

# Device Configuration

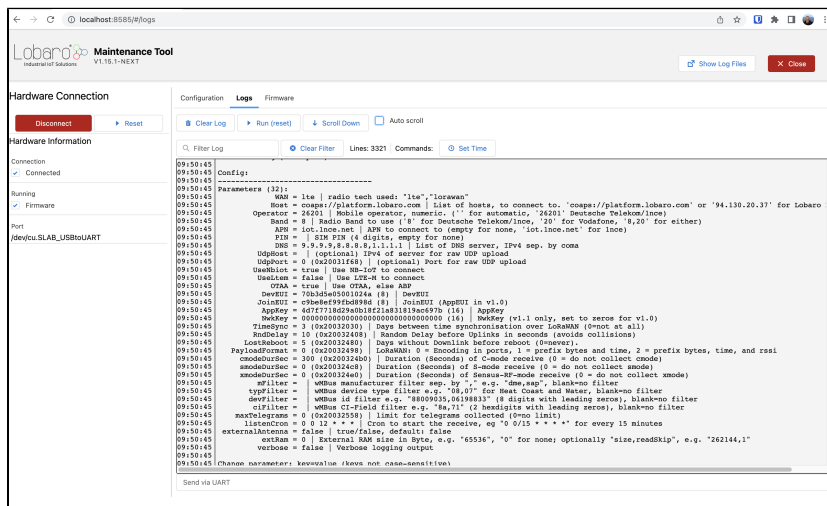
Lobaro devices allow a wide range of configuration adjustments. This page describes the generally valid parameters that are used in the same way for Lobaro devices, although not all products have to support all parameters listed here. Device-specific parameters are explained in the respective documentation. All configuration parameters are stored non-volatile in the Lobaro devices.

## How to configure

Any Lobaro device configuration can be set and read out either locally via a PC with the [Lobaro configuration USB adapter](#) and the [Lobaro Maintenance Tool](#) or remotely when using the [Lobaro IoT platform](#) and mobile radio (NB-IoT, LTE-M) or any LoRaWAN network server using [downlinks on a special port](#). Network parameters, such as the APN of the mobile cellular network provider, must usually first be configured correctly locally. Alternatively, possible on request for larger orders, an intimate configuration agreed with the customer can also be installed by Lobaro ex works.

## Additional Parameter Information

In addition to the information on this page and in the device-specific documentation, each Lobaro device provides additional information about the configuration parameters supported by the respective firmware via the serial log interface. This information appears directly after starting / resetting the device and can be read out via the Lobaro Maintenance Tool. In case of a configuration error this is also displayed in the log.



The screenshot shows the Lobaro Maintenance Tool interface. On the left, there's a sidebar with 'Hardware Connection' (Disconnected, Reset), 'Hardware Information' (Connected, Reset), and 'Port' (COM10:SLAB\_USBtoUART). The main area has tabs for 'Configuration', 'Logs', and 'Firmware'. The 'Configuration' tab is active, showing a 'Filter Log' field and a 'Clear Filter' button. Below the tabs, there's a 'Send via UART' button. The main content area displays the configuration parameters for the device, including:

- Host = coaps://platform.lobaro.com | List of hosts, to connect to. 'coaps://platform.lobaro.com' or '94.130.20.37' for Lobaro
- Operator = 26201 | Mobile operator, numeric. ('' for automatic, '26201' Deutsche Telekom/Ince)
- Band = 8 | Radio Band to use ('8' for Deutsche Telekom/Ince, '70' for Vodafone, '8/20' for either)
- APN = iot.linc.net | APN to connect to (empty for none, 'iot.linc.net' for Ince)
- PTN = | 878 PTN (4 digits, empty for none)
- DNS = 9.9.9.9,8.8.8,1.1.1.1 | List of DNS server, IPv4 sep. by coma
- Upload = | (optional) IPv4 of server for raw UDP upload
- UploadPort = 0 (62003168) | (optional) Port for raw UDP upload
- UseMqtt = true | Use Mqtt to connect
- UseLora = false | Use LoRa-M to connect
- OTAA = true | Use OTAA, else ABP
- DevEUI = 70b3d0e001024a (8) | DevEUI
- JoinEUI = c9e0e0f9f0d0f8d8 (8) | JoinEUI (AppEUI in V1.0)
- AppKey = 6d7771d2b0b018f21a831819ac6970 (16) | AppKey
- NetKey = 00000000000000000000000000000000 (16) | NetKey (v1.1 only, set to zeros for v1.0)
- TimeSync = 3 (0x20032030) | Days between time synchronization over LoRaWAN (0=not at all)
- StdDelay = 10 (0x20032408) | Random Delay before uplinks in seconds (avoids collisions)
- LostReboot = 5 (0x20032480) | Days without Downlink before reboot (0=never)
- PayloadFormat = 0 (0x20032498) | LoRaWAN: 0 = Encoding in ports, 1 = prefix bytes and time, 2 = prefix bytes, time, and rssi
- cmodeDurSec = 300 (0x200324b0) | Duration (Seconds) of C-mode receive (0 = do not collect cmode)
- smodeDurSec = 0 (0x200324c8) | Duration (Seconds) of S-mode receive (0 = do not collect smode)
- xmodeDurSec = 0 (0x200324e0) | Duration (Seconds) of Sensus-RF-mode receive (0 = do not collect xmode)
- mfFilter = | WMbus manufacturer filter sep. by '-' e.g. 'dms-sep', blank=no filter
- tyFilter = | WMbus device type filter e.g. '06,07' for Boat Coast and Water, blank=no filter
- devFilter = | WMbus id filter e.g. '8809935,06190813' (8 digits with leading zeros), blank=no filter
- ciFilter = | WMbus CI-field filter e.g. '8a,71' (2 hexdigits with leading zeros), blank=no filter
- maxTelegram = 0 (0x20032518) | Limit for telegram collected (0=unlmit)
- listenCon = 0 0 12 \* \* \* | Cron to start the receive, eg '0 0/15 \* \* \* \*' for every 15 minutes
- externalAntenna = false | true/false, default: false
- extRam = 0 | External RAM size in Byte, e.g. '65536', '0' for none; optionally 'size,readSkip', e.g. '262144,1'
- verbose = false | Verbose logging output

Channel parameter: key=value (shows not channel-identification)