

PDU firmware update manual

Introduction

Since the beginning of 2015 the IP-S PDUs are standard equipped with an ethernet port. PDUs without this ethernet port are called Classic PDU.

Where the PDU can be connected directly to your network (fig 1), the Classic PDU needs an IP-S Gateway to connect to your network (fig 2). Both Classic and ethernet PDUs can be used in a ring.

Ring bridged to LAN

The first PDU is connected to the LAN bridge using the silvery "Ethernet port": this PDU is in bridge mode. From this "first" PDU on, you can connect the rest of the PDUs to a databus ring using the black "data bus ports". Both Classic and PDU can be used in the ring, though the "first PDU has to be an PDU (equipped with ethernet port)

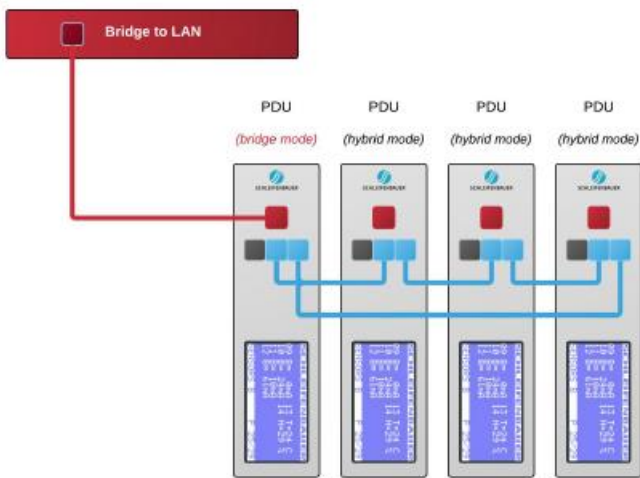


Fig. 1 - Ring of PDUs connected to LAN bridge

Ring connected to Gateway

The first Classic PDU is connected to the IP-S Gateway. From this PDU on, you can connect the rest of the PDUs using the black "data bus ports". Both Classic and PDU can be in the databus ring!

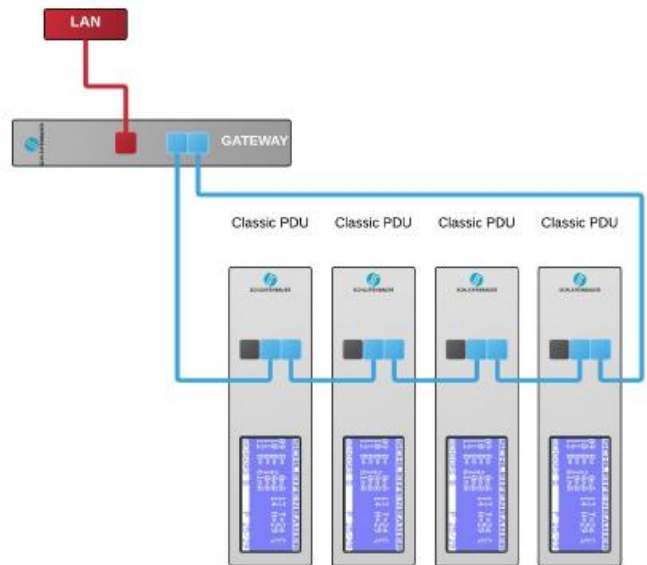


Fig. 2 - ring of Classic PDUs connected to Gateway

There are 2 sorts of PDU firmware (FW):

- Classic PDU: SPFW- 01 ..- series
- PDU: SPFW- 02 ..-series

Why frequently update the Firmware?

The development of the IP-S firmware is an ongoing process. With every new release not only bugs are fixed, but new features appear and the data bus will be more stable and speed will be increased. Not installing the newest firmware means that you do not make use of the latest technology.

Using the tool

Note: during the update process, power distribution will not be affected

To update the firmware on the PDUs, you need to **install the “FirmWare Updater Tool”** on your computer. You can find both the “Updater tool” and “firmware” at: <http://download.conteg.com/PDU/IP-S/>

1. Run the downloaded tool by double clicking the file (either a Mac application or Windows executable).

Fig.3

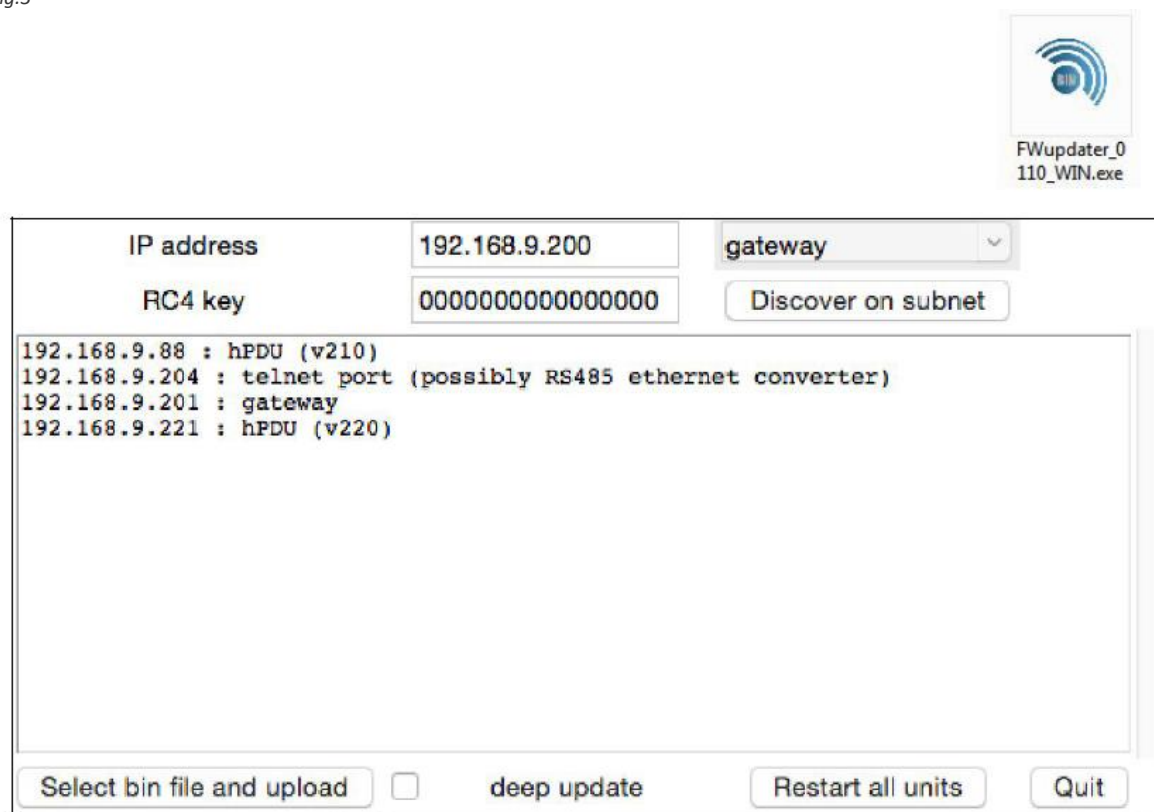


Fig.3| Firmware updater tool

Optional: You may first use the tool to discover usable interfaces within your subnet. For example, to discover all usable interfaces in the subnet *192.168.9.xxx*, enter *192.168.9.0* and click <Discover on subnet>. Actually the number after the last dot is ignored.

Note: Only GW 2.50 and PDU FW 2.10 devices (or greater) with enabled API will be discovered.

Fig. 4 - Interface discovery example

If not using a Gateway, proceed with step 7.

2. (*Gateway*) Upgrade your Gateway to GW 2.50 or higher.

```
discovering devices...
192.168.9.145 : hPDU (v210)
192.168.9.147 : hPDU (v210)
192.168.9.199 : hPDU (v210)
192.168.9.200 : gateway
192.168.9.201 : gateway
192.168.9.204 : telnet port (possibly RS485 ethernet converter)
```

Fig. 4 - Interface discovery example

3. (*Gateway*) Make sure the data bus is OK and all devices visible.

4. (*Gateway*) Disable all running interfaces (MySQL, etc) **except for API** .

5. (*Gateway*) Uncheck the 'Ring redundancy' check box.

6. (*Gateway*) If upgrading an PDU running 2.10 through IP API without a gateway, make sure external applications (like DC Spyder) don't use the IP API at the same time.

7. Enter the full **IP address** and type of your desired **interface** (Gateway/PDU/RS485 converter).

Note: if upgrading directly to a PDU, it should be running 2.10 or higher and IP API should be enabled.

8. In some cases, some devices fail upgrading. This is a known issue, in these cases check the '**deep update**' option (figure 3). This will send the firmware update in a more thorough fashion. Note that this takes considerably more time to finish.

Optional: when using a non default **RC4 encryption key**, enter it before proceeding. No firmware updates are possible if the keys do not match. This also applies to correctly detecting devices while scanning the subnet.

9. Click on < Select bin file and upload > to start the update process. The tool will first scan the bus to find all used firmware versions. The update speed may vary depending on used interface and firmware versions found on the bus, please be patient.

Progress: you can follow the update process in the updater tool-screen and locally on the PDU display

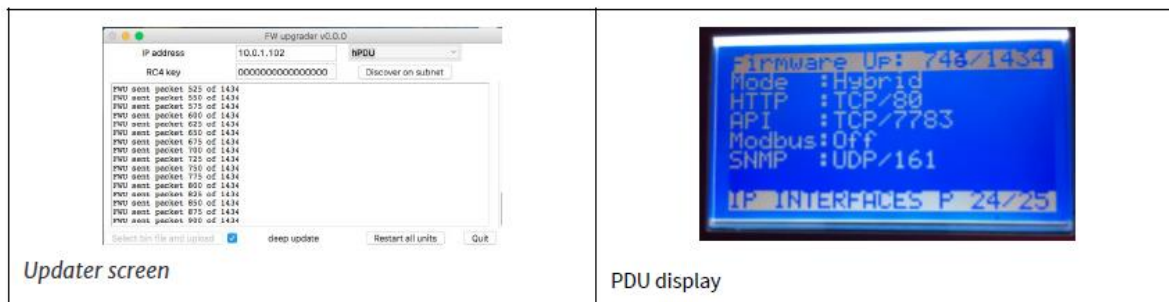


Fig. 5 - Start and progress of firmware update process

10. Make sure all devices were upgraded, by looking at the firmware versions shown after updating. If some units still have the old version, you can first try to restart the devices again by clicking on “Restart all units”, if that still does not work you may try again.

```
FWU sent packet 1100 of 1123
FWU sent packets, waiting for verification...
FWU rebooting units...
FWU reboot done in a few seconds
found: 10 devices
Unit: # 1, firmware: 210, build: 150223193817
Unit: # 2, firmware: 150, build: 141001162910
Unit: # 3, firmware: 150, build: 141001162910
Unit: # 4, firmware: 150, build: 141001162910
Unit: # 5, firmware: 210, build: 150223193817
Unit: # 6, firmware: 210, build: 150223193817
Unit: # 7, firmware: 150, build: 141001162910
Unit: # 8, firmware: 150, build: 141001162910
Unit: # 9, firmware: 210, build: 150223193817
Unit: # 10, firmware: 210, build: 150223193817
```

Fig. 6 - End of firmware update process

11. Restore interfaces and ring redundancy if desired.

Notes

- 1.xx devices will not upgrade to 2.xx firmware, 2.xx devices will not downgrade to 1.xx firmware.
- Versions 2.02 and 2.06 can only receive firmware upgrades over the classic data bus (by using a Gateway or RS485 converter together with this tool). From version 2.10, the PDU can receive firmware upgrades over the IP API as well.
- **Power distribution will continue during upgrade or rebooting of the PDUs!**