



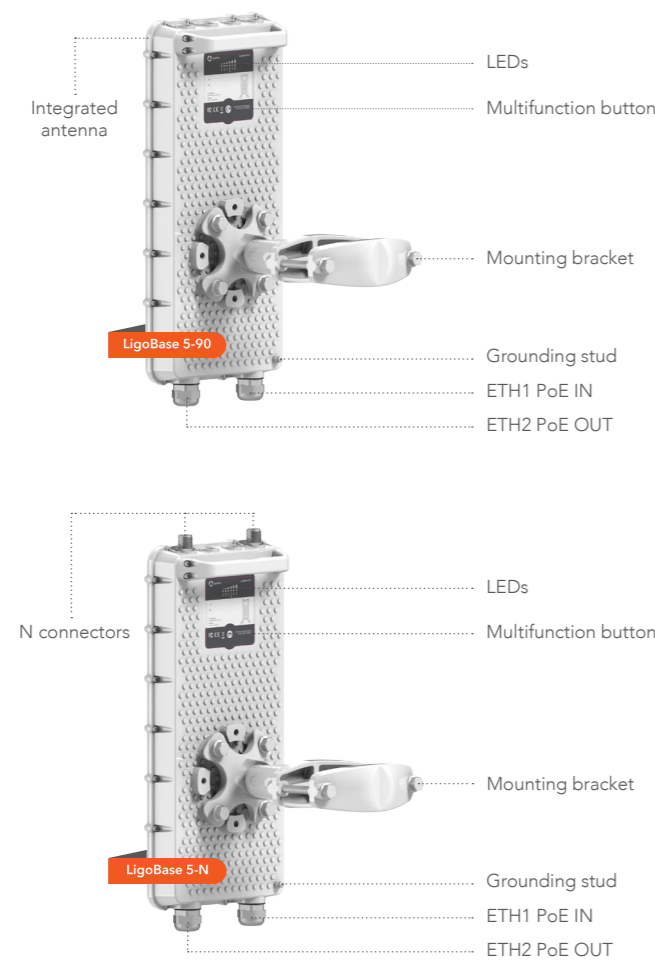
LigoWave



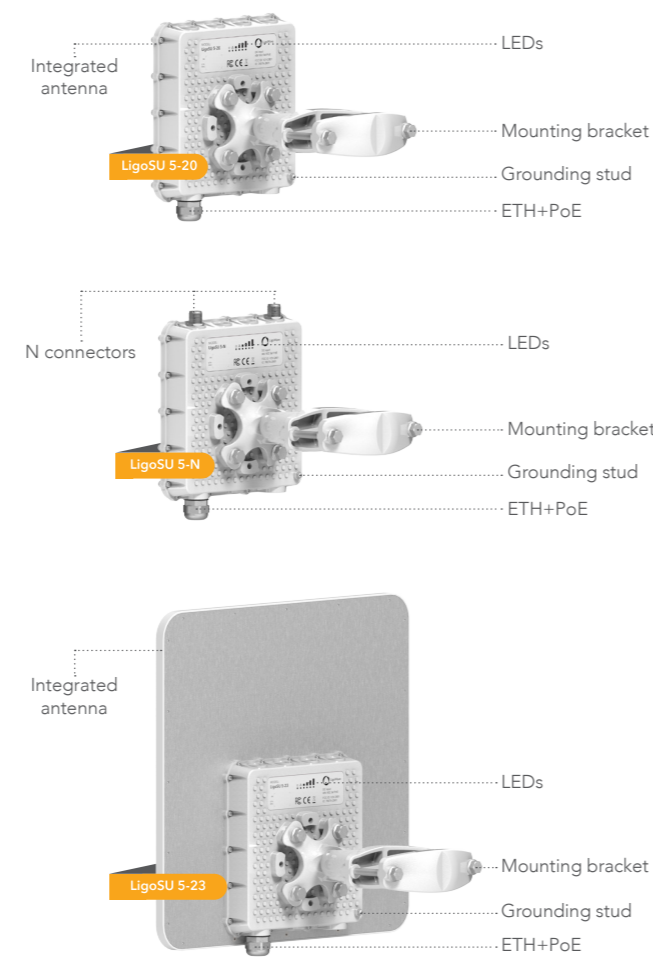
LigoPTMP series

LigoBase and LigoSU installation

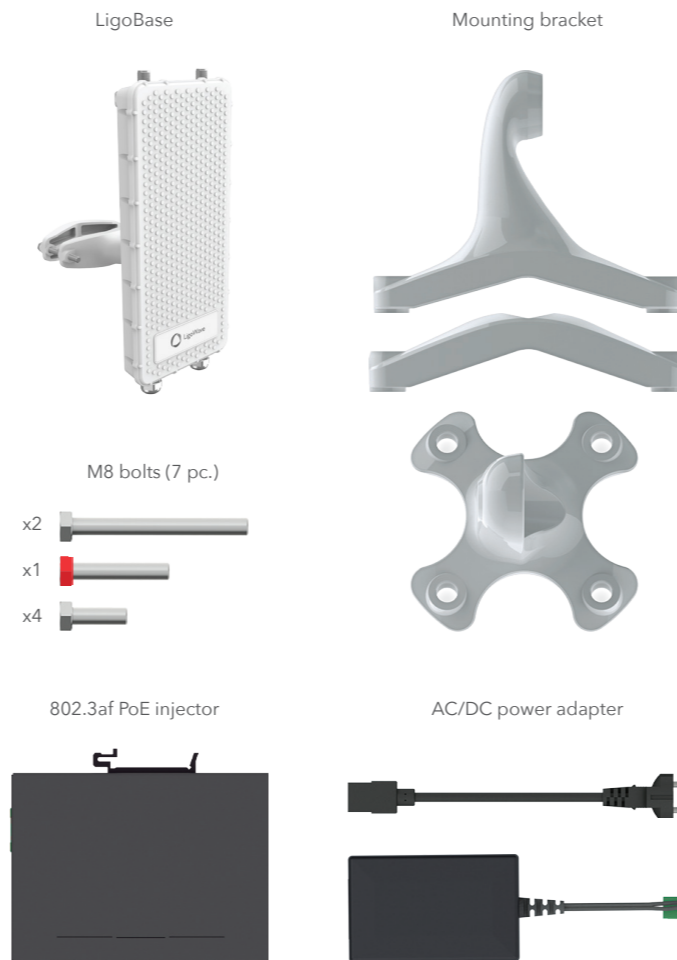
LigoBase overview



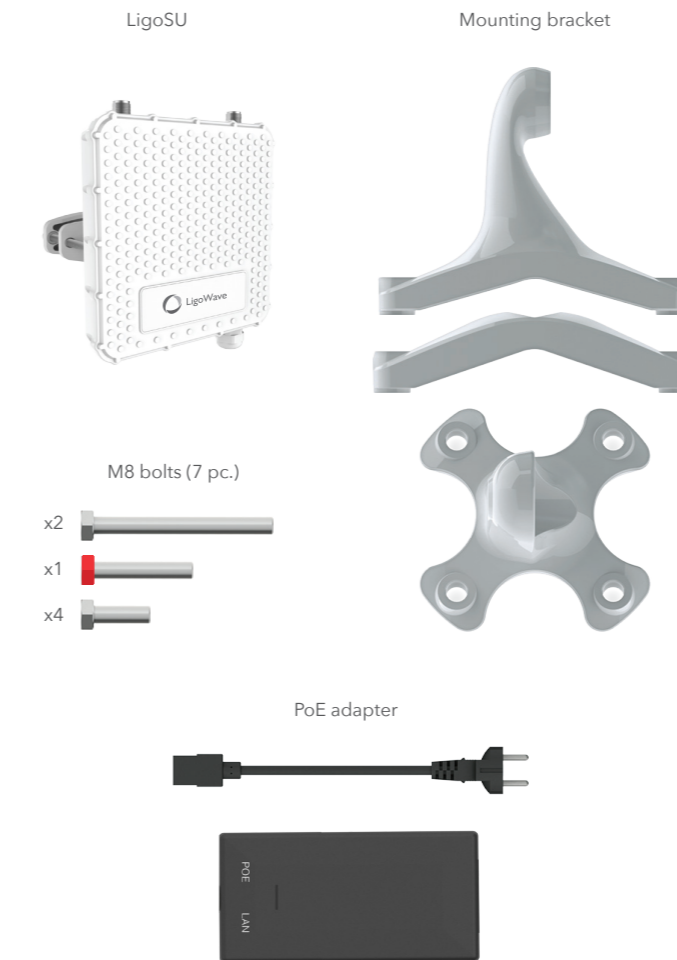
LigoSU overview



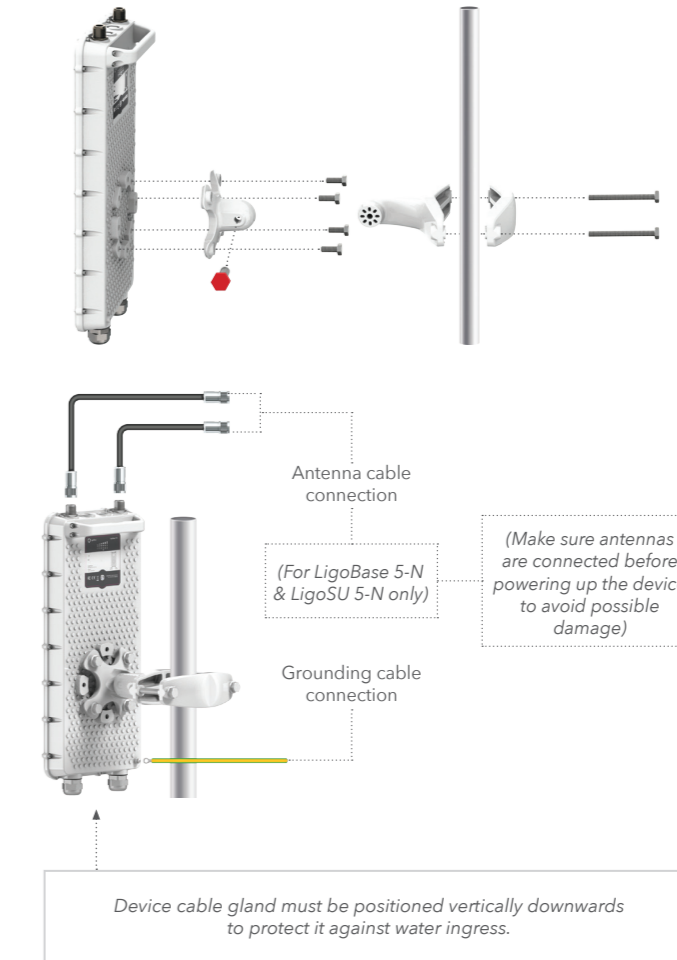
LigoBase package contents



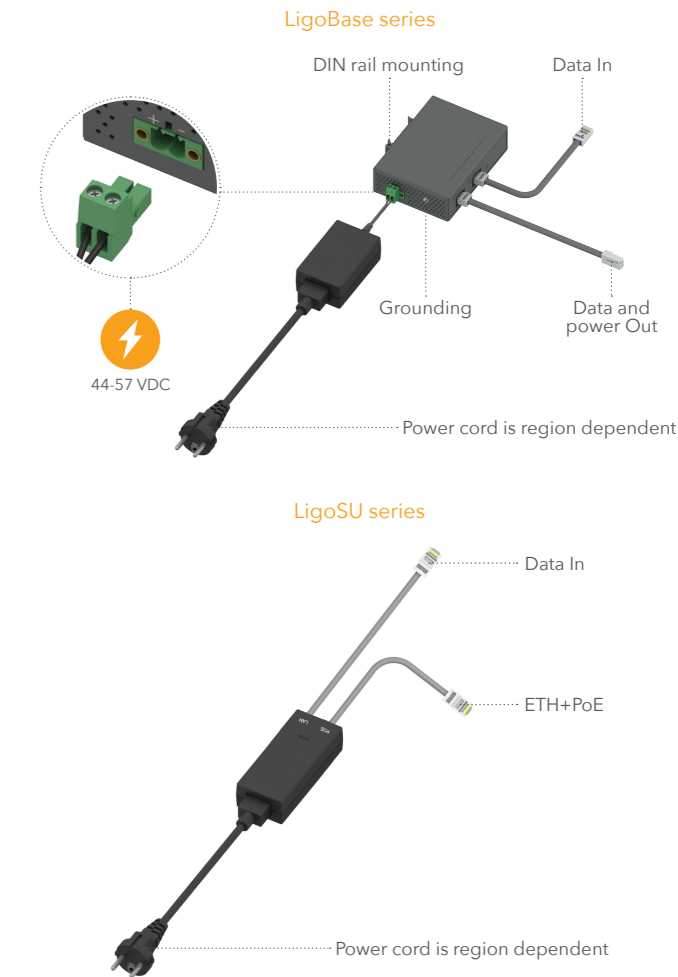
LigoSU package contents



Installation



PoE connection



EU countries this equipment may be operated in:

BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV
LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK



Contact information

Technical support

If you encounter problems when installing or using this product, please consult the LigoWave website at www.LigoWave.com for:

- Direct contact to the LigoWave support centers.
- Frequently Asked Questions (FAQ).
- Download area for the latest software, user documentation and product updates.

EU office:

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support@ligowave.com

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138 Mountain Brook Drive
Canton, GA 30115
United States of America
For support:
support@ligowave.com
For sales enquiries:
sales@ligowave.com

LigoBase and LigoSU controls

LigoBase multifunction button

The multifunction button, located on the back panel of the LigoBase (refer to the Hardware overview picture) is able to perform following functions:

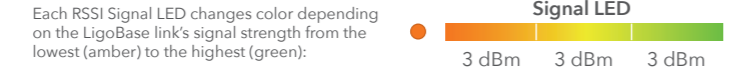
	Activate LED indication	Click
	Switch to RSSI or Status indication	Click
	Enable WiFi management radio	Hold until 3 Blue LEDs are on
	Reset device to factory defaults	Hold until all Blue LEDs start to blink

LigoBase LEDs

The LigoBase has 6 LEDs located on the back panel, which can indicate either main device operation status or RSSI level.

After the LigoBase is powered up, the LEDs display status indications.

RSSI Signal level (antenna alignment) indication: click once the multifunction button to switch LEDs for displaying RSSI level.

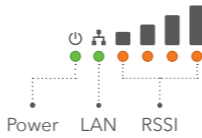


The stronger signal of the PTMP link is, more LEDs are on:

	≤ -89 dBm (too low)
	● -88 to -86 (dBm) ● -85 to -83 (dBm) ● -82 to -80 (dBm)
	● -79 to -77 (dBm) ● -76 to -74 (dBm) ● -73 to -71 (dBm)
	● -70 to -68 (dBm) ● -67 to -65 (dBm) ● -64 to -62 (dBm)
	● -61 to -59 (dBm) ● -58 to -56 (dBm) ● -55 to -53 (dBm)
	● -52 to -50 (dBm) ● -49 to -47 (dBm) ● -46 to -44 (dBm)
	● -43 to -41 (dBm) ● -40 to -38 (dBm) ● -37 to -35 (dBm)
	≥ -34 dBm (too high)

LigoSU LEDs

The LigoSU series devices has 6 LEDs located on the back panel: power, LAN and 4 RSSI LEDs.



LigoSU access

IP address:
DHCP client
(fallback IP 192.168.2.66)

Login:
admin
Pass: admin01

LigoBase access

Remote wireless access

This is the easiest way to access the newly installed LigoBase device web management interface.

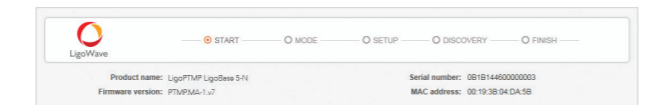
- 1 Power off and power on again the LigoBase unit to switch it to a remote wireless management mode (it will be switched off automatically in 5 minutes of wireless inactivity).
- 2 Scan for the wireless devices using your phone/tablet and choose the LigoBase wireless network name, which is LigoWave-mng-AABBCC (where AABBCC are the last three bytes of the particular LigoBase MAC address).



- 3 Launch the browser application and type the default LigoBase IP adress 192.168.111.1 in the address field.



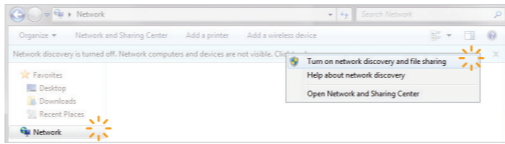
- 4 The setup wizard screen appears, the LigoBase is now ready for configuration.



Ethernet access

By default LigoBase obtains the IP address from the DHCP server thus follow the steps to access device using Windows OS (for information how to access via other OS, refer to <http://www.ligowave.com/wiki/faq/>):

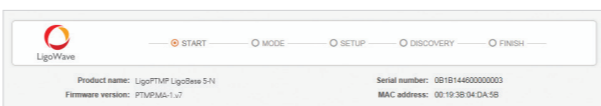
- 1 Connect your PC to the LigoBase via Ethernet.
- 2 Open Windows Explorer, click on Network drive, and turn on Network discovery:



- 3 Find the required LigoBase icon:



- 4 Double-click on LigoBase icon - you will be redirected to the LigoBase web management interface. The LigoBase is now ready for configuration:



Important information

Copyright

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Notice

Product size and shape are subject to change without prior notice, and actual product appearance may differ from that depicted in the user guide.
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Trademarks

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FCC information

Français [French]

Note : Cet appareil est conforme à la Partie 15 des règlements de la FCC et aux normes RSS de l'Industrie du Canada. Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne doit pas causer des interférences nuisibles, et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences qui peuvent provoquer un fonctionnement indésirable.

Le fabricant n'est pas responsable des toutes interférences radio ou télévision causées par des modifications non autorisées apportées à cet appareil. De telles modifications peuvent empêcher l'utilisateur d'utiliser l'appareil.

English

This device complies with Part 15 of the FCC rules and Industry Canada license-exempt RSS standard(s). 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.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or change to this equipment. Such modifications or change could void the user's authority to operate the equipment.

This radio transmitter (identify the device by certification number or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Français [French]

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie II) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Antenna Type	Base 5-90	SU 5-20	SU 5-23
Max. Antenna Gain (dBi)	Integrated 16	Integrated 20	Integrated 23

English

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.

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

FCC radiation exposure statement

To comply with FCC RF exposure requirements in section 1.1307, a minimum separation distance of 3.9 feet is required between the antenna and all occupational persons, and a minimum separation distance of 16.4 feet is required between the antenna and all public persons.

Antenna installation

WARNING: It is installer's responsibility to ensure that when using the authorized an-tennas in the United States (or where FCC rules apply), only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

CE information

CE mark warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

R&TTE compliance statement

This equipment complies with all the requirements of the Directive 1999/5/EC of the European Parliament and the Council of 9 March 1999 on Radio Equipment and Telecommunication Terminal Equipment and the Mutual Recognition of their Conformity (R&TTE). The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.



To avoid usage of unlicensed channels please choose the correct Country on the Web Management Disclaimer. Keep in mind that the responsibility for the proper usage of the device in accordance with the regulatory rules lies with an installer or an equipment owner. Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this manual and of the computer manufacturer must therefore be allowed at all times to ensure the safe use of the equipment.



According to European Directive 2002/96/EC requirement, equipment that contains this mark must not be disposed with unsorted municipal waste. It is a customer's responsibility to use local electric and electronic equipment waste collection point for this equipment disposal.

Declaration of conformity

Česky [Czech]

LigoWave tímto prohlašuje, že tento LigoWave LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.

Dansk [Danish]

Undertegnede LigoWave erklærer herved, at følgende udstyr LigoWave LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

Nederlands [Dutch]

Hierbij verklaart LigoWave dat het toestel LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Bij deze verklaart LigoWave dat deze LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.

English

Hereby, LigoWave, declares that this LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Eesti [Estonian]

Käesolevaga kinnitab LigoWave seadme LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivi tulenevatele teistele asjakohastele sätetele.

Suomi [Finnish]

LigoWave vakuuttaa täten että LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Français [French]

Par la présente LigoWave déclare que l'appareil LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Deutsch [German]

Hiermit erklärt LigoWave, dass sich diese LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet. (BMWV)

Ελληνική [Greek]

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ LigoWave ΔΗΛΩΝΕΙ ΟΤΙ LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.

Magyar [Hungarian]

Alulírott, LigoWave nyilatkozom, hogy a LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

Íslenska [Icelandic]

Hér með lýsir LigoWave yfir því að LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

Italiano [Italian]

Con la presente LigoWave dichiara che questo LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Latviski [Latvian]

Ar šo LigoWave deklarē, ka LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių [Lithuanian]

Šiuo LigoWave deklaruoju, kad šis LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Malti [Maltese]

Hawnhekk, LigoWave, jiddikjara li dan LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 jikkonforma mal-htigijiet essenzjali u ma provvediment i oħra jin relevanti li hemm fid-Direttiva 1999/5/EC.

Norsk [Norwegian]

LigoWave erklærer herved at utstyret LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

Slovensky [Slovak]

LigoWave týmto vyhlasuje, že LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Svenska [Swedish]

Härmed intygar LigoWave att denna LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Español [Spanish]

Por medio de la presente LigoWave declara que el LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Polski [Polish]

Niniejszym, frma LigoWave oświadczam, że produkt serii LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 spełnia zasadnicze wymagania i inne istotne postanowienia Dyrektywy 1999/5/EC.

Português [Portuguese]

LigoWave declara que este LigoBase 5-N, LigoBase 5-90, LigoSU 5-N, LigoSU 5-20, LigoSU 5-23 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

To get full CE declaration of conformity documents, refer at <http://www.ligowave.com/wiki/declarations-conformity/>