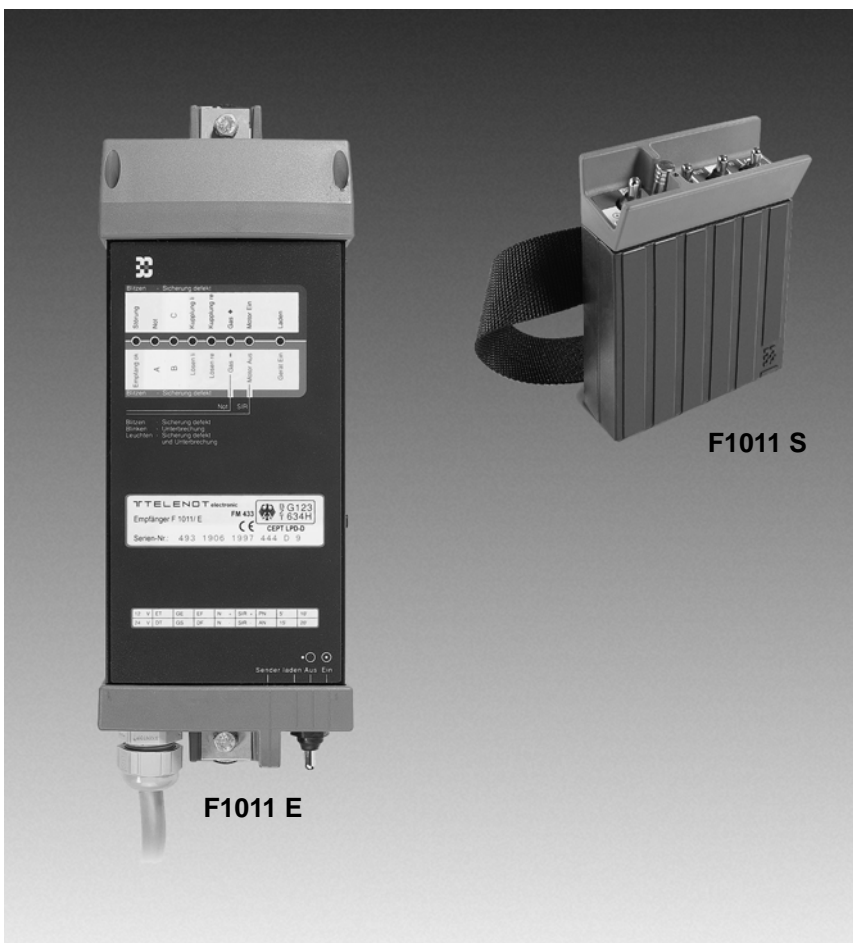




F 1011



Radio Remote Control for Forestry Winches

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Appendix: Connector pin assignment on connection cable for your winch

The equipment operates free of charge and therefore does not have to be registered with the telecommunications authorities.

1 Application

The **F1011** radio control is for the remote control of single-drum and double-drum winches that are mainly used for skidding logs in the forestry industry.

Requirements for use of the radio remote control are electro-magnetically controlled valves for all winch functions, electro-control of the motor's speed and accessory equipment for controlling special winch functions. Furthermore, the negative pole of the battery must be on the skidder vehicle chassis.

2 Technical Data

Frequency range	70 cm ISM band (433.05 - 434.79 MHz)
Address store	100,000 (unrepeated)
Control functions	11, plus 1 emergency and 1 (siren) horn
Modulation	F1D
Hamming distance	D = 8
Operating mode	Simplex
Degree of protection	IP 65
Temperature range	-20°C to +60°C
Plastic parts / paint	Polyamide / RAL 6020 (chromium oxide green)

Transmitter

Transmitter power	10 mW ERP
Power supply	NiCd battery 7.2 V / 270 mAh
Operating time	Approx. 13 hours per battery charge
Antenna	Built-in
Housing	Section aluminium, rubber-armoured
Dimensions in mm (WxHxD)	112 x 145 x 37
Weight	650 g

Receiver

Operating voltage	12 V or 24 V DC, protected against polarity reversal
Outputs	Output relays with 6.3 A fuses
Diagnostics display panel	Built-in display of all functions and operating modes as well as of different types of faults and defects
Antenna	Built-in
Housing	Section aluminium
Dimensions in mm (WxHxD)	110 x 262 x 35
Weight	1650 g

The system has been generally approved by the BZT (German Federal Telecommunications Licensing Authority) and is licensed under the license number G123634H CEPT LPD D.

Operation is free of charge and does not need to be registered.

3 System Delivery Package

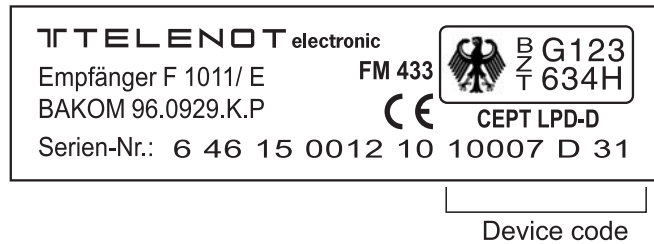
- Transmitter **F 1011 S** with belt/shoulder strap and safety cap for charger jack and transmitter holder **SH 1007**
- Receiver **F 1011 E** with connecting cable and plug
- Charger **LG 1007**
- Charger cable with snap-on connectors **LK 1007**

4 Versions, Operating Modes and Outputs

Caution:

Before connecting the receiver, check that the specifications on the receiver's type plate (see table below) match those of your skidder.

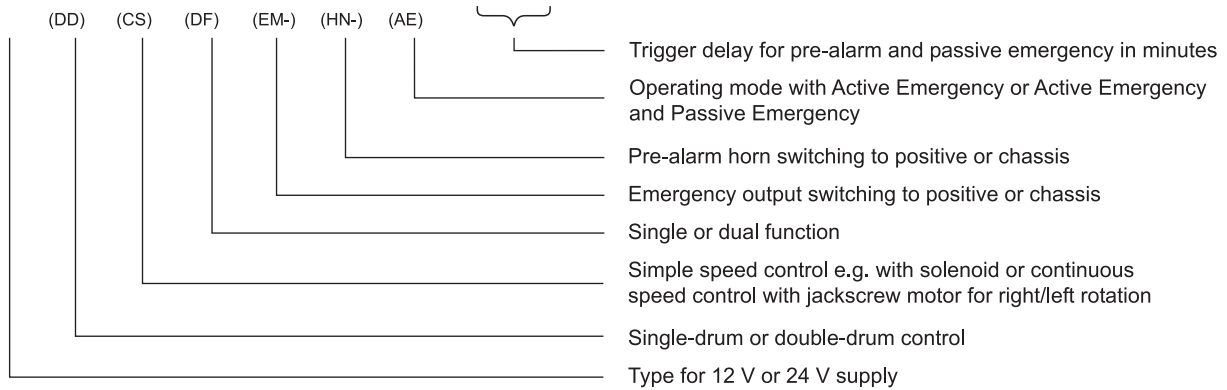
Likewise, check that the receiver's and transmitter's serial number device codes are identical.



Receiver type plate and explanation:

	(SD)	(SS)	(SF)	(EM+)	(HN+)	(PE)		
12V	ET	GE	EF	N+	SIR+	PN	5'	10'
24V	DT	GS	DF	N-	SIR-	AN	15'	20'

Type plate with German abbreviations



The relevant specifications for the type concerned are marked by a point (•) in the corresponding fields.

Note that the operating modes indicated on the type plate can only be factory-set. In addition, the Passive Emergency only, or the Passive Emergency and Active Emergency together can be activated or deactivated.

In the **Standard** version, the **3AC** (additional command) option can also be factory-set for activating the three additional commands A, B and C. For special tasks it might be necessary to suppress the **Continuous release right/left** function. Upon request, the **With/without continuous release** option that is only available in the **Standard** version can be activated or deactivated for this in the factory.

4.1 "Standard" Type for All Common Makes of Winch

The system permits you to operate the functions pull, short and continuous release right and left, simple or continuous speed control as well as motor start and stop. The **3AC** option provides three more commands for whatever applications required. The **Standard** version is designed for the remote control of all common makes of winch. The **Continuous release** function can be deactivated for special applications. In this case the **Release** function only operates for as long as the switch is activated (see 7.4).

4.2 Version for “Hydraulic Motor” Winch for Right-Left Rotation and Variable Speed Steps

The **Hydraulic Motor** version of the radio control system is specially designed to operate this type of winch. It controls the standard functions for pulling, short and continuous release of both winch sides, simple or continuous speed control as well as motor start and stop. Furthermore you can control the sense of rotation of the hydraulic motor for controlled pulling or load lowering by separate switching of both speed steps (see 7.5).

4.3 Version for “S / LLB” Winch with Automatic Load Lowering Brake

This version controls the special device for automatic load lowering in addition to the standard functions for pulling, short and continuous release of both winch sides, simple or continuous speed control as well as motor start and stop (see 7.6).

4.4 “Emergency” and “Horn” Outputs

Upon request these relay outputs can be activated in the factory as required in all versions of the device or even deactivated should you not wish to use these outputs. In the case of **Passive Emergency**, for example, after periods of inactivity longer than 10 minutes, the winch is automatically shut down without any audible pre-alarm. This however does not affect the **Active Emergency** operating mode.

The **Emergency** and **Horn** outputs serve to activate a radio emergency call or an acoustic signal horn and a pre-alarm horn for which the skidder’s horn can be used. The two outputs normally output the positive on-board voltage, but on request you can have the device set in the factory to chassis. The emergency call can be triggered on the transmitter by the operator or automatically by the **Passive Emergency** function after the set triggering delay. The default triggering delay is 10 minutes.

However, the time can be factory-set to 5, 15 or 20 minutes. When the emergency call phase starts, the skidder horn connected to the **Horn** output sounds intermittently for 20 seconds before the **Emergency** output is activated. This therefore gives you sufficient time in case of a wrongly triggered emergency call to switch it off on the transmitter. This also silences the connected pre-alarm horn (see 7.3). In the case of mute forwarding of the emergency call via a radio emergency call device, the horn rhythm slows down audibly to indicate clearly to the operator that the emergency call has been forwarded. The horn remains activated during the entire emergency call phase until this is cancelled on the transmitter or by switching off the receiver.

4.5 Fault Recognition for “Emergency” and “Horn” Outputs

For the sake of occupational safety, faults such as a defective fuse in the receiver, cable break or wrong connections are displayed separately for these two outputs on the display panel (see 6.1). If there is a fault, all the operational functions of the system are inhibited. You can only continue to work after deliberate release on the transmitter. In this way no unknown faults can creep in and possibly lead to dangerous situations. If you do not intend to use the **Emergency** and **Horn** outputs, a factory setting can be made to block activation. If you wish to reserve these outputs for possible later use, you must terminate them to ground with a resistor of 10 k Ω /0.25 W. Then the system doesn’t have to be released each time on the transmitter before starting to work. When using the outputs for their intended purpose, it is imperative to remove the resistor in order to reactivate fault detection. The **Emergency** command however still stops all functions immediately.

4.6 Single Function “SF” (EF*) / Dual Function “DF” (DF*)

Single function or **SF** stands for the operating mode in which, when the **Pull** command is given, the brake is released automatically at the same time through special mechanisms in the winch. Dual function or **DF** stands for the operating mode in which, when the **Pull** command is given by the receiver, the **Release** command is forwarded at the same time to the winch, because the winch doesn't release automatically.

Note:

Winches differ from manufacturer to manufacturer and the type must be established by an expert, based on the following criteria:

Switch the contact for the **Pull** solenoid valve briefly to positive on-board voltage. If the winch pulls in, then the operating mode **SF** (EF) on the receiver is correct; if there is just a loud clicking sound and no winch movement, then the brake is not released automatically. In this case, the operating mode **DF** (DF) on the receiver is correct in which the brake is released concurrently.

When installing 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** (DF) field must be marked on the receiver type plate.

In the case of pneumatic winches, additional electronics are often implemented due to the delayed response times. These elements are inserted on the incoming lines to the brake and clutch valves. 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.

4.7 Simple Speed Control “SS” (GE*) / Continuous Speed Control “CS” (GS*)

The operating mode **SS** (GE) in conjunction with a solenoid, or a pneumatic or hydraulic actuator cylinder, on the throttle control permits switchover from idling speed to a higher speed for increased torque during skidding. In the case of **CS** (GS), an electric jackscrew motor for right/left rotation is used for continuous increase or decrease of motor speed respectively with the **Speed+** (G+) and **Speed-** (G-) control switches.

4.8 Single Drum “SD” (ET*) and Double Drum “DD” (DT*) Versions

The system is available in **SD** (ET) or **DD** (DT) versions for operating single-drum or double-drum winches respectively.

The version is marked clearly on a label on the receiver.

4.9 Power Supply Voltage

The receiver is set for operation with the 12-V or 24-V power supply of the skidding vehicle.

Caution:

The voltage marked on the version label must match the power supply of the skidding vehicle, otherwise the receiver may be damaged.

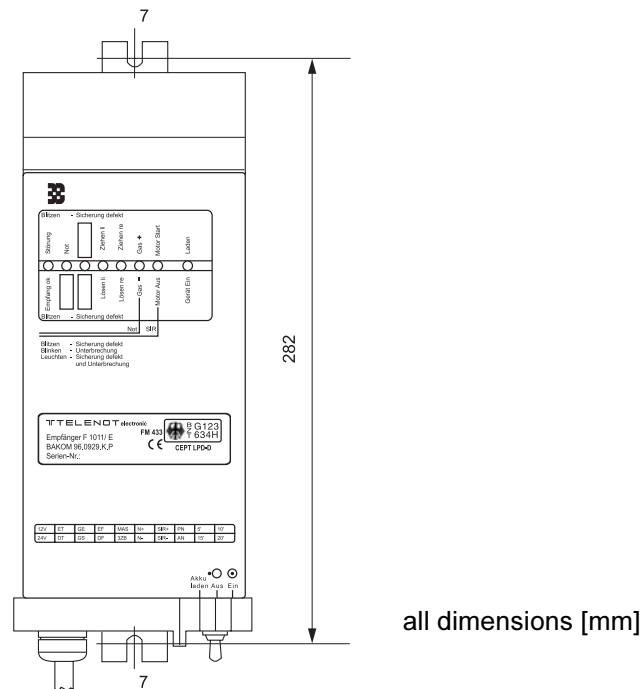
* German type plate

5 Mounting the F1011E Receiver

Using the two metal swivel elements mount the receiver vertically on the inside of the driver's cabin with the cable inlet downwards.

Mounting without using the two metal swivel elements is not allowed.

The antenna is built into the angled plastic top of the receiver. In order to obtain as wide a range as possible you should mount the receiver such that the antenna is as near to the side of the window as possible. Mount the receiver as far away as possible from large, closed metal areas.

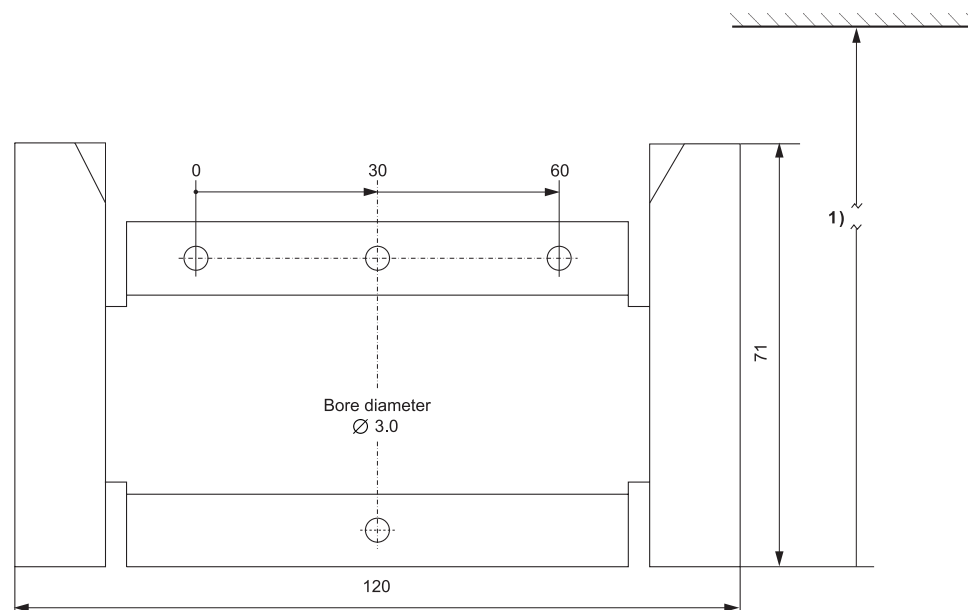


all dimensions [mm]

Note:

Since the transmitter can be charged on the receiver when properly mounted in the skidding vehicle, the transmitter holder **SH 1007** should be mounted next to the receiver with enough space for the charger cable **LG 1007** to be connected easily to the transmitter and receiver.

Mount the holder vertically in the driver's cabin as per the diagram below.



1) In order to have free access to the transmitter, you should mount the transmitter holder **SH 1007** such that there is a free space of at least 220 mm above it.

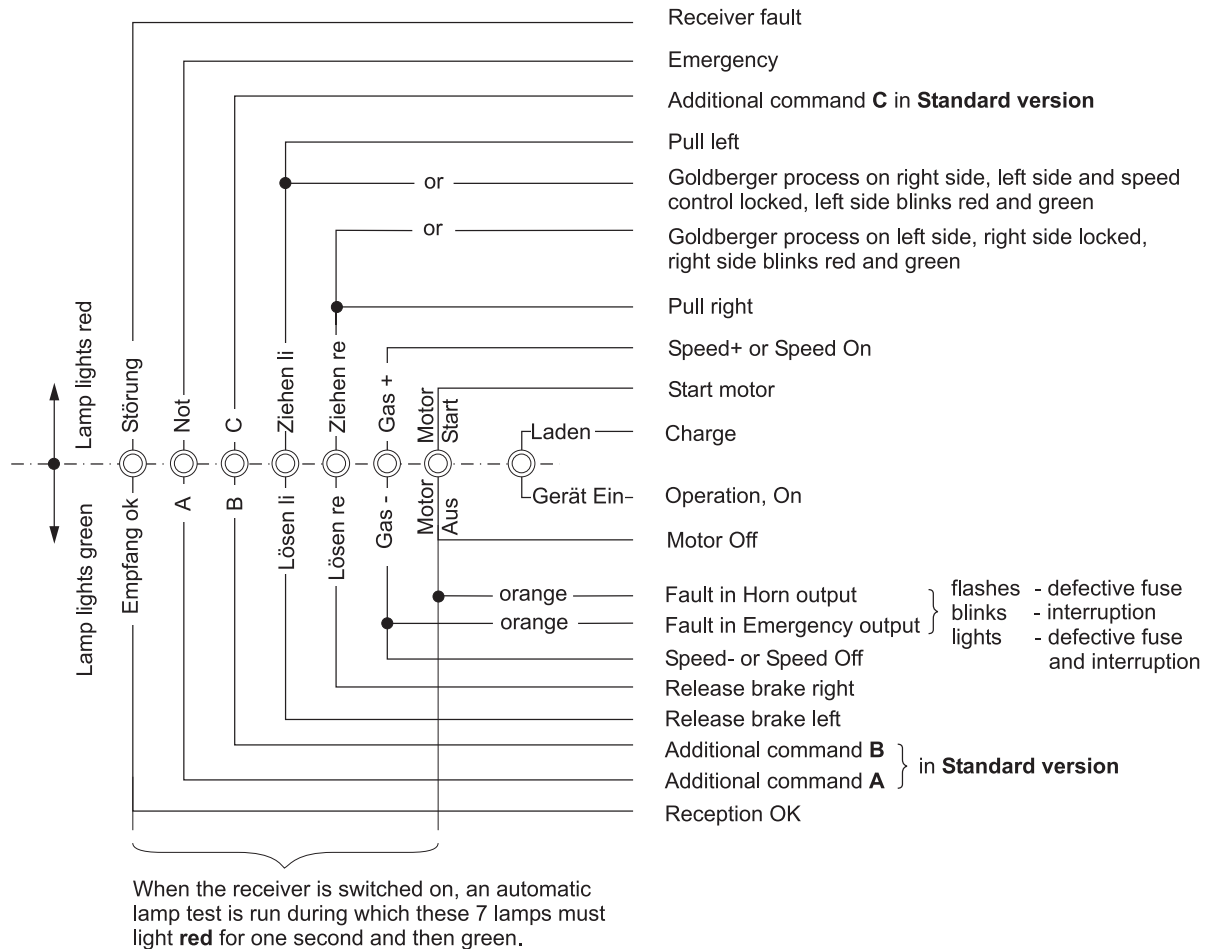
6 Connecting the F 1011 E Receiver

If the connector pin assignment of the receiver connecting cable matches the assignment of the winch connector socket, then all you have to do is connect the remote control unit and the system is ready for operation.

If the connector pin assignment of the receiver connection doesn't match, then you must change it according to the circuit diagram "Pin assignment on connecting cable".

The different circuit versions are shown under 6.2 "F 1011 E Connector Pin Assignment Diagram".

6.1 Meaning of Lamps on the Control Panel



Important for trouble-free operation:

To ensure proper functioning of the system you must check that the contact is good for all the switches, fuses holders, skidder vehicle bodywork screws etc. along the entire circuit path from the positive terminal of the battery through the winch connector plug to the receiver and back via all the chassis ground paths to the negative terminal of the battery.

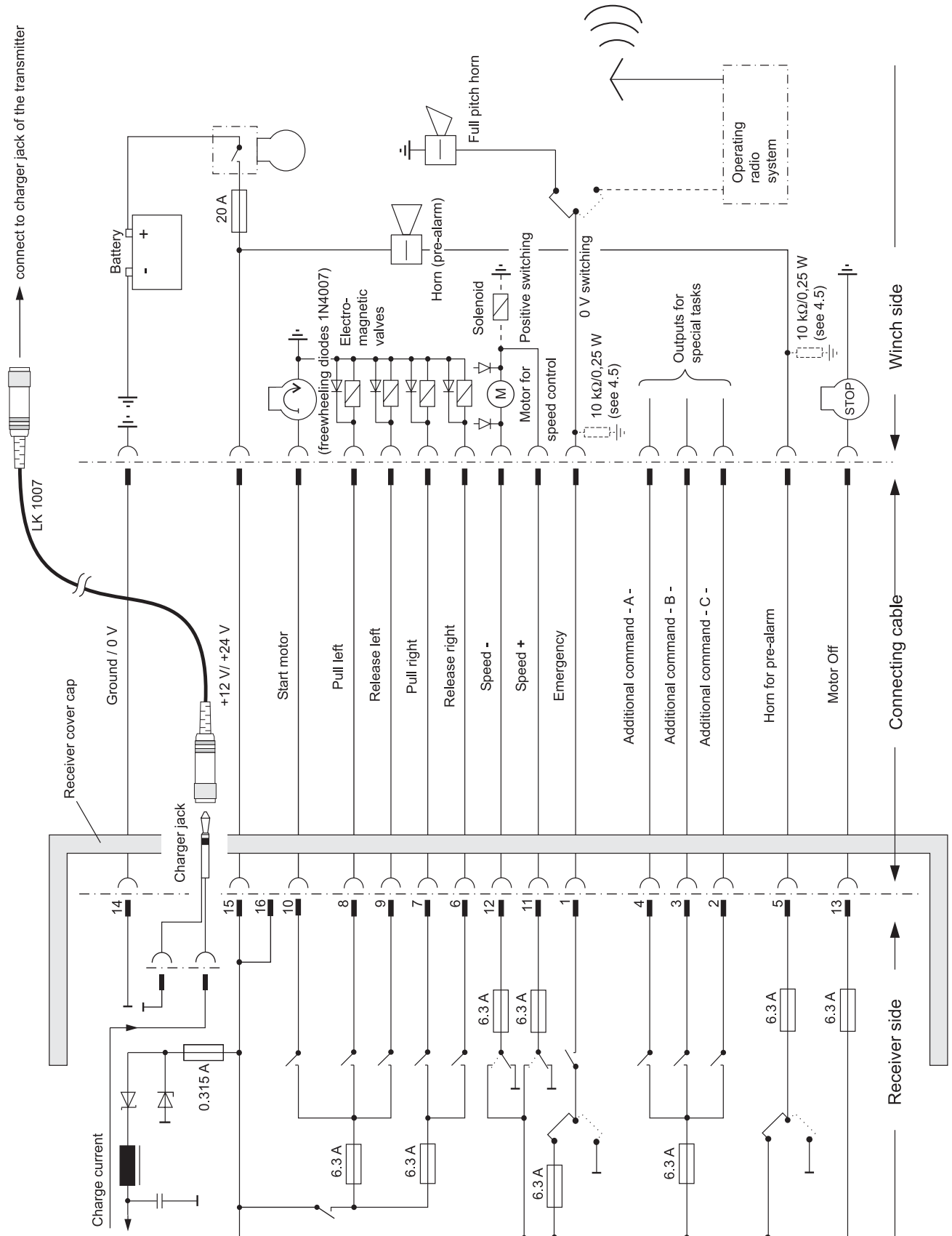
If this is not the case on your skidder vehicle, the supply voltage at the receiver might break down under load switching at less than the critical value for trouble-free operation.

The issue of commands is blocked in this case and the **Fault** lamp starts to blink.

Connect a halogen lamp via cable directly to the contacts of the supply voltage in the winch connector to check for proper connections. Even when the chassis is shaken by the running motor, the lamp must light without flickering and with the same brightness as when connected directly to the on-board battery of the skidder vehicle.

Caution: the halogen lamp gets hot.

6.2 F 1011 E Connector Pin Assignment Diagram



7 Transmitter

7.1 Switching ON/OFF

You switch on the transmitter by holding the On/Off switch in the **ON** position for longer than one second. Any command switches that you might activate at the same time have no effect on the receiver if it happens to be switched on. If you do not activate a command switch for longer than 10 minutes, the transmitter switches off automatically. This prevents the transmitter's battery from overdischarging if it is switched on inadvertently.

Lightly flicking the switch into the **OFF** position immediately switches off the transmitter. You should do this when not working with the system to prolong the working life of the battery.

7.2 EMERGENCY STOP

If you hold the switch in the EMERGENCY position for longer than one second, all commands are blocked immediately (EMERGENCY STOP); activated commands are interrupted. The transmitter transmits the emergency signal for 30 seconds and then switches off automatically. When the emergency signal is triggered, the connected pre-alarm horn (skidder vehicle horn) sounds in rapid on-off rhythm for about 20 seconds and then the emergency command is output. The horn rhythm then slows down, giving an acoustic indication that the emergency command has been issued.



7.3 Resetting the "Emergency" Command

Even during the 20-second pre-alarm phase as well as after issue of the emergency signal you have the option of switching off the horn and interrupting the emergency signal on the transmitter.

If the alarm is set off inadvertently the process can be stopped even before the actual emergency signal is output or also afterwards.

1. Switch on transmitter, hold ON switch and activate the **Pull left** switch at the same time. The pre-alarm horn and the **EMERGENCY** signal output, if already activated, are switched off together. The system is ready for operation again.
In the **Passive Emergency** operating mode all you have to do is flip the On/Off switch briefly into the **ON** position to cancel the pre-alarm phase which is activated automatically after the set time with the transmitter switched on. If the transmitter is switched off, then you switch it on by holding the On/Off switch in the **ON** position, which also cancels the pre-alarm phase. If, however, output of the **Emergency** command has already been triggered, then you can only deactivate this command as follows:
2. Switch the receiver off briefly and then back on again.

7.4 Operating the “Standard” Version of the Transmitter

The following figure shows the operating elements of the **F 1011 S** transmitter. The  symbol stands for the **Pull** command and the  symbol stands for the **Release brake** command.

The **EMERGENCY STOP** command is represented by the  symbol.

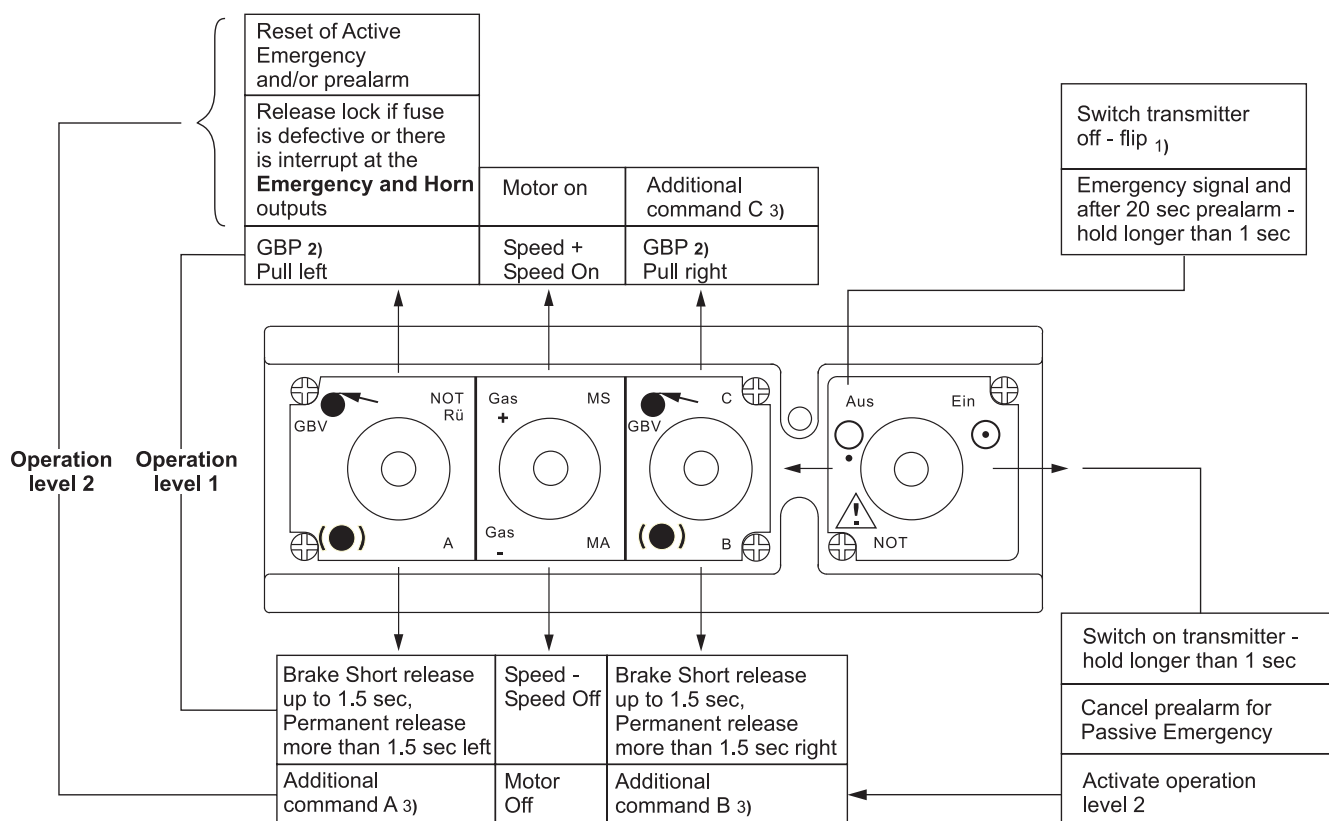
The **Speed-/Speed+** switch is for continuous speed control in the **CS** mode of the receiver (see 4.7). In the **SS** version **Speed+** switches on the speed control and **Speed-** switches it off.

The **Start motor (SM)** and **Motor Off (MO)** commands are activated by holding the On/Off switch in the **ON** position and then activating the **SM/MO** switch with the transmitter switched on. To activate the command again, you just have to activate the **SM/MO** switch, the On/Off switch can be released.

Note on the Release brake function:

If you flip this switch to the release side for less than 1.5 seconds, you trigger the **Short release** function.

If you hold the switch longer in position, the system switches automatically to the **Continuous release** function. This function remains activated until you flip the same switch briefly to the Pull or Release side. The **Continuous release** function can be blocked ex factory for special tasks.






1) The transmitter switches off automatically 10 minutes after last activated command.

2) **GBP** (Goldberger process, see 7.7 for explanation of function and equipment required)

Release of left side with Speed ± by holding the **Pull left** command on the transmitter when you switch on the receiver.

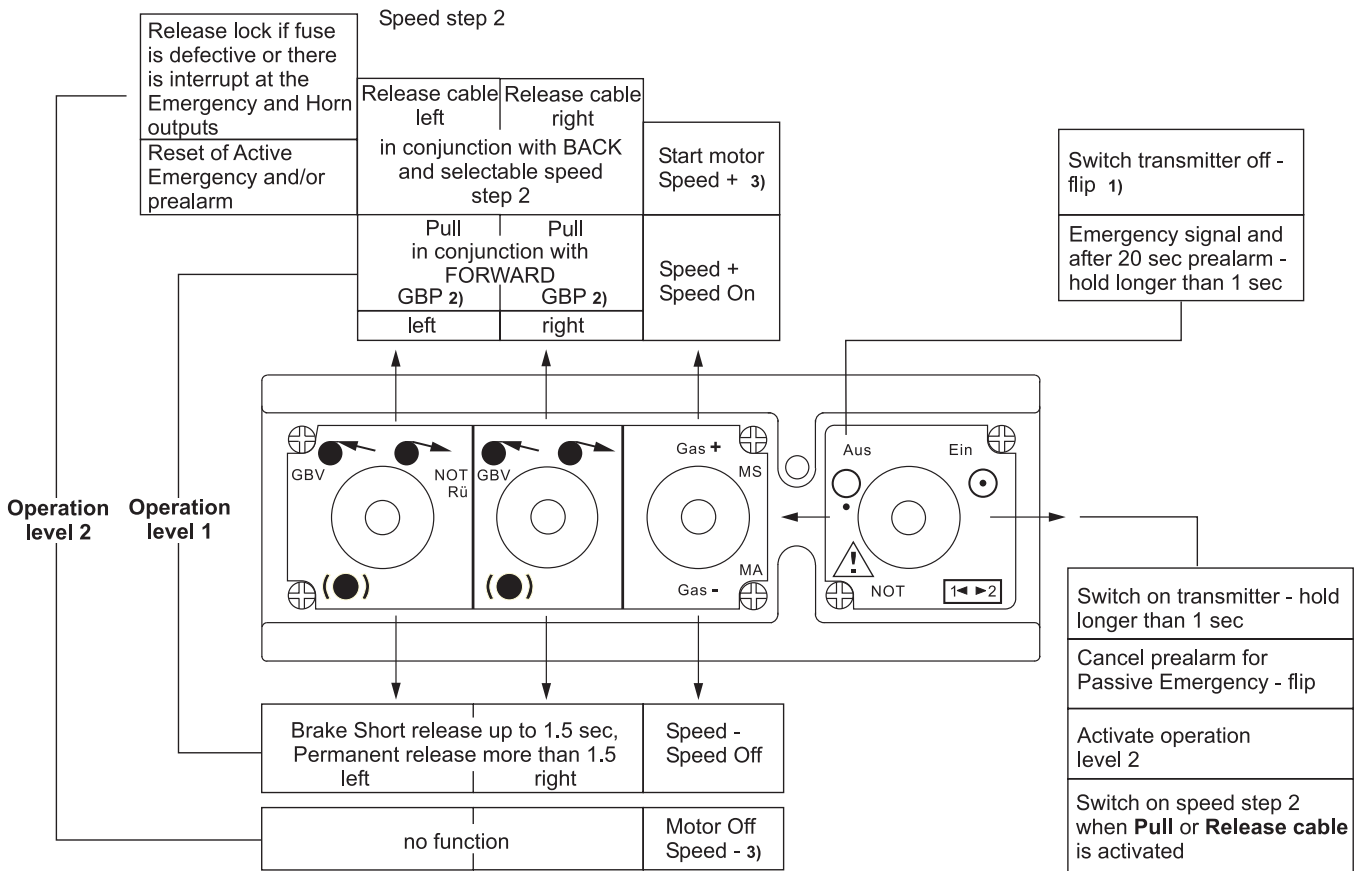
Release of right side without Speed ± by holding the **Pull right** command on the transmitter when you switch on the receiver.

3) Commands A, B, C are only effective with the option “3 additional commands (**3AC**)”.

Aus	→ Off	MS	→ SM (Start motor)
Ein	→ On	MA	→ MO (Motor Off)
NOT 	→ Emergency	NOT Rü	→ Emergency Reset
A	→ additional command A	GBV	→ GBP
B	→ additional command B		→ Pull
C	→ additional command C		→ Release brake
Gas-/Gas+	→ Speed-/Speed+ or Speed Off/ Speed On		

7.5 Operating the “Hydraulic Motor” Version of the Transmitter



The following figure shows the operation. The special features depend on the characteristics of the hydraulic motor for the **Pull** and **Release cable** directions. For **Pull**, for example, the **FORWARD** command is given for the corresponding direction for both the right and left winch side on the receiver. Similarly, this applies for the **Release cable** command for both winch sides whereby the **BACK** command for the opposite direction of the hydraulic motor is triggered on the receiver. Each time the hydraulic motor is activated you can switch on speed step 2 in either direction simply by flipping the ON switch to the right, and switch it off again by flipping the switch again to the right. The functions **Speed+**, **Speed-** are independent of this and can thus be activated in addition. If, for example, you select **Release cable** left at operation level 2, the Speed switch operates as usual on the motor speed. The **Start motor**, **Motor Off** switch only triggers the **Start motor** or **Motor Off** command respectively if it is operated after activation of operation level 2 without any other command being activated beforehand. During the time that you operate the **Start motor**, **Motor Off** switch, all other commands except for the Emergency command are blocked.



- 1) The transmitter switches off automatically after 10 minutes after last activated command.
- 2) **GBP** (Goldberger process, see 7.7 for explanation of function and equipment required)
 Release of left side with Speed ± by holding the **Pull left** command on the transmitter when you switch on the receiver.
 Release of right side without Speed ± by holding the **Pull right** command on the transmitter when you switch on the receiver.
- 3) Commands **Speed+** and **Speed-** are only effective if **Release cable** is activated beforehand, otherwise the **Start motor** and **Motor Off** commands are activated.

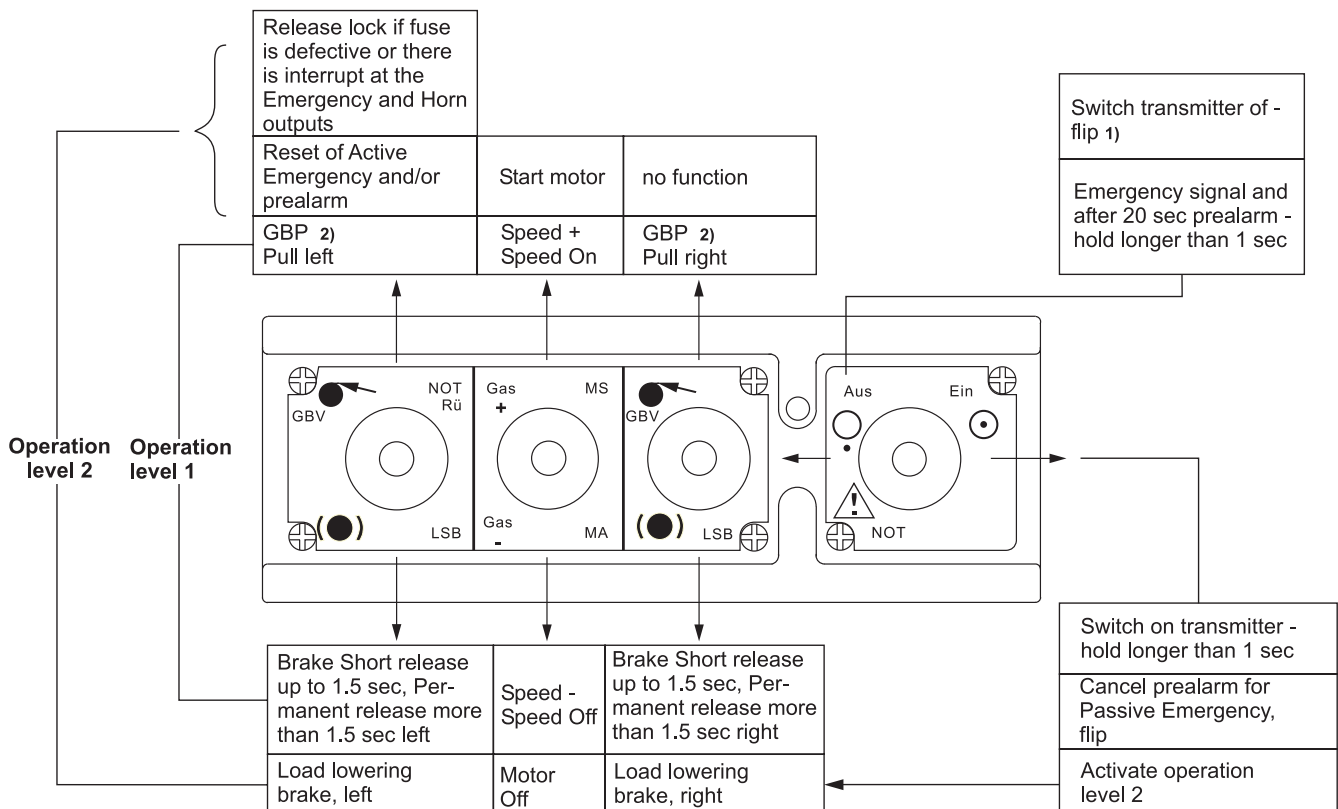
Aus	→ Off	MS	→ SM (Start motor)
Ein	→ On	MA	→ MO (Motor Off)
NOT ⚠	→ Emergency	NOT Rü	→ Emergency Reset
A	→ additional command A	GBV	→ GBP
B	→ additional command B	●↖	→ Pull
C	→ additional command C	●↗	→ Release cable
Gas-/Gas+	→ Speed-/Speed+ or Speed Off/Speed On	●	→ Release brake

7.6 Operating the “S / LLB” Version of the Transmitter

The following figure shows the operating elements of the “S / LLB” version of the F 1011 S transmitter. The  symbol stands for the **Pull** command and the  symbol stands for the **Release brake** command. When an appropriate additional device is fitted on the skidder vehicle the **Speed+** switch increases the motor speed and the **Speed-** switch decreases the motor speed. If the skidder vehicle is equipped with a solenoid, then **Speed+** switches on the solenoid for a preset increase in motor speed, and **Speed-** switches the motor to idle. In operation level 2, activated by holding the On switch to the right, you can start or stop the motor (requirement here is again that an appropriate additional device is fitted on the skidder vehicle). In operation level 2 you can also operate the load lowering brake for the right and left winch sides. If you operate the **Pull left** switch in operation level 2, you can cancel just the pre-alarm horn, or the pre-alarm horn and the Active Emergency.

Note:

In order to maintain commands activated in operation level 2, you must release the switch again. If another switch is operated in addition, this activates a command in operation level 2. To attain operation level 1 again, all the switches must be returned to their initial positions and then a switch operated, because the On switch is not operated in this case.



1) The transmitter switches off automatically after 10 minutes after last activated command.

2) **GBP** (Goldberger process, see 7.7 for explanation of function and equipment required)

Release of left side with Speed ± by holding the **Pull left** command on the transmitter when you switch on the receiver.

Release of right side without Speed ± by holding the **Pull right** command on the transmitter when you switch on the receiver.

7.7 Programming for the “Goldberger Process” (GBP)

Using the **Goldberger Process** in conjunction with two **F 1011** systems you have the option of controlling the two winch sides separately by two operators.

If the left winch side and the **Speed** command are to remain activated and only the right winch is to be blocked, then you must switch off the receiver. Hold the **Pull left** switch on the transmitter, switch on the receiver and only release the switch when the lamp for **Pull, Release right** blinks red/green after the lamp test on the receiver. The right winch side that is supposed to be operated by the 2nd system is blocked.

You proceed in the same way with the appropriate transmitter and receiver for the 2nd system. To block the left side and activate the right side of the winch on the 2nd transmitter you hold the **Pull right** switch until the lamp for **Pull, Release left** blinks red/green after the 2nd receiver is switched on after the lamp test.

When you switch off the receiver, this operating mode is automatically cancelled.

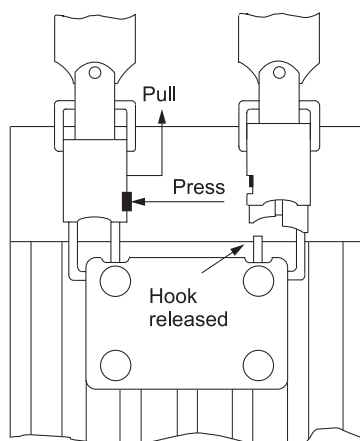
7.8 Meaning of the Control Lamps on the Transmitter

Control lamp	Meaning
Blinks quickly	Transmitter switched on, ready for operation
Off	Transmitter switched off or Operation not possible because battery is low
Lights continuously	Battery being recharged
Blinks 3 times briefly with short interval	Battery must be recharged
Flashes every second	Battery is fully charged and is trickle charging.

7.9 Carrying the Transmitter

The transmitter is best worn on the hip using the belt. If the transmitter is to be worn on the chest, then you need the shoulder strap, too. For this the fastening hooks of the belt are inserted and locked into the small bores in the seam buckle on the back of the transmitter.

To release the hooks you press and hold the button on the narrow side of the plastic part and push this up until the hook can be disengaged.



Attaching the shoulder belt

7.10 Recharging the Transmitter Battery

If the control lamp on the transmitter blinks 3 times briefly with a short interval, then the battery is low and must be recharged. If you don't happen to notice the control lamp in this case, there is no danger of the battery being damaged by overdischarging, because shortly afterwards the transmitter switches itself off automatically to prevent this.

The transmitter battery can be recharged by connecting it directly to the charger connector of the receiver using the **LK 1007** charger cable supplied. For this you snap the cable socket connectors into place on the charger jacks on the transmitter and receiver and check that the control lamp on the transmitter lights. Switch the toggle switch on the receiver to **Charge**. The **On/Charge** lamp lights red.

Using the **LG 1007** mains charger you can recharge the transmitter battery from the 230V mains supply. Snap the cable socket connector firmly onto the charger jack on the transmitter and check that the control lamp lights.

During the charging period of about 4.5 hours the control lamp on the transmitter lights continuously. Flashing of the control lamp indicates that the trickle charge phase has been reached. You can leave the battery like this for longer periods of time without any risk of damage.

7.11 Notes on How to Prolong Battery Life

- Always recharge the battery after each working day.
- There is no need to recharge the battery after operating periods of less than one hour.
- Do not recharge the battery at temperatures below 0°C or above +40°C.
- Overdischarging, which damages the battery, is prevented by the transmitter switching itself off automatically if it isn't used for longer than 10 minutes, or if the battery is low. You can also switch off the transmitter manually by flipping the switch to OFF before it switches itself off automatically.
- If the transmitter is not to be used for a longer period of time, you can keep the battery fully charged by leaving it connected to the charger, otherwise you must charge it every month or before working with it.

8 Start-up and Function Check

— Warning — Risk of Injury —

If there are two separate connectors on your skidder for the manual control and the radio remote control, then only one control system may be connected at any one time. Therefore, before starting to operate the radio remote control system, make sure that the cable of the manual control is disconnected.

Before starting the following function check, make sure that the receiver connection cable is properly installed and that the transmitter battery is fully charged.

Caution: first switch on the receiver and then operate the transmitter.

For the sake of security, the receiver blocks all operating commands just in case commands are already being transmitted by the transmitter when you switch on the receiver. In this case switch the transmitter briefly off and then on again. Now the system is ready for operation.

Instruction	Reaction	Control lamps on receiver
a) Switch on receiver	— None —	Device On lamp lights green, the other 7 lamps light green for 1 second, then red for 1 second and then go out.
b) Switch transmitter to Emergency for longer than 1 second	Horn sounds in half-second rhythm	Reception OK lamp lights green for 30 seconds; after 20 seconds the Emergency lamp lights red, after another 10 seconds the Reception OK lamp goes out.
c) Activate any command on the transmitter	Horn continues to sound, no triggering of operations	Reception OK lights during operation on transmitter; the Emergency lamp continues to light.
d) Hold ON switch on the transmitter and activate Pull left	Horn stops; Emergency output switches itself off	Reception OK lamp goes out; no further reaction.
e) Activate any command on the transmitter	Corresponding operation is triggered	Reception OK lamp and other relevant lamps light.
Check points a) to e) must always be run through before starting to work with the system.		

9 Troubleshooting

The diagnostics display panel displays operating statuses and faults in the load output section and in the electronics.

Since proper functioning of the outputs for **Pre-alarm horn** and **Emergency** is very important for passive operating safety, faults that are separately valid for both outputs are displayed on the diagnostics display panel (see 6.1).

If one of these types of fault occurs, then all further operations with the system are blocked to remind the operator to check and eliminate the fault.

You can release the block for further operations by running through the following operating routine:

Switch on transmitter, hold switch in right position and activate the **Pull left** command. The operation command is not issued, but the block and fault displays on the diagnostics display panel are cancelled. Now you can continue working as usual.

If the fault is not eliminated, then the described reaction is repeated every time you switch on the receiver.

When the operation commands are issued, the corresponding indicator lamps light green or red. A defective fuse is indicated by flashing of the lamp for the command currently activated.

If both the **Emergency** and the **Horn** outputs are to remain unused, they can be blocked ex factory. In this case work can be started immediately after switching on the receiver without having to reset the block.

In the **DF double-function** mode, in which output for **Pull** is in conjunction with **Release brake** of the same winch side, when the **Pull** command is activated, the respective lamp lights orange.

For the rare case that one of the 5 relays of the outputs that are critical for safety (**SM, PL, BL, PR** and **BR**) sticks, then the **Fault** lamp blinks red. If one of the 5 commands is activated from the transmitter, then the **Fault** lamp blinks orange and green; the command itself and all the other above-mentioned outputs are blocked.

If it is absolutely necessary to carry on working with at least one side of the winch, then you can remove the fuse of the defective side (see 9.1). The Fault lamp then goes out and you can still work with the non-defective side. However, the system should be sent back to the factory as soon as possible for repair accompanied by a brief fault description.

The **Fault** lamp

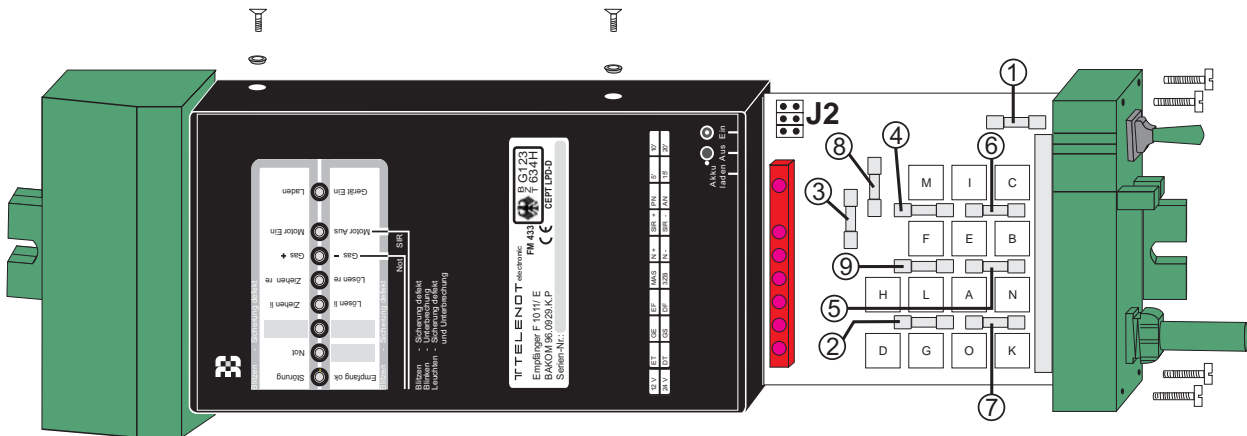
- Blinks red if one of the 5 relays mentioned above sticks, or blinks orange and green if the transmitter is still transmitting commands.
- Flashes if the power supply voltage is too low
- Lights if the microprocessor is defective.

In all these cases the issuing of commands is blocked. To continue working you must first troubleshoot and eliminate the cause of the fault.

9.1 Changing Fuses in the Receiver

Note: The work on the open receiver as described below should only be done by qualified experts. Before removing the board, ensure that the environment is clean and free from particles, dust and the like.

- Locate the cause of the fault and remove it, e.g. short circuit in the wiring.
- Remove the connection cable from the power supply.
- Remove the four fastening screws on the lower housing cap with the cable inlet and the two screws on the narrow side of the housing.
- Pull out the board out of the housing as shown in the diagram below.
- Replace the defective fuse with a new fuse of exactly the same type.
- Warning:** never jumper fuses - fire hazard.
- Never do anything else to the device.
- Slide the board carefully back into the housing without forcing. Now check all system functions before replacing the screws in the housing.
- If everything is OK, replace and tighten the screws.



Fuse	Designation	Type
1	Electronics	T 0.315 A
2	Additional commands A, B, C	T 6.3 A
3	Pull and Release left and Start Motor	T 6.3 A
4	Motor Off	T 6.3 A
5	Horn	T 6.3 A
6	Speed -	T 6.3 A
7	Emergency	T 6.3 A
8	Speed +	T 6.3 A
9	Pull and Release right	T 6.3 A

10 User Maintenance

The **F 1011** is maintenance-free. However, you can still do something actively towards prolonging the working life of the radio remote control system if you observe the following recommendations:

- Make sure that the safety cap for the charger jack on the transmitter is always in place when working with the transmitter.
- If the charger jack is dirty, clean it with a lint-free cloth soaked in ethanol.
- Replace defective switch protector caps immediately.
- Pay special attention to the transmitter battery charging instructions.

Note:

Do not clean any parts of the system with a steam jet device.

Do not use oil or lubricants to clean or conserve;

there are no parts on the radio remote control system to oil or lubricate.

Remove the connector of the winch connection cable from the winch socket before doing any arc welding on the skidder vehicle. This is to avoid any damage to the receiver's electronics.

11 Conformity Certificate

BUNDESAMT FÜR ZULASSUNGEN IN DER TELEKOMMUNIKATION



ZULASSUNGSURKUNDE

Zulassungsnummer: G123634H

Zus. Kennzeichen: CEPT LPD-D

Objektbezeichnung: FM 433

Zulassungsinhaber: Telenot Electronic GmbH
Wiesentalstr. 42-44
D-73434 Aalen

Zulassungsart: Allgemeinzulassung

Objektart: Funkanlagen geringer Leistung für nichtöffentliche Funkanwendungen in den ISM-Frequenzbereichen

Das Zulassungsobjekt erfüllt die Zulassungsvorschrift BAPT 222 ZV 125, Ausgabe Dezember 1994 auf der Grundlage der angewandten technischen Vorschrift I-ETS 300 220, Ausgabe Oktober 1993.

Die Zulassungsurkunde mit Ausstellungsdatum 19.04.1996 wird hiermit ungültig.

Saarbrücken, den 01.07.1996

Im Auftrag



Heinz Krämer
Heinz Krämer

1 Anlage

Anlage 1 zur Zulassungsurkunde
 Nr. G127101H vom 01.07.1996
 Vorgangs-Nr.: 55005 1
 Seite 1 (2)

SYSTEMBESCHREIBUNG

Objektbestandteil: Sendemodul: FSM 433
 Empfängermodul: FEM 433

Objektmerkmale:

Frequenzbereich: 433,05 MHz bis 434,79 MHz
 Betriebsfrequenz: 433,125 MHz
 Äquivalente Strahlungsleistung (ERP): < 10 mW
 Sendart: F 1 D
 Betriebsart: Simplex
 Datenübertragungsrate: max. 4,8 kbit/s
 Spannungsversorgung des Empfängers: 8 V, DC
 Spannungsversorgung des Senders: 6,5 ... 14,5 V, DC
 Antenne des Senders: fest eingebaut
 Anzahl der schaltbaren HF-Kanäle: 1

Bemerkungen:

Durch schaltungstechnische Maßnahmen wird verhindert, daß ein unmodulierter Dauerträger ausgesendet werden kann.

Anlage 1 zur Zulassungsurkunde
 Nr. G127101H vom 01.07.1996
 Vorgangs-Nr.: 55005 1
 Seite 2 (2)

Bedingungen und Auflagen

Die Bedingungen und Auflagen sind der "Verordnung über die Zulassung von Telekommunikationseinrichtungen (TKZulV)" zu entnehmen.

Außerdem gilt:

1. Das Zulassungsobjekt muß vom Zulassungsinhaber wie folgt gekennzeichnet werden:
 - Zulassungszeichen des BZT
 - zusätzlicher Kennzeichnung
 - Objektbezeichnung
 - Zulassungsinhaber
 - Seriennummer/Gerätenummer

Die zusätzlichen Kennzeichen sind dem Zulassungszeichen außerhalb der Umrandung rechts unten in gleicher Schrift und in Höhe der Jahresangabe anzufügen.

Die Kennzeichnung muß dauerhaft und abnutzungssicher ausgeführt und so mit dem Gehäuse verbunden sein, daß sie beim Entfernen zerstört wird.

2. Es dürfen nur solche Objekte mit dem Zulassungszeichen gekennzeichnet werden, die mit dem zugelassenen Objekt elektrisch und mechanisch übereinstimmen, d.h. bau- und funktionsgleich sind.

3. Der Zulassungsinhaber ist verpflichtet, jeder mit dem Zulassungszeichen gekennzeichneten Funkanlage einen Nachdruck dieser Zulassungsurkunde beizufügen.

4. Dem Zulassungsinhaber ist es untersagt, für einen Betrieb des Zulassungsobjektes zu werben, der nicht in Übereinstimmung mit den technischen Vorschriften und dem Verwendungszweck steht.

5. Alle an die Funkanlage anschließbaren Zusatzgeräte müssen den grundsätzlichen Anforderungen des Gesetzes über die elektromagnetische Verträglichkeit von Geräten (EMVG) genügen.

Die Übergangsvorschriften (§ 13 des EMVG) sind zu beachten.

Hinweise:

Diese Zulassung ist keine Genehmigung zur Errichtung und zum Betrieb der Funkanlage im Sinne des § 2 des Gesetzes über Fernmeldeanlagen (FAG).

Der Bundesminister für Post und Telekommunikation hat das Errichten und Betreiben solcher Funkanlagen allgemein genehmigt.

BUNDESAMT FÜR ZULASSUNGEN IN DER TELEKOMMUNIKATION

Federal Approvals Office For Telecommunications Of The Federal Republic Of Germany



**EG-BAUMUSTERBESCHEINIGUNG
EC TYPE-EXAMINATION CERTIFICATE**

Registrier-Nr.:
Registration no.:

B127066H

Anlage(n): 1
Annex(es):

Benannte Stelle:
Notified body:

Bundesamt für Zulassungen in der Telekommunikation

Bescheinigungsinhaber:
Certificate holder:

Telenot Electronic GmbH
Wiesentalstr. 42-44
D-73434 Aalen

Produktbezeichnung:
Designation of product:

FM 433 (siehe Anlage/see annex)

Produktbeschreibung:
Product description:

Drahtloses Datenübertragungssystem
Wireless data communication

Diese Bescheinigung ist erstellt in Übereinstimmung mit der Richtlinie des Rates 89/336/EWG (Amtsblatt der Europäischen Gemeinschaften Nr. L 139 v. 23. Mai 1989) und gilt nur in Verbindung mit der/den beigefügten Anlage/n.

This certificate is issued according to the directive of the council 89/336/EEC (Official Journal of the European Communities L 139 from 23. May 1989) and can only be used in conjunction with the above mentioned annex(es)

Ort, Datum: Saarbrücken, 19.04.1996
Place, Date:

Im Auftrag:
On Behalf of
the Directory:

Bernd Jung

Bernd Jung



Amtsblatt  245

Amtsblatt  246

Vfg 64/1994

Allgemeingenehmigung Nr. 479 für Sende- und Empfangsfunkanlagen

- 1 Das Errichten und Betreiben der Sende- und Empfangsfunkanlagen „FM 433“ der Firma **TELENOT ELECTRONIC GMBH, 73434 Aalen**, für die Übertragung von **Fernsteuersignalen für die verschiedensten Zwecke** (u.a. Kran- und Maschinenfernsteuern, im Forstbereich sowie zur Gebäude- und Diebstahlsicherung) auf einer Frequenz im Frequenzbereich **433,05 – 434,79 MHz**, wird aufgrund der §§ 1 und 2 des Gesetzes über Fernmeldeanlagen in der Fassung der Bekanntmachung vom 3. Juli 1989 **hiermit allgemein genehmigt**.
- 2 Der Frequenzbereich **433,05 MHz – 434,79 MHz** ist für Hochfrequenzgeräte für industrielle, wissenschaftliche, medizinische, häusliche und ähnliche Zwecke sowie für Funkanlagen für verschiedene Zwecke vorgesehen. Beim Betrieb der o.g. Funkanlagen kann daher **kein Schutz vor Störungen durch die o.g. Hochfrequenzgeräte und Funkanlagen gewährt werden**.
- 3 Leitergebundene Fernmeldeanlagen, die für den öffentlichen Verkehr bestimmt sind, sowie Funkanlagen dürfen nicht gestört werden.
- 4 Funkanlagen, die unter der vorgenannten Typenbezeichnung in den Verkehr gebracht werden, bedürfen keiner besonderen Genehmigung im einzelnen, wenn sie mit dem beim Bundesamt für Zulassungen in der Telekommunikation (BZT) technisch geprüften Baumuster elektrisch und mechanisch übereinstimmen und wie folgt gekennzeichnet sind: Bundesadler, **Zulassungsnummer „G750479E“**, sowie Name der Herstellerfirma **TELENOT ELECTRONIC GMBH, 73434 Aalen**, und der Typenbezeichnung „FM 433“. Diese Kennzeichnung ist am Gehäuse der Funkgeräte entweder auf einem Typenschild oder an örtlich zusammenhängender Stelle, wenn die Form einer Prägung oder Gravur gewählt wird, an gut sichtbarer Stelle anzubringen. **Die Kennzeichnung muß dauerhaft und abnutzungssicher ausgeführt und so mit dem Gehäuse verbunden sein, daß sie beim Entfernen zerstört wird. Sie muß von außen jederzeit sichtbar sein**.
- 5 Der Betreiber dieser Funkanlagen genießt keinerlei Schutz vor Störungen durch andere Fernmeldeanlagen (z. B. auch durch Funkanlagen, die ordnungsgemäß im gleichen Frequenzbereich betrieben werden).
- 6 Die obengenannten Funkanlagen dürfen ohne eine besondere Genehmigung der Genehmigungsbehörde nicht mit anderen Fernmeldeanlagen verbunden werden.
- 7 Diese „Allgemeingenehmigung“ kann insgesamt oder im Einzelfall auch für einzelne Funkanlagen durch die örtlich zuständige Genehmigungsbehörde jederzeit widerrufen werden.

Zusatzhinweise für die Herstellerfirma, die Vertriebsfirmen und die Benutzer

- 1 Die Herstellerfirma dieser allgemein genehmigten Funkanlagen hat sich verpflichtet, jedem unter dem o.g. Zulassungszeichen in Verkehr zu bringenden Gerät einen Nachdruck dieser „Allgemeingenehmigung“ beizufügen.
- 2 Die Genehmigung zum Verbinden dieser Funkanlagen mit anderen Funkanlagen oder leitergebundenen Fernmeldeanlagen richtet sich nach den jeweiligen Vorschriften. Auskünfte hierzu erteilen die zuständigen Außenstellen des Bundesamts für Post und Telekommunikation (BAPT).




314-1 A 3552-2/A

Abbreviations:

Receiver

ET	→	SD
DT	→	DD
GE	→	SS
GS	→	CS
EF	→	SF
DF	→	DF
N+	→	EM+
N-	→	EM-
SIR+	→	HN+
SIR-	→	HN-
AN	→	AE
Empfang ok	→	Reception OK
Störung	→	Receiver fault
Not	→	Emergency
A / B / C	→	Additional command A / B / C
Lösen li	→	Release brake left
Ziehen li	→	Pull left
Lösen re	→	Release brake right
Ziehen re	→	Pull right
Gas -	→	Speed -
Gas +	→	Speed +
Motor Aus	→	Motor Off
Motor Start	→	Start motor
Gerät Ein	→	Operation On
Laden	→	Charge
Blitzen - Sicherung defekt	→	Flashes - defective fuse
Akku laden	→	Charge battery

Transmitter

Aus	→	Off
Ein	→	On
NOT 	→	Emergency
A	→	Additional command A
B	→	Additional command B
C	→	Additional command C
Gas-/Gas+	→	Speed-/Speed+ or Speed Off/Speed On
MS	→	SM (Start motor)
MA	→	MO (Motor Off)
NOT Rü	→	Emergency Back
GBV	→	GBP
	→	Pull
	→	Release cable
(●)	→	Release brake