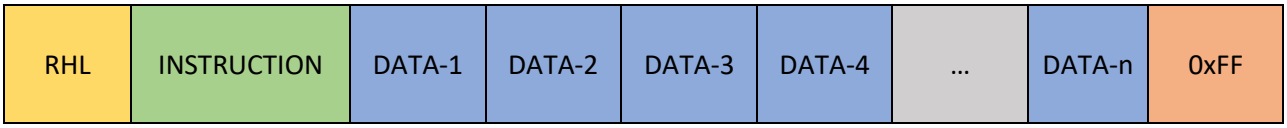
Siwat's Light Control Protocol Version 1.0

Layer 4 Lighting Control Protocol over RS485

Topology, Slaves and Master

Payload Format

A single payload is consisted of 3 parts: remaining hop length (RHL), instruction, and data. The last block of the payload must contain "0xFF"



Remaining Hop Length

In this protocol, each slave does not have a unique identifier. This limitation is compensated by using "remaining hop length" or RHL. RHL tells the network member how far the target slave is, each time the payload travels across the slave, the RHL is decreased by one, the slave that received a payload with RHL value equals to 0 will execute the instruction.

Instruction and Data

The instruction are the second hexadecimal value in the payload, data are the remaining blocks before 0xFF.

Instruction Set

Instruction	Description	Example
0x00	Blink the onboard led	RHL 0x00 0xFF blink onboard LED
0x01	Turn the LED off	RHL 0x01 0xFF turn all LEDs off
0x02	Send data to the strip	RHL 0x02 0xFF Update the led strip with the value from memory
0x03 [BRIGHTNESS]	Set LED brightness to BRIGHTNESS/250	RHL 0x03 0x04 0xFF Set the Brightness level to 4/250
0x04 [index] [r] [g] [b]		RHL 0x04 0x00 0x0A 0x0A 0x0A 0xFF