Overview

This document is a reference for the local control protocol using the device TCP port. This protocol supports the following connection method:

- Local WiFi network communication using TCP/IP commands

This protocol is a 2-way communication and control for exclusive use with our NEO Controller. All requests and commands are followed by an echo-response indicating the command was successfully received. Additional information concerning the reason for failing to execute a request is not returned at this version.

Before using the local control communication, set up the controller and blinds using our “Neo Smart Blinds” app found at Google Play and iOS App Store. Follow the in-app instruction for adding the controller(s) and blind(s).

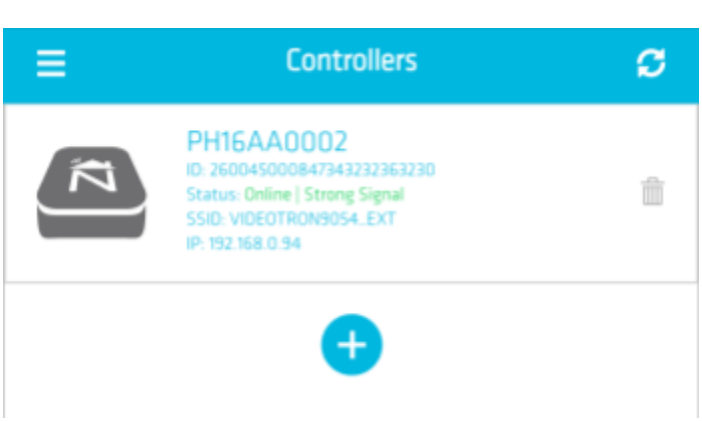
Blinds can be individually or group/room controlled (max 15 per group).

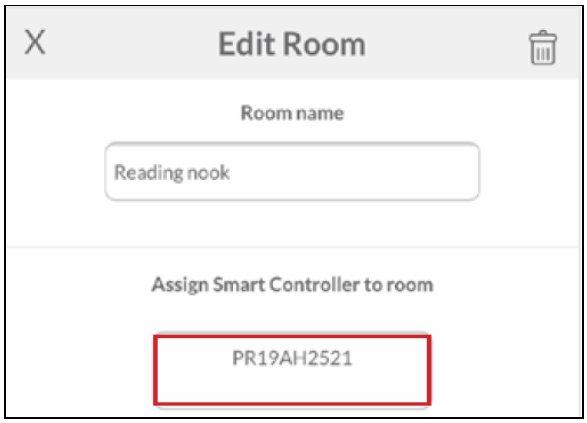
1. Protocol Conventions

Commands are case-insensitive. All commands and their responses are terminated with a carriage return/line feed pair (CRLF).

Local connection requires previous knowledge of IP and port addresses.

- Controller local IP can be found using the Neo Smart Blinds app, at “Your Controllers”. For accounts with more than one controller make sure to use the IP address from the controller assigned to the room where the respective blind is located.
- Use port number 8839 (for TCP communication).
- The controller’s channel and ids can be found on each blinds’ advanced page using the Neo Smart Blinds app.





Each new request/command should open a new connection between the client (app or other devices) and the server (controller). The server will close the connection after every single request/command.

2. Script implementation

When implementing this protocol to an automated script some considerations need to be taken into account.

- The TCP server can only handle as many as 1-3 simultaneous client connections at most. However, it's highly recommended to only try one connection at a time.
- Each new client connection is closed by the server as soon as the message is received and replied to. That means before the command is validated and finally transmitted. That explains why only an echo message is returned to the client.
- Each received command takes at least 500ms to be verified, processed and transmitted by the controller/hub. If multiple requests are necessary, the script must implement a delay of at least 500ms between each TCP connection and command transmission.

3. TCP "transmit" function

variable type : string
length : 16 ASCII characters
message sent : "**ID1.ID2-CHANNEL-ACTION!MOTORCODE" + CRLF**
returns : if the message received: echo the message received

"ID1" : controller byte 1, from integer "000" to "255"
"." : address separator
"ID2" : controller byte 2, from integer "000" to "255"
"-" : channel separator
"CHANNEL" : channel, an individual channel from integer "01" to "14"
channel "00" is not supported by all motor brands.
use channel "15" for a group

"-" : command separator
"ACTION" : action command available to ALL motor codes, as follows
"up" : blinds move UP
"dn" : blinds move DOWN
"sp" : blinds STOP moving
"gp" : send blinds to the favourite position
"mu" : micro-step up and for next-position-up for A-OK motors
"md" : micro-step down and for next-position-down for A-OK motors

Options only available for motor code “no”:

“i1” : send blinds to intermediate position 1, replaces command “gp”.
“i2” : send blinds to intermediate position 2
“XX” : go to a specific position from 01 to 99.

Options only available when using motor code “tb”, TopDown-BottomUp blinds or for a room with both “tb” and “bf” moto codes.

"op” : open shades, move both rails UP
"cl” : close shades, move top rail UP and lower rail down
"u2” : move lower rail UP
"u3” : move both rails UP
“d2” : blinds lower rail DOWN
“d3” : blinds both rails DOWN
“o2” : micro-step lower rail UP
“c2” : micro-step lower rail DOWN

“!” : exclamation symbol, command separator preceding the motor code

“MOTORCODE”: code designation to indicate the motor protocol to be transmitted

“bf” : standard Bofu motor
“vb” : vertical Bofu motor
“tb” : top-down/bottom-up Bofu motor
“no” : NEO motor
“rx” : Raex motor
“nc” : Nice F-Code motors
“nr” : Nice 0-Code motors
“k1” : standard A-OK motor
“k2” : version 2 A-OK motor (Louvolite exclusive)
“k3” : version 3 A-OK motor (Eclipse exclusive)
“dy” : standard unidirectional Dooya motor
“by” : special code compatible with both Bofu and Dooya motors (**depricated!**)
“wt” : standard Wistar and Alpha motor

Examples:

- 123.123-05-up!no returns: 123.123-05-up
- 012.005-15-dn!bf returns: 012.005-15-dn
- 129.021-06-87!dy returns: 129.021-06-87
- abc.def-06-87 (not valid!) returns: abc.def-06-87
- Test (not valid!) returns: Test

3.1. Finding Controller ID and Channels from APP

Using the app, go to each blind's advanced page to find the necessary ID numbers. See the image below.

All blinds inside the same ROOM have the same unique combination of Controller ID codes. Use CHANNEL = 15 to control all blinds as a group.

To control individual blinds, use the indicated Motor Channel.

That's the same behaviour found using physical remote controls.