



linkIT-RS232

Home automation interface for control of Gaposa radio motors.

TECHNICAL CHARACTERISTICS

- Individual or group control
- 16 or 24 individual channels
- Tilting mode
- Intermediate position
- LED for feedback
- Reset and programming buttons
- Cables available for easy connection



| Hub Input Voltage | 5V |
|-----------------------|-----------------------------|
| Hub Input Power | 0.3 A Max. |
| Frequency | 868.30 MHz |
| Connection | Wi-Fi |
| Wi-Fi network | 2.4 GHz only |
| Range | 30 mt |
| Protection Rate | IP20 |
| Operation Temperature | 0°C to 60°C / 32°F to 140°F |

Hardware

| Reference | Channels | Comes with 2A, 5V micro-USB power s It is possible to install more than one I | supply. _inkIT with the IP driver. |
|---------------|-----------------------------------|---|---------------------------------------|
| linkIT-868-16 | 16 | | |
| linkIT-868-24 | 24 | | |
| | | | 💿 🔶 Antenna |
| | Device reboot button LED | Reset button Quick Press Requests a replacement device config (Transmitter IDS/ Number of Channels / Linkit or Roll.App) | RS232 Serial interface |
| | | • Long press Resets Wifi. Removes current wifi config and starts the captive portal | € 5V DC/1A micro-USB |

| LED status | Green | Booting up | |
|---------------|-------|---|--|
| Flashing Blue | | waiting for Wi-Fi network | |
| | Blue | Wi-Fi connected | |
| | Red | Command sent for UP, DOWN, STOP or PRESET | |

RJ9 - DB9 RS232 Pin Outs





| USAGE | RJ9 PIN | DB9 PIN |
|--------------|---------|---------|
| 5 Volt Power | 1 | NA |
| TXD | 2 | 2 |
| RXD | 3 | 3 |
| GND | 4 | 5 |

Note: RS232 connection is made via RJ9 Socket.

Warning: check for crossover of pins 2 & 3 depending on the equipment used. 5V Pin is optional and is provided to allow LinkIT to be powered via the RJ9 socket. This is for advanced installation only and should not be used alongside the 5V micro USB input.

Cabling distance

| 15 meters or more if special cables are used. | Reference | Description |
|---|-----------|---------------------------|
| Cable options: | | Serial connector with RJ9 |

RS232 protocol

| RS232 Setup: (9K6 8N1) | Baud Rate | 9600 |
|------------------------|-----------|------|
| | Data | 8 |
| | Check Bit | None |
| | Stop Bit | 1 |

Control Commands:

| Command | Byte | Tilt Up | Oxba |
|--------------------------|------|-----------|------|
| Add Motor (PROG TX) | Oxaa | Tilt Down | Oxbb |
| Delete Motor (TX DELETE) | Oxab | Stop | Oxcc |
| Go to Interim Position | Oxad | Up | Oxdd |
| | | Down | Oxee |

Transmission Structure:

| Header | Bank | Channel | Command | Verify XOR B0-B3 |
|--------|------|---------|---------|------------------|
| B0 | B1 | B2 | B3 | B4 |
| 0x67 | 0x00 | 0x01 | Oxdd | Oxbb |

Example - Channel 1 - UP (Channel value Min 1 Max 8)

Bank:

| Bank ID | Bank Function | Byte |
|---------|---------------|------|
| A | Address 1-8 | 0x00 |
| В | Address 9-16 | 0x01 |
| С | Address 17-24 | 0x02 |

Banks B-C are optional depending on LinkIT SKU – I.E if you have an 8-channel version only bank A will function. A 24-channel version will have banks A-C.

Reply Structure:

| Header | Command | Confirmation |
|--------|---------|--------------|
| B0 | B1 | B2 |
| 0x6 6 | 0xdd | Oxff |

Example – Confirmation Command UP – received

Usage:

The host device must send a 5-byte payload to LinkIT.

| B0 | Fixed Header Byte – 0x67 |
|----|---|
| B1 | B1 Bank Selection from Bank A-C dependent on the target address |
| B2 | Channel – This is always in the range 1-8. |
| B3 | Control Command – see table above |
| B4 | Verify – XOR of Bytes B0-B3 – See Example Table |

For example, to close (down) a motor with bank 0 address 1 the command would be: $0x67,0x00,0x01,0xee,0x88 = 0x67^{-0}x00^{-0}x01^{-0}xee$ - bitwise XOR

Examples of verify Commands:

| HEAD | BANK | CHANNEL | COMMAND | VERIFY |
|------|------|---------|---------|--------|
| 0x67 | 0x00 | 0x01 | Oxee | 0x88 |
| 0x67 | 0x00 | 0x02 | Oxee | 0x8B |
| 0x67 | 0x00 | 0x03 | Oxee | 0x8A |
| 0x67 | 0x00 | 0x04 | Oxee | 0x8D |
| 0x67 | 0x00 | 0x05 | Oxee | 0x8C |
| 0x67 | 0x00 | 0x06 | Oxee | 0x8F |
| 0x67 | 0x00 | 0x07 | Oxee | 0x8E |
| 0x67 | 0x00 | 0x08 | Oxee | 0x81 |

On the table all codes are listed for motors 1 - 8 for command -Oxee (Down)

For Up and Stop

Change the Command to **0xdd - UP** and for **0xcc - STOP**

Note: now the bytes must be xored together to get the verification byte

For easy calculation, use XOR Calculator link:

https://toolslick.com/math/bitwise/xor-calculator



Enter the bytes for example **0x67 0x01 0x01 0xee** :

| Input: Paste numbers or text below (at least two, 1 per line or separated by space, comma or semi-colon) |
|---|
| 1 0x67 0x01 0x01 0xee |
| Size: 19 |
| CALCULATE |
| |

Take the HEX result see example:

| Hex Result: | |
|--------------------------------|-----|
| 89 | |
| | |
| The result of XOR operation in | Hex |

Using the above you can calculate the XOR for every code that you need:

To ensure this is correct the command and XOR for Bank 1, Channel 1, UP would be:

0x67, 0x01,0x01,0xdd - (XOR = ba)

Command to send: 0x67,0x01,0x01,0xdd,0xba



More information:

To access the support files for LinkIT, go to this website, or scan the QR Code.

http://www.gaposa.it/eng/linkit/









PAIRING MOTOR

Before a screen can be controlled from LinkIt, the screen must be synched into RollApp.

- 1. Create a room
- 2. Into the room create the device
- 3. From the handheld remote already paired with the screen, move the screen to the middle. Press and hold in the sync button on the back of the remote until the screen starts moving. As it moves, let the sync button go and press the corresponding Up or DOWN button into Rollapp. Press submit and go to the next one.
- 4. Once you paired all the devices into Rollapp go to the SETUP page of Rollapp and open the"integration" section
- 5. You will see the channel and ID here.





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