

Mounting Instructions

MultiReader Identification

as of version 5.35



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1 Introduction

These mounting instructions put you in the position to operate the MultiReader safely as intended.

- > Please read the mounting instructions carefully before putting the MultiReader into service.
- > Keep the mounting instructions ready and available at all times and pass it on to the next user.
- > Observe all warnings and safety instructions in these mounting instructions at all times.

1.1 Copyright

The copyright for these mounting instructions is reserved by Förster-Technik.

1.2 Disposal

All components, liquids and solids must be disposed of in compliance with the official local regulations for waste prevention and appropriate waste recycling or disposal which apply in your country. Also observe the corresponding safety data sheets.

1.3 Contact details of the manufacturer

Please get in touch with us if you have any questions on our products or require technical support!

Please note down the item number and the serial number stated on the device to have it ready and available whenever you make a call.

Item no.:

Serial no.:

Our contact details:
Förster-Technik GmbH
Gerwigstr. 25
D-78234 Engen, Germany
Phone: +49 / (0)7733 / 9406 - 0
Fax: +49 / (0)7733 / 9406 - 99
info@foerster-technik.de
www.foerster-technik.de

2 For your safety

2.1 Target group

2.1.1 Necessary qualifications of the owner

The owner must be a trained farmer or have good practical experience in farming. He must be familiar with the relevant accident prevention regulations and generally accepted safety regulations.

2.1.2 Necessary qualifications of the service technician

Only trained service technicians are authorised to install the MultiReader, put it into service and subject it to maintenance and repairs.

Service technicians are electricians with appropriate qualifications, i.e. they are able to assess the work assigned to them and detect potential risks on the basis of their technical training as well as their knowledge of the relevant standards. This also includes knowledge of relevant accident prevention regulations, generally accepted safety regulations, EU guidelines and country-specific standards and provisions.

2.2 Intended use of the MultiReader

Only use the MultiReader as an electronic transmitter and receiver unit for RFID for Vario and Compact automatic calf feeders.

2.3 Indication of hazards

Hazards are indicated by a key word and a corresponding sign, depending on the severity and probability:

**Danger!**

For an imminent danger, resulting in serious injuries or death.

**Warning!**

For a potentially dangerous situation which may cause serious injuries or even death.

**Caution!**

For a potentially dangerous situation which may cause minor injuries or material damage.

Attention

For a potentially harmful situation in which the product or an item can become damaged within its environment.

Note

For application notes and other useful information.

However, it is just as important to observe any other notes and information which are not highlighted to avoid failures which, in turn, may cause direct or indirect injuries or material damage.

2.4 Safety signs on the machine

The safety signs on the machine are an important part of the safety concept and help prevent accidents.

They indicate danger areas at the machine and warn against residual risks.

Keep all safety signs completely in legible condition and renew them if they become unreadable.

**Do not spray-wash!**

Water (liquids) can damage electrical components.

- Do not spray the MultiReader. Do not use any high-pressure cleaners or similar equipment either.
- To clean the MultiReader, wipe it only with a damp cloth.

2.5 Obligations of the owner

The owner is obliged to:

- Rule out misuse by children,
- Carefully read and understand these mounting instructions before putting the MultiReader into service,
- Only allow operating personnel to work with/on the Multi-Reader who:
 - Are familiar with the basic operational safety and accident prevention regulations,
 - Have been given instructions on work with/on the Multi-Reader,
 - Have read and understood these mounting instructions,
- Operate the MultiReader only as intended,
- Do not change the design or functions of the MultiReader,
- Operate the MultiReader only in perfect functional condition,
- Subject the MultiReader to regular visual inspection for possible damage and have it rectified by a service technician if necessary,
- Make sure the MultiReader's connection point is easy to access at all times,
- Make sure the MultiReader is mounted at the point intended,
- Protect the MultiReader and the corresponding cable from exposure to sunlight.
- Make sure all the electrical cables are installed outside the animal area.

2.6 Obligations of the operator

Before beginning work, the operator is obliged to:

- Observe the basic operational safety and accident prevention regulations,
- Read and understand these mounting instructions,
- Observe all the safety information and instructions included in these mounting instructions.

The compulsory accident prevention regulations which apply at the operation site in the country of use and the technical rules for safety-related and specialist work must also be observed by all means.

2.7 Structural alterations

The MultiReader must not be subjected to any unauthorised alterations at any time.

Only original spare parts, wear parts and accessories may be used, since any warranty claims will otherwise expire.

3 Technical data

3.1 MultiReader



Height: 430 mm

Width: 300 mm

Depth: 100 mm

Training push-button with entitlement LED

The training push-button activates the training pump. The training pump is used to help the animals to get accustomed to the automatic feeder and to stimulate calves with a weak sucking behavior.

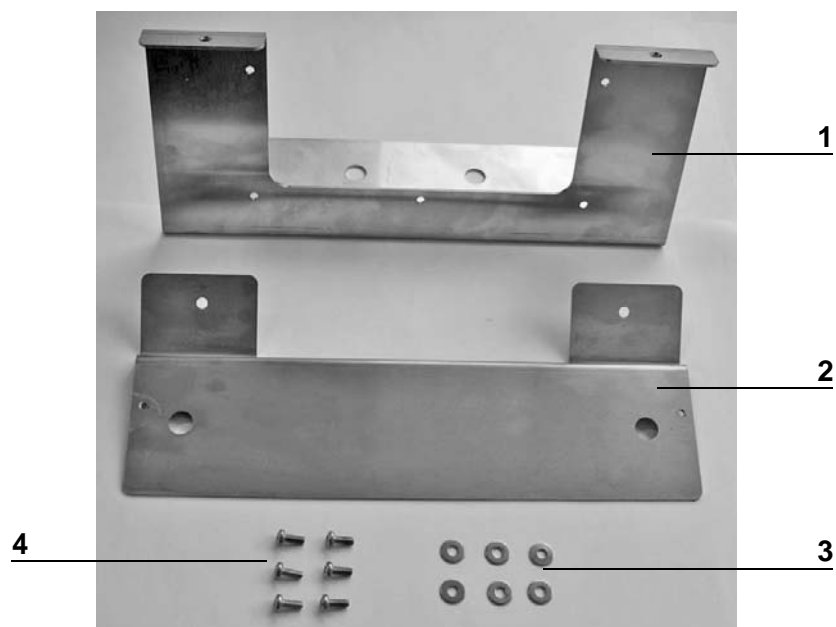
- The LED is illuminated: The calf has feed entitlement.
- The LED flashes slowly: The feed entitlement of the calf is below 0.5 L.
- The LED flashes rapidly: The calf has no feed entitlement.

3.2 Accessories

3.2.1 Mounting bracket (with front plate mounting)



3.2.1.1 Scope of delivery of the mounting bracket



1 Upper mounting bracket	3 Washers (6x)
2 Lower mounting bracket	4 Fillister head screws (6x)

3.3 FCC

This equipment complies with Part 15 of the FCC rules. Any changes or modifications not expressly approved by the Manufacturer could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC rules subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept all interference received, including interference that may cause undesired operation.

Note	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.
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3.4 IC

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

This device complies with Health Canada's Safety Code 6 / IC RSS-210. The installer of this device should ensure that RF radiation is not emitted in excess of the Health Canada's requirement.

Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence (s). Son utilisation est soumise à Les deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences et (2) cet appareil doit accepter Toute interférence, y compris les interferences qui peuvent causer un mauvais fonctionnement du dispositif.

Cet appareil est conforme avec Santé Canada Code de sécurité 6 / IC RSS-210. Le programme d'installation de cet appareil doit s'assurer que les rayonnements RF n'est pas émis au-delà de l'exigence de Santé Canada.

4 Putting the Multireader into service

4.1 Notes on installation

- > Keep the distance between the antenna and the transmitter as small as possible.
- > Only the animal to be identified in the box is permitted to be within the range of the antenna.
- > Check the range of the antennas using the antenna test (see **5 Diagnosis, page 21**).
- > If an animal entitled to feed is outside the feeding box, but within in the range of the antenna, a portion might be prepared that the animal will not receive. If necessary, block the area next to the feeding box.

Note	If two animals are identified simultaneously by one antenna, animal identification is interrupted for both animals.
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- > The distance between two antennas should be approx. 100 cm to avoid any range overlapping. In the event of double or external identification, the antennas will need to be shielded using earthed metal plates.

4.2 Squelch values and identification ranges

The approx. range of the antennas is 15 - 25 cm.

The antenna version is decisive for the identification range. With Nedap micro-identification, you can set the range via the squelch value.

The squelch values and the identification ranges for the various identification systems are listed in the following table. These squelch values are based on experience and are set at the factory.

System	Squelch (default values)	Identification range
Collar (X responder)	0	15 - 20 cm
Collar (PM responder)	180	15 - 20 cm
Earmark (also in the collar) (Nedap system)	0	15 - 20 cm
Earmark (also in the collar) (Tiris system)	inactive	15 - 20 cm

4.3 Installing the MultiReader

The MultiReader can be fastened at three different positions to the Flex100 partition:

- Front plate
- Left side
- Right side

Note	If mounted at the side, the height of the identification unit can be adapted to the position of the transponder.
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Note	If X-Responders are used, it is recommended to mount the MultiReader with the bracket (optional) on the front plate.
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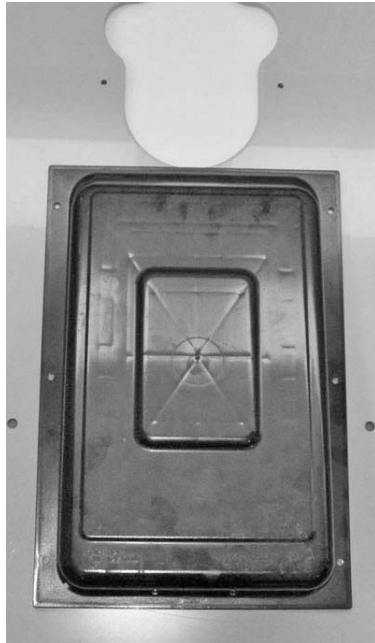
4.3.1 On front plate

4.3.1.1 Without bracket

Proceed as follows for the installation:

1. Place the antenna box on the front plate, in the centre. Please make sure that:
 - The flat side faces upwards,
 - The upper edge of the antenna box is flush with the lower edge of the recess on the front plate.

2. Fasten the antenna box to the front plate using the screws enclosed (see figure).



3. Drill a hole into the front plate directly beneath the antenna box and feed the antenna cable through it.

Attention	Make sure the antenna cable is installed outside the animal area to prevent it from being damaged.
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4.3.1.2 With bracket (optional)

1. Fasten the bracket from the rear to the antenna box using the screws and washers enclosed to the scope of delivery of the bracket.
2. Attach the remaining screws and washers on the antenna box.
3. Place the antenna box on the front plate, in the centre. Please make sure that:
 - The flat side faces upwards,

- The upper edge of the antenna box is flush with the lower edge of the recess on the front plate.
4. Fasten the antenna box to the front plate using the screws enclosed (the drill holes are already pre-drilled on the bracket).



5. Drill a hole into the front plate directly beneath the antenna box and feed the antenna cable through it.

Attention	Make sure the antenna cable is installed outside the animal area to prevent it from being damaged.
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4.3.2 On the left or right in the Flex100 partition

Proceed as follows for the installation:

1. Before attaching the antenna, drill the opening for the cable at the position displayed below.



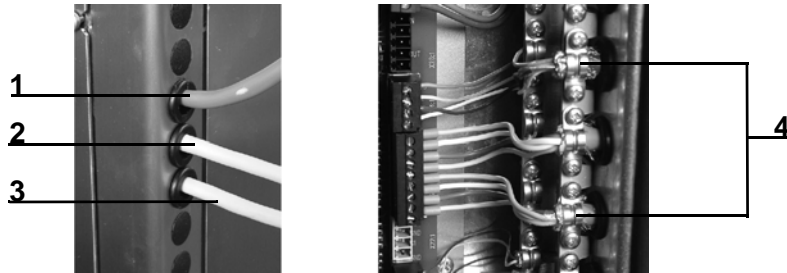
2. Attach the remaining screws and washers on the antenna box.
3. Fasten the antenna box to the side part of the feeding box using the screws enclosed so that the flat side faces the rear (see figure).



4. Feed the antenna cable through the cable opening that you drilled before.

Attention	Make sure the antenna cable is installed outside the animal area to prevent it from being damaged.
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4.4 Connecting the MultiReader to the main board



1 Cable of the hand-held terminal	3 Antenna cable of feeding station 2
2 Antenna cable of feeding station 1	4 Cable clamps

	<p>Danger due to live electrical components!</p> <p>Live electrical components. Danger of death by electric shock!</p> <ul style="list-style-type: none"> • Always disconnect the mains plug before starting any work on the control box of the automatic feeder.
--	--

If the antenna connections are not available on the automatic feeder, proceed as follows:

1. Remove the housing cover from the control box.
2. There are two more cable sleeves under the cable sleeve for the hand terminal cable. Push the antenna cables through them into the control box.
3. Connect the antenna cables to the main board of the automatic feeder in accordance with the wiring diagram.
4. Fasten the wiring looms to the cable brides.

Attention	To ensure earthing, you must also connect a shield (if available) of approx. 1 cm. Make sure that the shield lies on the sheath and not on the wire insulation.
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5. Connect the control box.

4.5 Training push-button with entitlement LED

The training push-button activates the training pump. The training pump is used to help the animals to get accustomed to the automatic feeder and to stimulate calves with a weak sucking behavior.

- The LED is illuminated: The calf has feed entitlement.
- The LED flashes slowly: The feed entitlement of the calf is below 0.5 L.
- The LED flashes rapidly: The calf has no feed entitlement.

Note: The maximum duration of the training push-button is 30 seconds.

4.6 Temperature sensor





As of the 1st of January 2013 the MultiReader identifications are equipped with a temperature sensor as a standard. To check whether your MultiReader is equipped with a temperature sensor, please **Feeding > Plans > Winter feeding plans** (see chapter **Feeding > Winter feeding plans** of the operator's instruction manual of the automatic feeder).

Note: The use of the winter feeding plans requires that the MultiReader with temperature sensor is installed on the **feeding station 1**.

4.7 Software update

Note: Antennas can only be updated if they are directly connected to the automatic feeders and the feeder was previously updated. For the color assignment for the MultiReader update via the S-program, please see the attached wiring diagram.

To update the MultiReader, proceed as follows:

1. Press  and keep the key pressed when switching the automatic feeder on. After a short time the Setup menu is displayed.
2. In the Setup menu move to **Communication > Multireader**.
3. Press   to select the required station.
4. In **Update Multireader?**press .

5 Diagnosis


The **Diagnosis** menu of the automatic feeder is for checking the MultiReader and its functions. It facilitates troubleshooting if there is a technical problem with the MultiReader. The menus relevant for the MultiReader are available via the following menu path:

 > **Diagnosis** > **Boxes**

```
Diagnosis
  Valves
  Motors
  Heating
  Sensors
  ► Stations
  Control
  Version
```

5.1 Checking the feeding boxes

You can check whether the identification of the feeding box works here.

1.  > **Diagnosis** > **Stations** > **Feed** > **Feeding station 1...**
2. To check the identification (antenna test), hold the transmitter near the antenna. The transmitter number is displayed in the **No.** line.

If the transmitter number is not recognised, proceed as follows:




1. Check the data line between antenna and automatic feeder for damage.
2. Check in the setup whether the correct identification system is configured.
3. Check the setup for the allocation of the box that causes identification problems.

```
Station
  ► Feed
    Concentrate
```

```
<Feeding station 1>
  ► No. #: 11456
    Pump: start?
    Teat slider: open?
    C.Protect: close?
    Feed sensor: active
    Motor pulses: 22
    Control: IFS-F 1
    Animal scales
    search?
```

5.2 Control

Use this menu to control how often the automatic feeder has not received any feedback from the **identification**.


1. Move via  > **Diagnosis** to the submenu **Control**.
2. Press   to select the failure that occurred.
 - In **Amount** you can check how often the failure occurred.

- In **since** you can check when the entries were deleted the last time.
 - In **last on resp. last at** you can check on what day or time the relevant event occurred the last time.
3. Confirm **delete?** with to delete the fault message.

6 Warnings

Warnings indicate problems that do **not interrupt the automatic operation of the automatic feeder**. Warnings are indicated by the LED flashing on the hand terminal of the automatic feeder.

Some warnings disappear when the fault has been rectified.

Some need to be (additionally) deleted by pressing .

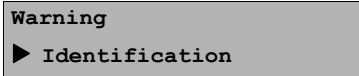
6.1 Identification

If the identification system is not working, this message appears on the display:

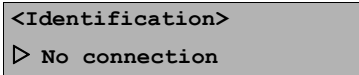
> Check the cables leading to the antenna for any visible damage (example: animal bites).

> Also check whether in Setup the correct identification system is set.

The warning is automatically deleted when the fault has been rectified.



Warning
▶ Identification



<Identification>
▷ No connection

7 Maintenance

The visual inspection of the components can be conducted by the owner/operator.

Repair work must **always** be performed by a service technician.

7.1 Maintenance intervals and activities


Note	If you detect any faults or damage to the MultiReader between the maintenance intervals recommended below, you must make sure they are rectified immediately by a service technician as required.
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7.1.1 Daily

Visual inspection of the components

All components must be checked visually every day for damage and deposits. If any damage is detected during the visual inspection, the faulty components have to be replaced by a service technician before work can be resumed with the MultiReader.

7.2 Care

	<p>Do not spray-wash!</p> <p>Water (liquids) can damage electrical components.</p> <ul style="list-style-type: none"> • Do not spray-wash the MultiReader. Do not use any high-pressure cleaners or similar equipment either. • To clean the MultiReader, only wipe it with a damp cloth.
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You should have dirt removed from the MultiReader from time to time. However, soiling does not have any negative effects on the identification results.

