

## **INFORMATIVE NOTE for Inflatable Hip Protectors DL012 H R1 T U with integrated 028\_SJ electronic unit, suitable for daily use during indoor or outdoor leisure activities.**

### **NOTES**

Thank you for choosing DAirlab!

The product you have chosen has been designed taking advantage of precious cooperation at national and international levels, combined with the most advanced technologies available and tests conducted constantly at the DAirlab laboratories. All this has made it possible to design a product offering maximum comfort and performance.

- **CRITICAL WARNING, could seriously affect the health of the user.**
- **IMPORTANT WARNING, could affect the safety of the user.**
- **USEFUL INFORMATION, could influence operation of the system.**



### **WARNINGS:**

- **At the time of purchase make sure that you check carefully, together with the dealer, your body measurements and choose the right size.**
- Before using the DL012 H R1 T U read this Informative Note carefully and make sure that you understand it correctly. Contact your nearest DAirlab service center (see list below) if you have any problems or doubts regarding use of the DL012 H R1 T U.
- Keep this Informative Note handy for future reference.
- DAirlab reserves the right to improve the electronic components and management and control software of the DL012 H R1 T U system at any time without prior notice.



### **WARNINGS:**

- The DL012 H R1 T U system you have purchased (hereinafter "system" and/or "DL012 H R1 T U") is a Personal Protective Equipment provided with its own supports/fasteners.
- The DL012 H R1 T U system provides airbag protection to the hip region.
- The DL012 H R1 T U has been designed for use either over or under clothing. If you intend to use the DL012 H R1 T U under clothing such as pants or a skirt, the airbags must be unfolded, i.e., protrude from their pockets. In this case it is essential to ensure that there is sufficient space for inflation of the airbag in this area. Such space is calculated as around 4 cm on each side.
- Do not wet the device, protect it in case of rain.
- The functions for which the DL012 H R1 T U was designed will only be performed correctly if it is registered, worn correctly and switched on.
- **PROTECTIVE DEVICES CANNOT PROTECT AGAINST ALL POSSIBLE IMPACTS AND THEREFORE CANNOT PROVIDE COMPLETE PROTECTION AGAINST INJURIES.**

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# 1. PRELIMINARY INSTRUCTIONS AND SUGGESTIONS

A few general suggestions for the use of the system are provided below. For greater detail, read the corresponding parts of the text below.



## WARNINGS:

●●● The DL012 H R1 T U has been designed for people with mobility problems and high risk of falling. The device is suitable for daily use during indoor or outdoor leisure activities.

●●● A fall with impact may result in personal injury. No product or protection system can offer complete protection from injury or damage to individuals or property in case of fall with impact or otherwise.

DAirlab disclaims any responsibility for injuries or damages incurred while wearing any of its products.

●●● People who wear pacemakers or other medical devices should not use the system as electric disturbance or triggering of the system might interfere with correct operation of these devices.

●●● Always remove the device during electromagnetic tests such as MRI scans, etc.

●●● Check that the pockets of garments used in combination with the DL012 H R1 T U do not contain any items that could perforate or damage the airbag in the event of triggering.

●●● Never modify your DL012 H R1 T U or its components in any way. Modification of any nature could compromise its functionalities and consequently its protective functions in the event of a fall. Never add decorations, ribbons or patches above the airbag. Never connect any kind of electric equipment or external battery to the suit's cables. Components of the DL012 H R1 T U can only be modified by authorized DAirlab operators.

●●● Before shipping your DL012 H R1 T U by air, check with the airport authorities and with the airline to find out the correct procedure to follow, as specified in chapter 4.3.

●● To make the best use of its functionalities, the DL012 H R1 T U must be worn correctly, carefully following the instructions and warnings provided in this Informative Note.

●● Do not switch on the DL012 H R1 T U when not wearing it. If used incorrectly the DL012 H R1 T U could be triggered with possible damage to property and risk for people's safety. Always make sure that the DL012 H R1 T U has been switched off before transporting it. The DL012 H R1 T U must be switched off when not in use.

●● After you have finished using the DL012 H R1 T U always switch the device off by opening the front fastening while still wearing it.

●● Do not charge the DL012 H R1 T U while wearing it.

●● Never leave the DL012 H R1 T U device charging close to flammable surfaces or objects.

●● Keep children away from the DL012 H R1 T U in order to avoid all possible risk.

●● Whenever signs of malfunction appear, switch off the system, and contact the nearest DAirlab Assistance Service.

●● In the event of the system being triggered, do not use it again until it has been reset.

●● In case of damage of the DL012 H R1 T U, contact the DAirlab Assistance Service.

●● The system is sensitive to sudden body movements and to impacts: never perform manoeuvres that are not necessary such as shaking the device, jumping, acrobatics or particularly sudden movements. If you require to perform one of the movements listed above, switch off the device in advance by opening the front fastening to avoid accidental triggering.

●● People suffering from ataxia or PSP tend to make sudden movements and these movements could cause accidental triggering. Use of the device is not recommended for these people.

- The DL012 H R1 T U is a new intelligent device intended for people with mobility problems and high risk of falling and is capable of identifying falls as indicated in paragraph 3.4. Moreover, it is capable of activating the emergency procedure with geolocation e-alerts sent to the telephone contacts predefined by the user.
- The DL012 H R1 T U is subject to wear based on effective conditions of use. Before using the DL012 H R1 T U or putting it away, always check for signs of wear or damage.
- Even if it is operating correctly, contact the DAirlab Assistance Service once every 5 years for a maintenance check and servicing (for a charge) of any components subject to wear. Correct maintenance is essential for the correct operation of the system.
- No belts, waist bags or other similar articles must be worn over the DL012 H R1 T U.
- Do not place keys, cell phones and other devices and accessories between the DL012 H R1 T U and the body of the user.
- Before each use, the functionality of the DL012 H R1 T U must be carefully checked following the instructions in this Informative Note. Whenever there is a state of error or any other anomaly, do not use the DL012 H R1 T U and contact the nearest DAirlab Assistance Service.
- The DL012 H R1 T U is composed of a hip protector with airbag technology and is provided with e-alert technology with automatic or manual geolocation e-alert implemented in a smartphone app.
- The e-alert function is not guaranteed when there is no network coverage.
- The DL012 H R1 T U is not a medical device.

## **2. FUNCTION AND INTENDED USE OF THE DL012 H R1 T U**

### **2.1. Overview**

The function of the DL012 H R1 T U is to reduce the risk of injuries, limiting the forces transmitted in the event of a fall in daily use and to provide an integrated technology implemented in a smartphone app, which includes geolocation e-alerts to the telephone contacts defined by the user.



### **WARNINGS:**

- **Never use the DL012 H R1 T U for purposes other than those for which it was designed.**
- **The DL012 H R1 T U does not offer any additional protection in the areas not covered by the airbag.**
- **The DL012 H R1 T U does not offer any additional protection in the areas covered by the airbag during events that do not cause triggering and inflation of the airbag.**
- The DL012 H R1 T U does not provide the emergency e-alert service in events that do not cause triggering and when there is no network coverage.

## **2.2. Protection offered by the DL012 H R1 T U protective device**

In view of the particular protection offered by the DL012 H R1 T U protective device, it must be considered as Personal Protective Equipment (PPE) and is therefore subject to the requirements established by Regulation (EU) 2016/425. The DL012 H R1 T U protective device covered by this Informative Note must be considered **Class 2 PPE** according to Regulation (EU) 2016/425, namely PPE to which DAirlab may affix the CE mark only once the product has passed the “EU type examination” at a Notified Body.

The Notified Body that certified your DL012 H R1 T U is:

N. 0498 RICOTEST, Via Tione, 9, 37010 Pastrengo, Verona (Italy)

better indicated in the CERTIFICATIONS chapter of this Informative Note.

Conformity with the essential health and safety requirements established by Regulation (EU) 2016/425 has been verified also with conformity of the Personal Protective Equipment DL012 H R1 T U with a specific internal procedure of the Notified Body. This procedure is based, among others, also on the following document:

- EN 1621-4:2013 Motorcyclists' protective clothing against mechanical impact – Part 4: Motorcyclists' inflatable protectors – Requirements and test methods.

The DL012 H R1 T U is equipped with an electronic unit called **028\_SJ** (not subject to certification as PPE), which complies with the requirements and with the essential provisions of the following European Directive:

- Directive 2014/53/EU of the European Parliament and Council of 16 April 2014 concerning harmonization of the laws of the Member States relating to the making available on the market of radio equipment (RED)

Frequency bands and respective transmitted power limits applicable to the device (standardized frequencies and powers).

## **2.3. Protective performance of the DL012 H R1 T U protective device**

Table 1: Performance of the Device

Hip region (airbag protector), tested in accordance with the technical specifications applied that provide for the following requirements: <ul style="list-style-type: none"><li>• Average value <math>\leq 4.5</math> kN, Value of single blow <math>\leq 6</math> kN.</li></ul>			
Protector identification code	Standard used for the test method applied in tests	Temperature [°C] at which the protector was tested	Force transmitted with impact energy of 14 Joules,  Value Average/Maximum
DL012 H R1 T U	EN1621-1:2012	+23°C	Average: 0.92 kN Maximum: 1.16 kN

In particular, when triggered, the protective device DL012 H R1 T U protects the hip region with an airbag.




Protective performance is related to choosing the correct size of DL012 H R1 T U, following the indications provided in Chapter 2.5.

## 2.4. Marking

Table 2: Marking of the PPE **DL012 H R1 T U**



The airbag Marking is provided on a label stitched to the protector and provides the following indications:

<b>DAirlab</b>	Manufacturer's Name and Trademark
D-Air Lab S.r.l., Via dell'Economia 64 c, 36100 Vicenza VI Italy	Manufacturer's identification
	CE marking certifying that the protective garment complies with the requirements of Regulation (EU) 2016/425
	Pictograms indicating the need to read the Instructions for Use attached to the protector
	Indication that the product and related electronic accessories must not be disposed of with other household waste.
<b>AIRBAG</b>	Indicates that the protector is inflatable
<b>Hip protector</b>	Specifies the body part protected. Hip protector To find the size of the protected area, refer to table 3.


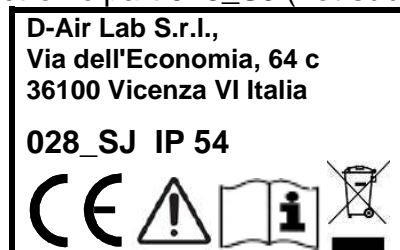



<b>DL012 H R1 T U</b>	<b>(DL012 H R1 T U)</b> Protector identification code; each protector model is allocated a different in-house code.
<b>MADE IN XXXXX</b>	Indication of the country of origin
	International Garment Care Symbols.
<b>YYYY</b>	Indication of the production batch

Table 2: Marking of the electronic part 028\_SJ (not subject to certification as PPE)



The marking is provided on a label affixed to the case and contains the following indications:

<b>DAirlab</b>	Manufacturer's Name and Trademark
D-Air Lab S.r.l., Via dell'Economia 64 c, 36100 Vicenza VI Italy	Manufacturer's identification
	CE marking certifying that the product complies with the requirements of the applied Directives
	Pictograms indicating the need to read the Instructions for Use attached to the product.
	Indication that the product and related electronic accessories must not be disposed of with other household waste.
<b>028_SJ</b>	Identification code.
<b>IP54</b>	IP54 Indicates that the casing is protected from dust so as not to interfere with operation of the device and from water spray from any direction. Only if correctly installed on the garment and worn.

The production batch is indicated directly on the Airbag, as the 028\_SJ is placed on the market solely and exclusively assembled on a finished product.

## 2.5. How to choose and wear the DL012 H R1 T U

The choice must be made paying attention to the indications and pictograms present on the marking, bearing in mind that when triggered this protective device protects only the hip region with an airbag.

In order for a protective device to perform its protective action correctly, the body area to be protected must remain efficiently covered.

The DL012 H R1 T U can be used either over or under clothing.

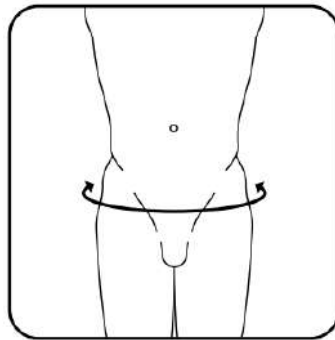


#### WARNINGS:

- If you intend to use the DL012 H R1 T U under clothing such as pants or a skirt the airbags must be unfolded, i.e., protrude from their pockets. In this case it is essential to ensure that there is sufficient space for inflation of the airbag in this area. Such space is calculated as around 4 cm on each side.

For the recommended correlation between the size of the supports and hip circumferences, consult the table below:

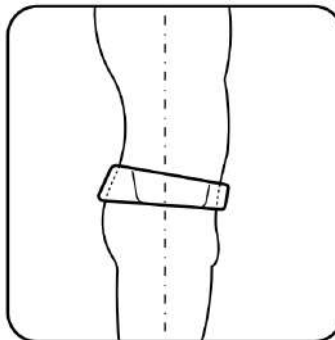
Support/fastening device size	Hip circumference ranges in cm.	
XS	82	92
S	88	98
M	94	104
L	100	110
XL	110	120
XXL	120	130



When worn, the belt must be positioned at the height of the iliac crest and adjusted so that it fits snugly against the body.

With the belt on, the pockets containing the airbags must be central relative to the head of the femur, as shown in Figure 1.

Figure 1



Always close the front fastening and adjust the support/fastening devices ensuring a snug fit against the body.



#### WARNINGS:

- Always adjust the DL012 H R1 T U so that it fits snugly against the body.
- With the belt on, the pockets containing the airbags must be central relative to the head of the femur, as shown in Figure 1.
- Always switch the system off by opening the front fastening while still wearing it.
- The DL012 H R1 T U must be considered a personal object



## 2.6. How to remove or install the Co2 canister kit of the DL012 H R1 T U

Please inspect the product carefully before carrying out the replacement procedure, checking the integrity of the airbag (no abrasions, evident holes or unglued parts).



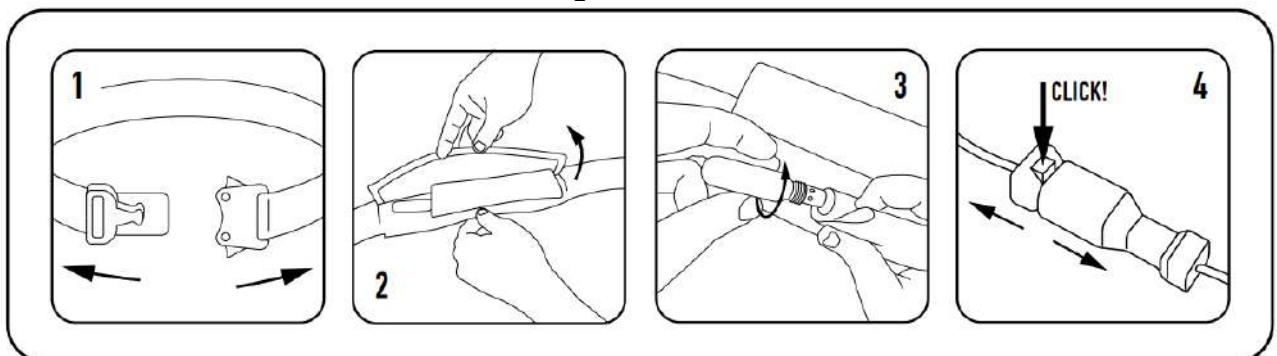
### **WARNINGS:**

- **Replacement operations must be carried out by an adult at least 18 years of age.**
- When handling the Co2 canister kit use suitable Personal Protective Equipment (PPE), such as safety glasses or a safety visor to protect eyes and face, gloves and workwear (cotton) to protect hands and skin.
- Before handling the Co2 canister kit ensure you are not electrically charged. Touch an unpainted metal surface to discharge any static electricity.
- The Co2 canister kit must never be touched by more than one person at the same time. If you have to give it to another person, place it on a grounded surface and ask the other person to pick it up.
- Check that the airbag and replacement are intact before carrying out replacement.
- **DO NOT** use replacements with surface damage.
- Handle the replacement in a place away from sources of direct heat, naked flames and electromagnetic sources.

To remove the Co2 canister kit from the airbags, proceed as described below, referring to Figure 2;

1. Deactivate the DL012 H R1 T U by opening the front fastening;
2. Open the side pocket containing the airbag;
3. Unscrew the Co2 canister kit;
4. Disconnect the connector by pressing the connector button.

Figure 2



To install the Co2 canister kit in the airbags, proceed as described below, referring to Figure 3;

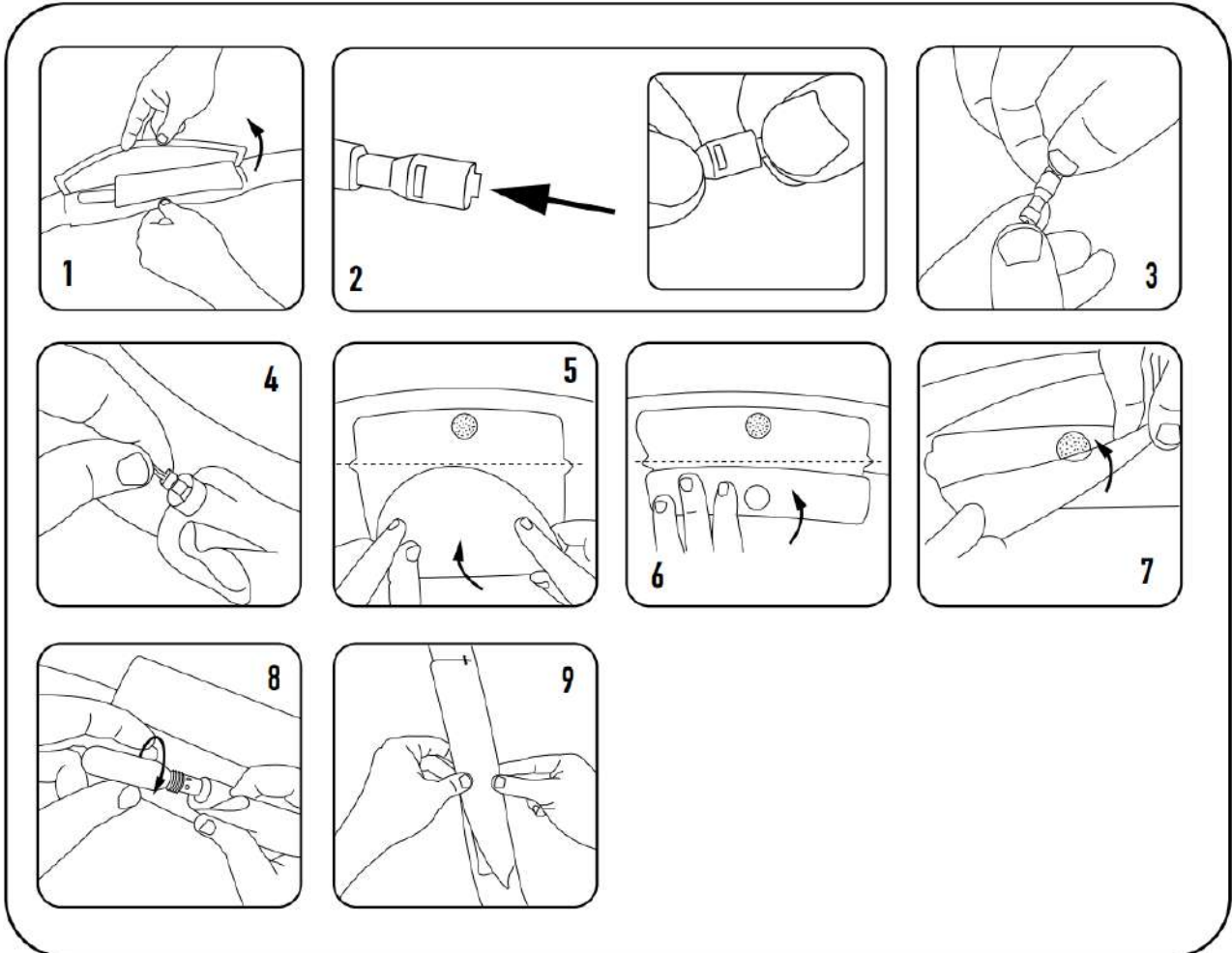
1. Open the side pocket containing the airbag;
2. Remove the safety cover from the connector pin;
3. Connect the connector:
4. Insert the cable and the connector inside the airbag;
5. (First fold) Fold the airbag referring to the notches provided on the bag;
6. (Second fold) Fold the airbag once more, again referring to the notches provided on the bag;
7. (Third fold) Fold the airbag again, coupling it with the Velcro provided, removing all the air from the bag before screwing on the canister;
8. To prevent the cables from rotating excessively during tightening, rotate the Co2 canister kit clockwise for 6 turns before attaching it, and then screw it down completely;
9. Close the pocket.



## **WARNINGS:**

- Connection of the cables as indicated above is essential to enable switching on and correct operation of the system.
- Should you encounter difficulties or require additional information on how to install or remove the replacement, contact your nearest DAirlab Assistance Service.

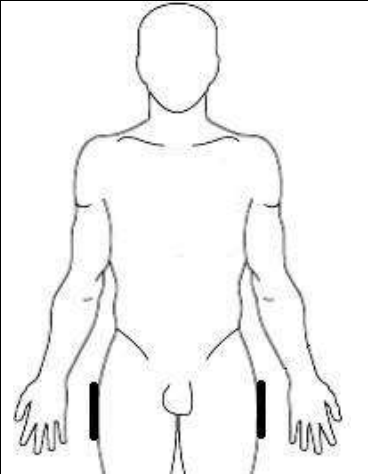
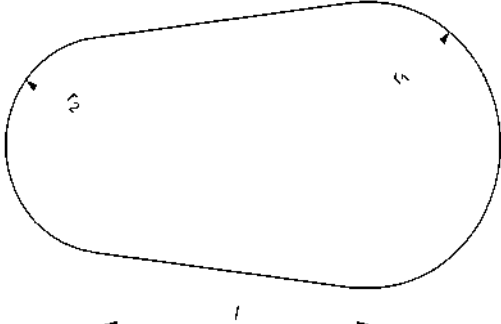
Figure 3



## 2.7. Position and size of the areas protected by the DL012 H R1 T U.

Table 3 below indicates the dimensions of the areas protected and shows the positions of the body areas protected by the DL012 H R1 T U.

Table 3

Dimensions in [mm]				
Protector	r1	r2	L	
Hip protector	35	26	70	
				

## 2.8. Use, integrity and efficiency of the DL012 H R1 T U device

We recommend that you inspect the device carefully prior to each use to check integrity and that you REFRAIN from use whenever any parts show signs of evident wear or malfunction, until complete functionality is restored. In particular, check that the fastening and adjustments systems operate correctly.

We also recommend checking the LED indicators and the battery charge level as described in paragraphs 3.5.2 and 3.6

Should any breaks or cracks occur through use, or if the integrity of the materials forming the product is compromised, including accessory parts, have the integrity and efficiency of the product checked by DAirlab Assistance Service, through the retailer where it was purchased.

In case of fall and/or triggering, provided that the materials are intact, restore the DL012 H R1 T U as described in paragraph 2.6, removing the triggered Co2 canister kit referring to the information provided in the Informative Note of the replacement. Only use DAirlab original spare parts.

To obtain original DAirlab spare parts, contact the retailer from whom the product was purchased or consult the following link: <https://dairlab.com/ricambi/>.



### **WARNINGS:**

- Only use DAirlab original spare parts.
- Avoid contact with chemicals of any kind.
- The DL012 H R1 T U is designed not for use in extreme conditions (daily use during indoor or outdoor leisure activities). Extreme conditions of temperature, humidity and pressure can have a negative effect on the performance of the PPE.

## 2.9. Information on the materials used

It is hereby certified that the materials that come into contact with the wearer have been produced with suitable non-toxic and non-harmful products, as established by EC Regulation 1907/2006 (R.E.A.C.h) - Annex XVII. It is specified that as established by Regulation EC 1907/2006 (R.E.A.C.h), such materials have no azo colorants capable of releasing dangerous aromatic amines through the cleavage of one or more azo groups - Annex XVII. Moreover, the articles marketed do not contain any Substances of Very High Concern (SVHC), identified according to Article 59 and listed in the Candidate List published by the ECHA (European Chemical Agency), in concentrations greater than 0.1% weight/weight.

## 2.10. Duration of the DL012 H R1 T U Protective Device

The duration of a protective device depends on its frequency of use and the care with which it is stored by the user

In any case, contact the DAirlab Assistance Service once every 5 years to request a maintenance check or servicing (for a charge) of any components subject to wear.



### **WARNINGS:**

- **DAirlab is not responsible for products that are not serviced every five years.**
- **Check the DL012 H R1 T U for signs of wear, breakage or damage prior to every use. Contact the DAirlab Assistance Service or an authorized DAirlab dealer in all cases of doubt.**

## 3. DESCRIPTION OF THE ELECTRONIC UNIT 028\_SJ AND AIRBAG OF THE DL012 H R1 T U

### 3.1.1. 028\_SJ Electronic unit

The DL012 H R1 T U is controlled by the 028\_SJ electronic unit, which, if pre-set conditions are reached, triggers inflation of the system and/or activates the e-alert functions, depending on the type of event.

The system has an internal diagnostic routine and whenever a malfunction occurs, the user interface light will begin blinking red with vibration and tone.

The electronic unit is powered by a rechargeable lithium-ion battery, whose charge level is represented when the device is switched on, see paragraph 3.6 below: "How to check the battery charge level and how to charge it".



### **WARNINGS:**

- **in the event of malfunction do not use the system (blinking red light). In this case contact the DAirlab Technical Assistance Service.**

The 028\_SJ electronic system contained in the DL012 H R1 T U is composed of two units interconnected to each other by a cable with USB-C separation connector, as shown in Figure 4.

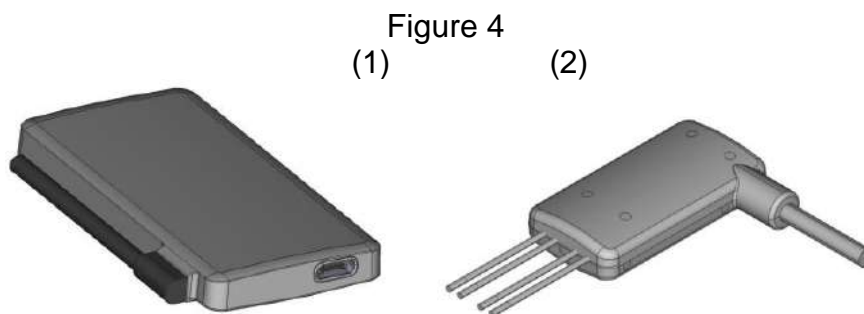


Figure 4

(1)

(2)

The smaller unit (2) is the control unit that manages operation of the system. The larger unit (1) contains the rechargeable battery that powers the whole system.

The operating status is controlled by a magnet that enables complete functionality of the system and the battery charge level can be checked via the LEDs.



### **WARNINGS:**

- The case of the electronic system is sealed by DAirlab during manufacture. Tampering with this seal invalidates the product warranty. Do not tamper with and/or remove the electronic system. Contact the nearest DAirlab Assistance Service in case of need.

### 3.1.2. User interface

The user interface is composed of two LEDs, a vibrating motor and an audio tone emitter (beeper). The purpose of the interface is to communicate the information required to the user. Notes for the correct comprehension and use of the DL012 H R1 T U user interface are provided below.

### 3.1.3. Airbag

The DL012 H R1 T U incorporates two airbags that contain high pressure gas generators for inflation of the airbags.

### 3.1.4. Batteries and battery life of the system

When completely charged, the system remains active for around 30 hours of use.

The battery is not subject to memory effect, and therefore the system can be completely charged at any time.

For more information on battery operation and charging, see paragraph 3.6 “Checking the battery charge status and charging” below.

The time required to charge the System completely is around 2.5 hours. Charging must take place at a temperature of around 20-25°C.

### 3.1.5. USB-C battery charger

A USB-C charger with 5 V 800 mA output can be used to charge the system.

## 3.2. Registering the system after purchase

After purchasing the DL012 H R1 T U system and before initial use, to ensure correct traceability for any updates/notifications/recalls, it is necessary to provide DAirlab with information on the owner of the DL012 H R1 T U through the services provided by the app. Failure to register the device will prevent correct traceability for any updates/notifications/recalls.



### **IMPORTANT:**

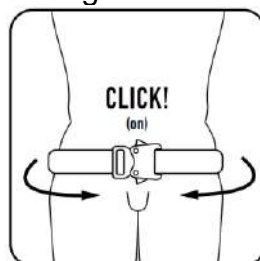
●●● If the user data of the owner of the DL012 H R1 T U system is not registered, operation of the system cannot be unlocked and the system will NOT be protective. This situation is indicated when the device is switched on by a blinking yellow LED, as indicated in paragraph 3.5 “Guide to the LED sequences during use”.

## 3.3. System switch on/switch off procedures

Make sure that the system battery is fully charged, the battery charge has a duration of around 30 hours; charge your DL012 H R1 T U before the battery charge runs down completely and whenever possible.

- After having put on the DL012 H R1 T U (see previous paragraphs), switch it on via the front fastening, as shown in Figure 5 below.

Figure 5



Before use, wait for indication that the system is operating correctly, indicated by a double white blink with vibration and tone as indicated in paragraph 3.5 “Guide to the LED sequences during use”.

The device is deactivated by opening the front fastening of the band; 15 minutes after being opened, the device will be automatically placed in energy saving mode and, after 36 hours, again automatically, it will be switched off completely and can only be reactivated by connecting the device to the charging source with a USB-C cable.



**WARNING:**

●●● After you have finished using the system, deactivate the DL012 H R1 T U immediately by opening the front fastener that acts as on/off button.



**WARNING:**

●●● When the system is not in use, always make sure that it is deactivated/switched off (belt open). If switched on the system could be triggered accidentally during transport.

### 3.3.1. Checking correct functionality of the system

Always check system functionality before use. Using the system when there are signs of anomaly must be considered performed at the user's own risk.

After putting on the system, check that the LEDs switch on with relevant blinking with vibration and tone, until seeing the confirmatory double white blink, again with vibration and tone. For more details, check the blink codes in paragraph 3.5 “Guide to the LED sequences during use”.



**WARNING:**

●●● Before using the DL012 H R1 T U always ensure that the LED interface of the system has no error messages.

### 3.4. Activation of the DL012 H R1 T U

The DL012 H R1 T U is capable of triggering the airbags and/or activating the e-alert procedure. The specific conditions are described below.

#### **Airbag triggering:**

The sensors installed inside the cases of the DL012 H R1 T U constantly monitor its dynamics; information from the sensors is processed by the central unit and, if the values registered exceed the pre-set thresholds, the system inflates the airbag. If the sensors are not able to recognize which side the user is about to fall on, both airbags will be activated.

The conditions in which the DL012 H R1 T U system is triggered with consequent inflation of the airbags are described below:

- Falls from vertical position with the feet on the ground, specifically:
  - Forward falls
  - Backward falls
  - Sideways falls

Inflation time of the DL012 H R1 T U varies according to circumstances and the intensity of the event.

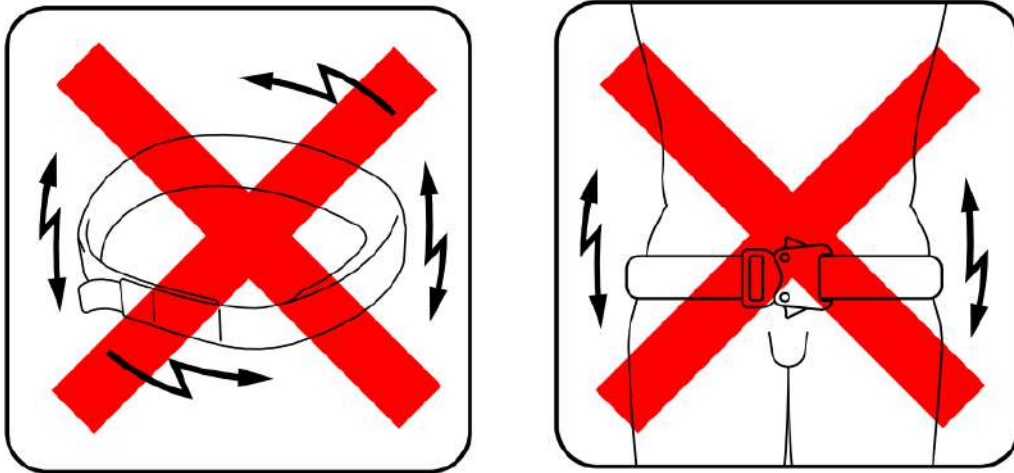




#### **WARNINGS:**

- The events described above are only some examples of triggering conditions. In some cases included in the aforesaid events, the DL012 H R1 T U might NOT be triggered or might be triggered without being fully inflated before the impact against an obstacle or the ground and hence the DL012 H R1 T U might NOT protect, especially in cases in which said events produce a low level of acceleration, that the system is unable to identify as a fall.
- In the case of violent events the DL012 H R1 T U could be triggered with inflation of the airbag.
- **THEREFORE, WHEN THE DL012 H R1 T U IS SWITCHED ON AVOID JOLTS AS SHOWN IN FIGURE 6.**

**Figure 6**



- **AVOID SITTING DOWN BY DROPPING INTO A CHAIR, SOFA, ETC. IF YOU CANNOT SIT DOWN GENTLY, REMOVE THE DEVICE BEFORE SITTING DOWN**
- **AVOID ABRUPT MOVEMENTS OF THE PELVIS SUCH AS WALKING WITH A LIMP OR ANY OTHER ABRUPT MOVEMENT THAT CHANGES THE POSITION OF THE PELVIS**
- **AVOID ADJUSTING THE BELT AROUND THE WAIST WITH ABRUPT MOVEMENTS**

#### **Activation of the emergency procedure with e-alert:**

The sensors installed inside the DL012 H R1 T U constantly monitor its dynamics; information from the sensors is processed by the central unit and, if the values registered exceed pre-set thresholds, the system will activate the emergency procedure, sending geolocation e-alerts to the telephone contacts predefined by the user.

The same function can also be activated voluntarily using the specific function available on the app.

The conditions that activate the emergency procedure are listed below:

- Falls to the ground;
- Voluntarily, using the specific function available on the app.

System activation time can vary according to circumstances and the intensity of the event.



#### **WARNINGS:**

- If there is no network coverage, the geolocation e-alerts to the predefined telephone contacts will NOT be available.
- The conditions described above are only some examples of activation conditions. In some cases falling within the aforesaid conditions the system might NOT be activated.

### 3.4.1. What to do if the DL012 H R1 T U airbags are triggered

In the event of triggering, the system will inflate and then slowly deflate. The airbag is able to manage a maximum of 5 inflations. After each deployment, the DL012 H R1 T U must be reset as describe in Chapter 2.6.



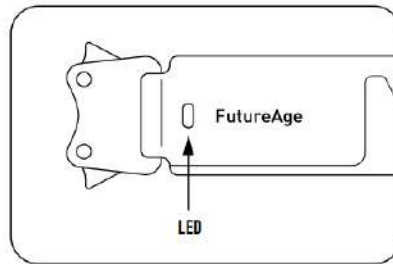
#### **WARNING:**

●●● in the event of a fall during which the system is triggered, do not use it again until it has been reset.

### 3.5. Guide to the LED sequences during use

The LED user interface consists of two multicoloured LEDs integrated in the system as shown in Figure 7 below.

Figure 7



One LED is used to indicate the operating conditions of the system, while the other is used for charging.

#### 3.5.1. Operating mode of the system

The system has the following operating modes:

- “*Init Mode*” – Initialization mode:  
System start mode upon closing the band, airbag protection is not available.
- “*Normal Mode*”:  
typical using mode of the system, airbag protection is available. When the battery level is below 10%, airbag protection is available, the remaining autonomy is less than 1 hour of continuous use. Charge the battery as soon as possible.
- “*Error Mode*” – Warning mode:  
using mode when the diagnostic system detects an error concerning the electronic components integrated in the main board or concerning the status of the gas generators integrated in the airbag. Airbag protection is not available.



#### **WARNING:**

●● In the event of an error, it is advisable to switch the system off, check the status of the connections and then switch it back on. If the error persists contact the DAirlab Assistance Service.

- *Fired Mode*:  
mode activated following triggering of the airbag
- *Charging Mode*:  
mode activated during charging
- *Sleep Mode*:  
mode activated automatically when the device remains with the band open for 15 minutes.
- *Off Mode*:  
mode activated automatically when the device remains in sleep mode at length for 36 hours.



#### **WARNING:**

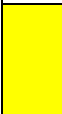
















● To wake up the system from Off Mode connect the USB-C cable to the charging source.






### 3.5.2. Summary of system indications

The system indications are described below.

- During use:

Type	Mode	Description
 Double yellow blink every 10 seconds	<i>"Lock Mode"</i>	System neither registered nor activated
 White blink with vibration and tone	<i>"Sleep Mode"</i>	System has gone into sleep mode
 Double green blink twice with vibration and tone	<i>"Init Mode"</i>	Battery charge level, 50% to 100%
 Double yellow blink twice with vibration and tone	<i>"Init Mode"</i>	Battery charge level, 25% to 50%
 Double red blink twice with vibration and tone	<i>"Init Mode"</i>	Battery charge level, 0% to 25%
 Blue blink with vibration and tone	<i>"Init Mode" or "Normal Mode"</i>	Bluetooth connection with smartphone
 Long blue blink with vibration and tone	<i>"Init Mode" or "Normal Mode"</i>	Bluetooth disconnection
 White blink every 5 seconds	<i>"Init Mode" or "Normal Mode"</i>	diagnostics in progress
 Double white blink con vibrazione e tonowith vibration and tone	<i>"Normal Mode"</i>	System ready
 Double green blink every 30 seconds	<i>"Normal Mode"</i>	Battery charge level between 50% and 100%
 Double yellow blink every 30 seconds	<i>"Normal Mode"</i>	Battery charge level between 25% and 50%
 Double red blink every 30 seconds	<i>"Normal Mode"</i>	Battery charge level between 0% and 25%
 Double red blink repeated every 10 seconds	<i>"Normal Mode"</i>	Battery charge level, 0% to 10%
 Blue blink (after indication of the battery charge level)	<i>"Normal Mode"</i>	Bluetooth Connection present
 Purple/white blink with vibration and tone	<i>"Fired Mode"</i>	Airbag deployed
 Long red blink with vibration and tone every 10 seconds (with band worn)	<i>"Error Mode"</i>	System error
 Long red blink every 10 seconds (with band not worn)	<i>"Error Mode"</i>	System error

- During charging (charging LED):

Type	Mode	Description
 Steady light	<i>"Charging Mode"</i>	Charging complete at 100%
 Steady light	<i>"Charging Mode"</i>	Charging in progress
 Green/white blink	<i>"Charging Mode"</i>	Charging error

- During charging (warning LED):

	Double green blink every 10s	<i>“Charging Mode”</i>	Battery charge level between 75% and 100%
	Double yellow blink every 10s	<i>“Charging Mode”</i>	Battery charge level between 40% and 75%
	Double red blink every 10s	<i>“Charging Mode”</i>	Battery charge level between 0% and 40%

### 3.5.3. Possible malfunctions of the system

Table 4 below describes possible malfunctions of the DL012 H R1 T U.

TABLE 4




Problem	Possible cause	Possible Solution
The system does not switch on	Battery flat	Charge the battery.
When switched on the system automatically goes into <i>“Error Mode”</i>	One or more airbag cables disconnected	Check whether the airbag cables are connected to the printed circuit board with the band open, if disconnected reconnect the cable, switch the system on again by closing the band.
	Internal system error	Restart the system by opening and closing the band. If the error persists contact the DAirlab Assistance Service.
When switched on the system automatically goes into <i>“Fired Mode”</i>	Airbag previously deployed	Reactivate the deployed airbag with the band open and switch the system on again by closing the band. If the error persists contact the DAirlab Assistance Service.
When switched on the system automatically goes into <i>“Lock Mode”</i>	Product not registered	Register the product via the app.
The system no longer responds to opening and closing	System down	Restart the system by pressing the OFF button on the app and then switch it back on again and charge. Leave it to charge completely as indicated in paragraph 3.6
Charging error	Charger not suitable or temperature out of range	Stop charging, wait 10 minutes and try again. If necessary, replace the charger. If the error persists contact the DAirlab Assistance Service.

### 3.6. Checking the battery charge level and charging

Before use, you can always check the battery charge level: the battery charge level is indicated when the system is switched on and during use (see paragraph 3.3).

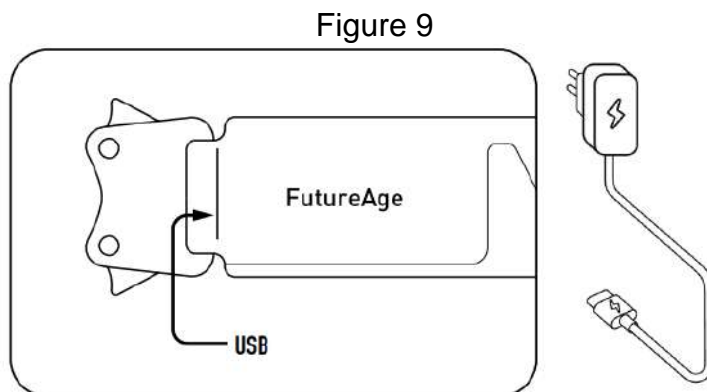
The battery charge level will be displayed through the LED with the colour corresponding to the charge level.

The LED colours indicating the charge level of the battery are described below:

	Green, from 100% to 5%
	Yellow, from 50% to 25%
	Red, from 25% to 0%

When the battery has not been charged for a long period of time, indication of the charge level might be somewhat imprecise. Charge completely to restore the correct indication.

If the charge level is low, connect the USB-C cable to the charging source as shown in Figure 9.



When the battery charge level reaches 0, the system switches off automatically to preserve the battery. To switch it on again, it must be left to charge until fully charged.

When the battery is about to run out of charge and this is indicated by a double red blink repeated every 10 seconds, vibration and tone are disabled.

If the system is to remain unused for a lengthy period of time, it must be charged completely before being stored to avoid deterioration of battery performance and difficulty in switching the system back on.

The charging action can be monitored with the LEDs (steady green = fully charged) or at the dedicated “Battery” heading accessible from the home page of the app.



#### **WARNINGS:**

- **Never charge the system while wearing it. Always remove the DL012 H R1 T U before charging the system. Any voltage overload that occurs might jeopardize the wearer's safety.**
- **Never charge the system while wearing it; the system is disabled during charging.**
- Never leave the system charging close to flammable surfaces or objects. If it were to overheat during charging, this could start a fire.
- Comply with the following general precautions for the use of rechargeable lithium-ion batteries.
  - Always check the level of charge of the system prior to use and charge if necessary.
  - Charge the system at least once every 2 months even when it has not been used in order to prevent deterioration of battery performance.
  - Always supervise battery charging and never leave the system unsupervised while charging is in process.
  - Do not disassemble the battery
  - Do not short circuit the battery
  - Do not replace the battery

- The ideal storage temperature to maintain the battery charged should be between 15°C and 35°C
- Do not store the battery at temperatures exceeding 50°C
- Do not dip the battery in fresh or salt water; do not wet it in general
- Do not charge the battery at environmental temperatures exceeding 35°C
- Do not use chargers with different characteristics to those indicated in this manual.
- Do not modify the charging process or the charging hardware
- Do not expose the battery to naked flames
- Do not use the battery for uses other than that for which it was designed
- Never touch a leaking battery directly, should leakage occur contact a dealer or the DAirlab Assistance Service immediately.
- Do not allow children near the battery
- Do not charge the battery for more than the established time
- Do not place the battery in a microwave oven or in a pressurized container
- Stop charging the battery if any anomalies are noted
- Do not continue to use the battery if any anomalies are noted
- Do not expose the battery to abnormal electrostatic charges



#### **IMPORTANT:**

●●● If the recommendations above are violated the battery could generate smoke, rupture or explode with potential high risk for people's safety and the risk of causing damage to property.

In the event of problems related to the battery, contact the DAirlab Assistance Service immediately.

### **3.7. Guide to using the app**

This section contains information regarding installation, setting and use of the D-Alert app. To unlock the full functionalities of the system, correct configuration of the app is fundamental.

#### **3.7.1. Download and installation**

Select the D-Alert app from App Store® for iOS devices and from Google Play for Android devices and follow the normal installation procedure.

#### **3.7.2. User registration**

Unless already registered, the first time the app is launched the user must register by creating a new account.

Follow the wizard to register the product and configure the device.

If you have already registered an account, after being launched the app will automatically take you to the home page.

If you have re-installed the app and already registered an account, all you need to do is log in after launching to return to the home page.

#### **3.7.3. Departments**

To learn the functions of the D-Alert app refer to the dedicated manual available in the app previously downloaded.

## 4. MAINTENANCE OF THE DL012 H R1 T U SYSTEM


### 4.1. Overview

The DL012 H R1 T U system has been designed and produced according to high quality standards to ensure correct operation over time. However, it is advisable to carry out periodic maintenance on the System, consisting of a few simple operations.

### 4.2. Cleaning the DL012 H R1 T U

For cleaning operations refer to the instructions and international care symbols on the label affixed to the device, listed in the Table 5 below.

Table 5

				
1.	THIS GARMENT CANNOT BE WASHED IN WATER			
2.	THIS GARMENT CANNOT BE TREATED WITH CHLORINE			
3.	THIS GARMENT CANNOT BE TUMBLE DRIED			
4.	THIS GARMENT CANNOT BE IRONED			
5.	THIS GARMENT CANNOT BE DRY CLEANED			

The DL012 H R1 T U must be cleaned using only a soft, damp cloth with water or with water and a softener-free neutral soapy solution.

Remove the soapy solution using a soft cloth dampened with fresh cold water only.

Do not rub with abrasive materials and do not leave the device to soak.

Leave the device to dry hanging, away from direct sources of light and heat.



#### WARNINGS:

- Do not immerse the DL012 H R1 T U in water or other liquids. Immersing the DL012 H R1 T U in water or other liquids could cause irreparable damage to the electronic components of the system.
- Do not wash under running water.
- Do not use solvents or other chemical substances to clean the protector.
- Do not wring
- Do not iron the DL012 H R1 T U
- Do not paint the protective device, or use dyes of any kind on it.
- Avoid or limit exposure to UV rays, moisture and ice.
- Never tamper with any part of the device.
- Do not bend or twist the device as these actions constitute improper use for which the item has not been designed; in fact, this could cause loss of its protective properties or breakage. Therefore, DAirlab will not accept claims or requests for replacement of devices that it finds have been used improperly.
- When not in use, the device must be stored in a dry and well-ventilated place where it is not subjected to impact or pressure.
- Avoid storing the device with its weight concentrated in only a few points.
- After use, if necessary leave the device to dry in a ventilated place at room temperature; do not use hair dryers or other heating devices.
- Store your garment, clean and perfectly dry, in places that are not damp in order to prevent mildew from occurring.

### **4.3. Transporting the device**

Store and transport the device using the bag provided at the time of purchase.



#### **WARNINGS:**

- Always make sure that the system is placed in “Lock Mode” to prevent the system from being switched on accidentally during transportation.
- Always make sure that the protective system has been switched off.
- Due to the presence of gas generators and related triggering system, air transport might be prohibited or subject to special transport procedures. Before shipping your DL012 H R1 T U by air, check with the airport authorities and with the airline to find out the correct procedure to follow.

#### **4.3.1. How to manage “Lock Mode”**

If you intend to place the system in “Lock Mode” or reactivate it from “Lock Mode”, use the app previously downloaded.



#### **WARNING:**

- With the system in Lock Mode it is not possible to switch on the system by closing the band.

### **4.4. Change of ownership**

If you intend to sell your DL012 H R1 T U to a third party, you must place the system in “Lock Mode” using the app previously downloaded, so that the new owner can register it as described in Chapter 3.2 Registering the system after purchase.



#### **WARNING:**

- To ensure correct traceability for updates/notifications/recalls the system must be placed in “Lock Mode” so that the new owner registers it correctly.

## **5. ROUTINE MAINTENANCE**

### **5.1. Routine maintenance of the system**

Contact the DAirlab Assistance Service once every 5 years to request a maintenance check or servicing (for a charge) of any components subject to wear.

### **5.2. Updating the electronic system of the DL012 H R1 T U**

As described above, the DL012 H R1 T U comes with built-in electronic unit that triggers the airbag in the required circumstances and activates the emergency procedure with geolocation e-alert. The firmware of the electronic system may be updated from time to time to improve its performance or to offer the user new features. New features may regard an expansion of the fall recognition functions, or also the addition of new functions.

The firmware can be updated by the registered final user via the app, or during operations by DAirlab at the headquarters in Via dell'Economia 64 /c 36100 Vicenza (VI), Italy.

In the future there may be other ways of updating the firmware, in this case consult the DAirlab website.

## 6. ERROR CODES OF THE DEVICE

For information regarding the main error codes of the system, consult Chapter 3.5.3 "Possible malfunctions of the system" of this Informative Note.

## 7. CERTIFICATIONS

### **DL012 H R1 T U**

The Notified Body that certified your DL012 H R1 T U in accordance with Regulation (EU) 2016/425 and that issued the relevant certificate is EU NOTIFIED BODY No. 0498  
RICOTEST, Via Tione, 9, 37010 Pastrengo, Verona (IT).

### **028\_SJ**

**UE:**

This electronic device complies with Directive 2014/53/EU.

**USA:**

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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device 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.

Warning declaration on RF:

this device complies with the radio frequency exposure requirements. Therefore, it can be used without restrictions.

**Contains FCC ID: XPYBMD360**

**CA:**

This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

**Contains IC ID: 8595A-BMD360**



## 8. F.A.Q. (FREQUENTLY ASKED QUESTIONS)

Q: Is the DL012 H R1 T U device absolutely safe?

A: No. No protective system can protect the wearer from every possible risk or under every possible condition of use. All protective equipment has its limits and injury and even death can occur even while wearing the DL012 H R1 T U.

Q: Has the system been certified by an authorized certification agency?

A: Yes. The EU Notified Body No. 0498 RICOTEST, Via Tione, 9, 37010 Pastrengo, Verona (IT) performed the "EU type examination" as per Regulation (EU) 2016/425 and issued the corresponding Certification.

Q: Can the system be updated?

A: Yes, the device has updatable firmware, updates can be performed autonomously by the registered final user via the app, or during operations by DAirlab at the headquarters in Via dell'Economia 64 /c 36100 Vicenza (VI), Italy .

In the future there may be other ways of updating the firmware, in this case consult the DAirlab website.

## 9. ASSISTANCE SERVICE

D-Air Lab S.r.l.

Via dell'Economia 64 c

36100 Vicenza VI Italia

Tel: 0444 1429920

Fax: 0444 1429929

mail: support@dairlab.com

## 10. DECLARATION OF CONFORMITY

To view the Declaration of conformity established by REGULATION (EU) 2016/425 consult the following link: <https://dairlab.com/conformity>; entering the "Protector identification code" indicated on the marking on the label stitched to the protector or stamped on the protector. The declarations of conformity concerning the 028\_SJ electronic platform are available at the same link.

## APPENDIX A: DISPOSING OF THE PRODUCT



### WARNING:

The DL012 H R1 T U contains electronic components and a pressurized gas generator that cannot be disposed of as conventional waste.



In order to dispose of the product correctly at the end of its working life, contact the DAirlab.

DAirlab will take care of disposal, arranging for collection and correct disposal of the product. Important: incorrect disposal of the product can create dangerous situations or cause environmental pollution.