

Digital RF Controller for LED Lighting

Model: DIGC3RF

Technical parameters:

Supply voltage: 5 V DC

Type of IC control: WS2811, WS2812B - supports high and low control speed

Number of pixels controlled: 2 x 1024 pixels (low control speed), 2 x 2048 pixels (high control speed)

Dimensions: 132/ 70/ 26 mm

Number of output ports: 2

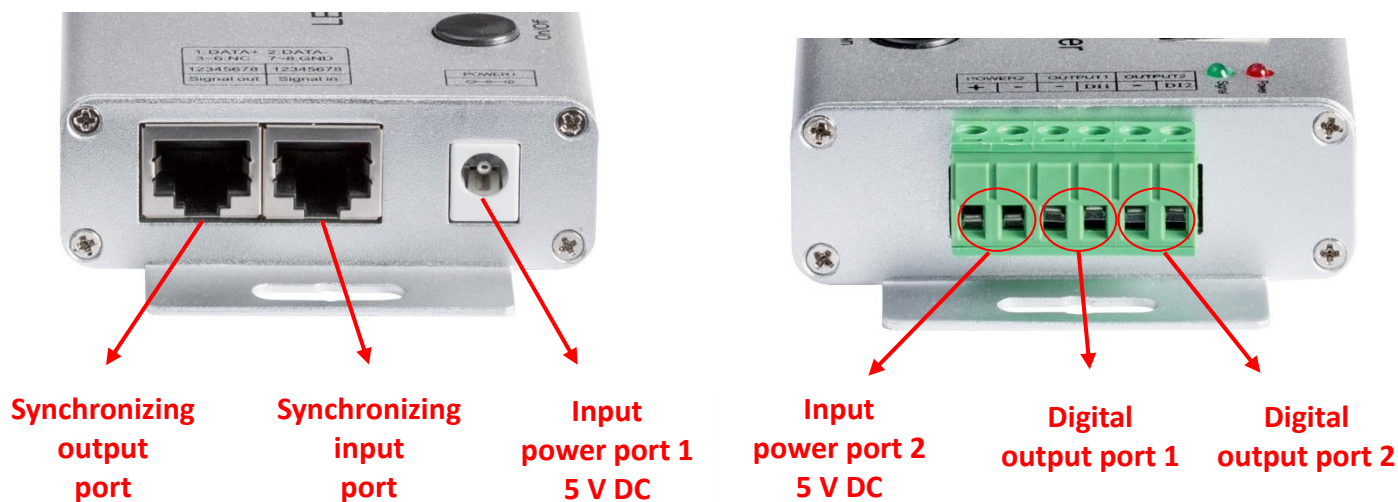
Working temperature: -10 °C ÷ +40 °C

Power consumed: <60 mA

Index of protection: IP20



Types of input/output ports:



Port use:

- Supply input port 1 and Supply input port 2 are used to supply the controller with stabilized and direct voltage 5V DC. Use only one power port for supplying at a time.
- Synchronizing input port is used when it is necessary to synchronize the work of two or more controllers. In this case the controller works as a subordinate unit (slave). It receives a synchronizing signal from a master controller (master).

- Output synchronizing port is used when it is necessary to synchronize the work of two or more controllers. In this case the controller works as a master unit (master) and it sends a synchronizing master signal to the subordinate controllers (slave).
- The load (the digital strips/modules) is connected to Master output port 1 and Master output port 2. The negative pole of the strip/modules (GND) is connected to the terminal block (-). The master conductor of the strip/modules (DATA) is connected to the DI.

Note:

- The LED strip/modules must be connected to the 5 V DC power supply. Connect the strip/modules to the controller's output port. The control is done in the DATA-GROUND circuit.
- It is advisable to use a standard UTP-cable ending with a RJ45 connector as synchronizing conductors.

Controller button description:

The controller has 4 buttons, located on the front panel:

- **On/Off** button
- **Mode/Speed** button
- **Up** button
- **Down** button



- The **On/Off** button is used to turn the controller on and off.
- The **Mode/Speed** button is used to switch from program selection to speed selection.
- The **Up** button is used to increase speed or to switch to the next program.
- The **Down** button is used to decrease speed or to switch to the previous program.

Description of the RF remote control buttons:

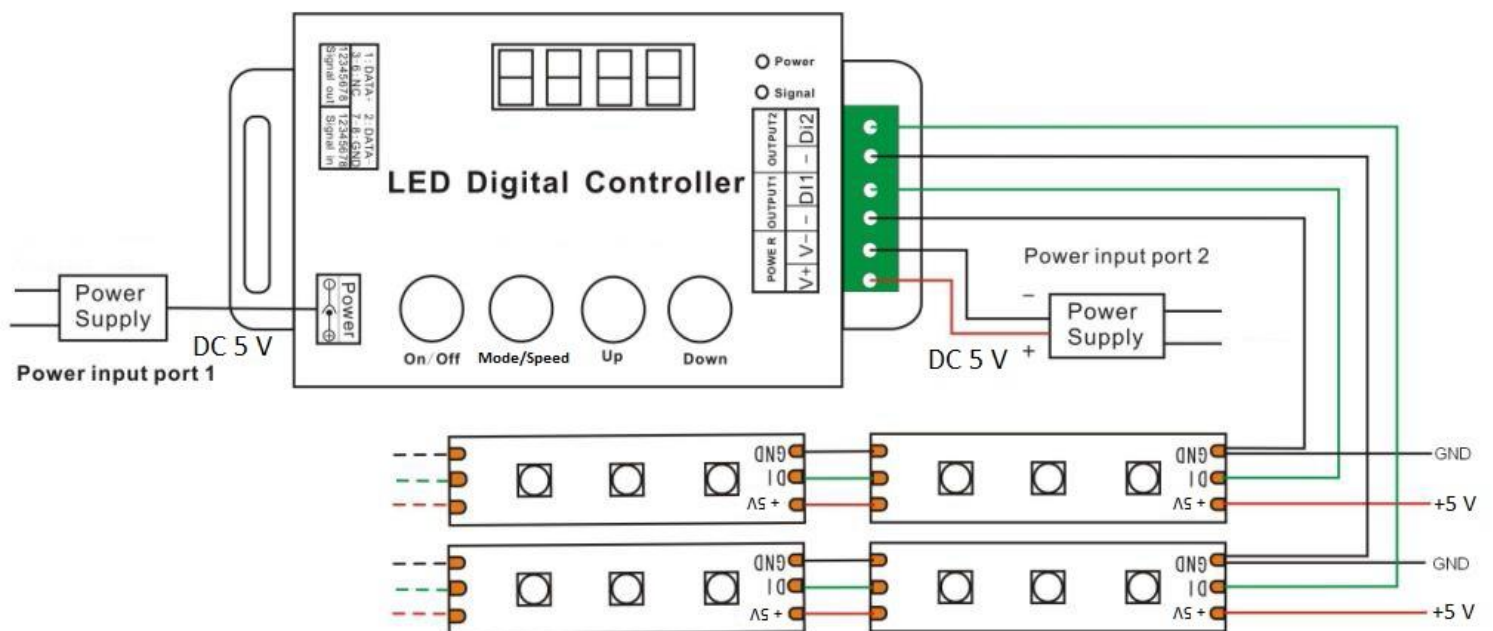
The RF remote control has 4 buttons:

- **On/Off** button
- **Program** button
- **Speed up** button
- **Speed down** button
- The **On/Off** button is used to turn the controller on and off.
- The **Program** button is used to switch from program selection to speed selection.
- The **Speed up** button is used to increase speed or to switch to the next program.
- The **Speed down** button is used to decrease speed or to switch to the previous program.

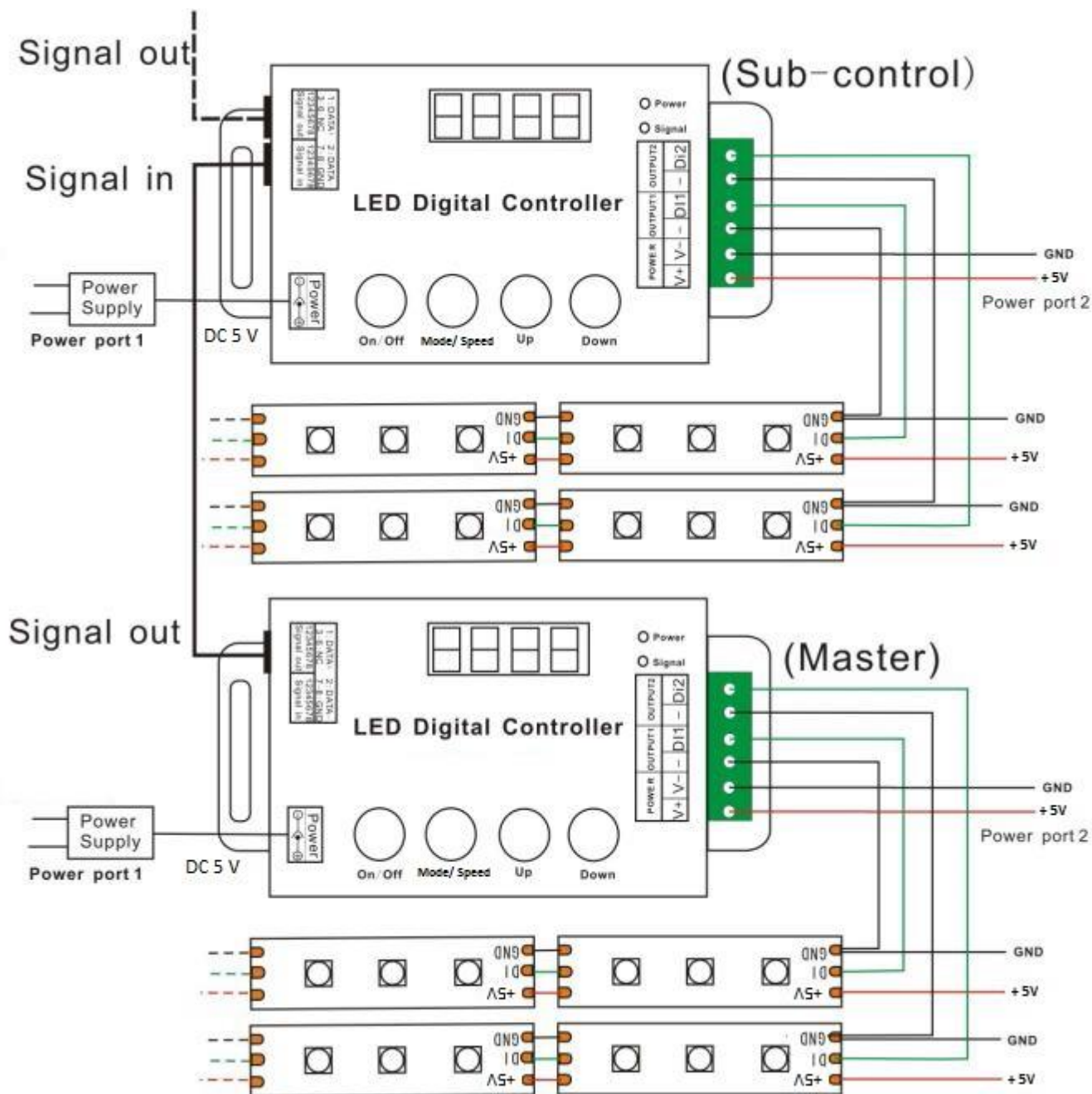


Connection diagrams:

Connection diagram with one controller:



Connection diagram of two controllers with realized synchronization (master-slave mode):



Working with the controller:

- Connect the controller according to the specified diagram and turn on the power supply.
- The red diode of the controller will be on when the controller is connected to power supply.
- Press the **On/Off** button to turn on the controller. As a result, the display of the controller and the strip/modules will be on at the same time.
- Only 50 pixels will flash, because the controller is set by default to work with this number of pixels.
- To set the work mode of the controller, it should be turned off with the **On /Off** button. Then press simultaneously and hold the **Up** and **Down** buttons. Then the controller will be in setting mode. The main controller setting menu will be visualized on the display. The control speed and the number of pixels the controller should work with are set in this menu. A „**S-HI**“ (Speed-High)

caption will appear on the display. This is the default setting of the controller, which is high control speed. With the **Up** and **Down** button you choose whether the controller will work at high „S-HI“ (Speed High) or low speed „S-LO“ (Speed Slow). The control speed is determined by the integral scheme type (the IC chip), which is set in the digital strip/modules. The controlling ability depending on the speed – 2x1024 pixels (low control speed) and 2x2048 (high control speed). This is done with the **Mode/Speed** button while the controller is in the main setting menu. After pressing the „**Mode/Speed**“ button, you enter a submenu for setting the number of pixels. A caption 50 appears on the display. This is the default setting of the controller and it means that it can work with 50 pixels. By pressing the **Up** and **Down** buttons you can change the number of pixels. To save the control speed and number of pixel settings press the **On/Off** button. Then again turn on the controller with the same **On/Off** button.

Description of controller programs:

The table below shows all 133 static and dynamic lighting effects set in the memory of the controller.

NO.	Program description	NO.	Program description
1	Static red	2	Static green
3	Static blue	4	Static yellow
5	Static cyan	6	Static purple
7	Static white	8	Three color jumpy change
9	Seven color jumpy change	10	Seven color stroboflash
11	Red horse race lamp to right direction	12	Purple horse race lamp to left direction
13	Blue horse race lamp to right direction	14	Cyan horse race lamp to left direction
15	Seven color cycling horse race lamp to right direction	16	Seven color cycling horse race lamp to left direction
17	Seven color horse race lamp back-for-ward direction	18	Seven color horse race lamp to left direction
19	Seven color jumping horse race lamp to right direction	20	Three color gradually change
21	Seven color gradually change	22	Red background scan lamp back-for-ward direction
23	Green background scan lamp back-for-ward direction	24	Blue background scan lamp back-for-ward direction
25	Yellow background scan lamp back-for-ward direction	26	Cyan background scan lamp back-for-ward direction
27	Purple background scan lamp back-for-ward direction	28	White background scan lamp back-for-ward direction
29	Seven color scan lamp back-for-ward direction	30	Red water move to right direction
31	Red water move to left direction	32	Green water move to right direction
33	Green water move to left direction	34	Blue water move to right direction
35	Blue water move to left direction	36	Yellow water move to right direction
37	Yellow water move to left direction	38	Cyan water move to right direction
39	Cyan water move to left direction	40	Purple water move to right direction
41	Purple water move to left direction	42	White water move to right direction
43	White water move to left direction	44	Seven color cycling water move to right direction
45	Seven color breathing lamp back-for-ward direction	46	Red trail to left single direction
47	Purple trail to left single direction	48	Blue trail to left single direction
49	Cyan trail to left single direction	50	White trail to left single direction
51	Green trail to left single direction	52	Yellow trail to left single direction
53	Seven color jumping trail to left single direction	54	Seven color queue trail to left single direction
55	Seven color alternation trail to left single direction	56	Red trail to right single direction
57	Purple trail to right single direction	58	Blue trail to right single direction
59	Cyan trail to right single direction	60	White trail to right single direction
61	Green trail to right single direction	62	Yellow trail to right single direction
63	Seven color jumping trail to right single direction	64	Seven color queue trail to right single direction
65	Seven color alternation trail to right single direction	66	Red water trail to right direction
67	Purple water trail to right direction	68	Blue water trail to right direction
69	Cyan water trail to right direction	70	White water trail to right direction
71	Green water trail to right direction	72	Yellow water trail to right direction
73	Seven color jumping water trail to right direction	74	Seven color queue water trail to right direction

75	Seven color alternation water trail to right direction	76	Red trail to left double direction
77	Purple trail to left double direction	78	Blue trail to left double direction
79	Cyan trail to left double direction	80	White trail to left double direction
81	Green trail to left double direction	82	Yellow trail to left double direction
83	Seven color jumping trail to left double direction	84	Seven color queue trail to left double direction
85	Seven color alternation trail to left double direction	86	Red trail to right double direction
87	Purple trail to right double direction	88	Blue trail to right double direction
89	Cyan trail to right double direction	90	White trail to right double direction
91	Green trail to right double direction	92	Yellow trail to right double direction
93	Seven color jumping trail to right double direction	94	Seven color queue trail to right double direction
95	Seven color alternation trail to right double direction	96	Full color wave to right direction
97	Seven color water move to left direction	98	Purple background trail to right double direction
99	Blue background trail to right double direction	100	White background trail to right double direction
101	Cyan background trail to right double direction	102	Green background trail to right double direction
103	Yellow background trail to right double direction	104	Seven color background trail to right double direction
105	Seven color spread from the middle to both sides	106	Seven color breathing from the middle to both sides
107	Seven color draw curtain	108	Seven color lower curtain
109	Seven color spread from both sides to the middle	110	Colorful switch
111	Seven color overlay to right direction	112	Seven color overlay to left direction
113	Seven color overlay to left and right direction	114	Seven color background overlay to double direction
115	Seven color overlay from middle to both sides	116	Seven color background overlay middle to both sides
117	Seven color overlay from both sides to middle	118	Seven color background overlay both sides to middle
119	Sub seven color move back-for-ward direction	120	Sub seven color jump and move back-for-ward
121	Sub seven color background move back-for-ward	122	Sub seven color background move single direction
123	Sub seven color overlay to left and right direction	124	Sub seven color background overlay to left and right
125	Sub seven color spread to single direction	126	Sub seven color spread back-for-ward
127	Sub seven color water move to left and right	128	Sub seven color spread from middle to both sides
129	Sub seven color stretch from middle to both sides	130	Sub seven color stretch to single direction
131	Sub seven color overlay to single direction	132	Auto play circularly
133	Custom combination mode		

- Lighting effect №133 can be defined as a consumer mix consisting of 20 consecutively arranged dynamic programs repeating cyclically. The programs are listed above in the table (from program №8 to program №132). The speed of each lighting effect (program) can be set individually.
- To switch to consumer mix setting menu the controller should be turned off with the **On/Off** button. The **Mode/Speed** and **Up** buttons should be pressed simultaneously and held until the controller display turns on and a „-01-“ caption is visualized on it. This caption shows the number in the consumer mix. The number in the consumer mix is changed respectively up or down with the **Up** and **Down** buttons. The number is a position where a lighting effect can be set.
- After choosing the desired number in the consumer mix the **Mode/Speed** button should be pressed. As a result a „H ****“ caption appears on the display (there is a default value-lighting effect where the *** symbol is). This means that the number of the lighting effect (from the table) which will be on the position chosen earlier should be chosen. The desired lighting effect is chosen with the **Up** and **Down** buttons. When a „H000“ value is set on the corresponding position, this means that the position in the consumer mix remains empty and the controller will skip it and perform the next one.
- After choosing the number in the consumer mix and the lighting effect, the last setting should be made – choosing speed. For that purpose the **Mode/Speed** button is pressed. The controller goes from the lighting effect choice menu to the lighting effect speed choice. A „SO ***“ caption appears on the display. There is a value (speed) set where the ** symbol is. This lighting effect value (speed)

is changed with the **Up** and **Down** buttons respectively up or down. After choosing this parameter the **Mode/Speed** button is pressed. A „H -01-“ caption appears on the display. This means that the setting of the first position of the consumer mix is done.

- The steps for setting the consumer mix described above (choosing position, lighting effect, speed) repeat for all 20 positions.
 - After the consumer mix is set the **On/Off** button is pressed to save the changes. As a result, the controller turns off.
 - The controller turns on with the **On/Off** buttons. With the **Up** and **Down** buttons you choose lighting effect №133. The controller will cyclically reproduce all the lighting effects, set in the consumer mix.
- Note:** When choosing a lighting effect in the consumer mix, the effect can be viewed on the load (digital strip/modules), connected to the controller.

Synchronizing controllers (master-slave mode):

When the controlling ability of the controller is lower than the number of pixels installed more than one controller should be used. When more than one controller is used, occurs a problem with synchronization of the dynamic lighting effects. A miss in the change of colours occurs. One controller runs fast, the other one falls behind. This problem is solved with the digital controllers **DIGC3RF**. They have synchronizing ports. One entrance and one exit. The diagram can consist of an unlimited number of controllers. The first controller in the circuit will controls all the others and is called master. The subordinate controllers are called slave. The synchronizing cable of the master controller goes out of the exit port to the entrance port of the slave controller and goes to the next slave controller. In this way the slave controllers will synchronously follow the work of the master controller and don't need additional settings.

Notes:

- The length of the synchronizing conductors should not be larger than 50 meters.
- Do not install on flammable surfaces.
- Do not cover the controller. Ensure enough space for heat dissipations.

Taking care of the natural environment cleanliness:



- The product and its components are not harmful to the environment
- Please dispose the package elements separately in containers for the corresponding material.



- Please dispose the broken product separately in containers for out of usage electrical equipment.