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PAL Electronics Systems, HaTa'asiya 25 st, Ra'anana, POB 2516 Israel 4365413

# User Manual
# Spider Systems
## Ver 1.3

*PAL Electronics Systems, HaTa'asiya 25 st, Ra'anana, POB 2516 Israel 4365413*
*Tel:972-9-7920667, Website: www.pal-es.com, Email: info@pal-es.com.*

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*PAL Electronics Systems, HaTa'asiya 25 st, Ra'anana, POB 2516  Israel 4365413*
*Tel:972-9-7920667, Website: www.pal-es.com, Email:* info@pal-es.com*.*

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## Product Description

The Spider Systems IoT units are 4G network-based systems, enhanced with Bluetooth for access and management control. Through on board relays, users can control the unit via either a dedicated application or an easy-to-use web portal. This device seamlessly integrates with electric gates, doors, lighting systems, or any other appliance that would benefit from remote control and management.
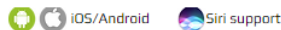
## Key Benefits

- **Remote Access** - Complete and secure control of the unit anytime, and from anywhere.
- **Peace of mind** - Ensures access even during rare cellular network downtimes.
- **"Nearby only" Feature** - Allows specific users to operate the unit only when in proximity.
- **Automatic opening** – PalGate App can operate the gate automatically when arriving at the gate by car, this feature will work only when the PalGate App is connected to a vehicle's multimedia system via Bluetooth.
- **Compact Size** - The unit has a small footprint, measuring just 80X53 mm.
- **Management and control** – using the free "PalGate" App and an easy to use management WEB portal.
- **Visual Indicators** - Features 4 LED lights (1 to indicate that the SIM is active and 3 to indicate reception strength).
- **Customizable Access** – Ability to set up multiple administrators and authorized users for tailored access and control.
- **Real time notifications** - Receive instant email or push notifications to the PalGate App.
- **Voice Control** – Voice-controlled operation via Siri or Google Assistant.
- **Customization** – Ability to set timers, events, astronomic clocks and more.
- **User Management** - Easily import and export data using Excel.
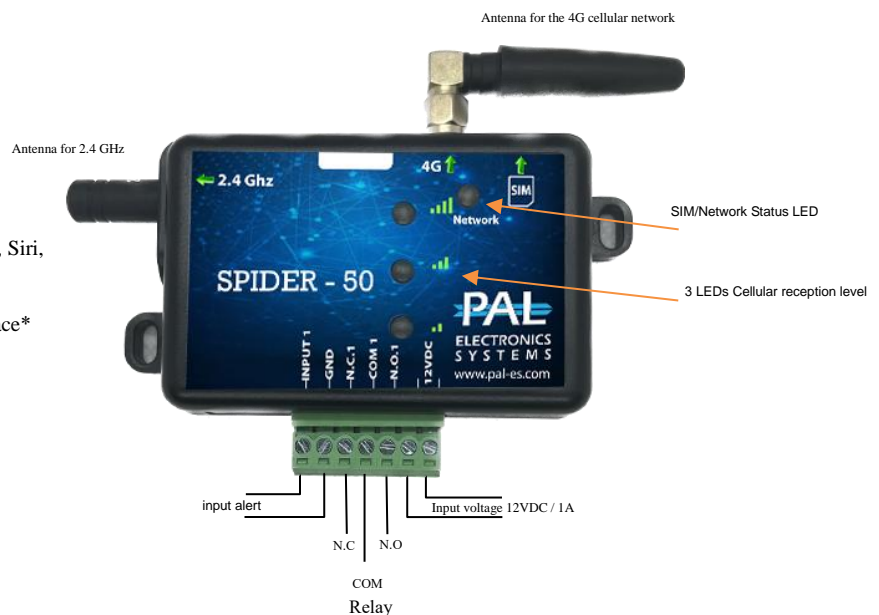- **Programmable relay pulse width**

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# Variants

| Model | Spider - 50 | Spider -i | Spider - B | Spider i-WRL | Spider i-WR | Spider B-WR | Spider - Wiegand 26 |
|---|---|---|---|---|---|---|---|
| | Spider - 50 | Spider -i | Spider - B | Spider i-WRL | Spider i-WR | Spider B-WR | Spider - Wiegand 26 |
| Control with application IOS & Android | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Control by WEB interface | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| User definition Nearby only or unlimited distance | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Excel import/export | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Schedule management control | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Supports smart remote control & Wireless vehicle detector | -- | -- | -- | 10,000 | 10,000 | 10,000 | 10,000 |
| Output (N.O/N.C) | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Input (N.O/N.C) | 1 | 1 | 2 | 1 | 1 | 2 | 2 |
| Max users | 50 | 20,000 | 20,000 | 3 | 20,000 | 20,000 | 20,000 |
| Wiegand 26 bit reader | -- | -- | -- | -- | -- | -- | ✓ |
| Size and Weight of pakege | 8*5.3*2.5см 83 gr | 8*5.3*2.5см 83 gr | 8*5.3*2.5см 83 gr | 8*5.3*2.5см 87 gr | 8*5.3*2.5см 87 gr | 8*5.3*2.5см 87 gr | 8*5.3*2.5см 87 gr |
| P/N | | | | | | | |
| USA | SP100 | SP101 | SP102 | SP110 | SP111 | SP112 | SP113 |
| Australia | SP200 | SP201 | SP202 | SP210 | SP211 | SP212 | SP213 |
| Europe | SP300 | SP301 | SP302 | SP310 | SP311 | SP312 | SP313 |

# Spider – 50

| USA | SP100 |
|---|---|
| Australia | SP200 |
| Europe | SP300 |

iOS/Android · Siri support
Apple watch · Google Assistant · Google Home
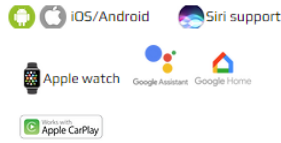Works with Apple CarPlay

- Supports 50 PalGate App users
- 1 output relays (N.O./N.C.)
- 1 input channels with real-time notifications to Email and push to PalGate App
- Multiple opening methods: Proximity, App, Dialing, Siri, and Google Assistant
- Allows customization of opening distance
- Manage with a free App or user-friendly web interface*
- API integration available*
- Provides unlimited logs*
- Features timers and event scheduling
- Equipped with a programmable astronomical clock
- Capability to import and export data via Excel files
- Adjustable relay pulse width
- Compatible with 4G networks
- Operates on an input voltage of 12VDC
- Compact dimensions: 53x80 mm



Antenna for the 4G cellular network
Antenna for 2.4 GHz
SIM/Network Status LED
3 LEDs Cellular reception level
input alert
Input voltage 12VDC / 1A
N.C
N.O
COM
Relay

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# Spider – i

| USA | SP101 |
|-----------|-------|
| Australia | SP201 |
| Europe | SP301 |

iOS/Android    Siri support

Apple watch    Google Assistant    Google Home

Works with Apple CarPlay

- Supports unlimited PalGate App users
- 1 output relays (N.O./N.C.)
- 1 input channels with real-time notifications to Email and push to PalGate App
- Multiple opening methods: Proximity, App, Dialing, Siri, and Google Assistant
- Allows customization of opening distance
- Manage with a free application or user-friendly web interface*
- API integration available*
- Provides unlimited logs*
- Features timers and event scheduling
- Equipped with a programmable astronomical clock
- Capability to import and export data via Excel files
- Adjustable relay pulse width
- Compatible with 4G networks
- Operates on an input voltage of 12VDC
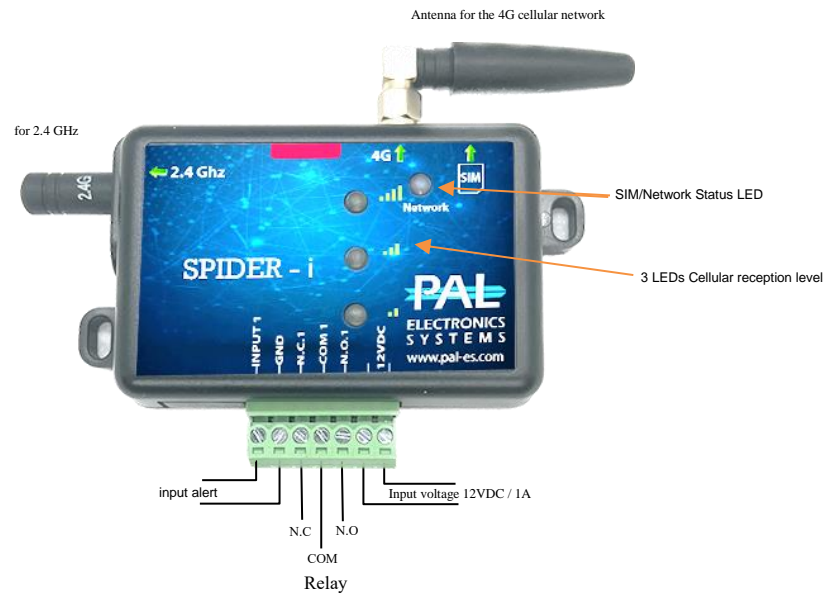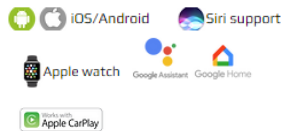- Compact dimensions: 53x80 mm

Antenna for the 4G cellular network

for 2.4 GHz

SIM/Network Status LED

3 LEDs Cellular reception level

input alert

Input voltage 12VDC / 1A

N.C    N.O

COM

Relay

# Spider – B

| USA | SP102 |
|-----------|-------|
| Australia | SP202 |
| Europe | SP302 |

iOS/Android    Siri support

Apple watch    Google Assistant    Google Home

Works with Apple CarPlay

- Supports unlimited PalGate App users
- 2 output relays (N.O./N.C.)
- 2 input channels with real-time notifications to Email and push to PalGate App
- Multiple opening methods: Proximity, App, Dialing, Siri, and Google Assistant
- Allows customization of opening distance
- Manage with a free application or user-friendly web interface*
- API integration available*
- Provides unlimited logs*
- Features timers and event scheduling
- Equipped with a programmable astronomical clock
- Capability to import and export data via Excel files
- Adjustable relay pulse width
- Compatible with 4G networks
- Operates on an input voltage of 12VDC
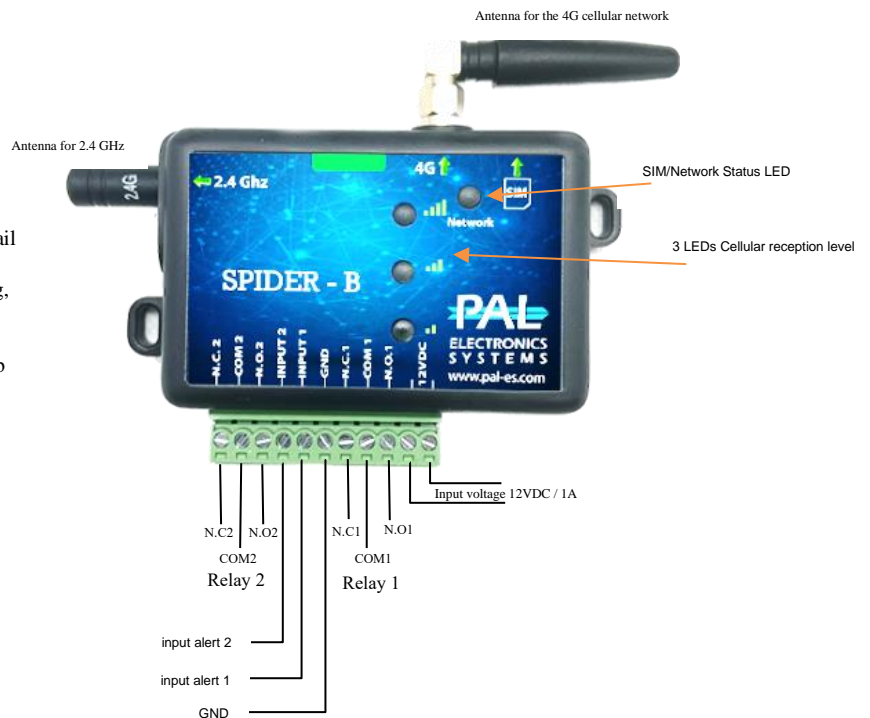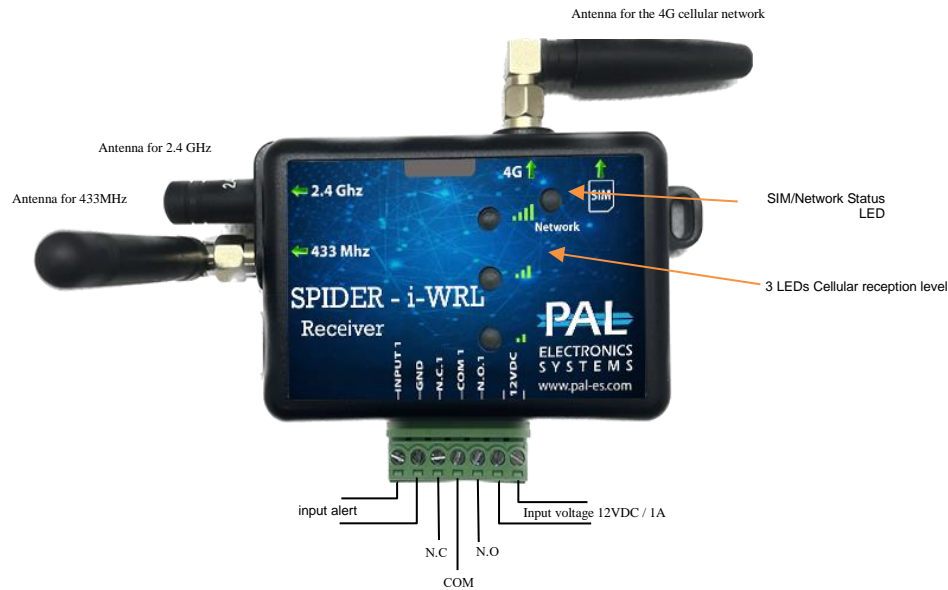- Compact dimensions: 53x80 mm

Antenna for the 4G cellular network

Antenna for 2.4 GHz

SIM/Network Status LED

3 LEDs Cellular reception level

Input voltage 12VDC / 1A

N.C2    N.O2    N.C1    N.O1

COM2    COM1

Relay 2    Relay 1

input alert 2

input alert 1

GND

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# Spider i-WRL

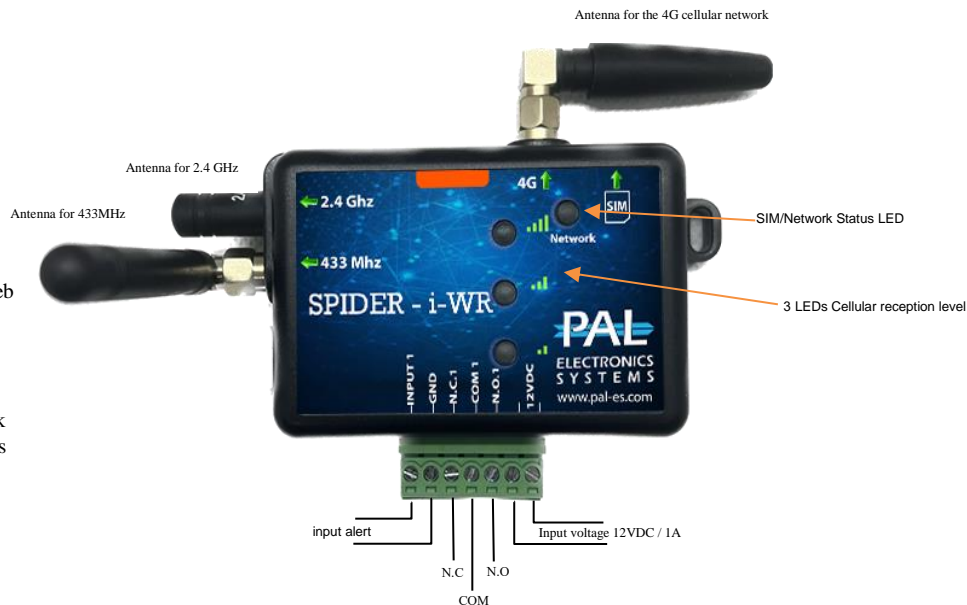| USA | SP110 |
|---|---|
| Australia | SP210 |
| Europe | SP310 |

- Supports 3 PalGate App users
- 1output relays (N.O./N.C.)
- 1 input channels with real-time notifications to Email and push to PalGate App
- Wireless receiver 433Mhz.
- Multiple opening methods: Proximity, App, Dialing, Siri, and Google Assistant
- Allows customization of opening distance
- Manage with a free application or user-friendly web interface*
- API integration available*
- Provides unlimited logs*
- Features timers and event scheduling
- Equipped with a programmable astronomical clock
- Capability to import and export data via Excel files
- Adjustable relay pulse width
- Compatible with 4G networks
- Operates on an input voltage of 12VDC
- Compact dimensions: 53x80 mm

Antenna for the 4G cellular network

Antenna for 2.4 GHz

Antenna for 433MHz

SIM/Network Status LED

3 LEDs Cellular reception level

input alert

Input voltage 12VDC / 1A

N.C    N.O

COM

# Spider i-WR

| USA | SP111 |
|---|---|
| Australia | SP211 |
| Europe | SP311 |

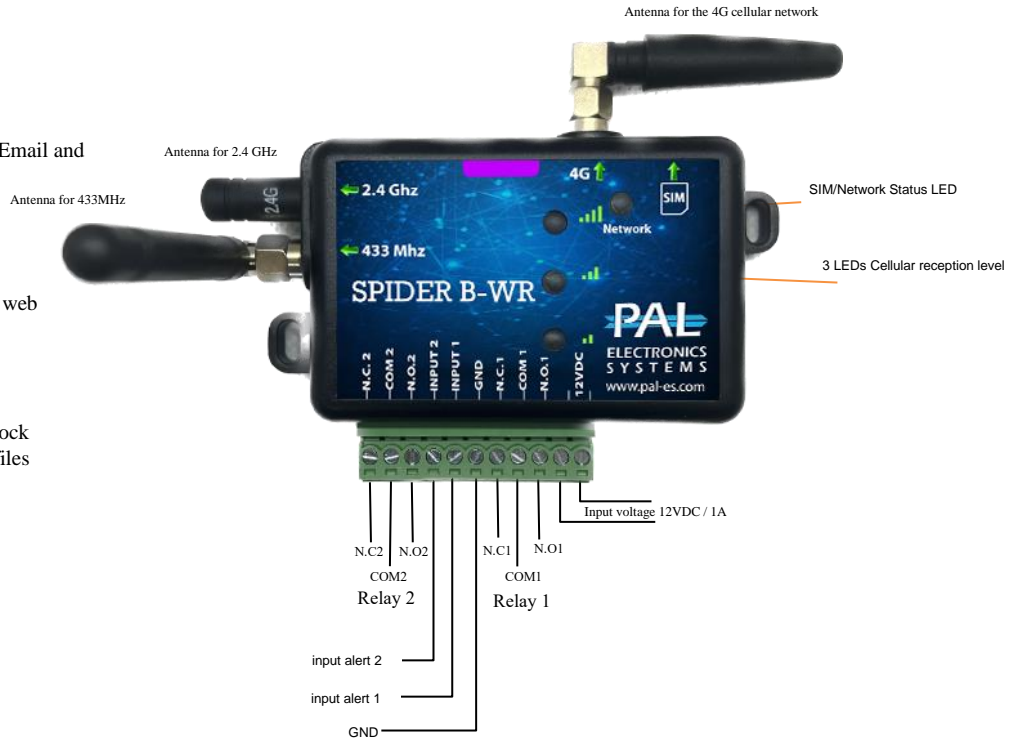- Unlimited PalGate App users
- 1output relays (N.O./N.C.)
- 1 input channels with real-time notifications to Email and push to PalGate App
- Wireless receiver 433Mhz.
- Multiple opening methods: Proximity, App, Dialing, Siri, and Google Assistant
- Allows customization of opening distance
- Manage with a free application or user-friendly web interface*
- API integration available*
- Provides unlimited logs*
- Features timers and event scheduling
- Equipped with a programmable astronomical clock
- Capability to import and export data via Excel files
- Adjustable relay pulse width
- Compatible with 4G networks
- Operates on an input voltage of 12VDC
- Compact dimensions: 53x80 mm

Antenna for the 4G cellular network

Antenna for 2.4 GHz

Antenna for 433MHz

SIM/Network Status LED

3 LEDs Cellular reception level

input alert

Input voltage 12VDC / 1A

N.C    N.O

COM

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# Spider – B-WR

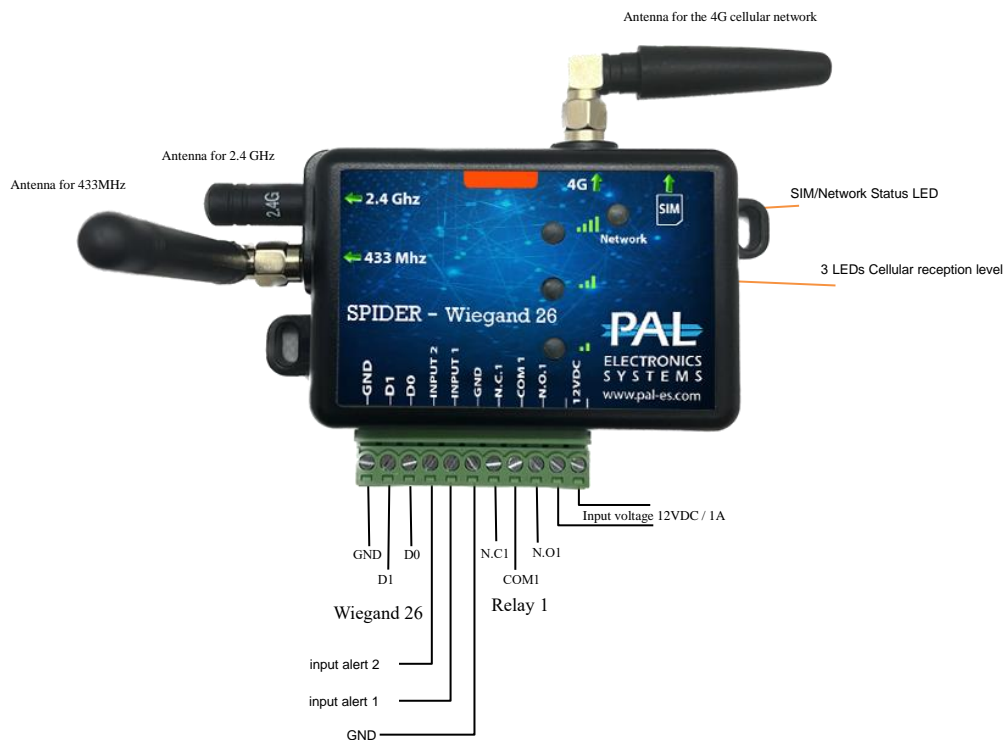| USA | SP112 |
|---|---|
| Australia | SP212 |
| Europe | SP312 |

- Unlimited PalGate App users
- 2output relays (N.O./N.C.)
- 2input channels with real-time notifications to Email and push to PalGate App
- Wireless receiver 433Mhz.
- Multiple opening methods: Proximity, App, Dialing, Siri, and Google Assistant
- Allows customization of opening distance
- Manage with a free application or user-friendly web interface*
- API integration available*
- Provides unlimited logs*
- Features timers and event scheduling
- Equipped with a programmable astronomical clock
- Capability to import and export data via Excel files
- Adjustable relay pulse width
- Compatible with 4G networks
- Operates on an input voltage of 12VDC
- Compact dimensions: 53x80 mm

Antenna for the 4G cellular network

Antenna for 2.4 GHz

Antenna for 433MHz

SIM/Network Status LED

3 LEDs Cellular reception level

Input voltage 12VDC / 1A

N.C2 N.O2   N.C1 N.O1
COM2   COM1
Relay 2   Relay 1

input alert 2
input alert 1
GND

# Spider – Wiegand 26

| USA | SP113 |
|---|---|
| Australia | SP213 |
| Europe | SP313 |

- Unlimited PalGate App users
- 1 output relays (N.O./N.C.)
- 2 input channels with real-time notifications to Email and push to PalGate App
- Wireless receiver 433Mhz.
- Wiegand 26 bit reader.
- Multiple opening methods: Proximity, App, Dialing, Siri, and Google Assistant
- Allows customization of opening distance
- Manage with a free application or user-friendly web interface*
- API integration available*
- Provides unlimited logs*
- Features timers and event scheduling
- Equipped with a programmable astronomical clock
- Capability to import and export data via Excel files
- Adjustable relay pulse width
- Compatible with 4G networks
- Operates on an input voltage of 12VDC
- Compact dimensions: 53x80 mm

Antenna for the 4G cellular network

Antenna for 2.4 GHz

Antenna for 433MHz

SIM/Network Status LED

3 LEDs Cellular reception level

Input voltage 12VDC / 1A

GND D0   N.C1 N.O1
D1   COM1
Wiegand 26   Relay 1

input alert 2
input alert 1
GND

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## LEDs key:

### SIM/Network LED
Fast Flashing: System is booting
Slow Flashing: Module is searching for a cellular network
All LEDs Flashing: SIM card not recognized

### LED 1
Blinking Twice: Connecting to the internet
Blinking Four Times: Connecting to the servers
Signal Strength

### 4G Signal Strength Indicator
LED #1 ON: Low signal
LED #1 and #2 ON: Good signal
LED #1, #2, and #3 ON: Very good signal

## Specifications:

**Supply Voltage Range:** 12-24V DC
**Average Standby current consumption:** ~70mA
**Relay Contact Current Rating:** 1A, 30V AC/DC (Resistive)
**Antenna:** 50Ω SMA Antenna interface
**Temperature Range:** -20°C to +70°C  (-4°F to +158°F).
**Exterior Dimensions:** 53mm x 80 mm (2.09 in. x 3.15 in).
**Net Weight:** 87 gr (3.07 ounces)
**Voice Support:** VoLTE

**Frequency Bands:**

**U.S.A Market (SP1XX):** 4G bands: B2, B4, B12, B66

**Australia Market (SP2XX):** 4G bands: B1, B3, B5, B8, B9, B18(B26), B19, B28
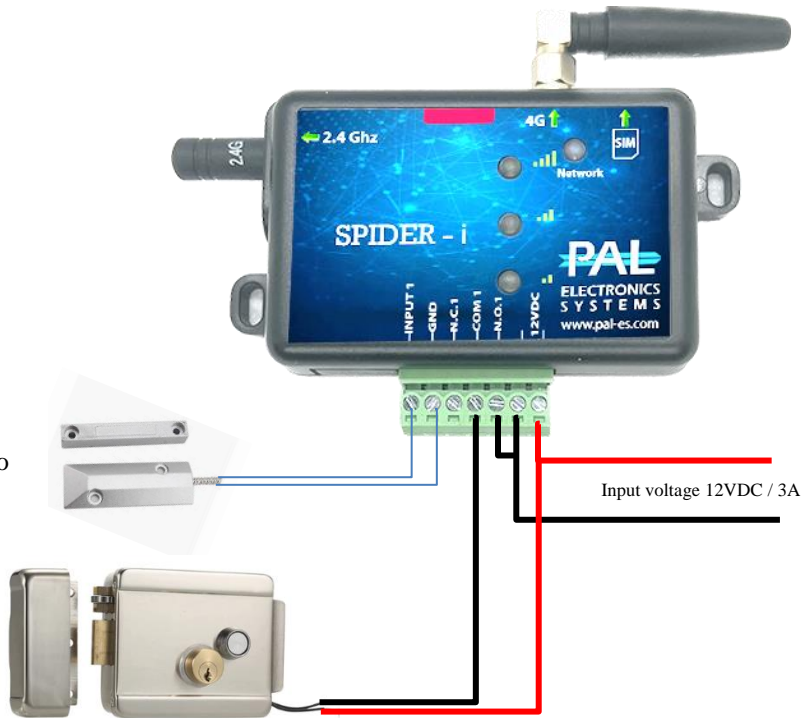
**Europe Market (SP3XX):**

4G: B1, B3, B7, B8, B20, B28A
3G: B1, B3, B8
2G: B3, B8

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## Typical wiring connection to an Electronic Lock:

**Optional**
**Magnetic Sensor** -
Installation allows you to
receive a gate status
notification.

Input voltage 12VDC / 3A

Maximum load 2A/30VDC; 0.5A/125VAC

## Typical wiring connection to a Gate:

**Optional**
**Magnetic Sensor** -
Installation allows you
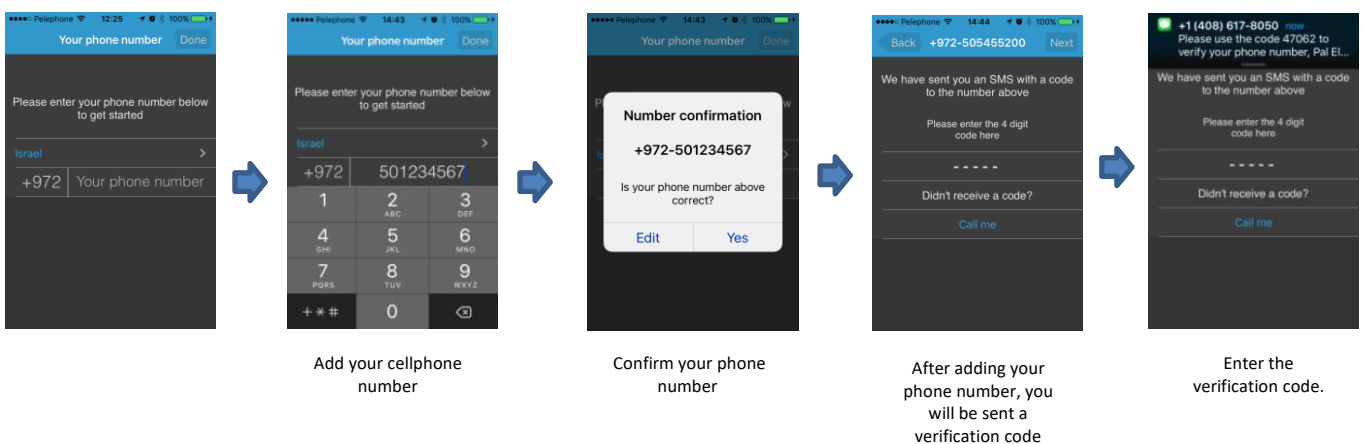to receive a gate status
notification.

Input voltage 12VDC / 1A
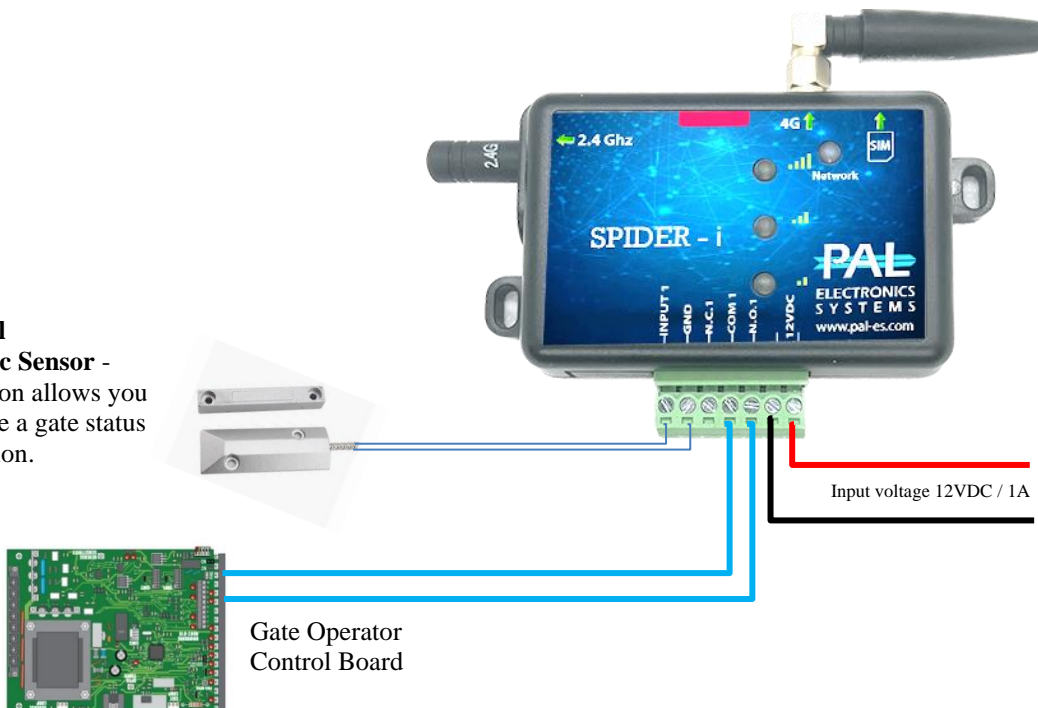
Gate Operator
Control Board

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# System settings using the PalGate App

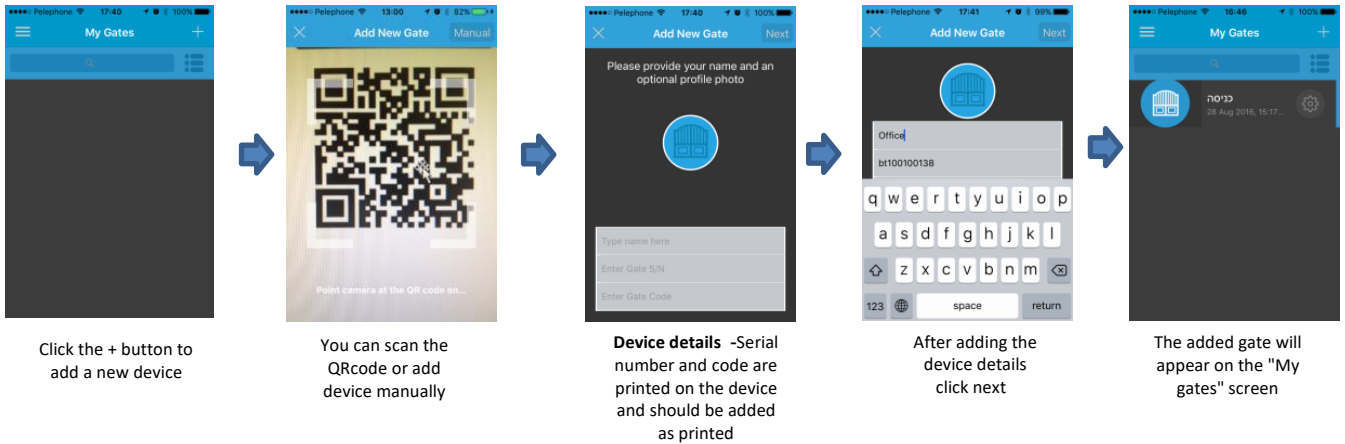You may download our App from either the Apple App Store or from Google Play by searching for the name "PalGate". If you prefer, you can access a direct link by scanning the QR codes below:
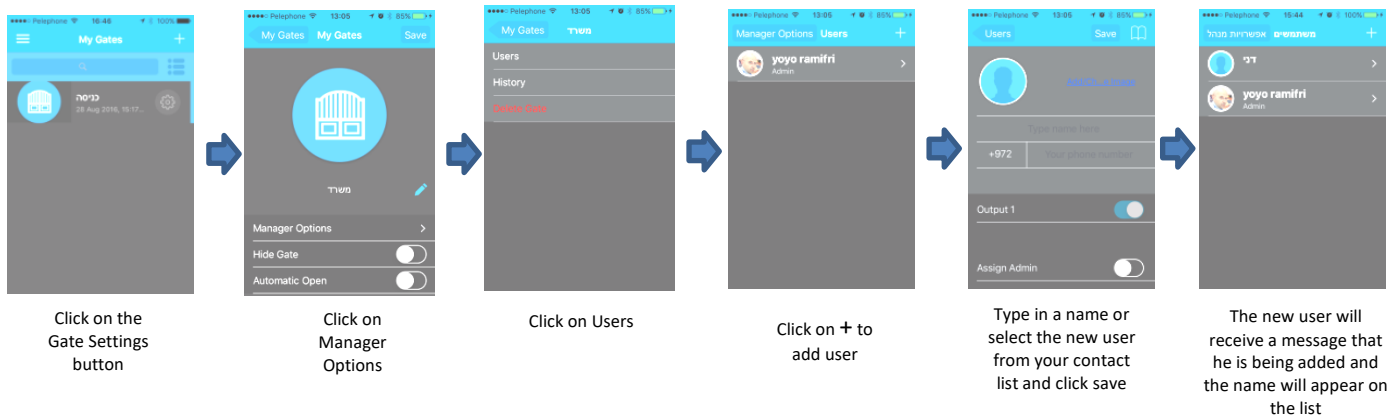
# The PalGate App installation process

| Add your cellphone number | Confirm your phone number | After adding your phone number, you will be sent a verification code | Enter the verification code. |
|---|---|---|---|

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# New device setup



| Click the + button to add a new device | You can scan the QRcode or add device manually | **Device details** -Serial number and code are printed on the device and should be added as printed | After adding the device details click next | The added gate will appear on the "My gates" screen |

# Add a new user



| Click on the Gate Settings button | Click on Manager Options | Click on Users | Click on **+** to add user | Type in a name or select the new user from your contact list and click save | The new user will receive a message that he is being added and the name will appear on the list |

# Important Information for optimal operation:

- **Installation:** If the device will be installed in a metal cabinet, the installer must connect an external antenna to the device that will reach the outside of the cabinet.

- **Power Requirements:** The unit requires a stable power source of 12Vdc/1A.

- **Environment:** Protect the unit from excessive humidity and prevent insect infiltration.

- **Network Compatibility:** The Spider Systems unit operates using 4G and Bluetooth technology. For optimal performance, prior to installation ensure the availability of acceptable 4G signal strength in the installation area. Pal Electronics Systems Ltd. is not responsible for the quality of cellular network coverage. It is the installer's/user's responsibility to ensure adequate 4G reception in the area.

- **Maintenance:** Any maintenance or repairs should only be conducted by authorized installers.

\* Optional feature. Payment may apply

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