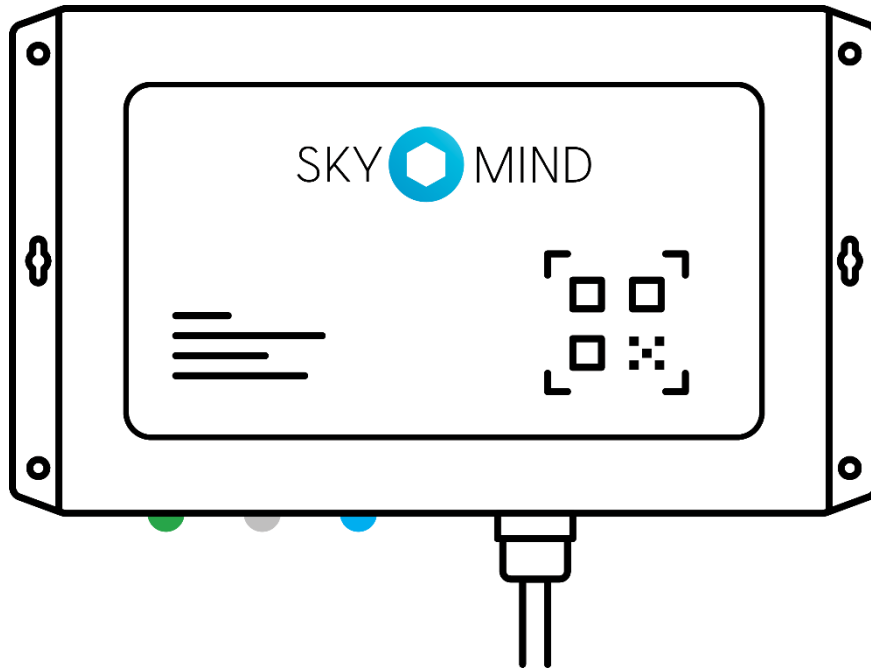


SKYMIND MR 900 GATEWAY

USER MANUAL



Safe. Secure. Sustainable.

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Switzerland
+41 44 533 23 00
www.skycell.ch

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SAFETY INFORMATION

IMPORTANT: Read and follow the safety information before operating the device.

While we strive for your safety, accidents or damage due to improper use cannot be guaranteed against. Use this product with care and operate at your own risk. SkyCell AG is not responsible for any damages or injuries resulting from the improper use or handling of the Gateway.

SECURE INSTALLATION



Do not install or operate a device that is visibly damaged. Contact our support team for a replacement unit.

Ensure the device is installed securely following the Installation Manual. Keep the device away from unintended users or unauthorized individuals.

Ensure the power supply is fixed, stable, and out of reach of unauthorized access.

NO UNAUTHORIZED MODIFICATIONS



Do not attempt to disassemble, repair, or modify the device. Any unauthorized changes may result in serious harm.

RF RADIATION WARNING



Do not use the device where wireless devices are not allowed.

The product complies with FCC RF radiation exposure limits for an uncontrolled environment.

WARNING: This product emits electromagnetic fields. Keep it more than 15 cm (6 inches) away from pacemakers or other implanted medical devices. If interference is suspected, turn off the device immediately and consult your physician.

AVOID ENVIRONMENTAL HAZARDS



Keep the device away from water, fire, humidity, or hot environments.

Do not operate outside of operating temperature: -25°C to 60°C (-13°F ~ 140°F).

EMERGENCY PROCEDURES



DANGER: In case of malfunctions, disconnect the power supply immediately and contact our support team.

CLEANING, MAINTENANCE AND SECURITY MEASURES



CAUTION: Disconnect the power supply before cleaning the device.

Clean external surfaces with a soft, dry cloth. Do not use liquid cleaners or solvents.

DISPOSAL



Please return the device to the next SkyCell representative for refurbishing and/or recycling.

Dispose of the product at the end of its service life cycle must occur in accordance with applicable laws. Correct disposal of this product will help save valuable resources and prevent any potential negative effects to human health or the environment, which could arise from inappropriate waste handling.

USER MANUAL

MOUNTING INSTRUCTIONS

The SkyMind MR 900 Gateway needs to be mounted on a fixed surface (e.g. a wall, a pillar) using appropriate fixings. It should be protected from the elements, like snow, rain and direct sunlight.

For optimal range, the SkyMind MR 900 Gateway should to be mounted 2m to 5m above ground in a place within range of a 3G or 4G mobile network.

For more information and mounting instructions, please refer to the Installation Manual (Appendix A).

OPERATING INSTRUCTIONS

STORAGE OF GATEWAY

When not in use, store in clean conditions at room temperature.

FIRST USE

Once the SkyMind MR 900 Gateway is plugged in, the Gateway will automatically turn on and start its boot-up cycle and connect to the internet via the built-in 3G / 4G technology. Once this is completed, both the green and the blue LEDs will turn on.

To connect the SkyMind MR 900 Gateway to the SkyMind Cloud, follow the instructions in the Installation Manual (Appendix A).

REGULAR USE

The SkyMind MR 900 Gateway needs to be connected to a stable power outlet to work. It will automatically forward received LoRa signals from SkyMind Loggers to the SkyMind Cloud.

There is no further user interface or required user interaction.

STATUS DISPLAY (LEDS)

The Gateway has three LEDs on the bottom of the case, providing information about the state of the Gateway.

Blue, steady light	The Gateway is connected to the internet via the built-in GSM technology
Green, steady light	The Gateway is connected to a power supply and is turned on
Red, steady light	There is an error with the Gateway and/or the internet connection

When plugging in the Gateway, all three LEDs will light up to verify their functionality. After the boot-up cycle (can take a few minutes), both the blue and the green LED should be on.

Should this not be the case, or should the red LED be on, contact SkyMind Support.

POWER OUTLET ADAPTER

Gateway comes equipped with a power outlet adapter for locations where one may be needed. Ensure that the power outlet is correctly connected to the adapter before plugging it into the socket.

TROUBLESHOOTING

Common problems.

Problem	Possible solution
No Power	Power problems are often caused by a malfunction of the power outlet being used. 1. Plug in any other device to ensure the power outlet is working. 2. Try to connect the Gateway to a different working power outlet.
No Connection	Reboot the device often solve connection problems. 1. Make sure you have a stable 3G and/or 4G connection at the installation location. 2. Reboot the Gateway by unplugging, waiting 10 seconds, and plugging it back into the power outlet.

If the problem persists or for any other problems contact SkyMind Support.

TECHNICAL SPECIFICATIONS

PRODUCT IDENTIFICATION

Product Name:	MR Gateway
Product Branding:	SkyMind
Product Model(s):	MR900
Product Description:	Wireless gateway for LoRa Data Loggers (MR8xx)
HS-CODE / Commodity Code	8517.62.00

MECHANICAL SPECIFICATIONS

Weight	ca. 1000 gr
Dimensions	ca. 222 x 146 x 75 mm
Material	Polycarbonate
User Interface	3x ultra-bright LED
IP Rating	IP 67
Flammability Rating	UL 94

OPERATING SPECIFICATIONS

Mount	On a fixed surface; for mounting instructions, see Installation Manual
Installation Environment	Indoor and outdoor
Temperature Range	-25 to 55 °C
Maximum altitude	2000m above sea level
Pollution Degree	4

POWER SUPPLY

Voltage input, frequency	100-240 VAC, 0.45A, 50/60 Hz
Voltage input rating	OVC II
Mains Connector Type	Type C
Mains Wire Length	5 m
Max. Input Current	450 mA

WIRELESS COMMUNICATION, LORA 2.4 GHZ

Supported Loggers	SkyCell MR Loggers, all models
Range	Up to 500 meters outside without obstacle, 100 meters indoors
Wireless Communication Standard	LoRa, 2.4 GHz
Frequency Band	2.4GHz global ISM band

	2.4 .. 2.48 GHz
RF Transmission Power	max. 12.5 dBm/ 17.8 mW TX power
Antenna type	Internal FPC antenna

WIRELESS COMMUNICATION, CELLULAR

Wireless Communication Standard	Primary: LTE – cat4 Fallback: 3G, 2G
Frequency Band	LTE bands • B1 (FDD 2100) • B2 (FDD 1900) • B3 (FDD 1800) • B4 (FDD 1700 / AWS) • B5 (FDD 850) • B7 (FDD 2600) • B8 (FDD 900) • B12 (FDD 700ac) • B13 (FDD 700c) • B20 (FDD 800DD) • B25 (FDD 1900) • B26 (FDD 850) • B28 (FDD 700) • B34 (TDD 2000) • B38 (TDD 2600) • B39 (TDD 1900) • B40 (TDD 2300) • B41 (TDD 2500) • B66 (FDD 1700 / AWS-3) UMTS bands • B1 (2100) • B2 (1900) • B4 (AWS) • B5 (850) • B6 (800) • B8 (900) GSM / EDGE bands • B2 (1900) • B3 (1800) • B5 (850) • B8 (900)
Antenna type	Internal FPC antenna
Coverage	Global
SIM cards	Dual SIM cards (4FF): One active, one backup, with switch logic

COMPLIANCE STATEMENTS

EC – DECLARATION OF CONFORMITY

SkyCell AG declares that SkyMind MR 900 Gateway complies with the essential requirements and other relevant provisions of directive 2014/53/EU (Radio Equipment Directive - RED) and 2014/30/EU (Electromagnetic Compatibility - EMC). Compliance is shown by testing in accordance with the applicable European norms (EN) and certificates can be requested individually.

FCC – COMPLIANCY STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. (Part 15.19)

CAUTION: The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. (Part 15.21)

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(Part 15.105)

FCC – RF EXPOSURE STATEMENT

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

INDUSTRY CANADA LICENCE-EXEMPT RSS STANDARD(S)

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil nedit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radio apparatus containing digital circuitry which can function separately from the operation of a transmitter or an associated transmitter, shall comply with ICES-003. In such cases, the labelling requirements of the applicable RSS apply, rather than the labelling requirements in ICES-003. This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

IC SAR WARNING

This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

Lors de l'installation et de l'exploitation de ce dispositif, la distance entre le radiateur et le corps est d'au moins 20 cm.

GENERAL INFORMATION

GENERAL INQUIRIES

For general inquiries, please contact:

SkyCell AG
Bahnhofplatz
6300 Zug
Switzerland

+41 44 533 23 00

<https://www.skycell.ch/>

SUPPORT

For support questions, please contact:

support@skymind.com

MANUAL LOCATION

This and other manuals, as well as other language versions, can be found at

<https://skymind.com/documentation>

APPENDIX A – INSTALLATION MANUAL

Below is a representation of the Installation Manual as it is included in the installation kit packaged alongside the Gateway.



Multilingual Documentation
skymind.com/documentation



SkyMind Gateway

Step-By-Step Installation Manual

Users are solely responsible for ensuring the safety and security of the installation/mounting process of the Gateway, including but not limited to following proper procedures, utilizing appropriate tools, materials, and safeguarding against potential risks, with a commitment to preventing any compromise of system integrity or unauthorized access.

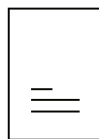


1 Objective

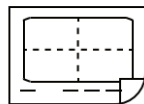
The purpose of this document is to explain and illustrate the correct installation procedure for the SkyMind Gateway. All SkyMind Gateways are fully pre-configured, plug & play, and ready for operation when delivered.

2 Hardware

2.1 Package contents



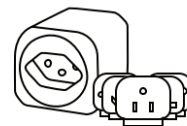
Manual



Drilling Sticker Template



Gateway



Universal Power Outlet Adapter
(when needed)



4x Screws
4.5x30mm



4x Wall Plugs
5x25mm



6x Cable Ties

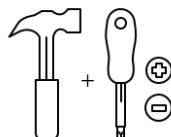


Steel Mounting Strap
1.50m (4.9 ft) per Gateway
+ 3x hooks

2.2 Required installation equipment



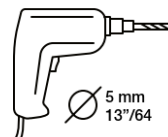
Phone/Tablet with
Network + Camera



Hammer +
Screwdriver



Cutting Pliers



Drill



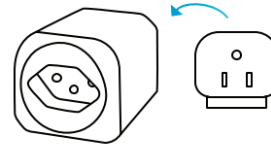
Ladder

Contact: support@skymind.com

3 Description of installation

3.1 Power outlet adapter (if needed)

Select the right adapter for the power plug corresponding to your local power socket.



3.2 Find power outlet

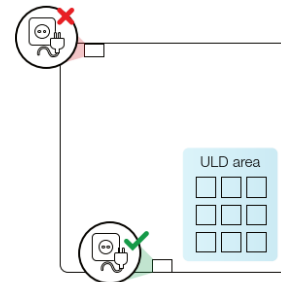
Find the closest power outlet to the ULD area where the Gateway is going to be installed permanently. Make sure the power outlet has electricity.

If no power outlet is available

If you did not find a power outlet, please coordinate the installation of a new power outlet close to the ULD location.

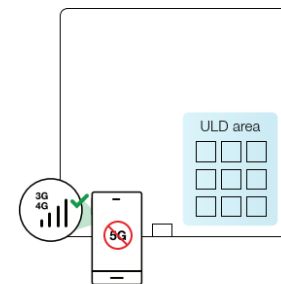


Check cellular connectivity before installing a new power outlet in the location (see 3.3).



3.3 Check mobile network/cellular connectivity

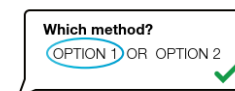
Once you find the power outlet, you need to be sure you have cellular connectivity in the same location. Use your smartphone or tablet, **disable 5G** and check if you have 3G and/or 4G network available. The Gateway only works with 3G and 4G cellular connectivity, not 5G.



3.4 Check mounting possibilities

Assess mounting options 1 or 2 (see 3.6 and 3.7), making sure you can install the Gateway in a fixed and stable position close to the power outlet.

If you have a power outlet, 3G/4G connection, and a stable mounting possibility, you may proceed to the next point. Otherwise, contact our support team.

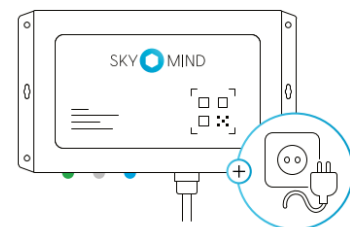


3.5 Gateway functionality test

Plug the Gateway to the power outlet, lights will start flickering on & off. After 15 minutes, the **green** and **blue** light should be on. This means the Gateway is functional, the test is successful. After a successful test, unplug the Gateway and proceed with mounting.

Meaning of the LED

- **Green** Power on
- **Red** No connection/Error
- **Blue** Connected

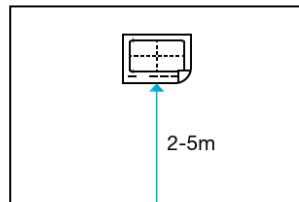


Contact: support@skymind.com

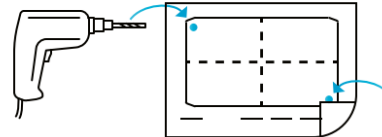
3.6 Mounting option 1 (Preferred)

Required Material: Ladder, sticker template, drill, hammer, screwdriver, 2x wall plugs and 2x screws.
The Gateway must be installed between 2 and 5 meters from the ground (6.5 and 16.5 ft) in a stable and fixed position.

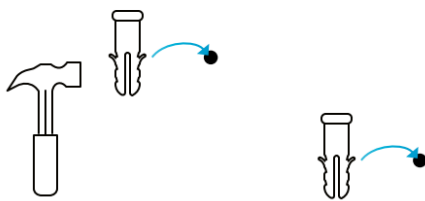
3.6.1 Clean the wall and stick the drilling sticker template.



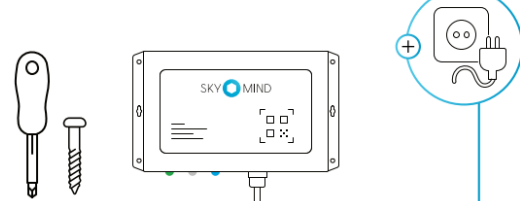
3.6.2 Drill 5mm/13"/64 in the wall through the drilling sticker template.



3.6.3 Remove the sticker.
Hammer the wall plugs in the holes.



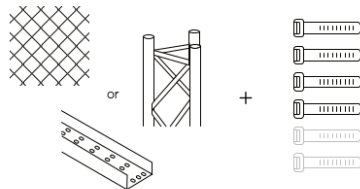
3.6.4 Screw in the Gateway with the screwdriver.
Plug in the power outlet.



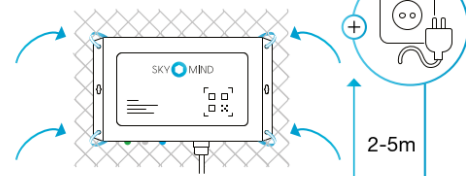
3.7 Mounting option 2

Required Material: Ladder, cable ties, cutting pliers, steel straps. Two people are recommended for this mounting.
The Gateway must be installed between 2 and 5 meters from the ground (6.5 and 16.5 ft) in a stable and fixed position.
NB: There are endless possibilities depending on where the Gateway will be installed, here are 2 examples.

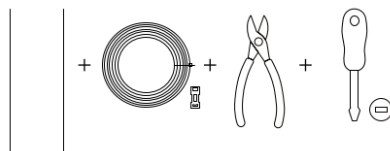
3.7.1 Example A
Attaching to a metal net, truss or cable tray.



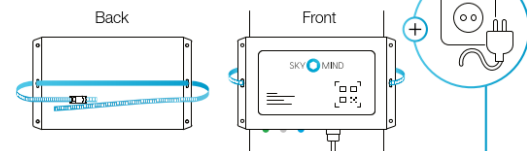
Use the short cable ties to go through the small holes in the four corners of the Gateway.
Plug in the power outlet.



3.7.2 Example B
Attaching around a beam or pole. Make sure the length is correct and cut the steel strap accordingly.



With the steel straps, go through the two larger holes at the center of the two sides of the Gateway and screw* around the beam/pole.



*Avoid over-tightening steel strap to prevent damage to the Gateway.

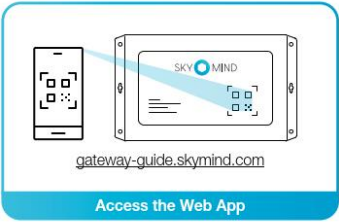
If you have any doubts or if your mounting needs are significantly different from the suggested options, please contact our support team.

Contact: support@skymind.com

3.7 Gateway initialization

Once the Gateway is properly mounted, use your smartphone/tablet to scan the QR-code on the Gateway or enter the URL manually on your browser to start the initialization process.

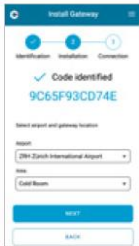
Then, follow the step-by-step process directly on the Web App*:
*Actual process in the Web App may slightly differ



1. Enter your login credentials.



2. Scan the QR code on the Gateway.



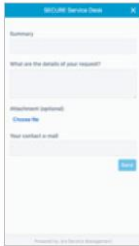
3. Verify the Gateway number, select the location and area of installation.



4. Take a picture of the installation from 3 meters away.



5. Verify the summarized information.



For any problems open a support ticket.

4 Troubleshooting

Problem	Possible solution
The green power LED is off after connecting the Gateway to a power outlet.	1. Plug in any other device to ensure the socket is working. 2. Try a different working power outlet.
A main power outage results in the Gateway showing no connection.	1. Reboot the Gateway by unplugging, waiting 10 seconds, and plugging it back into the power outlet. 2. If the problem persists, contact our support team.
The received Gateway is visually damaged.	Contact our support team by e-mail: support@skymind.com
Unable to find a power outlet or install a new one.	
No cellular connectivity in identified installation locations.	
Difficulty mounting the Gateway or wanting to change the mounting method.	
Any other problem?	

Contact: support@skymind.com

APPENDIX B – LABEL

Below is an image of the label on the Gateway.

