



# *Invacare® REM 24 SD*

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*Remote  
User Manual*



Yes, you can.®

## How can you get in touch with Invacare®?

If you have any questions or need support, please contact your authorised Invacare® Dealer, who has the necessary know-how and equipment plus the special knowledge concerning your Invacare® product, and can offer you all-round satisfactory service. Should you wish to contact Invacare® directly, you can reach us in Europe at the following addresses and phone numbers.

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# 1 The REM 24 SD Remote

## 1.1 Layout of the remote

### Upper side

#### Controls

- 1) Immobilizer
- 2) "Activate / scroll through drive mode" button
- 3) Horn
- 4) Left-hand indicator
- 5) Joystick
- 6) "Activate adjustment mode" button
- 7) ON/OFF button
- 8) Light
- 9) Right-hand indicator
- 10) Hazard warning signal flasher



## Upper side

### Displays

- 11) Battery charger display
- 12) Status display (in key symbol)
- 13) Drive mode display
- 14) Left-hand indicator display
- 15) Hazard warning signal flasher display
- 16) Light display
- 17) Right-hand indicator display



## Underside

- 1) Charger socket
- 2) Programming socket



## Rear panel

- 1) Socket for Buddy button 1 (corresponds to "Activate / scroll through drive mode" button).
- 2) Socket for Buddy button 2 (corresponds to "ON/OFF" button)
- 3) Socket for Buddy button 3 (corresponds to "Activate / scroll through adjustment mode" button).
- 4) Socket for bus cable



## 1.2 ON/OFF diode (status display)

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### INFORMATION

The ON/OFF diode (in key symbol) also serves as status or error message display. For error codes please see chapter "Error codes and diagnostic codes" on page 24.

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## 1.3 Battery charger display

- All diodes illuminated: **Full range**
- Only red diodes illuminated:  
**Reduced range**
- Both red diodes flashing:  
**Very low range**
- Only one red diode flashing:  
**Battery on reserve = Charge batteries straight away**

**Battery charger display**



### INFORMATION

Protection against total discharge: The electronic system automatically shuts actuation down after a certain travel time on reserve battery and the wheelchair comes to a standstill.

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## 1.4 Activating / deactivating the immobilizer

### Activating the immobilizer

- Switch on the remote.
- Use the end of the magnetic key (Invacare® Logo) to move over the sensor area (1) on the remote (key symbol). The horn will sound briefly once. The remote shuts down automatically. The immobilizer is activated.

### Deactivating the immobilizer

- Switch on the remote. The status display will flash red slowly.
- Use the end of the magnetic key (Invacare® Logo) to move over the sensor area (1) on the remote (key symbol).

Immobilizer



Magnetic key



## 1.5 Using the Buddy buttons with the remote



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### What is a Buddy button?

A Buddy button is an additional sensing device that can be used to activate a remote function. The sockets for Buddy buttons are to be found at the rear of the remote.

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- 1) Socket 1 (corresponds to the "Activate / scroll through drive mode" button).
- 2) Socket 2 (corresponds to the "ON/OFF" button)
- 3) Socket 3 (corresponds to the "Activate / scroll through adjustment mode" button).



## 1.6 Controlling the wheelchair using the remote

- Switch on the remote (ON/OFF button). The displays on the remote will illuminate. The wheelchair is ready to drive.
- Set the driving profile ("driving profile" button see "**Layout of the remote**" on page 6).
- Speed stage 1 (slow) to 5 (fast) is shown on the driving profile display.



### **Information for mobility devices with G-Trac™**

If your mobility device has been fitted with the G-Trac™ option you will NOT be able to change driving profiles while travelling.

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### **The G-Trac™ option**

If your mobility device has been fitted with the G-Trac™ option, it will enable you to enjoy fatigue-free and safer driving.

- G-Trac™ supports you in staying at the same driving speed and travel direction, and therefore reduces fatigue.
  - It improves the tracking and therefore increases the user's driving comfort.
  - G-Trac™ stabilises the mobility device tracking in the case of front-wheel-drive devices and finds the optimum driving speed for travelling round bends. This prevents skidding, slipping or tipping of the mobility device and therefore increases safety.
- 



### **Can the electronic system programming be adapted?**

The electronic controller is programmed with standard values during manufacture. Your Invacare® dealer can carry out programming tailored to fit your requirements.

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**WARNING: Any alteration to the drive programme can influence vehicle handling and the tipping stability of the electric vehicle!**

- *Alterations to the drive programme may only be carried out by trained Invacare® dealers!*
  - *Invacare® supplies all electric vehicles from the factory with a standard drive programme. Invacare® can only assume a warranty for the safe vehicle handling of the electric vehicle – in particular tipping stability - for this standard drive programme!*
- 



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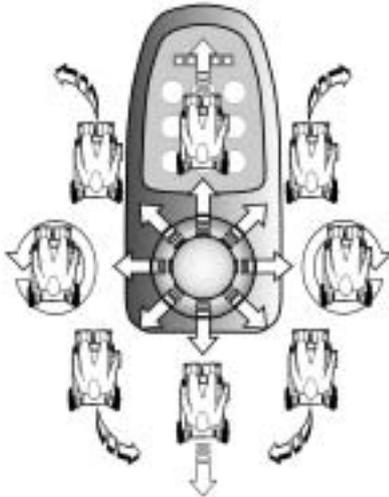
**Will the wheelchair not drive after switching on?**

Check the drive-away lock (see chapter "**Activating / deactivating the immobilizer**" on page **10**) and the status bar indicator (see chapter "**ON/OFF diode (status display)**" on page **9**).

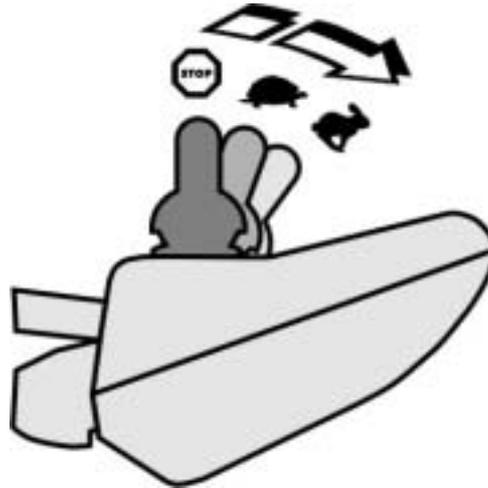
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## 1.6.1 How a wheelchair with "Indirect Steering" reacts to joystick movements.

"Indirect Steering" occurs by individually applying power to the drive wheels, and is found on wheelchairs with front, rear and middle wheel drive.



Travel direction



The further the joystick is moved in a particular direction, the more dynamically the wheelchair reacts.



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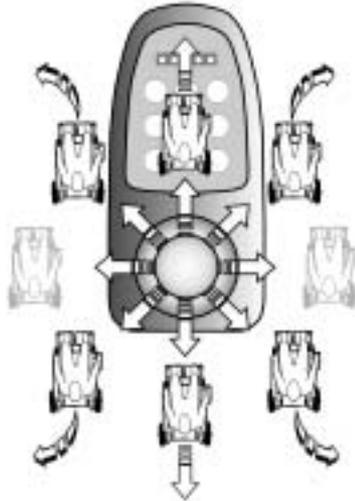
### Note:

To brake quickly, simply let go of the joystick. It will then automatically return to the middle position. The wheelchair will brake.

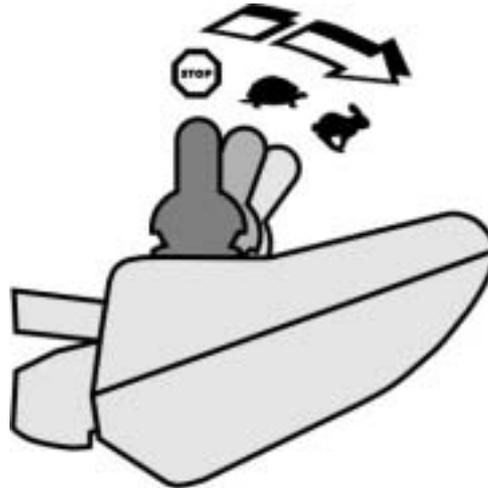
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## 1.6.2 How a wheelchair with "Direct Steering" reacts to joystick movements.

Steering is operated by means of a servo motor.



Travel direction



The further the joystick is moved in a particular direction, the more dynamically the wheelchair reacts.



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### Note:

To brake quickly, simply let go of the joystick. It will then automatically return to the middle position. The wheelchair will brake.

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## 1.7 Operating the electric adjustment options

Electric adjustment options, like electric legrests or an electric backrest, are operated by using the joystick.

Not every wheelchair has all the options. You can only select the options that are actually available on the wheelchair.

### 1.7.1 Activating adjustment mode

- Press the "activate adjustment mode" button (A). The remote switches to the adjustment mode last used. The driving mode display (B) switches to the appropriate symbol (one of the symbols shown below). The factory setting for controls is to display all symbols, irrespective of whether certain adjustment options are available or not! Your dealer can carry out individual modification of this setting.



Seat tilt



Backrest



Left legrest



Right legrest



Both legrests



Lifter



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**Information:**

When using the REM 24 SD remote it is not necessary – as on previous remote versions – to push the joystick forward in order to access the adjustment mode. It is sufficient to operate the adjustment mode button just once.

If the remote has been programmed appropriately, further modes can be accessed by repeatedly pressing the adjustment mode button, i.e. light mode or ECU mode (environment control unit). The standard REM 24 SD programming only supports the adjustment function. Please speak to your Invacare dealer if you have any questions in this respect.

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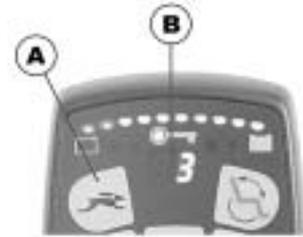
### 1.7.2 Selecting and operating the adjustment option

- Move the joystick to the left or right = Select adjustment option on the submenu (A).
- Move the joystick forward/backward = Operate adjustment option (B).



### 1.7.3 Changing back to driving mode

- Briefly press the "Activate / scroll through driving mode" button (A). The remote switches back to the driving mode last used. The driving mode display indicates the driving profile (B).



## 1.7.4 Charging the batteries

- Make sure you read and understand the battery charger's User's Manual, if supplied, as well as the safety notes on the front and rear panels of the charger!
- 



### **WARNING!**

#### **Risk of explosion and destruction of batteries if the wrong battery charger is used!**

- *Only ever use the battery charger supplied with your vehicle, or a charger that has been approved by Invacare®.*

#### **Risk of electric shock and damage to the battery charger if it gets wet!**

- *Protect the battery charger from water.*
- *Always charge in a dry environment.*

#### **Risk of short circuit and electric shock if the battery charger has been damaged!**

- *Do not use the battery charger if it has been dropped or damaged.*

#### **Risk of electric shock and damage to the batteries!**

- *NEVER attempt to recharge the batteries by attaching cables directly to the battery terminals.*

#### **Risk of fire and electric shock if a damaged extension cable is used!**

- *Only ever use an extension cable if it is absolutely necessary. In case you must use one, make sure it is in good condition.*

#### **Risk of injury if using the wheelchair during charging!**

- *DO NOT attempt to recharge the batteries and operate the wheelchair at the same time.*
  - *DO NOT sit in the wheelchair while charging the batteries.*
-

## Charging the batteries

- Switch off the wheelchair at the Joystick Box.
- Connect the battery charger to the Joystick Box - the charging socket is located on the bottom of the Joystick Box (1).
- Connect battery charger to the mains outlet and switch on if necessary.
- After charging is complete, first disconnect the battery charger from the mains supply, then disconnect from the Joystick Box.

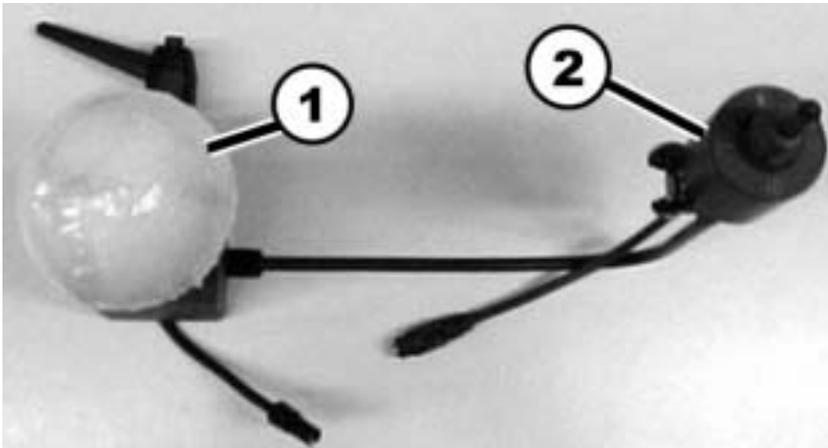


## 1.8 Using the chin control with the remote

You can use the remote together with a chin control. The chin control consists of:

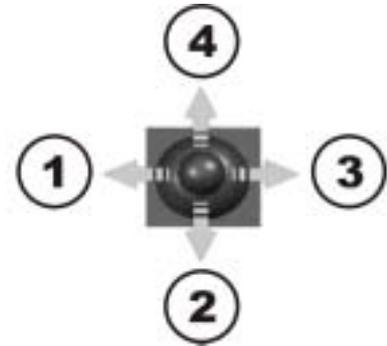
- a proportional joystick for controlling the drive direction, speed and adjustment options (1)
- a joystick with four switch positions for switching on and off, horn and for selecting drive or adjustment mode (2).

Please see the illustration below.



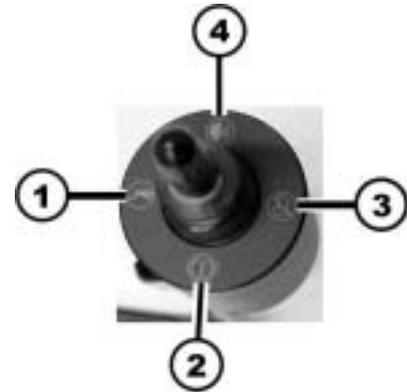
**Joystick with foam rubber ball ((1) in illustration on page 21)**

- 1) Drive to the left
- 2) Reverse or operate adjustment options
- 3) Drive to the right
- 4) Drive forwards or operate adjustment options



**Joystick for switching ((2) in illustration on page 21)**

- 1) Activate drive mode/select driving profile
- 2) ON/OFF
- 3) Activate adjust mode/select adjustment option
- 4) Horn



## 1.9 Error diagnosis

In the event that the electronics should show signs of failure, please consult the following troubleshooting guide in order to locate the error.



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### **INFORMATION**

Before beginning with the diagnosis, please ensure that the drive electronics are switched on.

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#### **If the status display is OFF:**

**Please check whether the drive electronics are SWITCHED ON.**

**Please check whether all cables have been connected correctly.**

**Please ensure that the batteries are not discharged.**

#### **If the status display is FLASHING:**

**Please count the number of flashing sequences and move on to the next section.**

**If the red diodes on the battery charger display and the status display are FLASHING, Drive mode display shows a horizontal bar:**

**Battery discharged. Please charge the battery.**

## 1.9.1 Error codes and diagnostic codes

The drive electronics are capable of rectifying some errors automatically. In this case the status display will cease to flash. Please switch the remote on and off several times. Wait approx. 5 seconds each time before switching the remote on again. If this does not rectify the error, locate the error using the flash codes shown below.

FLASH CODE	FAULT	IMMEDIATE MEASURE	FURTHER HELP
1	Module defective.	-	• Consult dealer.
2	Lifter raised or lowered too far (seat not at driving height)	• If lifter is raised, lower in stages until the status display stops flashing. If lowered too far, raise lifter in stages until the status display stops flashing. If at all possible, only drive when the seat is at driving height.	-
	Accessory error.	-	• Consult dealer.
3	Error on motor M1. Connection loose/faulty.	• Check plug-in connectors.	• Consult dealer.
4	Error on motor M2. Connection loose/faulty or motor faulty.	• Check plug-in connectors.	• Consult dealer.

<b>FLASH CODE</b>	<b>FAULT</b>	<b>IMMEDIATE MEASURE</b>	<b>FURTHER HELP</b>
<b>5</b>	Error/brake error on motor M1. Connection loose/faulty or motor faulty.	<ul style="list-style-type: none"> <li>• Check plug-in connectors.</li> </ul>	<ul style="list-style-type: none"> <li>• Consult dealer.</li> </ul>
	Motor M1 uncoupled (with GB motors)	<ul style="list-style-type: none"> <li>• Couple motor. Switch remote off and on again.</li> </ul>	-
	Both motors uncoupled (with standard motors)	<ul style="list-style-type: none"> <li>• Couple motors. Switch remote off and on again.</li> </ul>	-
<b>6</b>	Error/brake error on motor M2. Connection loose/faulty or motor faulty.	<ul style="list-style-type: none"> <li>• Check plug-in connectors.</li> </ul>	<ul style="list-style-type: none"> <li>• Consult dealer.</li> </ul>
	Motor M2 uncoupled (with GB motors)	<ul style="list-style-type: none"> <li>• Couple motor. Switch remote off and on again.</li> </ul>	-
<b>7</b>	Battery totally discharged.	<ul style="list-style-type: none"> <li>• Charge battery</li> </ul>	<ul style="list-style-type: none"> <li>• Consult dealer.</li> </ul>
<b>8</b>	Battery voltage too high.	-	<ul style="list-style-type: none"> <li>• Consult dealer.</li> </ul>
<b>9 or 10</b>	Faulty data transmission between modules.	-	<ul style="list-style-type: none"> <li>• Consult dealer.</li> </ul>
<b>11</b>	Motors overstressed.	<ul style="list-style-type: none"> <li>• Switch remote off and on again</li> </ul>	-
<b>12</b>	Compatibility problems between the modules.	-	<ul style="list-style-type: none"> <li>• Consult dealer.</li> </ul>

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**English**