B G 6 0 0

Bruksanvisning Käyttöohje User Manual



TABLE OF CONTENTS

How to use your BG600	53
Turning on your alarm (activation)	53
Temporary disconnection of sensors	53
Turning off the alarm (deactivation)	54
Warnings from the alarm	57
Programming remote controls	57
Changing the batteries in the remote control	58
PIN codes	59
About commands	61
Trouble shooting	65
Technical specifications BG600	68

Congratulations on buying a DEFA boat alarm

BG600 is an alarm system that contains GSM messaging and GPS positioning. The alarm system is constructed for use in motor and sailing boats that have 12/24V electrical systems. The integrated GSM module provides two-way communication between the user and boat from another mobile telephone (SMS). DEFA authorises its boat alarm installation technicians, and wish for them to be used to install our products in order to protect users against problems that can occur when the installation work is shoddy. The functions of the alarm and its electrical connections should be checked once a year, in order to achieve reliable operations. It is important that you, as the boat's owner, read this manual carefully.

The BG600 is manufactured by DEFAAS, www.defa.com



1. HOW TO USE YOUR BG600

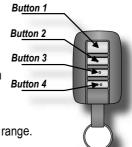
You operate your BG600 using the four buttons on the remote control. Button 1 activates and deactivates the alarm. It is also possible to activate / deactivate the alarm from a common GSM mobile phone (see the chapter which discusses the GSM phone).

The three other buttons can be used to control of e.g. lights, deck lighting, heating, anchor winch, etc.

Short press means that you press for a maximum of 2 second. Long press means that you press for a minimum of 2 seconds.

The remote control has a maximum range of 40 m.

The range can vary. Local radio disturbance can affect the range.



1.1 TURNING ON YOUR ALARM (ACTIVATION)

You activate the alarm with a short press on button 1.

The boat's lights flash once for 2 seconds. The LED on the PIN code panel begins to flash. The alarm is activated.

NB! The ignition must be OFF before you can activate the alarm.

NB! The alarm can only be triggered (sounding the alarm) five seconds after activation.



1.2 TEMPORARY DISCONNECTION OF SENSORS

If you, for example, leave your dog on board the boat, you should disconnect the motion sensor to avoid false alarms.

- 1.Turn OFF the ignition.
- 2. Depress the button on the PIN code panel and hold it down until the LED lights.
- 3. Release the button (the LED extinguishes).
- 4. Activate the alarm.

The sensor will now be disconnected until the alarm is turned off and the ignition turned on.





1.4 TURNING ON YOUR ALARM (ACTIVATION)

You deactivate the alarm with a short press on button 1.

The boat's lights flash briefly twice. The LED on the PIN code panel stops flashing. The alarm is deactivated.

NB! It is important that an alarmed hatch is not opened, or the ignition turned ON for 4 minutes after deactivation. See the chapter on reactivation.



1.5 EMERGENCY DEACTIVATION OF THE ALARM

Use the button on the PIN code panel to enter the four figures on your PIN code card.

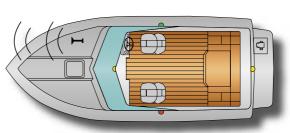
- 1. Turn on the ignition.
- 2. Press the button on the PIN code panel as many times as the first figure in the PIN code. (If the PIN code is, for example: 3 1 5 2, first figure is 3 and the button is pressed 3 times).
- 3. Then wait while the LED lights to show that the first figure has been
- Press the button on the PIN code panel as many times as the second figure in the PIN code, and wait for receipt.
- 5. Continue in the same way for the third and fourth figures.

After the fourth figure has been entered, the alarm will turn off after a few seconds, as long as the correct PIN code has been entered. If the wrong code is entered, wait min. 10 sec. before trying again. Start at point 2.



1.6 WARNINGS OF ALARMS TRIGGERED DURING THE LAST PERIOD OF ACTIVATION

If the alarm has been triggered since it last was activated, the alarm will warn you when the first alarmed hatch is opened following deactivation. It warns you with two short blasts of the siren and/or horn.





1.7 REACTIVATION

If you turn the alarm off, but do not open an alarmed hatch or turn on the ignition, the alarm turns on again 4 minutes after deactivation. This is a function that protects against inadvertant deactivation.

NB! The hatch does not have to remain open. It is enough to open and close the hatch, because the alarm then "understands" that it had been deactivated on purpose. Turning the ignition ON and OFF also prevents reactivation.

NB! If the BG600 alarm is connected to a BG300 immobilizer, the reactivation period for the immobilizer is 2 min. The immobilizer will also turn itself on automatically 2 min. after the boat's ignition has been turned off. This means that the immobilizer may be on when the alarm is off. The immobilizer deactivates when the alarm deactivates.

2. WARNING ABOUT OPEN HATCH OR ACTIVE SENSOR

When the ignition is turned off, the LED on the PIN code panel will flash in sequence (2,3,4 or 5 flashes, depending on the type of alarm input that is active) if a hatch is open, or if a sensor is active. This is to prevent a boat being left with an open hatch, or with a faulty sensor.

Close all of the hatches and check that the LED is dark before activating the alarm.

If the LED flashes in sequence, as described above, even when all of the hatches are closed and the sensors inactive, contact your alarm installer for assistance.



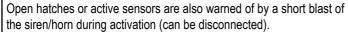
This warning disappears as soon as the alarm is activated, whether or not the cause of the warning has been removed.

2 flashes: the loop(s) for the magnetic contacts.

3 flashes: inputs activated by grounding.

4 flashes: inputs activated by 12/24V.

5 flashes: 24 hour alarm input(s).





2.1 IGNITION ALARM

An ignition alarm is when the alarm has been triggered because the ignition was turned on while the alarm was activated.





2.2 HATCH ALARM

A hatch alarm is when the alarm has been triggered by an alarmed hatch or door being opened while the alarm was activated.

2.3 ALARM TRIGGERED BY A MOTION SENSOR (ACCESSORY)

Alarm triggered by someone moving in the coverage area of the motion sensor while the alarm was activated.



2 ALARM TRIGGERED BY A MAT CONTACT (ACCESSORY)

Alarm triggered by someone treading on a mat contact while the alarm was activated.

3. 24 HOUR ALARM

24 hour alarm sounding, whether the alarm is turned ON or OFF.

The alarm is connected to a water level sensor (standard) that monitors the water level at a selected location in the boat. The alarm also monitors the voltage level in the boat's battery. Other external sensors/detectors can also be connected to 24 hour alarm inputs on the alarm, including gas and smoke detectors.

Only one SMS with 24 hour alarms is sent per 24 hour alarm input per alarm activation. In other words, when you receive a water level alarm, for example, the system will block transmission of more water level alarms until the ignition is turned ON (does not have to remain on) or the alarm is activated (does not need to remain activated).

The system does not, however, block warning of other alarms connected to other 24 hour alarm inputs (e.g. smoke and gas alarms).

If your receive an alarm – check the cause immediately. During fault finding, the alarm vvarning (separate output for warning 24 hour alarms) can be turned off for 5 minutes by pressing button 1 on the remote control. When you do this all 24 hour alarm outputs are turned off for 5 minutes. Your alarm installer can provide information about how the 24 hour alarms work on your boat.

4. MOTION ALARM (REQUIRES ACCESSORIES)

If the boat is moved more than 100 metres with the alarm activated, a motion alarm can be triggered. This alarm warns only via SMS and requires GPS as an accessory.



5. ALARM WARNINGS

All alarms are sent as SMS messages to selected mobile phone numbers (maximum 3 pre-selected numbers). See also the chapter concerning the GSM phone.

Alarms triggered by the ignition, hatches, mat sensors and motion sensors are also warned by the lights flashing for 5 minutes, as well as sounding the siren/horn for 60 seconds. Only the motion alarm is warned by SMS.

Alarms triggered by sensors connected to the 24 hour alarm inputs on the alarm are only warned by SMS, or by their own sirens/lights, depending on the installation. Emergency alarms are warned via SMS. They are sent to a separate optional mobile phone number

(a fourth pre-selected number).



Button 1

6. PROGRAMMING REMOTE CONTROLS

The alarm can be programmed to accept a maximum of 8 remote controls. When a new remote control is programmed all of the remote controls to be used must be re-programmed. First check that the alarm is deactivated and that the ignition is turned on! Use the button on the PIN code panel to enter the four figures on your PIN code card.

- Turn off the alarm and turn the ignition on.
- Press the button on the PIN code panel as many times as the first figure in your PIN code. (If the PIN code is, for example: 3 – 1 – 5 – 2, first figure is 3 and the button is pressed 3 times).
- Then wait while the LED lights to show that the first figure has been received.
- Press the button on the PIN code panel as many times as the second figure in the PIN code and wait for the receipt.
- 5. Continue in the same way for the third and fourth figures.
- Press button 1 on the remote control that you want to programme, while the LED flashes.
 The LED lights steadily for 2 seconds as confirmation that the remote control has been coded, before it begins to blink again.
- Depress button 1 on the next remote control to be programmed (within 10 seconds).
 Continue until all of the remote controls (max. 8) have been programmed.
- 8. Turn off the ignition.
- 9. Check that all of the remote controls can activate/deactivate the alarm.



6.1 CHANGING BATTERIES IN THE REMOTE CONTROL

The remote control makes a noise when the buttons are pressed. The batteries can be tested by holding button 1 down for more than 1 second. If the batteries contain enough power, the sound will remain the same as long as the button is depressed. If the sound changes 1 second after the button is pressed, the batteries should be replaced. They should be replaced within 14 days. The batteries have a normal lifetime of 1 year.

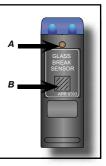
NB! The battery warning can also be triggered if the remote control is stored cold. This is because batteries have lower voltage levels in cold conditions.

The batteries are type CR 1220 and can be bought from boat alarm installers or in photo shops or jewellers. The battery compartment is opened by turning the cover clockwise (use a coin) to "OPEN" (See the rear of the remote control). Take out the old batteries and replace with new in the same way (+ towards the inside of the battery cover). Make sure that the cover's o-ring is in place around the inner edge before the cover is replaced. Turn the cover back to the closed position.



7. GLASS BREAKAGE SENSOR (ACCESSORY)

The glass breakage sensor triggers the alarm if a window close to the sensor is broken (requires toughened glass). The glass breakage sensor is also fitted with flashing diodes. These indicate the status of the alarm in the same way as the LED on the PIN code panel. The glass breakage sensor provides the option of seeing the alarm status, even from positions from which the PIN code panel is not visible. A. Grey button, equivalent to the yellow button on the PIN code panel. Lamp B lights if the glass breakage sensor has been triggered. The light extinguished when the boat's ignition is turned on.



8. BACK-UP BATTERY (ACCESSORY)

The alarm can be supplemented with a back-up battery. In the case of sabotage that results in loss of power or short circuit of the boat's electrical system, the alarm will continue to function for a short period using the back-up battery.



9. PIN CODES

The system contains 3 PIN codes that are important to distinguish between:

PIN code 1: This PIN code is shown on the PIN code card and is used for emergency deactivation of the system.

PIN code 2: The PIN code that comes with the SIM card. Remember to turn off the PIN control before the SIM card is installed in the central unit. When you have done this you can forget this code.

PIN code 3: This code acts as password when you give commands through your mobile phone (See the chapter about the GSM phone). This PIN code is default 0000. Remember to change this code (see GSM Telephone chapter)

HINT: You can change PIN code 3 to the same as PIN code 1 to make it easier to remember. This gives you only one PIN code to remember. Remember to keep this PIN code unavailable for unauthorised persons.



Important! The serial number on the central unit will allow DEFA to find PIN code 1 if you should lose it or forget it. If you choose to change PIN code 3 to something different from PIN code 1, then you are the only person to know this code, and if you lose it you will not be able to use your mobile phone to control your alarm!

NB! When a command is sent from your mobile phone it is stored in "sent messages". Be careful with your mobile phone as this can now also contain your code. The mobile phone can be used as a remote control for your boat alarm.



10 GSM PHONE

NB! All communiction with the alarm is by SMS. When an alarm is triggered, an SMS message is sent to a pre-selected mobile number. A maximum of 3 different mobile numbers can receive messages at the same time.

It is also possible to activate/deactivate the alarm using SMS, as well as checking the status of the alarm and receiving an answer by SMS:

Is the alarm activated or deactivated? Are the sensors connected or disconnected? What is the temperature on board the boat? What is the boat's battery voltage? What is the boat's position, where in the world is it (requires GPS)?

It is possible to activate a maximum of four control outputs by SMS (depending on how the alarm is installed). E.g. to turn on the boat's heaters.

NB! In order to be able to communicate with the alarm by SMS, you must install an SMS card in the alarm. If you use a top-up card in the alarm, you must remember that certain telephone providers require the card to be topped up at least once per year. As the SMS function will not work with an empty card, the balance on the card must be regularly checked.

NB! When the SIM card has been acquired, the PIN control must be turned off before the card is installed in the alarm central unit. You do this by first installing the SIM card in a mobile phone, then selecting PIN control OFF. The method depends on the telephone being used. You will find the method in the user guide for the mobile phone.

Security code (PIN code 3):

All commands begin with this code, so that unauthorised persons cannot gain access to your boat via SMS. The default code from the factory is four zeroes (0000). Remember to change this code as quickly as possible after installation of the alarm (see changing the security code). The PIN code must contain 4 characters, figures and/or letters.

Important! Read the chapter about PIN codes before you change this code.

NB! The alarm is caps sensitive. If you have changed your PIN code from 0 000 to e.g. CODE, you must enter KCDE as the PIN code in your commands. If you enter the PIN code with lower case letters it will not work.





11. ABOUT COMMANDS

All commands begin with the security code (PIN-kode) followed by the command (ON, OFF, L etc.) and the command parameters. The commands can be written with both upper and lower case letters.

[PIN CODE] < command> [PARAMETER]

The response from the boat alarm is always sent back the mobile phone that sent the message, not to the numbers that have been programmed for alarms. If the alarm receives an incorrect command, it responds with ERROR. If the security code (PIN code) is incorrect, the alarm responds WRONG PIN.

<response>

If a message is not an answer, e.g. an alarm message, it will always begin with the name of the boat.

[NAME] <message>

Example: **Dorothea** Water level Alarm.

CHANGING THE SMS SECURITY CODE:

Command: [OLD CODE] **P** [NEW CODE] [NEW CODE]

E.g. 0000 P 3D2k 3D2k Response: NEW PIN OK

NB! The security code must consist of 4 characters. The security code may be LARGE and small letters or random characters (e.g. 3D2k). **NB!** The alarm is caps sensitive.

ADD/AMEND TELEPHONE NUMBERS:

Command: [PIN CODE] T[1-3] [NEW TELEPHONE NUMBER]

E.g. 26W1 T2 4780500899

NB! The telephone number must be internation form, but without the plus sign.

Response: T1 <telephone number>

T2 <telephone number>

T3 <telephone number>

E.g. OK T2 47805008999

T2 000000000000 (zeroes if no number)

T3 000000000000

NB! Check the no. in the response. The system does NOT check whether the number is correct.





DELETE TELEPHONE NUMBER:

[PIN CODE] T[1-3] [0] Command:

26W1 T3 0 E.g.

Response: T1 <telephone number>

> T2 <telephone number> T3 <telephone number>

E.g. T1 46705008999

T2 000000000000 (zeroes if no number)

T3 0000000000000

RETRIEVAL OF ENTERED TELEPHONE NUMBERS:

[PIN CODE] T? Command:

NB! 1-3 are the memory locations of the telephone number.

26W1 T? E.g.

Response: T1 <telephone number>

> T2 <telephone number> T3 <telephone number>

T1 46705008999 E.g.

T2 000000000000 (zeroes if no number)

T3 000000000000

ACTIVATE BOAT ALARM:

Command: [PIN CODE] ON A

26W1 ON A Example: Response: SYSTEM ON

BATT <voltage> V

TEMP <temperature> C

Example: SYSTEM ON

> **BATT 12.7V** TEMP -9C

NB! The alarm will NOT activate if the ignition is on!

DEACTIVATE THE BOAT ALARM

Command: [PIN CODE] OF A

Example: 26W1 OF A SYSTEM OFF Response:

BATT <voltage> V

TEMP <temperature> C

Example: SYSTEM OFF

> **BATT 12,7V** TEMP-9C

NB! If no hatches, etc., are opened the alarm will reactivate after 4 minutes.



BOAT ALARM STATUS:

Command: [PIN CODE] \$1

Example: 26W1 S1

Response: SYSTEM < ON: OFF>

BATT XX V

TEMP YY C

Example: SYSTEM OFF

SENSOR OFF * BATT 12,2V TEMP -5C

* Sensor statuses are only shown when they are turned off

ACTIVATE CONTROL OUTPUT:

Command: [PIN CODE] ON [1-4]

Example:: 26W1 ON 2

Response: ON <control output no>

OFF <control output no>

Example:: ON 2

OFF 134

NB! Outputs reserved for alarm functions (e.g. sirens) will not execute a command via SMS. Depending on your boat's installation, you can only see 3 or fewer control outputs in the alarm response. DO NOT use control outputs for functions that could lead to personal injury or damage to property!!

DEACTIVATE CONTROL OUTPUT:

Command: [PIN CODE] OF [1-4]

Example: 26W1 OF 2

Response: ON <control output no>

OFF <control output no>

Example:: ON -

OFF 1234

STATUS OF CONTROL OUTPUT:

Command: [PIN CODE] S2

Example: 26W1 S2

Response: ON <control output no>

OFF <control output no>

Example: ON 3

OFF 1 2 4

GPS POSITION (Accessory)

Command: [PIN CODE] L

Example:: 26W1 L

Response: POS < latitude > N < longitude > E

<speed>knt <heading>D

<time> UTC

Example: POS 5919.60N 01804.30E

34knt <125D 13:43 UTC



ALARM MESSAGE:

In the case of an alarm message (e.g. triggered deck hatch), the boat alarm sends an SMS to the programmed telephone numbers, the message begins with the name of the boat (ID). If the boat alarm does not have coverage in the mobile network it will try again after 2,4, 8, 16 and 32 minutes.

NB! The boat alarm sends its SMS to a SMS messaging exchange. The boat alarm does not know whether the receiving telephone is turned off or out of range. In such a case, the message will be stored at the SMS exchange for maximum 48 hours.

BURGLAR ALARM:

Alarm message: [ID]

[triggered alarm loop] ALARM

Example: DOROTHEA

DECK HATCH ALARM

BATTERY ALARM (low voltage):

Alarm message: [ID]

BATT ALARM [voltage]V

[Time] UTC [Date]

Example: DOROTHEA

BATT ALARM 11.4V

12.22 UTC* 21-12-03*

MOTION ALARM (with GPS, accessory):

Alarm message: [ID]

GPS ALARM

POS [latitude]N [longitude]E

Example: DOROTHEA

GPS ALARM

POS 5919.60N 01804.30E

EMERGENCY ALARM (with GPS, accessory):

Alarm message: [ID] EMERGENCY ALARM POS [latitude]N [longitude]E

Example: DOROTHEA

EMERGENCY ALARM POS 5919.60N 01804.30E

NB! This alarm is only sent to the specially programmed emergency alarm number!



^{*} Time and date are only shown if GPS is installed on the alarm

12. TROUBLE SHOOTING

Remote control does not work

- Other radio transmitters in the vicinity can cause disturbance to the remote control.
 Try the remote control closer to the boat.
- Check the batteries in the remote control, replace if necessary.
- Reprogramme the remote control in the alarm (See the section 'PROGRAMMING page 57).

The alarm is "dead" (no flashing LEDs, no response to open hatch, ignition, etc.).

Check the alarm's fuse, +12/24V power supply.

The lights and/or horn do not work when the alarm is triggered

 The light signal and horn are protected against short circuits. When they are overloaded they automatically turn themselves off. Contact your installer to check power consumption.

The telephone module does not send SMS messages.

- If a top-up card is used in the telephone module, check that there are funds in the card and that it is activated.
- Check that the PIN code is turned off for the telephone module.
- Check that the LED is flashing on the telephone module.

If the above do not resolve your problem/fault, contact your DEFA BoatSecurity installer for other solutions.



13. PROGRAMMING

NOTE HOW THE ALARM IS PROGRAMMED

Location of the fuses:			
FAULT INDICATION WHEN ACTIVA			OFF
SOUND TYPE HORN OUTPUT: SENSITIVITY GLASS BREAKAGE:	Pulse Low	Normal	Steady High
TELEPHONE:			
SMS TYPE:	Normal SMS	Direct view	
BOAT ID:			
BATTERY ALARM LEVEL:			
ALARM NUMBER 1:			
ALARM NUMBER 2:			
ALARM NUMBER 3:			
EMERGENCY NUMBER:			



14 CONTROL OUTPUTS

NOTE HOW THE CONTROL OUTPUTS ARE PROGRAMMED

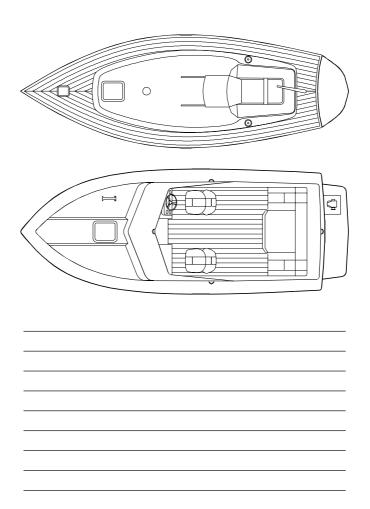
CONTROL OUTPUT 1, CONNECTED TO +12/24V	
□ SIREN	
☐ STATUS OUTPUT DEACT	
☐ STATUS OUTPUT ACT	
SMS/BUTTON	
U L→ □ VARYING □ INSTANT	
TIMER OFF	☐ TIMER ON, TIMESEC/MIN
☐ BLOCKED WHEN ALARM ACTIVATED	
CONTROL OUTPUT 2, CONNECTED TO +12/24V	
□ 24 ALARM	
☐ STATUS OUTPUT DEACT	
☐ STATUS OUTPUT ACT	
SMS/BUTTON	
U U VARYING □ INSTANT	
TIMER OFF	☐ TIMER ON, TIMESEC/MIN
☐ BLOCKED WHEN ALARM ACTIVATED	☐ BLOCKED WHEN IGNITION ON
CONTROL OUTPUT 3, GROUNDED	
☐ STATUS OUTPUT DEACT	
☐ STATUS OUTPUT ACT	
☐ SMS/BUTTON	
U L→□ VARYING □ INSTANT	
	☐ TIMER ON, TIMESEC/MIN
☐ BLOCKED WHEN ALARM ACTIVATED	
CONTROL OUTPUT 4, GROUNDED	
STATUS OUTPUT DEACT	
STATUS OUTPUT ACT	
II □ SMS/BUTTON	
III L→□ VARYING □ INSTANT	
	☐ TIMER ON, TIMESEC/MIN
☐ BLOCKED WHEN ALARM ACTIVATED	



15. TECHNICAL SPECIFICATIONS BG600

	(Programmable functions are marked	d with "P")
Operational voltage:		8-28 V
Power consumption:		20 mA
Temperature range:		-20 - +55° C
nputs:		
Active low alarm inputs:		3
Activce high alarm input:		1
Magnetic contacts/alarm lo	ops:	3
Ingnition input:		1
GPS module (accessory):	Boood O :	1
	tion to BG600 Original fitting):	1
Outputs:		40 . 5
Signal horn:		max 10 A P
Light alarm:	or o a controlling hostor:	2 st á 10 A P 2 x 1 A P
Separate + control output for	or e.g. controlling neater. or e.g. controlling 24 hour alarm buzzer:	2 x 1.5 A P
	or e.g. controlling 24 flour alanti buzzer.	2 X 1,0 A F
Functions:		
Anti Grabber Code	tral /last/stalan ramata aantral dalatad uib	nen reprogrammed): P
9	trol (lost/stolen remote control deleted wh n after closing by 2 short signal blasts	ien reprogrammed).
GSM module for two way S	0,	Р
Warning low battery voltage		r P
Boat interior temperature	•	•
4 control outputs for contro	lling e.g. heaters or spotlights	
via SMS and/or BG600 ren		Р
GPS Positioning (requires	GPS accessory)	
Attack (emergency) alarm	Requires GPS accessory and emergenc	y transmitter):
Short circuit protection 1:	All outputs are protected against short	circuit
Short circuit protection 2:	After a short circuit/disconnection of the	
	alarm returns to its previous mode. Eve	•
	via horn are retrieved	
Short circuit protection 3:	(accessory) If the backup battery is co	
Status indications:	in full function even following sabotage	נט נווב שטמנ 5 פופטנווט5.
Activated alarm:		Flashing LED 1 Hz
Fault in alarm loop:		Indication via PIN code panel
Triggered alarms (alarm me	emory):	Indication using sound signal
	arm status, battery voltage, boat interior	3.9.00
• ,	eceived as SMS messages on mobile ph	ones.
Other:		
Remote control:		Radio transmitter 433,92 MHz
Code transmission:		48 databits (281474 billion code:
		with Anti Grabber Code function







Distributor Finland

OY KAHA AB PI 117 FIN-01511 VANTAA FINLAND **Distributor Sweden**

KG Knutsson AB S-191 81 SOLLENTUNA SVERIGE

Distributor Norway

AS Sørensen og Balchen PB 134, HOLMLIA N-1203 OSLO NORGE