

Steca Tarom Charge Controller – Ethernet Streambox Domestic Installation

Hardware summary

Hardware Manufacturer	Steca
Hardware Model	Tarom 4545
Hardware Size	NA
Maximum number of Taroms connected to a single SPLASH Monitoring STREAMbox	4

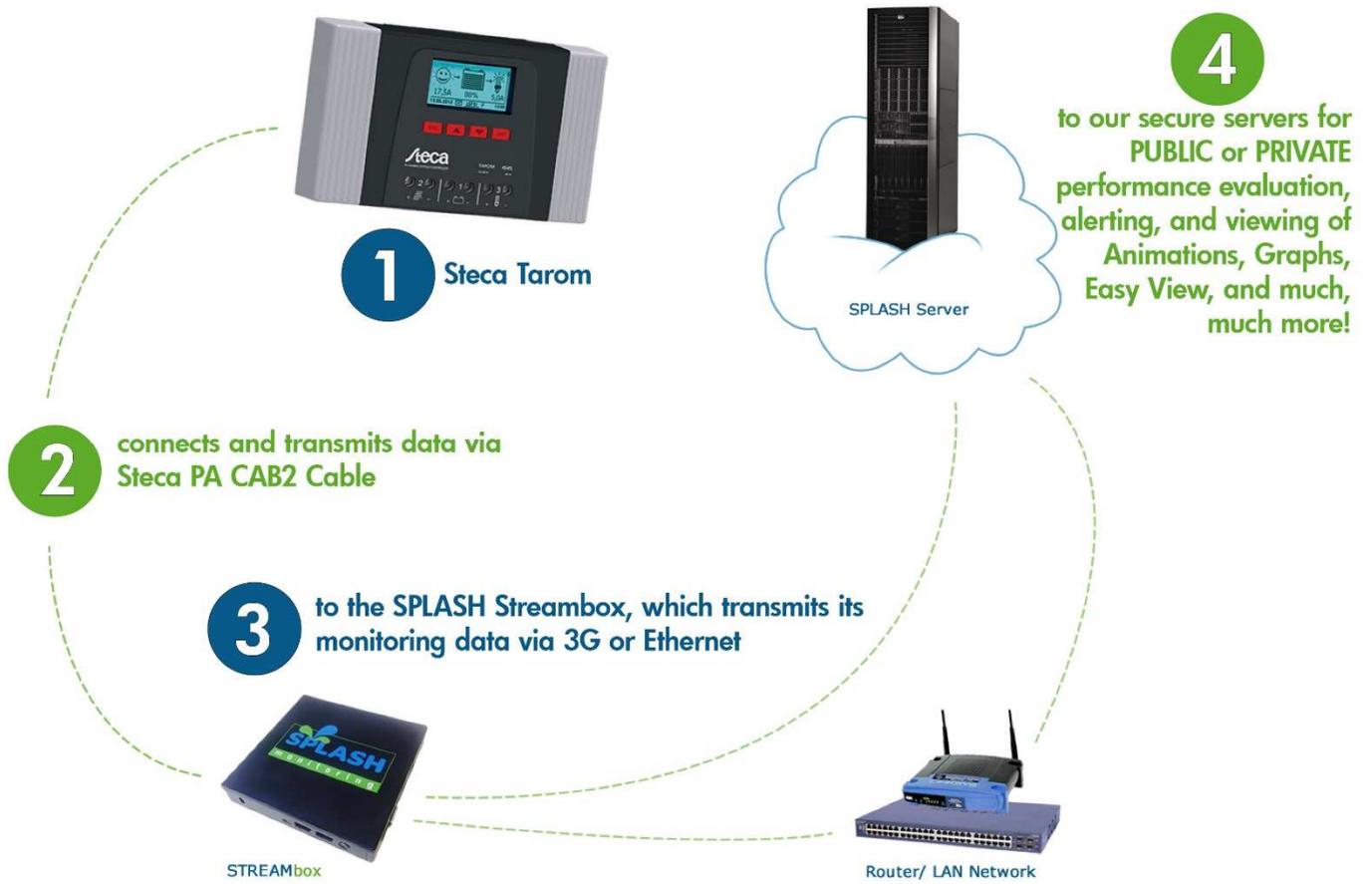
List of parts required for connecting the hardware to the SPLASH Monitoring STREAMbox

To enable you to connect the above hardware to SPLASH Monitoring you will need a SPLASH Monitoring STREAMbox and connection cables, these parts are listed below.

Part description	Part number
Hardware Make / Model	As above
SPLASH Monitoring STREAMbox	SMSB HW - Hardwired inverter connections
Connection cable STREAMbox to inverter	Part numbers Steca PA CAB2
Connection cable STREAMbox to clients router or LAN	Part numbers SM CAT5 1m – 1m CAT5 cable SM CAT5 2m – 2m CAT5 cable SM CAT5 5m – 5m CAT5 cable SM CAT5 10m – 10m CAT5 cable
Optional	
External Antenna	AGM024P
High Gain External Antenna and mount	WMO

Data Transmission

The following diagram shows the hardware and how the data is transferred from the Tarom to the SPLASH Monitoring Servers.



Installation Guidelines

To ensure long term reliable monitoring;

1. Install the Streambox and its power supply away from daily operational areas where the hardware could be accidentally turned off such as someone's desk or work bench.
2. Locate or secure the equipment to prevent it from falling, slipping and becoming disconnected
3. Secure the power cord to the STREAMbox using the supplied "P" cable clamp (see below)
4. Ensure the Ethernet CAT 5 / 6 cables are in good condition with their retaining clips intact and make sure they are securely fitted to the equipment by giving them a gentle tug.
5. Secure cables to protect them from accidental snagging
6. Do not stretch cables to the point where any movement could cause them to become disconnected.
7. The equipment and power supplies will be labelled 'DO NOT SWITCH OFF', but you should inform people with access to the installation area that this equipment should not be turned off; for example cleaning and maintenance personnel

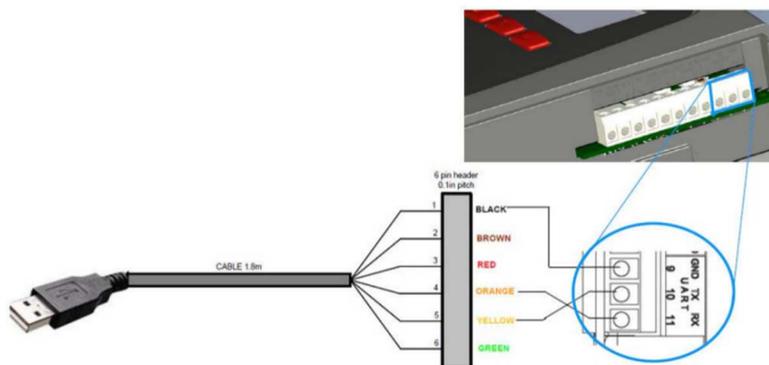


Basic Connectivity - STREAMbox USB Ports:

The USB ports are numbered from 1 to 4, port number 1 is immediately to the left of the SD Card slot, number 2 is immediately to the left of number 1. Number 3 is immediately to the left of the on/off button and number 4 is immediately to the left of number 3. See below:



The first Tarom can be connected to the STREAMbox using a Steca PA CAB2 (UART to USB) cable and MUST be connected to USB port 1. See below:



Connect the STREAMbox to your LAN using a standard CAT5 or CAT6 patch cable. The LAN in your case may mean a Router, ADSL Modem, Network Switch, or any other network device connected to the Internet.

Setting Up Your Tarom

Set up the Tarom as directed in the Tarom User Manual, but in particular you must set the Open UART/RS232 to 'On' (Set -> System Settings -> Open UART/RS232 -> On)

Setting Up Your STREAMbox

Unless the STREAMbox has already been configured according to your specifications, it will be configured to acquire a DHCP IP address from your router or DHCP server. For most domestic applications this will work without any modification. However, if you do need to change its settings see below for guidance.

Connecting more Taroms

When connecting multiple Taroms to the Streambox, each Tarom is allocated to a physical USB port and it is important that the Tarom is not plugged into a different USB port. If you remove the USB cable(s) for any reason, it is important that they are replaced in the original USB that is came from.

Web Site Setup:

The STREAMBox has already been preconfigured for monitoring the Tarom and the online setup takes only a few minutes. The Online setup consists of;

1. Registering with SPLASH Monitoring
2. Entering the location and name for the system
3. Selecting a name for your system

The information is sent from the Tarom to the online servers every 60 seconds, so the STREAMbox scan frequency is also set to 60 seconds. The scan frequency should not be changed from its preset 60 seconds.

Web Site Values:

The monitoring may indicate error codes from the Tarom, the following are the error codes.

- | | |
|-------|--|
| 0 | No error |
| 1 | Information (module operating normally, but supplementary information available) |
| 2 | Warning (module operating normally, but requires attention) |
| 3 | Error (module inoperable and requires immediate attention) |
| 4 | External temperature sensor defect |
| 5 | Tarom has exceeded its maximum operating temperature |
| 7 | Battery voltage too low |
| 8 | Battery voltage too high |
| 9 | Maximum load current exceeded |
| 10 | Maximum PV input current exceeded |
| 11 | Short circuit on the output load |
| 13 | Battery not connected |
| 14 | Battery polarity connected incorrectly |
| 15 | PV polarity connected incorrectly |
| 19-24 | Tarom module error – requires factory attention |
| 26 | Battery voltage not detected |
| 29 | Date/Time not set |
| 31 | Battery voltage detected |
| 34 | Over current protection triggered |

The monitoring will indicate Mode codes from the Tarom, the following Mode values represents the following battery charging modes:

- | | |
|---|----------|
| 1 | Float |
| 2 | Boost |
| 3 | Equalise |
| 4 | IUIA |
| 5 | NiMH |
| 6 | Li-ion |

Trouble Shooting:

“No Stream Found” on the SM Web site:

This is because the web site hasn't received any data from the STREAMbox.

- The Tarom can only be interrogated for data if the batteries are connected and have sufficient charge, or the PV is generating sufficient power. Otherwise no data will be produced.
- Allow at least 10 minutes after powering up the STREAMbox before starting your diagnostic checks.
- Check the connections between the STREAMbox and your router and ensure you have a solid green light at the top left of the RJ45 (LAN) socket and a flashing green light at the top right of the socket.
- No solid green light could indicate: the STREAMbox is switched off (check the power light on the front of the STREAMbox); or the router isn't powered up, or the LAN cable isn't connected to the router; or the LAN cable is faulty. To eliminate the LAN cable and router, connect the LAN cable to a known working device like your laptop or PC and if you can get a web session, then the LAN connectivity is OK.
- Check the connection between the STREAMbox and the inverter. Make sure the USB cable is plugged into the correct physical USB port.
- Try power cycling the STREAMbox – switch it off, wait 5 sec, switch it back on.
- Try logging on to the STREAMbox: enter “splash” in your web browser's address line, or if your STREAMbox has a fixed IP address, enter that into your web browser. For instructions on how to use the STREAMbox's 'Web Information Page' go to <http://www.splashmonitoring.com/assets/SM-STREAMbox-Web-Information-Page.html>
- On the Web Information Page check that “si-tarom-usbx (where x=1, 2, 3 or 4)” appears as an entry in the “Other Addresses” row of the “Scanning Information” table. Make sure the USB cable is plugged into the same physical USB port as depicted by 'x'.
- Check that the site's network firewall is allowing outbound traffic. This is rarely an issue with domestic routers, but can exist in managed commercial networks. Unless you have someone you can ask (like a network administrator) a good way to detect this issue is to log onto the STREAMbox and run a 'Healthcheck' report. This will give you lots of information including whether the STREAMbox can 'see' the internet.
- The STREAMbox is not able to work with a proxy server. If you have a proxy server you will need to make special arrangements with your network administrator to have the STREAMbox circumnavigate it by issuing a fixed IP address with appropriate privileges.