

# NBloT downlink features

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SolidusTech NBloT devices are capable to receive a downlink. To make the device sufficient from the power consumption point of view, there is special feature implemented where downlink window – receiver is opened for aprox. 10s after defined number of uplink messages. User can define downlink capability according following examples, using command downlink:xx:

downlink:0 - downlink is permanently off – in this mode you can achieve best energy savings  
downlink:1 – means that after every message the receiver will be turned on for 10s and waits to downlink command

downlink:48 – means that downlink comes every 48<sup>th</sup> message, when sleep time is set to 60 min., then downlink is expected every 2 days.

downlink:4 – similar to above example when sleep is 720 min., then downlink is expected every 2<sup>nd</sup> day.

Receiver window is opened on **port 50000**. Knowing IP address of the device and mentioned port, you can send UDP message from your server/application. Consult payload description for particular device for downlink message indication within uplink payload.

## Downlink message

You can send all commands implemented for given device separated by “;” character. The “;” must be present in the end of string which is intended to be sent to the device. The message begins with simple PIN number, which is by default 1234. Correct message has following body:

**PIN:command1;command2; ...;commandn;**

Following examples explains of real usage of the downlink:

- 1234:sleep:30;scan:10;downlink:4; - cause that the device will go to sleep for 30 minutes, scans alarms every 10 minutes and expect downlink message every 2 hours
- 1234:reset; - cause restart of the device
- 1234:sleep:720;downlink:0; - change sleep time to 720 min. and cut-off downlink capability forever.
- 1234:nop; - network ACK (acknowledgement)

**Important note: Because of certain bugs within different NBloT networks implementations, special rescue algorithm has been implemented which is capable to renew the device and make it visible for NBloT network again by renewing PDP session. This algorithm comes into action once the downlink is requested and no data has been received. We do recommend using downlink feature to keep device alive if network problems occur. It's not necessary to do it very often, depends on how the application is sensitive for message availability. We recommend send ACK to the device (command nop) – this way we are 100% sure that the network is available and we can skip PDP session renewal algorithm and safe sufficient amount of energy.**