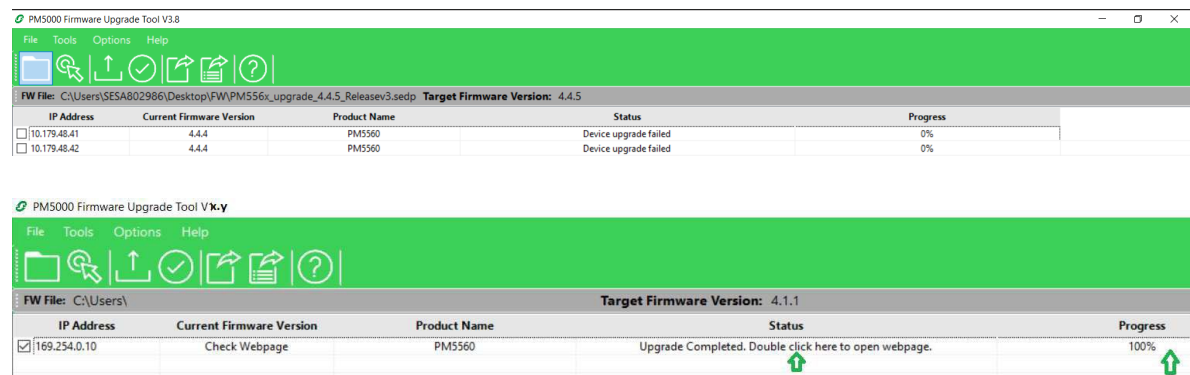
IP Address	Current Firmware Version	Product Name	Status	Progress
10.179.48.41	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.42	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.43	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.44	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.46	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.74	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.75	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.77	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.81	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%
10.179.48.82	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%

IP Address	Current Firmware Version	Product Name	Status	Progress
169.254.0.10	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%

NOTE: Save the upgrade logs to a local repository for technical assistance if:

- The firmware upgrade process is unsuccessful.
- The meter does not power up normally.
- Ethernet communication is not established.

During a mass upgrade, if any of the 10 devices encounter an unsuccessful upgrade, wait for five minutes before retrying the firmware upgrade process from **Step 3** without powering off the meter. If the diagnostic message continues, please contact Schneider Electric Technical Support for assistance.




IP Address	Current Firmware Version	Product Name	Status	Progress
10.179.48.41	4.4.4	PM5560	Device upgrade failed	0%
10.179.48.42	4.4.4	PM5560	Device upgrade failed	0%

IP Address	Current Firmware Version	Product Name	Status	Progress
169.254.0.10	Check Webpage	PM5560	Upgrade Completed. Double click here to open webpage.	100%

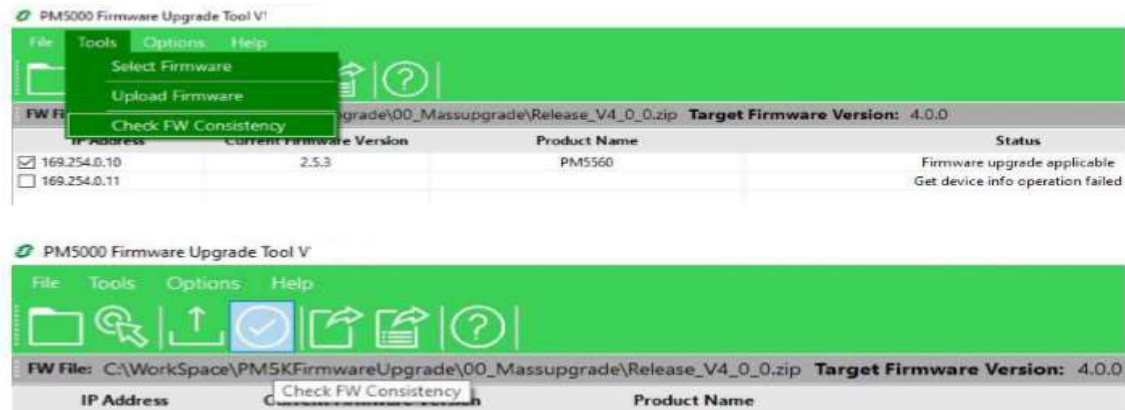
12. Navigate to **File > Exit** to close the firmware upgrade tool.



Checking Firmware Consistency of the Selected Device

1. Navigate to **Tools > Check FW Consistency** OR select the  icon to check the firmware consistency of the selected device.

Device firmware consistency status is shown in the **Status** column.














Saving Firmware Upgrade Log

1. Select the  icon to save the firmware upgrade logs of the selected device.



Upgrade logs are stored automatically in the **Application** file path in the **Logs** folder.


File Name	Icon	Date and Time	File Type	Size
Logs		03-01-2024 12:06 PM	File folder	
config.csv		23-12-2023 02:36 PM	Microsoft Excel Co...	1 KB
EasyModbus.dll		19-03-2023 09:55 AM	Application extens...	71 KB
FluentFTP.dll		13-03-2023 08:31 PM	Application extens...	383 KB
FluentFTP.xml		13-03-2023 08:31 PM	XML Document	462 KB
Newtonsoft.Json.dll		08-03-2023 12:39 PM	Application extens...	696 KB
Newtonsoft.Json.xml		08-03-2023 12:35 PM	XML Document	697 KB
PM5000fwupgrade.exe		16-11-2023 10:21 PM	Application	26,571 KB
PM5000fwupgrade.exe.config		08-05-2023 01:18 PM	Configuration Sou...	1 KB
PM5000fwupgrade.pdb		16-11-2023 10:21 PM	Program Debug D...	362 KB
PM5000fwupgrade.xml		13-09-2023 12:16 PM	XML Document	2 KB

Blank Display Recovery Upgrade:

If you encounter any meter with a blank HMI screen, use the latest firmware upgrade tool to update the device to the latest firmware version 4.3.x or later.

Refer to the firmware upgrade steps mentioned earlier in this document.

Troubleshooting: -

Problem	Probable cause / Solution
Pop up with Validation error and No device selected in list	Ensure you select at least one device or IP address to proceed with the firmware upgrade. 
Status message - Firmware up-to date	If the current firmware version of the device matches the target firmware version, the status message " Firmware up-to date " will be displayed. NOTE: The firmware upgrade is not possible when both versions are same.
Status messages: <ul style="list-style-type: none"> • Device info operation failed due to invalid authentication. • Device not responding. • Device connection failed. • Ping test failed. 	The firmware upgrade tool is unable to connect or validate credentials. Please follow these steps: <ul style="list-style-type: none"> • Check if the config.csv settings are correct and that the meter is communicating over the network. • Check if the firmware upgrade tool supports the meter model for the upgrade. If not, contact Schneider Electric for assistance. • Check if the default configured port numbers for HTTPS (443) and HTTP (80) are correct.
Status message - Firmware upgrade not supported for this product identifier	Contact Schneider Electric if the current version of the tool does not support the product identifier you are trying to load, or if the firmware binary is not intended for this product identifier.
Status messages: <ul style="list-style-type: none"> • Invalid firmware version. • Firmware version not supported. 	Contact Schneider Electric if the current version of the tool does not support the product identifier.
Status message - FTP port not available	Enable the FTP.
Status messages: <ul style="list-style-type: none"> • Device upgrade failed. • Firmware upload failed. 	Check if the current firmware version is compatible with the product identifier. Check if the meter is communicating over the network to the assigned IP. Open the webpage and verify that the version and meter model are supported.
Status messages for PM5561, PM5661 and PM5761 meter models: <ul style="list-style-type: none"> • Upgrade is not possible. Meter is MID locked. • Upgrade is not possible, maximum allowed upgrades are exceeded. • FTP is disabled. • Changing to device fw support version failed. 	Check if the MID lock is Enabled . You need to Disable the MID lock using the meter display. NOTE: If the maximum allowable firmware upgrades are exceeded, further attempts will be blocked. In this case, contact Schneider Electric. Enable FTP through the meter display to proceed further. If the firmware support version is unsuccessful during the upgrade, contact Schneider Electric for assistance.
Meter upgrade process not responding.	Ensure ICMP is enabled on the meter. If ICMP is disabled due to network restrictions, connect both the laptop and the meter to the same network and verify that ICMP is operational. Ensure that configuration settings and write operations are stopped. Ensure that TCP connections for read operations are restricted to eight.