TECHNICAL
DESCRIPTION

B&B
DER FUNK IM FORST.
MADE BY **TELENOT**

Radio control for forestry cable winches

F 5

1st Edition

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DER FUNK IM FORST.
MADE BY TELENOT

Contents

Note
All technical specifications and details in this description have been conceived with the greatest care. Nevertheless, errors can not be entirely excluded. We would therefore like to mention that we cannot accept any legal responsibility or liability for any consequences resulting from incorrect details/specifications.

Due to the ongoing development, the construction and wiring, your device may differ from the specifications contained in this description. We would be grateful if you bring any errors to our attention.

We would like to highlight the fact that the software and hardware labeling and trade names used within these instructions are the registered trade marks of the respective company or are subjected to patent protection.

1 General

The radio control F5 is the entry-level model for the professional range of forestry radio controls.
An inexpensive control which nonetheless satisfyies the professional requirements for working in the forest:

- Protection class IP 65,
- Solid rubber-protected aluminium housing,
- Safe operation even in an extremely dirty surroundings and
- An easy-to-use and easy-to-clean user interface .

Die neue B&B Funkfernsteuerung F5 - das Produkt

Die neue B&B Funkfernsteuerung F5 - die Ergonomie

An innovative "spring-back" concept for the operating elements provides a noticeable ergonomic improvement for the user.
Reducting the number of functions the most important and the self-explainatory user interface insures safe operation even by the occasional user – such as private forest owners who only work in the forest a few weeks per year.

The new battery concept also has great advantages for the occasional user: the eneloop* battery technology makes it possible to operate the device for up to a week without recharging it, even if the individual uses are weeks or months apart – which is often the case in private forests. The eneloop batteries only loose 15 % of their capacity per year (as opposed to up to 100 % for conventional batteries). Surveys and user reports confirm the low self-discharge. When using the radio control, recharging is only necessary after about 4 to 5 working days.

*eneloop is a trademark of SANYO

1.1 Scope of delivery and use as intended

1.1.1 Scope of delivery

- Transmitter F5 S with protection cap for charging jack
- Receiver F5 E with connection cable and plug for the winch
- Mains charger LG5/9
- Technical description F5
- Pin assignment of connection cable compatible with your winch
- Optional: 12 V vehicle charging adapter (in preparation)

1.1.2 Use as intended

The radio control F5 consisting of the transmitter F5 S and receiver F5 E is used for the convenient and safe remote control of electrically controllable single-drum forestry cable winches. It is suitable for all common brands of winches and their auxiliary equipment for motor gas adjustment and emergency calls.

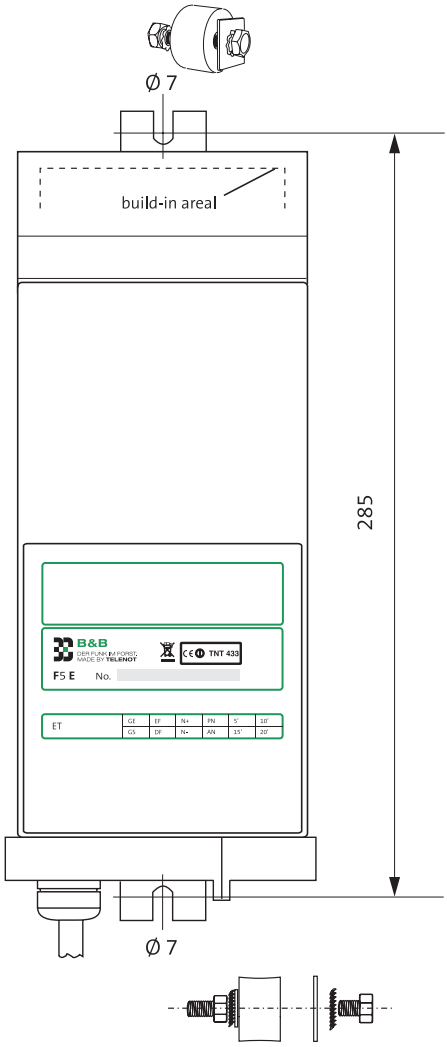
1.2 Saftey notes

- Before operating the radio control equipment, first read the technical description in its entirety and ensure it is always kept available in a suitable protective cover for use on site.
- The receiver may only be installed by a qualified electrician acording to the pin assignment drawing supplied.
- The operator must ensure that the radio control equipment is only used for the intended purpose.
- The radio control equipment may only be used if technically flawless. In case of faults or defects which could affect the safety, the radio control equipment must be switched off immediately and repaired by a service technician.
- The transmitter may only be used by trained and authorised persons.
- Persons whose reactions are affected by medicines, alcohol or drugs, are not permitted to switch on, operate, maintain or repair the radio control equipment
- Before switching on the radio control equipment, make sure that nobody could be put in danger by its operation.
- Always work in direct sight of the vehicle and work especially carefully if you are not familiar with the operation of the equipment.
- When changing position, make sure that you don't mix up the direction of motion of the cable by mistake.
- Always switch off the transmitter during breaks and after work and secure it against unauthorised use.
- Repairs must be carried out by a service technician. Only use original spare parts.
- Carry out visual inspections at regular intervals to check for damage to cables, connecting plugs or other safety related equipment and have them repaired before starting to work.
- Own modifications or changes to the radio control equipment are forbidden for safety reasons.
- Always pull out the connection cable of the receiver before carrying out maintenance or welding work on the vehicle,.
- The emergency button on the transmitter only affects the winch and has nothing to do with the emergency-off button of the vehicle.
- Non-compliance with the safety instructions may lead to serious accidents and injuries.
- Besides the general regulations, local regulations concerning the accident prevention also apply.

2 Receiver F5 E

2.1 Installing the F5 E receiver

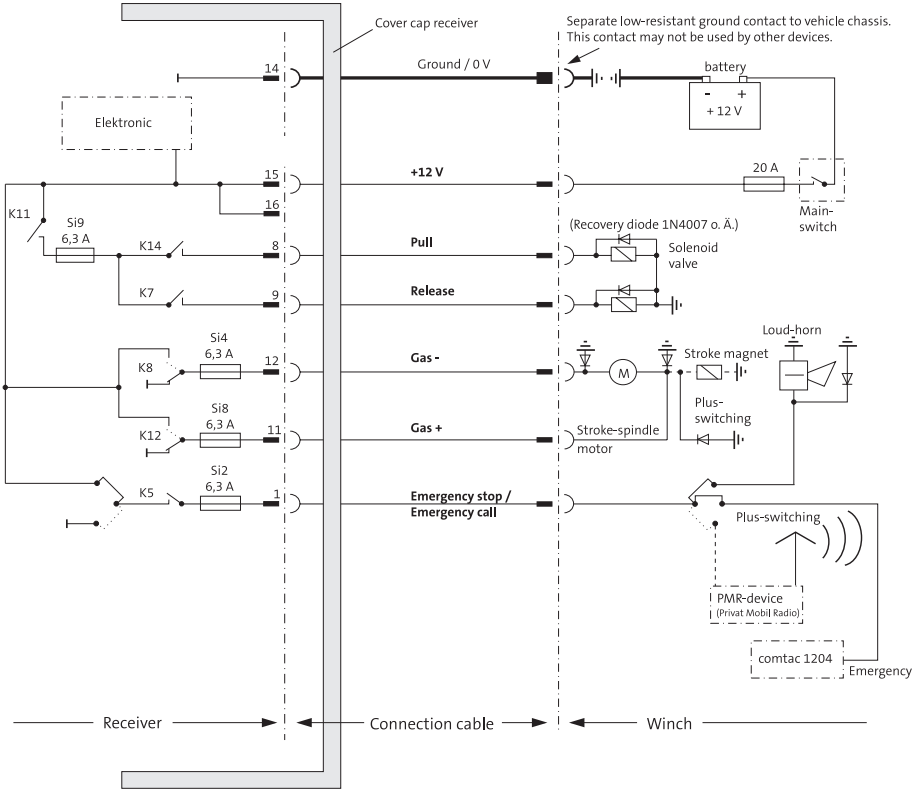
Mount the receiver inside of the driver's cabin using the two swivel metal brackets **vertically with the cable pointing downwards**. To achieve good reception, the beveled plastic top, where the integrated aerial is located, should be mounted as close as possible to the edge of the window in the driver's cabin. Installing the receiver in the middle of a closed metal surface may considerably impair reception (see Sec. 2.2.1 Options).



Caution!
Danger of humidity getting in.
Always comply with the specified mounting position, as otherwise the protection class IP 65 will no longer apply.

2.2 Connection of the F5 E receiver and wiring diagram of the load outputs

The connection box for the winch may only be connected up by a qualified electrician according to the valid pin assignment drawing. The F5 E receiver may only be connected to the 12 V onboard power supply and has no operating switches of its own. The board voltage should be carried to the main switch on the vehicle side to be able to disconnect the receiver from the supply in breaks and after completing the work.



2.2.1 Option: "Aerial socket F5 E/F9 E"

For bad reception conditions (Art. No. 109535857)

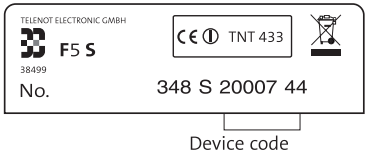
For this option there is a BNC coaxial jack on the beveled plastic cap of the receiver, which is suitable for the connection at the following two aerial versions:

- The external plug-in aerial (Art. No. 109535858) with BNC plug is plugged into the BNC jack if the aerial is thus located directly in front of a window of the driver's cabin.
- Your service workshop will fit the external aerial (Art. No. 109535861) in a suitable place at the rear of the vehicle, connecting the 4 m coaxial cable to the BNC coaxial jack on the receiver using the BNC plug.

In both cases please contact the manufacturer under the phone number shown on the second to last page.

2.3 Startup

Before connecting the receiver, check that the specifications on the type plate (see table below) match those of your skidder.
Likewise, the device codes in the serial numbers of the receiver and transmitter must also be the same.



Key to the specifications and operating modes on the receiver label:

The relevant operating mode for the type concerned is marked by a point (●) in the corresponding field. The device is factory-set to your requirements. The function "EF / DF" is set on the receiver using a jumper – see Sec. 2.4.1.

ET	GE	EF	N+	PN	5’	10’
	GS	DF	N-	AN	15’	20’

Set-off delay
in minutes for pre-alarm and passive emergency call

Operating mode with Active Emergency (AN)
or Active Emergency & Passive Emergency (PN)

Polarity of the emergency output NOT
plus or ground switching

Single (EF) or Double (DF) function

Simple speed control e.g. with stroke magnet (GE)
or continuous speed control with stroke spindle motor
for clockwise & counterclockwise rotation (GS)

For more information on the significance of the designs and operating modes please see Sec. 2.4.

2.3.1 Function check

Warning!
Risk of accident due to other winch controls.
If there are two separate connectors for the manual control and the radio remote control on your skidder, only one control system may be connected at any one time!
Thus ensure that the manual control cable is disconnected first before starting to operate the remote control system.

Before starting the following function check must be carried out

- Correct wiring on the vehicle side and to the winch socket and the correct assignment of the plug on the receiver connection cable
- Check that the transmitter battery is fully charged

First switch on the 12 V power supply to the receiver, then operate the transmitter.

For safety reasons, the receiver blocks all commands if commands are already being send by the transmitter when the receiver is switched on. If this occurs, briefly switch the transmitter off and then on again. Now the system can be operated.

We recommend that you always perform the following checks before operating the equipment!

Instruction	Reaction
Connect receiver to +12 V vehicle supply	none
Press EMERGENCY button[1] on the receiver for more than 1 second	Commands are blocked – an acoustic alarm is set off, if a siren or horn is connected
Switch the transmitter off and on again. Keep the ON button pressed down until the emergency call is switched off	Output "Siren/Emergency" is cancelled, commands can now be given again

*1 Where a mobile emergency system (e.g. comtac 1204) is connected, an emergency call will be transmitted to the emergency call centre after a warning alarm period. If this message shall not be sent, the emergency call must be cancelled within the acoustic pre-alarm period (see Sec. 3.2.6).

Warning!
Risk of accident due to faulty system.
It is strictly forbidden to continue working if the system is faulty.
Return the whole system – transmitter, receiver and connection cable – for repair, suitably packaged and including a completely filled out Delivery Note with a precise description of the fault, to the address shown on the second to last page.
The Delivery Note form can be downloaded from the website: www.funk-im-forst.de

2.3.2 Fault-free operation

A precondition for a trouble-free operation are electrically perfect connections throughout the entire wiring system. In this regard please follow the instructions on Maintenance given in Chapter 4.

In contrast to to a portable control unit, besides the positive supply voltage the wireless receiver also needs an low-resistant ground or 0 Volt connection. Experience shows that faults are often caused by corroded contacts or defective electrical grounding, particularly where the vehicle is no longer new.

The ground connection must be assured by a low-resistant electrical connection which is separate from all other users and protected against corrosion with a suitable protective varnish.

Faults will inevitably occur if in the wiring circuit of the the wireless receiver exhibits the following incorrect conditions on the vehicle side:

- Dirty, oxidised or even rusty contact points
- Loose cable, clamp or plug connections
- Loose contacts in the vehicle switches
- Rusty screw connections for grounding to the vehicle chassis
- Lack of recovery diode switching at the solenoid valves or the motor for speed control[1]

If faults arise, have the wiring checked by a competent mainttenance repair shop!

1 With inductive components, such as single solenoid valves or motors, recovery diodes ensure that the field energy which is released when switching off is disipated directly where it arises, without any adverse effect on the electrical system as a whole or its individual components.

This is how the technician can check whether recovery diodes are fitted; whereby the vehicle ignition must be switched on but the engine must be turned off:

Remove the receiver connection cable. The hauling cable of the winch must be free of load and pulled out a few metres. With an insulated length of cable which is attached on one side – via a fuse – to the positive vehicle voltage, use the stripped and exposed end to carefully touch each of the contacts of the winch connection box in turn to which inductive components (solenoid valves, motor) are attached, in order to trigger the respective function. When the cable end is removed, no visible sparks may arise. If this does occur, suitable recovery diodes must be fitted directly for each remote controlled inductive component using short connection cables! Suitable for this purpose are diodes for continuous currents of 1 A and block voltages of 500 V.

2.4 Parameterisation

2.4.1 Single Function "SF" (EF) / Dual Function "DF" (DF)

Single Function EF
Single function or SF stands for the operating mode in which, when the Pull command is given, the brake is automatically released simultaneously by a special mechanism in the winch.

Dual Function DF
Dual function or DF stands for the operating mode in which, when the Pull command is given by the receiver, the Release command is send at the same time to the winch, because the winch doesn't have an automatic release.

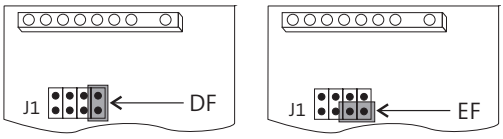
Winches differ from manufacturer to manufacturer and the type must be established by a **qualified person** based on the following procedure:

Connect the contact for the Pull solenoid valve briefly to the positive voltage supply.
If the winch pulls in, the operating mode EF on the receiver is correct.
If you only hear a loud clicking noise and the winch does not move, the brake is not automatically released with the command Pull. In this case the operating mode DF on the receiver is correct which also releases the brake.

When setting up the receiver for the first time, make sure that the proper operating mode is selected. If the solenoids of the winch have no additional circuit elements or there is only one diode between the connections for clutch and brake, then the DF field must be marked on the receiver type plate.

With pneumatic winches, because of the response delay, additional electronics are often provided, which are inserted in the feed line for the valve brake and the clutch. In this case, the EF field must be marked on the receiver type plate. If you are in any doubt, please contact us and we will be glad to help solve any problems.

Changing the operating mode in the receiver (Only to be carried out by qualified person!):
- Remove the circuit board from the receiver housing. (See figure in Sec. 2.5)
- Change the position of jumper J1 on the board if required



Never fix the jumper in a position other than those shown!

2.4.2 Simple Speed Control (GE) / Continuous Speed Control (GS)

The factory set operating mode is used to switch on and off the higher rotational speed, or the continuous control of the motor speed.

- In "GE" mode in conjunction with a solenoid or a pneumatic or hydraulic cylinder at the Bowden control
- In "GS" mode with an electric motor and clockwise/counterclockwise continuous speed control

2.4.3 Short / Permanent release of the brake

The operating mode can only be factory set to "Short release" or "Short & Permanent release", whereby the release delay can be set in steps of 0.5 s from 0.5 to 4 seconds until the brake is permanently released.

2.4.4 Emergency call configurations

For the emergency call, different factory setting for the mode of operation and switching of the emergency output at the receiver can be chosen:

No emergency call	Emergency Stop without emergency call function - Only emergency stop with winch stop - No emergency call functions - "Siren/Emergency" output not activated
Active Emergency Call AE (AN)	- triggered actively - Active emergency call manually triggered on the transmitter - Simultaneous activation of "Gas-" command for three seconds
Active & passive emergency call (AN/PN)	- triggered actively by hand and passively The passive "emergency call" is carried out automatically and independently when the transmitter has not been operated for a certain period of time and the receiver has not received any commands. This time delay is factory-set as specified by the custormer to 5, 10, 15 or 20 min (see Sec. 2.3 "Receiver label").
Active emergency call in combination with the mobile emergency system comtac 1204	see Chapter 5
Resetting the emergency call	see Sec. 3.2.6

2.4.5 Acoustic alarm

The emergency output on the receiver rapidly switches the +12 V power supply on and off to a siren or a loud horn. After 20 seconds the rhythm slows down. Where the emergency call function has been deactivated in the factory, no acoustic alarm will be triggered.

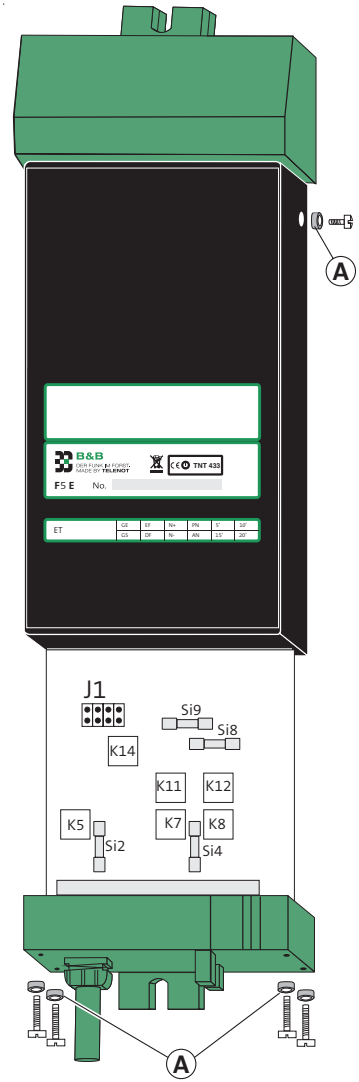
2.4.6 More operating modes that can be factory-set

- Release with permanent release (locking after 0.5 to 4 seconds)
- Release without permanent release
- Speed On/Off or Continuous speed adjustment

2.5 Layout of load relays and fuses

Caution!
Damage due to incorrect handling.
The receiver may only be opened by trained and authorised electrical staff!

Pull out the connection cable before opening the receiver.



Warning!
Fire hazard:
Never short-circuit fuse!

Load relay

Relay	Description
K5	Emergency
K7	Release left (B)
K8	Gas -
K11	Release +UB
K12	Gas +
K14	Pull (K)

Fuse type "T 6.3 A"

Fuse	Value	Description
Si2	T 6,3 A	Emergency
Si4	T 6,3 A	Gas -
Si8	T 6,3 A	Gas +
Si9	T 6,3 A	Pull and release

Caution!
Danger of humidity getting in.
To prevent the risk of the receiver being damaged always use the necessary sealing washers "A".

2.5.1 Changing fuses

The work on the open receiver described below may only be carried out by qualified staff! Before pulling out the board, ensure that the surroundings where it is to be put down are clean, dry and free of dust.

- Undo the four screws on the end face of the lower housing cover with the cable insert and the screw on the small side of the housing.
- Pull the board gently out of the housing.
- Find the cause of the fault and repair it, e.g. fault in the wiring.
- Replace the defective fuse with a fuse of the same type.

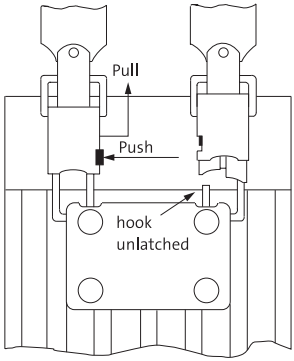
Do not make any other changes to the device ! This will invalidate the warranty!

- If the existing seal shows significant signs of pressure, replace the rubber seal in the plastic cover on the cable side.
- When reassembling, ensure that the rubber seal is in the right position and make sure that each of the four screws with their original plastic washers is inserted in the right hole in the respective corner of the seal.
- Do not tighten the screws too tightly as otherwise the sealing function will be impaired! Then insert the screw with its original plastic washer on the small side of the housing and ensure that this too is not screwed in too tight.

3 Transmitter F5 S

3.1 Carrying the transmitter

- For preference carried on the hip wearing a belt.
- In front of the chest using a shoulder strap*.



Attaching the shoulder strap
First insert the fastening hooks of the belt into the small holes in the folds of the buckle on the back of the transmitter and then close them up.
To release the hooks, press and hold down the button on the small side of the plastic part and push it up until the hook disengages.

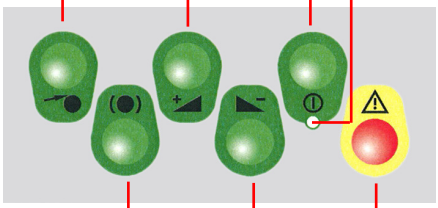
* The transmitter carrying strap is not included in the delivery scope. If desired - please order the strap under Part-number 109535823 at TELENOT ELECTRONC GMBH.

3.2 Operating controls

3.2.1 Switching On & Off

- Switching on
  Press the ON switch on the transmitter until the control lamp starts to blink.

- Switching off
  Only press the ON switch briefly – the control lamp goes off, the transmitter is switched off.
  If the transmitter is not used for half an hour it will switch off automatically.



Pull

Gas ON (Simple speed control)
Gas + (Continuous speed control)

Device ON / OFF
Reset emergency

Control lamp	
blinks	transmitter switched on and ready for operation
dark	transmitter switched off or battery uncharged
lights continuously	charging battery
blinks 3 times with a short pause	battery needs recharging
flashes once every second	battery is fully charged, charge conservation phase

Emergency stop / Emergency call

Gas OFF (Simple speed control)
Gas – (Continuous speed control)

Release

3.2.2 Gas ON / Gas OFF (Gas + / Gas -)

In the "Simple Speed Control" version **(GE)**, the output "Gas+" is switched on with the "Gas+" button and switched off again with the "Gas-" button.
In the "Continuous Speed Control" version **(GS)**, a stroke spindle motor connected to the "G+" and "G-" outputs (not included in the delivery) increases the motor speed for as long as the "G+" button is pressed and decreases the speed while the "Gas-" button is pressed.

3.2.3 Release

The "Release brake" function is divided into two time-dependent functions (pressing down for a short or longer time). The relevant value for the different actions is factory set depending on the Type of winch to be operated; it can however be set (only in the factory) in a range between 0.5 up to max. 4 seconds.

For example:
Setting for short operation: less than 2 seconds; Setting for long operation: more than 2 seconds.
If the "Release brake" button is pressed down for less than 2 seconds, the winch brake will be remain open for as long as the button is kept pressed down and closed immediately it is released.
If the "Release brake" button is pressed for longer than 2 seconds, the brake remains permanently released until either the "Release" or "Pull" buttons are pressed.

If the transmitter remains inactive for longer than ½ hour, it switches itself off automatically, whereby the possibly permanently released brake will be closed again.
The permanent release function can also be factory set so that it is completely switched off. In this case, the winch brake only remains open for as long as the button is pressed (Brake release without permanent release).

3.2.4 Pull

The rope is pulled in by the winch while the "Pull" switch is pressed. The rope stops in its current position and the winch brake is applied automatically, when the switch is released.

3.2.5 Emergency stop / Emergency call

Pressing this button for a short time (< 1 second) immediately switches off the commands which are active at the time (EMERGENCY STOP), further commands are blocked. At the same time the "Emergency" output of the receiver is activated and the +12 V board voltage (factory setting) or 0 V are given out.

Pressing this button for longer (> 1 second) offers the possibility of using the F5 S transmitter to call for help in an emergency, in combination e.g. with a comtac 1204 (EMERGENCY CALL).

3.2.6 Resetting the emergency call

Switch off the transmitter. Then switch it on again, keeping the ON switch pressed down for about a second until the acoustic alarm switches off.

The winch emergency stop has nothing to do with the "Emergency stop" of the vehicle!

The passively triggered emergency call can only be switched off at the transmitter during the first 20 seconds – after that the rate of switching on and off slows down and the passively triggered emergency call can only be cancelled by briefly switching off the voltage supply to the F5 E receiver.

To extend the operating period between recharging and prevent unintentional operating mistakes, always switch off the transmitter during breaks and after work and secure against unauthorised use.

3.3 Recharging the transmitter battery

When the control lamp on the transmitter blinks briefly three times at short intervals, this indicates that the battery charge is low and it must be recharged. However, if you fail to notice the control lamp, there is no risk of damage due to the battery running down, as the transmitter will switch itself off automatically after a short time. If the control lamp goes off a short time after the transmitter has been switched on, this also indicates that the battery needs to be recharged.

3.3.1 Charging the battery from a 230 V mains socket

To avoid any possible damage to your equipment, only use the mains charger included in the scope of delivery.

- Pull off the protection cap off the charging jack.

- Plug the cable socket connector of the LG5/9 charger firmly onto the charging jack on the transmitter until latching.
- Connect the LG5/9 charger to the 230 V mains supply.
- Check that the control lamp on the transmitter lights up red.

During the approx. 10 hour charging period, the lamp on the transmitter remains on all the time. Blinking of the lamp indicates that the battery is fully charged and is in charge conservation phase. The battery can remain in this state for several days without any risk of damage.

- **Replace protection cap after charging to avoid damage!**

3.3.2 Charging the battery from a vehicle's 12 V socket (in preparation)

To avoid any risk damage to your equipment, only use the 12 V charging adapter approved by TELENOT.

- Pull the protection cap off the charging jack.
- Plug the cable socket connector of the 12 V charging adapter (optional) onto the charging jack on the transmitter until latching.
- Then plug the 12 V charging adapter into the vehicle's cigarette lighter socket.
  The lamp on the transmitter will now light up red, indicating that charging is in process.

During the approx. 10 hour charging period, the lamp on the transmitter remains on all the time. Blinking of the lamp indicates that the battery is now fully charged.

- **Replace protection cap after charging to avoid damage!**

3.3.3 Hints on prolonging battery life

- Over time batteries gradually loose their capacity and the operating period becomes shorter.
- Only recharge the battery when it is empty. If it is recharged again after only a short period of operation, the life of the battery will be decreased.
- The battery may not be recharged at a temperature below 0 °C or above +40 °C! The battery should preferably be charged at a temperature between +10 to +30 °C.
- When handled properly, the battery life will be about 500 charging & discharging cycles. After further charging cycles and at temperatures below 0 °C the capacity may significantly decrease.
- If the transmitter is not to be used for longer period, it should best be store in a dry place and at a temperature between +5 to +15 °C. The transmitter battery should be fully recharged before it is used again.

Caution!
Damage due to incorrect handling.
The transmitter may only be opened by a qualified and authorised electrician! Maintenance work, including replacing batteries, may only be carried out by authorised personnel in a clean, dry location free of dust.

3.4 Changing the radio channel

If radio interferences occur due to other systems nearby which affects performance, one of the other five radio channels can be factory-set. (For the operating frequencies, see Chap. 6 "Technical Data").

4 Maintenance

The F5 is maintenance free. However - observing the following advice may increase your personal safty and the economic life-time of the components.

- Ensure that the protection cap of the charging jack on the transmitter is always in place when working.
- If the charging jack is dirty, clean it with a lint-free cloth soaked in ethanol.
- If the foil keypad shows any signs of cracks or other damage, the F5 S transmitter should be switched off and returned to the factory for a general overhaul.
- Have all the electrical wiring together with the remote controlled electrical equipment attached to your vehicle checked at regular intervals by an expert to ensure it is in perfect condition.
- Carefully follow the instructions on charging the transmitter battery (see Sec. 3.3).

Clean the device components using a moist or alcohol soaked cloth. Never use steam cleaning equipment , oils or other lubricants.

Before carrying out any electical welding on the vehicle, pull out the plug of the receiver connection cable!

Never carry out repairs on the electronics of the device yourself. If necessary, have the device repaired professionally.

5 Option: "Emergency call via mobile emergency system comtac 1204"

Using the mobile emergency call system comtac 1204 it is not only possible to raise the alarm locally through an acoustic signal but also to send out an additional emergency call via the GSM wireless network to an emergency call centre manned 24 hours a day.
The comtac 1204 determines the exact position coordinates via the GPS* satellite navigation system and transmits these together with the emergency call message to the emergency call centre. From the coordinates, the emergency call centre determines the location of the accident and initiates the steps to be taken in accordance with prior agreed procedures, e.g. from informing colleagues through to alerting of the responsible rescue coordination centre and briefing the local rescue services.

The emergency call can be made in two different ways:

- active emergency call by pressing the "Emergency stop / Emergency call" button on the F5 S transmitter for more than one second
- passive (time delayed) emergency call through the emergency call device comtac 1204, when no commands have been received from the transmitter over a preset time

To operate the F5 radio remote control together with the mobile emergency call system comtac 1204, the F5 S transmitters and F5 E receiver must be appropriately configured (retrofitting on request).

Please request the prospectus "comtac 1204 - Mobile Emergency Call System" for more detailled information. We will be happy to answer your questions.

* GPS stands for "Global Positioning System" and refers to a satellite navigation system, capable of determining accurate position coordinates anywhere in the world.

6 Technical Data

Frequency range	70 cm-ISM-band,
6 factory-settable radio channels	
Channel 1:	434,100 MHz
Channel 2:	434,250 MHz
Channel 3:	434,400 MHz
Channel 4:	434,475 MHz
Channel 5:	434,550 MHz
Channel 6:	434,700 MHz
Device code	5-digit (unique code)
Control commands	4, plus 1 emergency command
Modulation	F1D
Hamming distance	D = 8
Operating mode	Simplex
Temperature range	- 20 to + 60 °C
Plastic parts / colour	Polyamide / RAL 6020 (green)

Transmitter F5 S

Transmitting power	10 mW ERP
Power supply	NiMH - battery 7,2 V / 800 mAh (eneloop)
Operating time	approx. 40 h per battery charge (subject to usage)
Aerial	Integrated
Housing	Rubber-protected aluminium profile
Protection class	IP 65
Dimensions in mm (W x H x D)	(112 x 145 x 37) mm
Weight	approx. 560 g

Receiver F5 E

Operating voltage	12 V, reverse polarity protection
Outputs	output-relais fused 6,3 A, slow-blow Optional connection to Mobile Emergency-System “comtac 1204”
Aerial	iintegrated, (optional external car-aerial or BNC-coaxial jack)
Housing	Aluminium profile housing
Protection class	IP 65
Dimensions in mm (W x H x D)	(111 x 303 x 36) mm
Weight	approx. 1550 g

Mains charger LG 5

Mains voltage	100 - 240 V AC / 47-63 Hz

This device is subject to the EU Guideline 2002/96/EG (WEEE) and the Electrical Equipment Law. It must never be disposed of with household refuse. As the owner of the device you are obliged by law to dispose of the device separately from the household refuse disposal system of the local authority (publically designated waste disposal organisation). There are no return fees.
Of course, TELENOT will take back free-ofcharge all items it has supplied and ensure that they are properly recycled.

CE These signs confirm conformity of the device to the EMV Guideline 2004/108/EC, the Low Voltage Guideline 2006/95/EC and the R&TTE Guideline 1999/5/EC.

The F5 radio control device can be operated using the specified operating frequencies in numerous EU countries sowie iin "CH" und "FL" without any restrictions

EC Declaraction of conformity and delivery note

You can download a Declaration of Conformity and a Delivery Note form for repairs from www.funk-im-forst.de
If you have any questions, please contact the manufacturer.

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