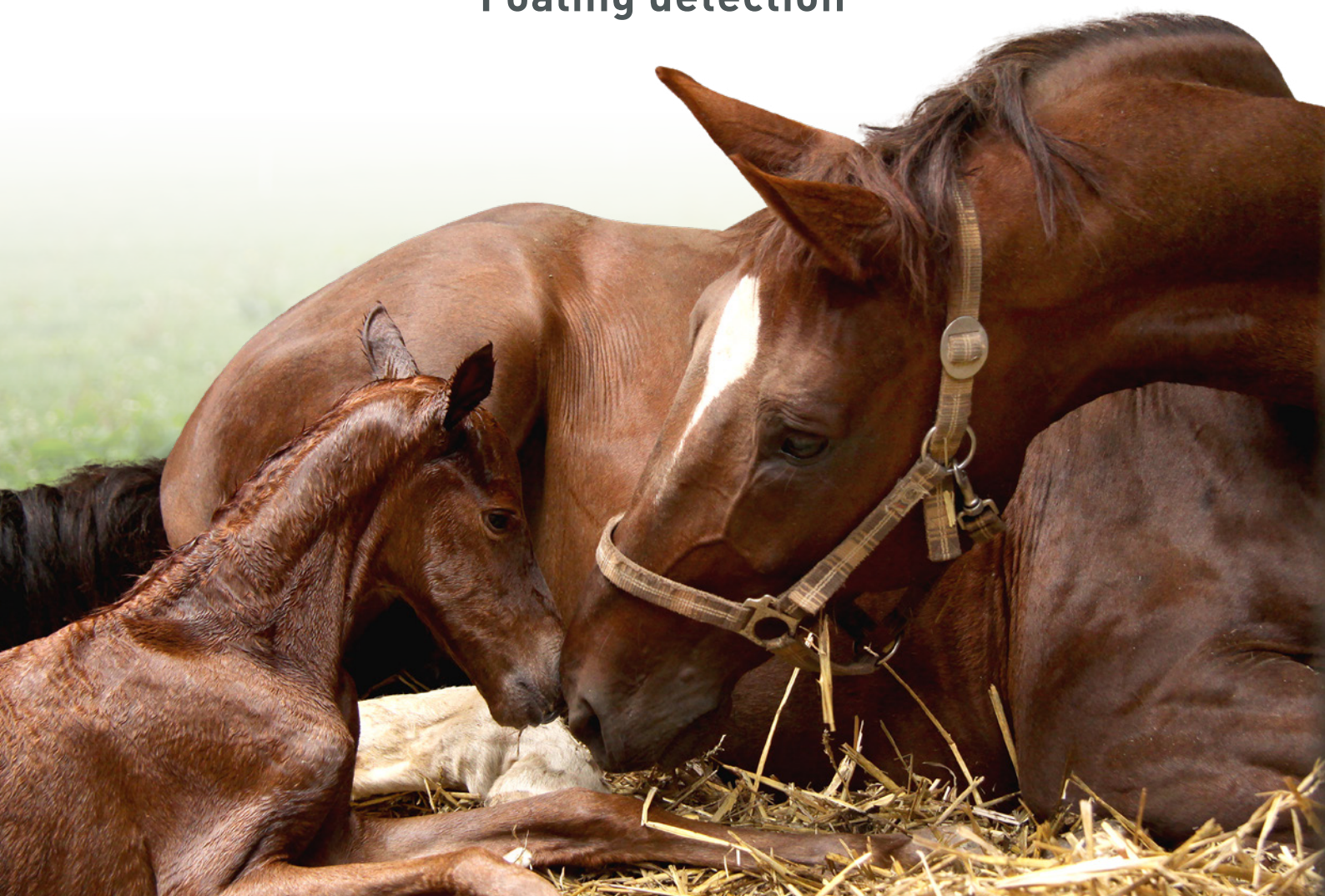




USER GUIDE

Easy Foal

Foaling detection





Easy Foal

Congratulations, you have just purchased EasyFoal, the non-invasive and easy to use foaling detection system.

Due to its sensor positioned on the tail, EasyFoal measures the mare's characteristic behavioural sequences just before foaling. EasyFoal alerts you by SMS and voice call when the first signs of foaling appear.

The steps described in this guide will allow you to install your EasyFoal system independently. If necessary, you can contact your supplier's customer service department at any time.

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Preamble

This user manual covers the radio base station and monitoring tools manufactured by INNOVAL.
Please read this manual carefully before using the equipment for the first time.

- The user guide (document provided with your monitoring equipment) provides a concise reminder of best practices and key points to bear in mind on a daily basis.
- Keep the user manual and all other guidelines provided with your monitoring tool so that you can refer to them if necessary.
- Observe and follow all instructions described in this manual or affixed to the equipment, and in particular the following precautions.
- In order to continuously improve our products, we reserve the right to modify their characteristics for reasons of technical advancement.
- The equipment described in this manual is intended for professional use only.



SENSORS

- Never expose the sensors to temperatures above 140°F.
- Only use accessories specifically recommended by INNOVAL with EasyFoil kits.
- For any technical questions, please contact your EasyFoil provider.



TROUBLESHOOTING

- For any troubleshooting, contact your dealer, providing the reference and serial number found on the components of your kit.
- Any repairs to the components of the kit must be carried out by an INNOVAL-approved service center, otherwise the warranty will be void.



SAFETY AND LIABILITY

- The equipment must be installed by a professional.
- INNOVAL shall in no event be liable to the customer, its employees, successors, or assigns for any special, consequential, or financial loss of any kind, including, but not limited to, losses, costs, revenues, or interest incurred by the customer or any third party due to a defect or loss of use of all or part of the kit.
- It is expressly stated that INNOVAL cannot be held liable for the non-receipt of a text message sent by the radio base to a landline or mobile phone.
- The total and cumulative responsibility of INNOVAL as part of or in connection with the use of the current Radio Base and the sensors for any purpose whatsoever will on no account exceed one hundred percent (100%) of the amount paid by the customer for the purchase of his monitoring tool.
- Any changes or modifications not expressly approved by INNOVAL could void the user's authority to operate the equipment.



DISPOSAL

- During disposal of the equipment, its owner will have to ensure that the different components are discarded in accordance with the current legislation in the country where the equipment is destroyed.
- These recommendations must be taken into account particularly for the following components:
 - The Radio Base battery
 - Metal components (welded or otherwise, untreated or painted, etc.)
 - Plastic components (applicator, appendages, etc.)
 - Electronic components (boards, display, antennae, etc.)
 - Electrical components (charger, etc.)

Presentation of the equipment

Your EasyFoil kit includes the following items

THE COLLECTOR

The collector is the element that relays the information from the sensor to the breeder's phone. It communicates with the sensors by LoRa radio wave. The range of the radio antenna is about 1000m around the collector. This area can be reduced if there are major obstacles (storage building, metal cladding, wood...). The collector can communicate with an unlimited number of sensors. Its parameter setting is done using SMS commands which are detailed in this guide.

Your collector requires a SIM card to operate. Please refer to page 7 of this guide for further details.

There are two versions of the collector.



INDOOR
non-waterproof and
mains powered.



OUTDOOR
waterproof case
and powered by
rechargeable battery.



THE SENSOR

The sensor uses an accelerometer to accurately measure the mare's movements. It has a direction of use indicated by an arrow. The electronic board is embedded in a special resin which protects it from oxidation and damage. The sensor requires no maintenance. It is waterproof (IP 65), but we recommend not immersing it in water. The sensor is powered by a non-rechargeable lithium battery. At the end of its life, it will send you a low battery warning. It is therefore recommended that you contact your supplier.

The sensor can be identified by a serial number that you will use to set up the system.

POWER CORD

The power cord allows you to power or recharge your EasyFoil collector. It must be used in a dry place. It is specially designed to reduce the impact of power surges on the collector. It has an extension cord for easy installation. It must be plugged directly into an electrical outlet and not into a multi-socket outlet.



ADHESIVE TAPE

Each sensor is delivered with two rolls of adhesive tape. This adhesive tape was carefully selected to keep the sensor in the right position for several days, while preserving the mare's well-being. We recommend using only the adhesive tape supplied with the sensor.



This tape is also available from your supplier.

Getting to grips with the EasyFoal Search Tool

This tool is required if a sensor is lost.

1 – On/Off Button

2 – **Screen** : Displays search tool status information.

3 – **Search / Cancel Button** : This button is used to launch the search for 1 min. You can cancel the search with a long press.

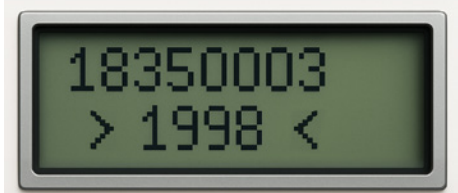
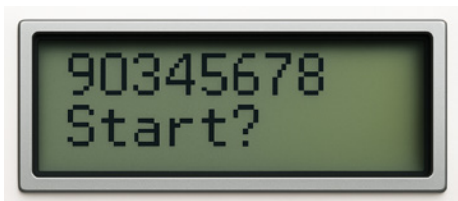
4 – **Clear / Cancel Button** : This button is used to clear the serial number of the sensor. You can also cancel the search with a long press.

5 – **Numeric keypad** : Used to enter the identifier of the sensor.

6 – **LED** : It will flash for the entire duration of the search for the sensor.



SEARCH FOR A SENSOR :



1 - Enter the sensor number :

Upon initial start-up of the search tool, the screen indicates:

Press # then enter the number of the sensor to search for. When 8 digits have been entered, press the search button to launch the search. The screen displays "Connecting" when the tool is connecting to the sensor.

Once the connection has been established, the screen displays a number from 0 to 2040 representing the quality of the signal received from the sensor:

The higher the number displayed, the closer the EasyFoal sensor is. The search tool is directional, which is why it must be kept in the same position and at the same height above ground during the entire search. At 2040, the sensor is right beside the search unit.

After 1 minute, the search stops and the search tool suggests restarting the search by displaying "Restart?". To restart the search, press the search button.

2 - Search for direction :

The first step is carried out standing still. When the search tool is connected to the sensor to search for and displays the values, measure the signal in front of you, then to your left, then behind you and to your right, pausing each time. Move towards the area between the two highest values that you found. Repeat the operation to narrow the search area.

3 - Search in motion :

Once the travelling direction has been identified, move while scanning the previously identified area; the values displayed must increase overall. While you are moving, you must adjust the travelling direction to get closer to the maximum values. If the values decrease, you are not in the right direction.

4 - Proximity search :

When the values displayed exceed 2000, point the search tool further towards the ground to optimise the search direction.

As an indicator, in an open field, when the value displayed reaches 1900, the sensor is located within a radius of approximately 30 m. This value varies depending on the environment (buildings, hedges, etc.)

The next time the search tool is used, it displays the number of the last sensor search.

Supply and insert a SIM card

Procedure

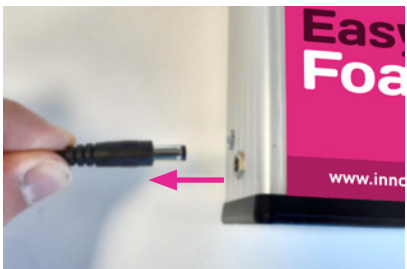
In order to send alerts, the EasyFoal collector must be equipped with a SIM card activated on the networks of the place where the device will be installed.

SIZE	PROVIDER	COVERAGE	TECHNOLOGY	MOBILE PLAN	PIN CODE
Standard (neither micro, nor) nano 1	Choose an operator present in the country . If necessary, the IMEI number is available on the back of the collector.	Ensure that the chosen operator's network provides sufficient and continuous coverage of the area where the device will be located.	4G operation.	At least call and SMS (avoid prepaid cards, an exhausted package would not allow the transmission of alerts)	The card must not have a PIN code , or it must be deactivated before being inserted into the collector (by inserting it into a mobile phone and changing the settings)

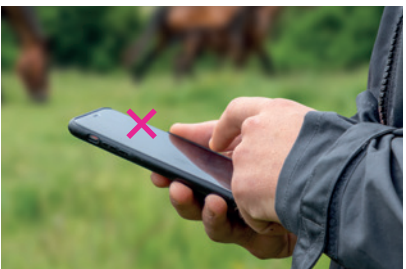
1 Get a standard size SIM card.



2 Switch off the collector.



3 Deactivate the PIN code of the SIM card to be inserted.



4 Open the collector by unscrewing the 4 screws on the cover using the screwdriver provided in the kit.



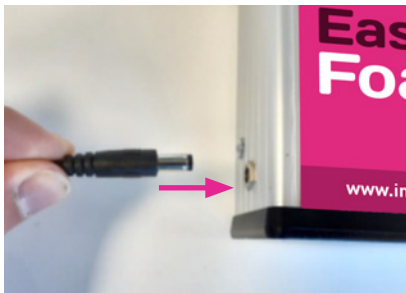
5 Insert the SIM card into the slot until it stops. Make sure that you insert the card in the correct direction.



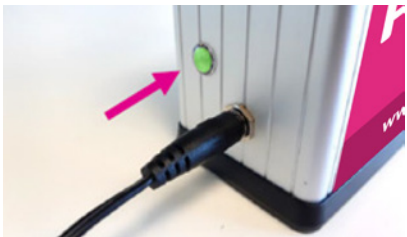
6 Close the cover. Be careful not to screw it on too tightly.



7 Switch on the collector.



8 Wait a few minutes until the LED flashes green every 3 seconds.



9 Continue installing the Easyfoal kit by following the instructions on the following pages.



First installation guide

The EasyFoil system is simple to set up and will only take a few minutes.

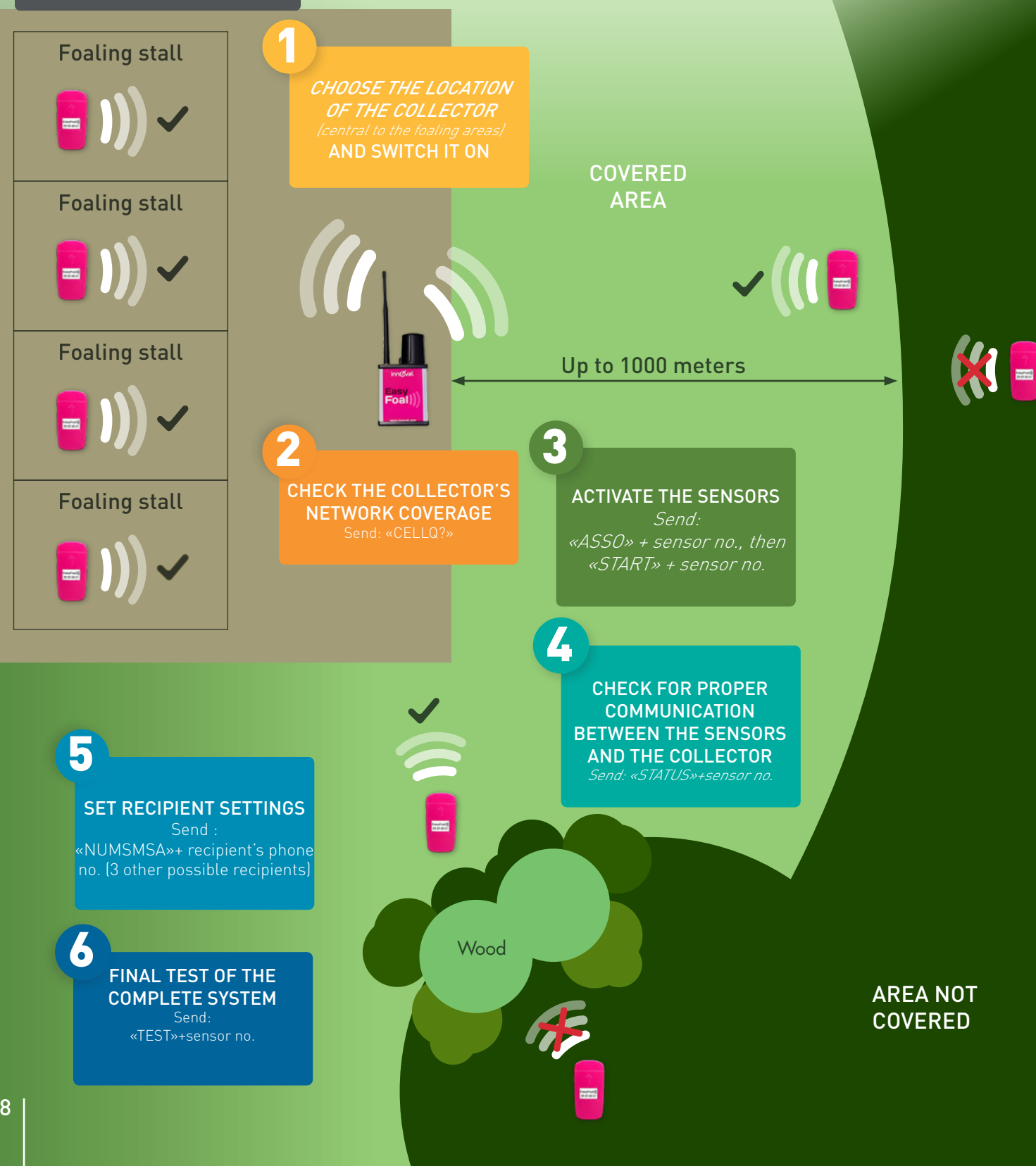
All tests and checks are carried out by sending an SMS from your mobile phone to the EasyFoil collector.

« Phone number of the SIM card previously inserted in the EasyFoil kit. »

- ✓ Send an SMS with a direct command to your COLLECTOR to control it.
- ✓ Send an SMS with a command + number of one of your SENSORS to control the sensor.

TO CHANGE THE LANGUAGE :

- in English : send Langen
- in German : send Langde
- in Spanish : send Langes



To get started, follow the instructions below step by step

- 1 CHOOSE THE LOCATION OF THE COLLECTOR**
(central to the foaling areas)
AND SWITCH IT ON
- 2 CHECK THE NETWORK COVERAGE OF THE COLLECTOR**
Send : «CELLQ?»
- 3 ACTIVATE THE SENSORS**
Send : «ASSO» + sensor no., then «START» + sensor no.
- 4 CHECK FOR PROPER COMMUNICATION BETWEEN THE SENSORS AND THE COLLECTOR**
Send : «STATUS» + sensor no.
- 5 SET RECIPIENT SETTINGS**
Send : «NUMSMSA» + recipient's phone no. [3 other possible recipients]
- 6 FINAL TEST OF THE COMPLETE SYSTEM**
Send : «TEST» + sensor no.

1 CHOOSE THE LOCATION OF THE COLLECTOR AND SWITCH IT ON POSITIONING THE COLLECTOR

Identify the most appropriate location to meet the following conditions:

- ✓ At a height above 2m,
- ✓ In an open environment to facilitate communication with the sensors,
- ✓ Do not place it against a metal wall or near a transformer or inverter.

For the indoor version :

- ✓ Near an electrical outlet,
- ✓ Protected from the rain.

Generally, the collector is positioned in livestock buildings or stalls, close to an opening. It can also be positioned in a stone building. However, this will reduce the outdoor range.

SWITCHING ON THE COLLECTOR

Indoor version :

Connect the collector to the power cord. When switching on, the LED lights up after a few seconds. It is strongly recommended not to connect the power cord to a multi-socket outlet to avoid any disturbance.

Outdoor version :

Unscrew the lid that is under the collector and slide the switch to the «ON» position. The LED next to the lid should light up after a few seconds.

When the collector is switched on, the LED starts flashing once per second. This means that the collector is searching for the GSM network. When the LED starts flashing once every 3 seconds, it means that the collector has found a GSM signal.

2 CHECK THE NETWORK COVERAGE OF THE COLLECTOR NETWORK COVERAGE

Alerts are sent to your phone depending on the collector's network coverage.

To test the reception level of the GSM, signal, send the command « CELLQ? » by SMS to the collector's telephone number.

Your collector will give you a value that will allow you to check the quality of the GSM signal:

<6
Reception level
very insufficient

6 to 11
Reception level
weak

>11
Reception level
correct

If the reception level is insufficient, move your collector to test the signal reception at another location. Should you face difficulties, please contact your supplier's customer service.

3 ACTIVATING THE SENSORS

CONNECTING ADDITIONAL SENSORS

When you receive an additional EasyFoal collector, it is not connected to your collector, so it cannot communicate.

To connect your new sensor to the collector, place the sensor a few meters away from the collector and send the ASSO order followed by the serial number of your sensor (e.g.: ASSO20040135) to the phone number of your collector.

The collector will confirm the connection by responding "command processed".



STARTING THE SENSORS

1

Once your sensor is connected to your collector, you must start it. This activation is only necessary the first time you use your sensor.

2

To activate your sensor, send the command **START** followed by the serial number of your sensor (e.g.: START20040135) to the phone number of your collector.

3

The collector will answer: "sensor 20040135 started".

Repeat the same operation with each of your EasyFoal sensors.

4 CHECK FOR PROPER COMMUNICATION BETWEEN THE SENSORS AND THE COLLECTOR

VERIFICATION OF THE COVERAGE AREA

In order to ensure that the system is working properly in your farm, you should check that the different areas where your mares are likely to foal are covered by the system.

Take a sensor and position yourself in the different foaling areas (boxes, paddocks, meadows...). In each of these places, send the command "STATUS" followed by the serial number of your sensor (ex: STATUS20040135) to the phone number of your collector.

Wait for the response from your collector before changing location.



If the collector answers "sensor started" or "sensor in standby",

this means that your location is captured by the collector.

If the collector answers "collector stopped",

this means that your location is being picked up by the collector but the sensor activation did not work. Therefore, send the command "START" again.

If the collector answers "sensor unreachable",

this means that your location is not captured by the collector. If this area is a mandatory monitoring zone, move your collector (check the GSM signal quality again using the «CELLQ?» command). If it is not mandatory, then do not put your mares equipped with a collector in this zone.

Repeat the operation for all areas where your mares are likely to foal to ensure that the sensors are communicating with the collector. In each zone, position yourself at the furthest point from the collector.

5 SET RECIPIENT SETTINGS



RECIPIENT SETTINGS

The collector can register 2 recipients to send SMS messages and 2 recipients to make calls. To configure the recipients, send the following commands by replacing X with the phone numbers of the desired recipients:

SMS :

NUMSMSAxxxxxxxxxx
Recipient n° 1

NUMMSBxxxxxxxxxx
Recipient n° 2

CALLS :

NUMTELAxxxxxxxxxx
Recipient n° 1

NUMTELBxxxxxxxxxx
Recipient n° 2

Add your country code in front of the phone numbers (e.g.: NUMSMSA00353xxxxx or NUMTELB0032xxxxx)

If you want to be called back in case of a missed call, send :

Nbreccall:1 (for 1 callback)

Nbreccall:2 (for 2 callbacks)

If you answer the first call, you will not be called back.

Note that **Nbreccall:0** is the original setting (no reminders set).

6 FINAL TEST OF THE COMPLET SYSTEM

SYSTEM COMMUNICATION TEST

To check all the settings you have just performed, send the "TEST" command followed by the serial number of your sensor (e.g.: TEST20040135) to the phone number of your collector.

You will receive a command confirmation message "Command processed, please wait the alarm".



After a few minutes, the recipients of the alerts will receive SMS and call alerts based on the previously defined settings to simulate a foaling and to check the operation of the system as a whole.

If, after 10 minutes of waiting, the recipients of the alerts have not received any SMS messages and calls, please check the level of reception of the GSM signal using the "CELLQ?" command, then check the recipients' phone numbers before restarting the test.

Once the alerts have been received by the recipients, carry out the test for all your sensors.

YOUR EASYFOAL SYSTEM IS OPERATIONAL!



Fixing the sensor

1

Clean the mare's tail with absorbent paper so that it is clean and dry.



2

Unroll a first layer of adhesive tape around the tail and at the level of the anus and vulva (2 to 3 turns are enough). Be careful not to tighten it to avoid a tourniquet.



3

Position the sensor on the adhesive, 10 cm from the base of the tail. The arrow must be visible and pointing upwards, in line with the tail.



4

Attach the sensor with a second layer of adhesive tape loosely.



5

Tear the tape with your hand so that the tip is positioned under the tail or on the sides.



6

Apply the adhesive tape with your hand.



MONITORING

The fixing system allows the sensor to remain in place for up to 15 days on average. However, the position of the sensor and the state of the tape must be checked regularly.

This is because some mares may scratch themselves.

If the sensor has gone down or sideways, it is recommended to reposition the sensor using a new bandage.

RECEIVING ALERTS

On average, EasyFoal warns 10 to 20 minutes before foaling, so it is advisable to quickly go to the premises to check that the foaling is going well.

The sensor can be placed immediately on another mare after foaling.

CAUTION :

- Do not tie the band around the tail too tightly, as this may cause a tourniquet.
- Check within 24 hours that the mare is not allergic to the band (e.g. itching).
- Do not leave unattended for more than 15 consecutive days.



Storing and testing the sensors

STORING THE SENSORS

When your sensor is not in use, it is advisable to store it upright and stationary in the dedicated foam storage holder. The sensor will go into standby mode to save battery power. It is important to install the storage media flat and protected from movement.

The next time the sensor is used, it will automatically switch out of sleep mode when it is in motion.



REUSING A SENSOR

When a sensor is used again the next day, it automatically restarts as soon as the mare starts to move. The use of a sensor does not require any manipulation. It can therefore be removed and re-placed immediately after foaling on another mare. The use of a sensor does not require any initialisation time. It is therefore able to detect a foaling within minutes of installation.

Be careful, if you move around with the sensor in your pocket, it is possible that it will generate a false alarm.

CHANGE OF RECIPIENTS

If you wish to change the phone numbers of the alert recipients, simply resend the following commands with the phone numbers of the new recipients instead of the x:

SMS :

NUMSMSAxxxxxxxxxx

Recipient n° 1

NUMSMSBxxxxxxxxxx

Recipient n° 2

CALLS :

NUMTELAxxxxxxxxxx

Recipient n° 1

NUMTELBxxxxxxxxxx

Recipient n° 2

To delete a phone number, replace the phone number with 0000000000 (e.g.: NUMSMSA0000000000)

To know which phone number is saved in the collector, send the command:

NUMSMSA?

ou NUMSMSB?

ou NUMTELA?

ou NUMTELB?

The collector will send you the corresponding saved telephone number.

ADDING A NEW SENSOR

See page 10 "Connection of additional sensors" and "Starting the sensors"

SENSOR TEST

To check that a sensor is functioning, you need to:

1 Send the command "ASSO" followed by the serial number of the sensor and a question mark (e.g.: ASSO20040135?). The answer is the serial number of your collector (shown on the collector).

2 Send the command "STATUS" followed by the sensor's serial number (e.g.: STATUS20040135). The response must be "sensor started" or "sensor in standby".

If the response is "Sensor unreachable", move closer to the collector and send the command STATUS again. If the sensor is again unreachable, contact your supplier's customer service.

If the response is "Sensor stopped", Send the command "START" followed by the sensor's serial number. The response to this command must be "command performed".

3 Send the command "TEST" followed by the sensor's serial number (e.g.: TEST20040135). If the sensor is working, recipients must receive a test alert within 10 minutes of the command being sent.

IF THE RECIPIENTS DO NOT RECEIVE ALERTS: please check the quality of reception of the GSM signal using the "CELLQ?" then repeat the TEST command. Should you face difficulties, please contact your supplier's customer service.

Uninstalling and reinstalling the collector between foaling seasons

SHUTTING DOWN THE SYSTEM AT THE END OF THE SEASON

When your foaling season is over, it is advisable to unplug your collector and store it in a dry and clean place. It is also advisable to store your collectors in the dedicated foam holder in an upright and stationary position. For Outdoor collectors, please switch off the collector as follows:



- 1
- Unscrew the lid of the collector

2

Turn off using the power button

3

Close the lid, ensuring that there is a seal for a perfectly air-tight closure.

REINSTALLING THE SYSTEM AT THE START OF THE SEASON

When reinstalling the EasyFoal system for a new foaling season, position your collector at the same spot it was during the previous season.

Once the equipment is switched on, check the following settings:

- ✓ **THE QUALITY OF THE SIGNAL** using the command "CELLQ?"
- ✓ **SAVED PHONE NUMBERS** using the command: NUMMSA? ; NUMMSB? ; NUMTELA? ; NUMTELB?
- ✓ **THE STATUS OF YOUR SENSORS** using the command "STATUS", followed by the sensor's serial number (e.g.: STATUS20040135). Your sensor must be started or in standby mode.
- ✓ **CARRY OUT A TEST** using the command "TEST" followed by the sensor's serial number (e.g.: TEST20040135) to check the overall functioning of the system.
- ✓ **TEST ALL YOUR SENSORS** (see previous page "Sensor test")

RECHARGING THE OUTDOOR COLLECTOR



When the battery reaches an insufficient charging level, the collector sends you a "low battery" alert by SMS, in which case it must be recharged. If you would like to know the battery charge level of the Outdoor collector, send the command «Vbat? ". The collector will give you a value between 0 and 10

- BETWEEN 9 AND 10
Battery full
- BETWEEN 3 AND 8
Low battery level
- BETWEEN 0 AND 3
Battery to be recharged urgently

To recharge your collector, here are the steps to follow
(Please note that the collector remains functional while charging.) :

- 1
- Unscrew the lid of the collector

2

Plug in the power chord.
The internal red LED lights up when charging. It goes off when the battery is charged.

3

The full charging time is about 8 hours.

4

Unplug the cord and close the lid while ensuring that there is a seal for a perfectly air-tight closure.

Restarting your system after a down period

- 1
- PLACE THE COLLECTOR IN THE SAME SPOT AS IT WAS BEFORE

2

CHECK THE NETWORK COVERAGE OF THE COLLECTOR
"CELLQ?"
Expected response:
A higher number than 11 for a better signal quality.

3

CHECK THE NUMBERS OF THE RECIPIENTS SAVED
NUMMSA?
NUMMSB?
NUMTELA?
NUMTELB?
Expected response:
Phone numbers of the respective recipients

4

COMPLETE SYSTEM : TEST
«TEST» + SENSOR N°
Expected response:
«Command processed, please wait the alarm» + alarm within a few minutes at the different phone numbers of the recipients.

Please note

REMINDER OF THE USE OF ADHESIVE TAPE

- Do not wrap too tightly around the mare's tail
- Do not leave on for more than 15 consecutive days
- The adhesive tape supplied by EasyFoil is made of natural latex, a substance that can trigger an allergic reaction in some mares. Check within 24 hours of applying the tape for any signs of reaction (e.g. itching). Remove if necessary.

EasyFoil cannot be held responsible for any damage suffered by the user in the event of non-compliance with the recommendations for applying the adhesive tape, including the use of an adhesive tape other than that supplied and recommended by EasyFoil.

REMINDER OF PERFORMANCES

EasyFoil measures and analyses the mare's behavioural sequences in the minutes prior to foaling.

The sensor is equipped with a 3D accelerometer capable of detecting several characteristic behaviours such as contractions, colic, standing/lying position, etc... The algorithms embedded in the sensor have been the subject of several hundred measurements and tests aimed at accurately detecting foaling. The results of these tests show that EasyFoil detects 91% of foals.

The remaining 9% of foals are, for half of them, very fast births, detected within minutes of the foal's birth. The other half corresponds to rare atypical behaviour of some mares during foaling which does not allow foaling to be detected.

The rate of false alarms has been established at 10% (alarms that do not result in foaling).

EasyFoil is a tool to help detect foaling.

We inform all users that EasyFoil can in no way be held responsible for incidents, accidents or loss of animals.

RECOMMENDATIONS IN CASE OF UNDETECTED FOALING

A foaling has taken place but you have not received any text messages or voice calls. This may be due to various causes:

The away the foaling took place:

- 1- The foaling only lasted a few minutes: the warning signs before foaling were not significant enough to trigger an alert.
- 2- The mare did not express any particular signs: this can possibly occur when foals are already dead and do not engage voluntarily. Due to the fact that the algorithms are focused on specific foaling behaviour, they did not allow an alarm to be sent.

GSM communication problem:

- 1- The foaling took place outside the range of the system: too far away, so the sensor could not communicate with the collector.
- 2- There were interruptions in the GSM network where the breeder's telephone was located at the time of foaling: the message was sent by the collector but was not received at the right time.

Improper use of the system:

- 1- The collector was not placed in the right direction and could not measure the specific behaviour of the foaling,
- 2- No numbers have been configured for sending alarms,
- 3- The numbers set for sending alarms were not the right ones.

System malfunction:

- 1- The sensor does not work:
 - a- This is the first time it is used: the sensor may not have been started. In this case, simply take the corresponding sensor and send the "STATUS" command followed by its serial number. If it is stopped, then please start it.
 - b- The sensor may not have been connected to the collector. In this case, simply send the «ASSO» command followed by the sensor's serial number.
 - c- This is not its first use: send the "STATUS" command followed by its serial number. If it is unreachable, please contact your supplier's customer service.
- 2- The indicator light on the collector no longer lights up or is red: disconnect, wait a few seconds, then reconnect. If it still does not work, contact your supplier's customer service.

AFTER-SALES SERVICE

The collector and EasyFoil sensor are covered by a 3-year warranty as from the date of delivery.

In any case, the following are excluded from the warranty:

- ✓ Damage due to overvoltage caused by lightning, electricity supplier or any generator.
- ✓ Obvious defects, that is, visible defects in appearance not reported by the customer or end user at the time of delivery or collection of the products.
- ✓ Defects or deterioration caused by normal wear and tear, by negligence, by use other than that for which the products were designed, by misuse or by failure to comply with the user guide and installation guide.
- ✓ Modified products.

Please contact your supplier's customer service department for any after-sales returns.

Appendices

Technical and environmental specifications

COLLECTOR

Main features		Note
Dimensions	34 x 10.5 x 6 cm 45 x 10.5 x 6 cm	Not including antennas Including antennas
Weight	470g 700g	Indoor version Outdoor version
Cellular Connectivity	2 – 3 – 4G LTE-TDD: B34/B38/B39/B40/B41 LTE-FDD: B1/B2...B66 UMTS/HSPA+... GSM/GPRS/EDGE...	-
LoRa Connectivity	915MHz / +10dBm	Between Collector and sensor
Embedded battery	Lithium-Ion, 10.4Ah	Only for Outdoor device, non-removable
DC powering	8V / 2A	Indoor and Outdoor charging
Operation Temperature	-20°C / +55°C	-
IP Class	IP54 IP65	Indoor version Outdoor version
FCC ID	2BSNU-EFSV01CID01 2BSNU-EFSV01COD01	Indoor version Outdoor version

SENSOR

Main features		Note
Dimensions	8 x 4 x 2.5 cm	-
Weight	75g	-
LoRa Connectivity	915MHz / +10dBm	Between Collector/Tool and sensor
Embedded battery	Li-SOCL2, 2.6Ah, 3.6V	Internal battery, non-removable
Operation Temperature	-20°C / +55°C	-
IP Class	IP68	-
FCC ID	2BSNU-EFSV01SEN01	-

SEARCH TOOL

Main features		Note
Dimensions	12.5 x 6.8 x 2.5 cm	-
Weight	135g	-
LoRa Connectivity	915MHz / +10dBm	Between Tool and sensor
Battery	Zn-MnO2 (Alkaline), 9V	Removable
Operation Temperature	-10°C / +50°C	-
IP Class	IP54	-
FCC ID	2BSNU-EFSV01ST001	-

CERTIFICATIONS

Any modification or alteration not expressly approved by INNOVAL may invalidate the user’s right to use the equipment.

A declaration of conformity is available on the website www.innoval.fr.

INNOVAL pursues a policy of continuous development and improvement of its equipment, and it is possible that some of the information contained in this document may not be up to date. Please contact your sales representative for the latest product information.



FCC Part 15 Information

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

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

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment complies with FCC’s radiation exposure limis set forth for an uncontrolled environment under the following conditions :

1. This equipment should be installed and operated such that a minimum separation distance of 20cm is maintained between the transmitter (antenna) and user’s/nearby person’s body at all times.
2. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



SUMMARY OF SMS ORDERS

Collector's phone number

Checking the reception level of the collector when installing it:

Send "CELLQ?"
<6: Insufficient
6-11: Weak
>11: Adequate

Setting the recipient number for alarm SMS:

Send "NUMSMSA" followed by the desired phone number (+ country code in front)

Add a second recipient:

Same procedure with "NUMSMSB"

Setting the recipient number for voice calls:

Send "NUMTELA" followed by the desired phone number (+ country code in front)

Add a second recipient:

Same procedure with "NUMTELB"

Connect a new sensor:

Send "ASSO" followed by the serial number of the relevant sensor

To be called back:

- Send Nbreccall:1 for 1 callback
- Send Nbreccall:2 for 2 callbacks
- Send Nbreccall:0 not to be called back

Start a sensor the 1st time it is used:

Send "START" followed by the serial number of the corresponding sensor

Delete an alarm recipient number:

Send "NUMSMSA" (or B) followed by ten 0
Send "NUMTELA" (or B) followed by ten 0

Check the state of a sensor:

Send "STATUS" followed by the serial number of the corresponding sensor

Check that a sensor is functioning:

Send the command "ASSO" followed by the serial number of the sensor and a question mark (e.g.: ASSO20040135?). The response is the serial number of your collector (shown on the collector).

Send the command 'Test' followed by the sensor number to carry out a test. If the sensor is working, recipients will receive a test alarm within 10 minutes of the command being sent.

To change the language:

- in English : send Langen
- in German : send Langde
- in Spanish : send Langes

TO CONTACT YOUR SUPPLIER

