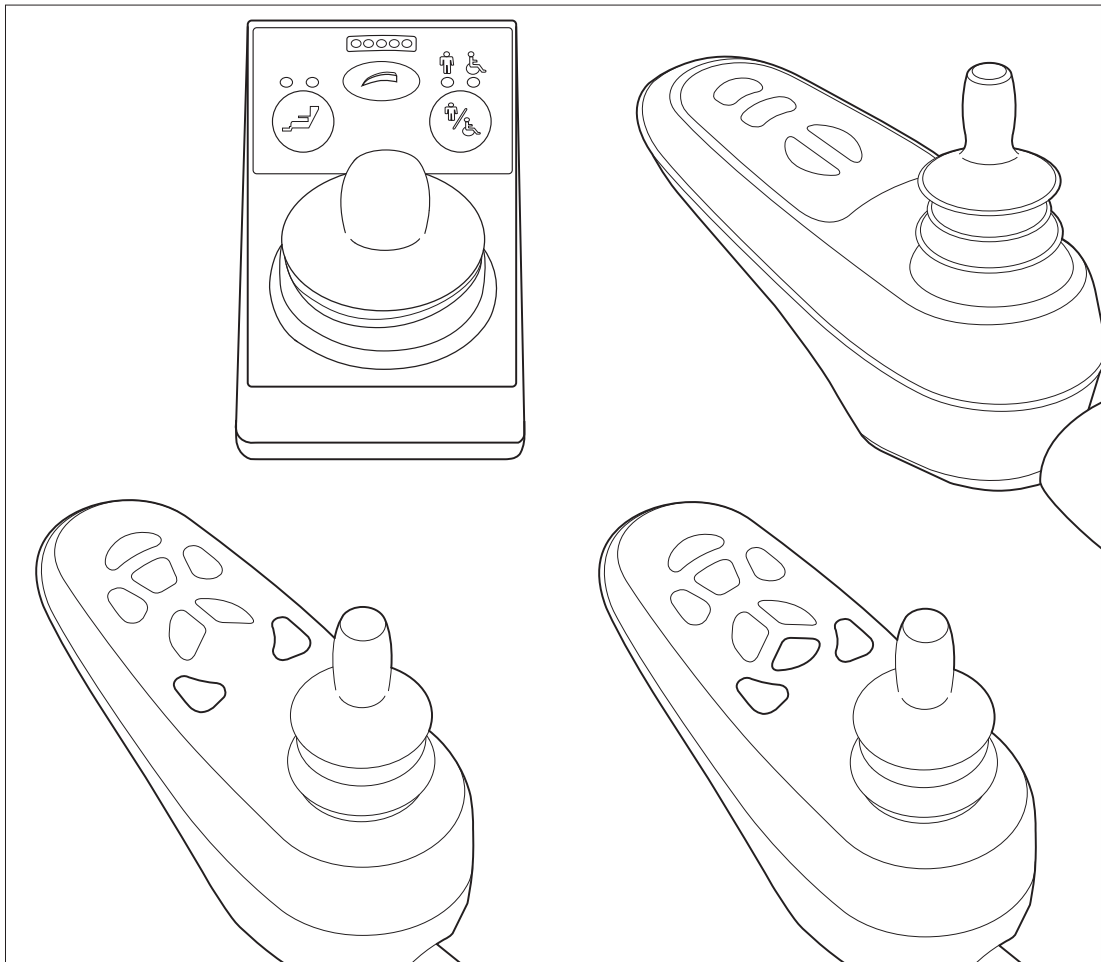


VR2 (PG DT)



English

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Table of content

1	Introduction.....	6
1.1	This user manual	6
1.2	Symbols used in this manual	6
2	The controller	7
2.1	VR2 controller	7
2.2	VR2 attendant steering	7
2.3	Main components	8
3	Driving the wheelchair	10
3.1	Switching the controller on or off	10
3.2	Driving the wheelchair	10
3.3	Adjusting the push bar height	10
3.4	Speed	11
4	The electrical adjustment options	12
4.1	Selecting and operating the electrical adjustment option	12
5.	Lights.....	14
6.	Troubleshooting.....	15
7	Locking the controller	16
8	Technical specifications.....	17
9	Technical diagrams.....	18
9.1	Technical diagram	18
9.2	Technical diagram battery charger	19

1 Introduction

1.1 This user manual

This user manual will help you to use and maintain the controller of your power wheelchair safely. This user manual is a supplement to Handicare's general wheelchair user manual. When necessary this user manual refers to other manuals as shown below:



Wheelchair: Refers to the general wheelchair user manual.



Battery charger: Refers to the user manual for the battery charger.

Read this user manual and the other user manuals referred to carefully before using the product. If one of the user manuals was not included with your wheelchair, please contact your dealer immediately. In addition to this user manual, there is also a service manual for qualified specialists.

CONTACT HANDICARE IF YOU HAVE A VISUAL IMPAIRMENT.

1.2 Symbols used in this manual

Note!

Pointing out possible problems to the user.

⚠ Caution!

Advice for the user to prevent damage to the product.

⚠ Warning!

Warnings for the user to prevent personal injury.

Not following these instructions may result in physical injury, damage to the product or damage to the environment!

2 The controller

2.1 VR2 controller

A controller will usually have three basic functions:

- Driving and steering a wheelchair
- Operating electrical seat adjustments
- Charging the wheelchairs batteries

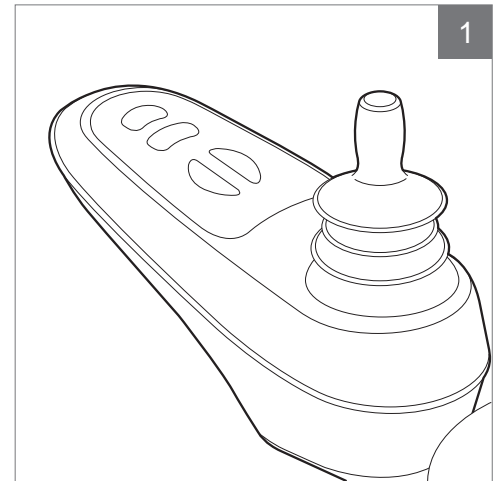
There are many different control systems for wheelchairs on the market. If the controller on your wheelchair does not resemble the one in figure 1, 2, 3 or 4 contact your dealer.

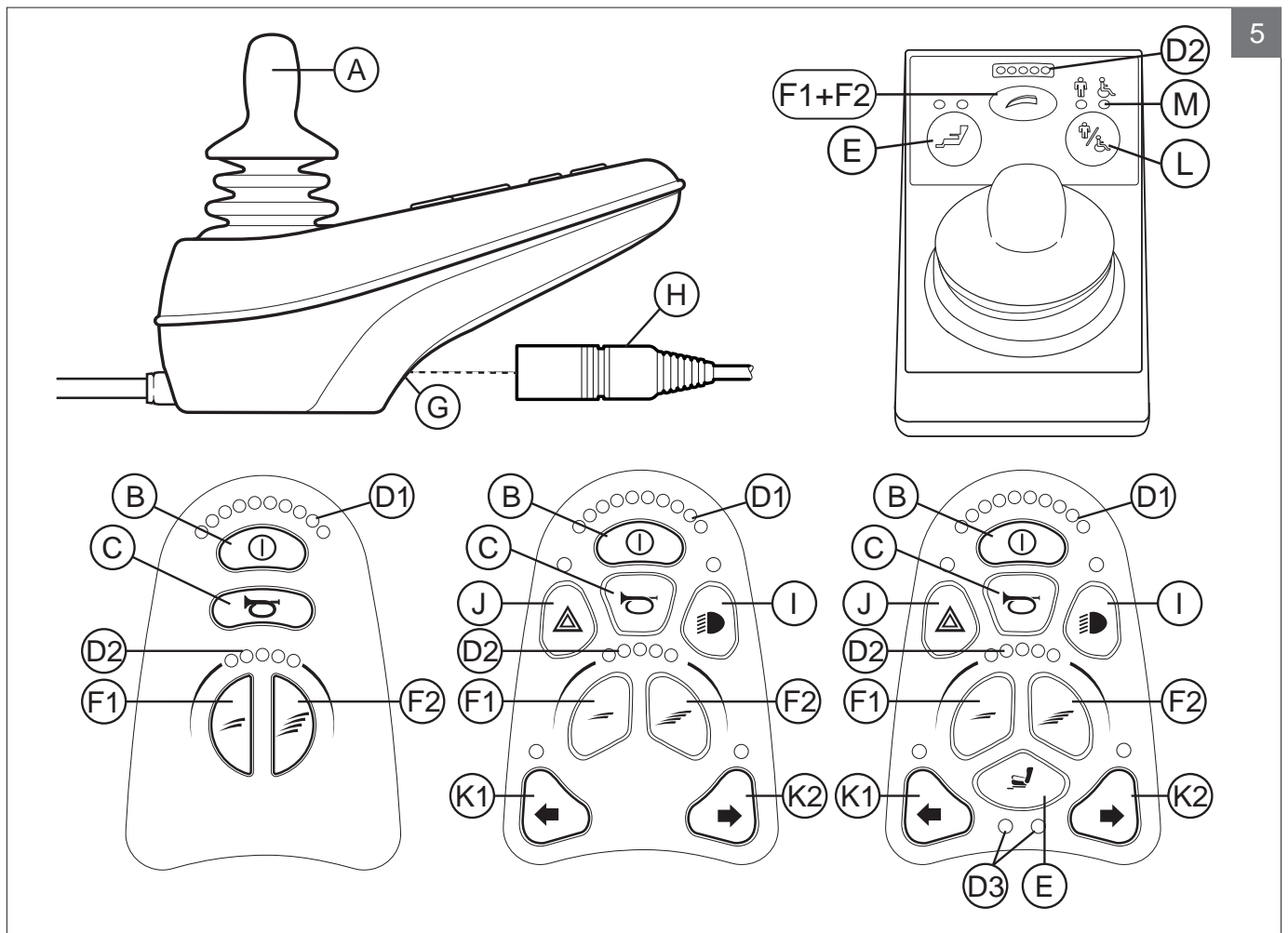
1. VR2 Drive only
2. VR2 Lights
3. VR2 Seats&Lights
4. VR2 Attendant steering

VR2 by PG Drives Technologies is a collective name for the entire control system of the wheelchair. The wheelchair is operated by means of a controller. Main components of the controller can be found in chapter 2.3.

2.2 VR2 attendant steering

It is possible to connect an extra controller (figure 4) on the back. This so the attendant can control the wheelchair and operate electrical options.





5

2.3 Main components

Part	Function
A. Joystick	In the 'drive' mode: driving and steering In the 'adjustment options' mode: <ul style="list-style-type: none"> • Left/right to select the adjustment options • Front/back to select the adjustment mode
B. On/off switch	Switching the controller on or off
C. Horn	Warning signal with sound
D. 1 Battery indicator	Displays the power level of the battery
D. 2 Maximum speed	Displays the maximum speed limit as set by the user
D. 3 Adjustment option	Displays the selected adjustment options
E. "Mode" button	Changing between the 'driving' and the 'adjustment options' mode
F. 1 Speed regulator	Reduce driving speed (slower)
F. 2 Speed regulator	Increase driving speed (faster)
G. Charge connector	Input for the battery charger
H. Charge plug for the battery charger	Connector for the battery charger
I. Lights button	Switching the lights on or off
J. Hazard lights	Warning signal with lights
K. 1 Direction indicator left	Switches the left direction indicator on or off
K. 2 Direction indicator right	Switches the right direction indicator on or off

Part	Function
L. User/attendant switch	Switching between user and attendant controller
M. User/attendant indicator	Displays the active controller

3 Driving the wheelchair

3.1 Switching the controller on or off

To be able to drive or operate the electronic adjustment options of the wheelchair, the controller must be switched on. Press the on/off button (B in figure 5).

Note!

The joystick should be released (neutral position) when switching on the controller otherwise there will be an error code

If the attendant steering needs to be activated, the user/attendant switch needs to be pressed (L in figure 5).

3.2 Driving the wheelchair

Driving an electric wheelchair is done by operating a joystick.

Joystick mounted on armrest or as attendant control mounted on the push handle

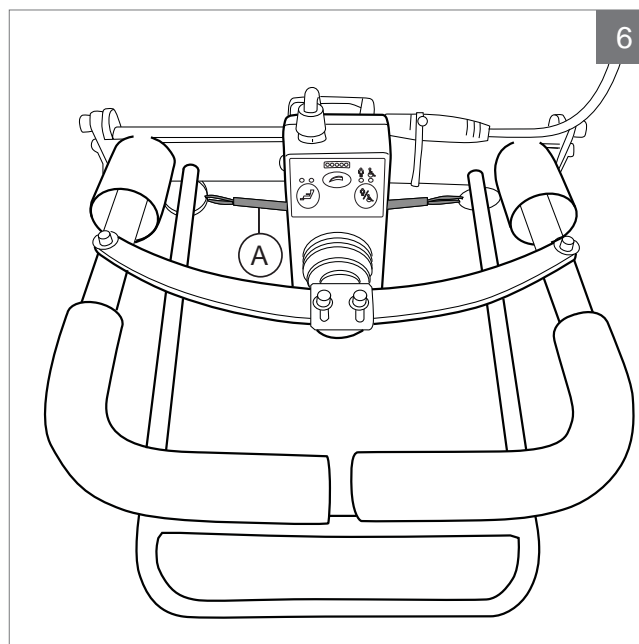
Move the joystick forwards and the wheelchair will also move forwards. Steer left and right and the wheelchair will turn.

Joystick mounted in the Z-steering mechanism

To operate the controller in the Z-steering mechanism the push handles needs to be squeezed to the metal bar below. The chair will drive in the forward direction. When moving the bars to the left, the chair will turn right and when moving them right, the chair will turn left. Lift the push handles if you want to drive backwards.

3.3 Adjusting the push bar height

The height of the push bar with the Z-steering mechanism is adjustable in 6 steps and can easily be set. Pull A (figure 6) and set the height by releasing the strap on the desired height. You should hear a click when setting the push bar height. This indicates that the bar has locked into place. It is also possible to flip down the total Z-steering.



3.4 Speed

The maximum speed can be controlled by the speed regulator on the controller (F1 en F2 in figure 5). The maximum speed is displayed by the LED lights above the speed regulators. Speed can be controlled with the joystick while driving. If the joystick is moved a little, the wheelchair will move more slowly.

4 The electrical adjustment options

Not every wheelchair has been equipped with electronic adjustment options. We make a distinction between four different adjustment options to the seating system:

- Tilt adjustments
- High/low adjustments
- Backrest adjustments
- Legrest adjustments

Note

If you adjust the seat height by using the high/low option or use the electrical tilt adjustment 0 - 45°, the speed will be reduced for your safety.

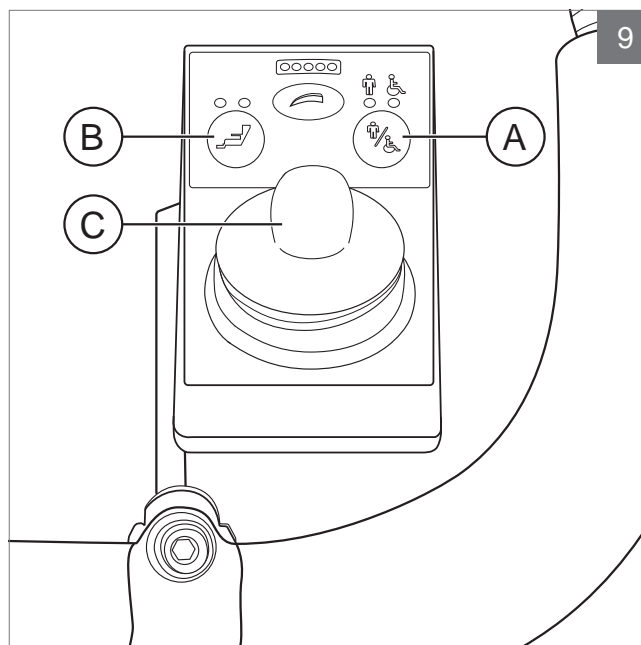
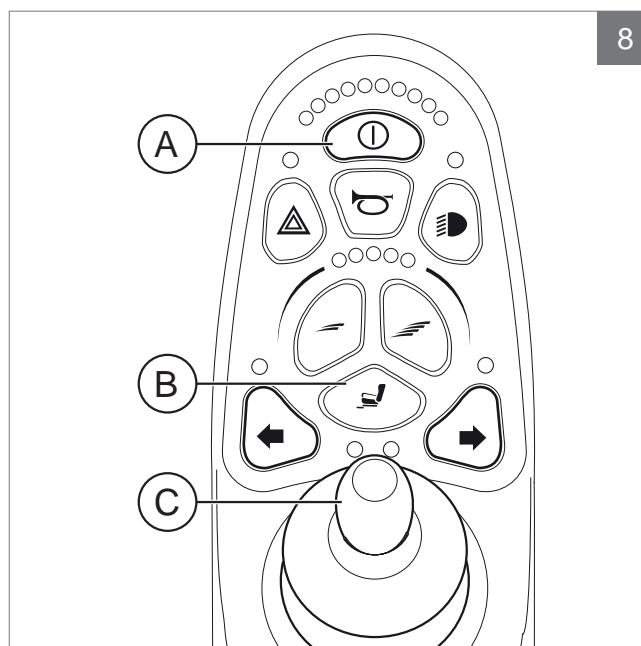
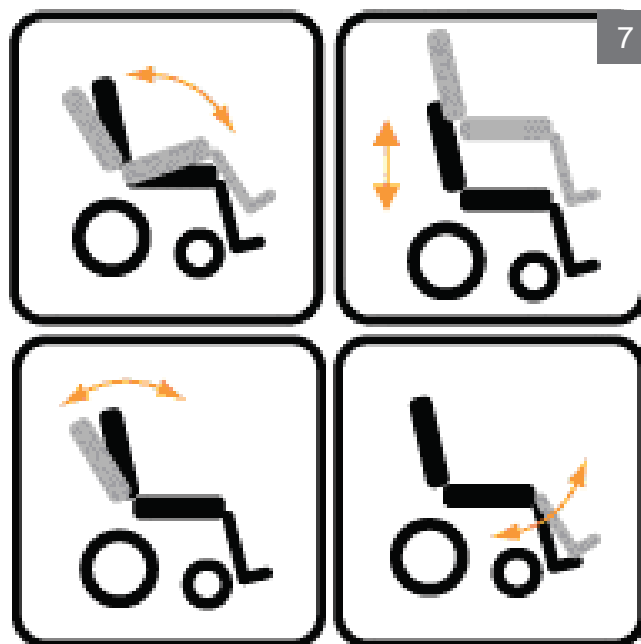
To use electrical adjustment options, the VR2 Seats&Lights controller is required (maximum of two options).

4.1 Selecting and operating the electrical adjustment option

1. Switch on the controller (A in figure 8)
2. To activate the attendant steering the user/ attendant switch needs to be pressed (A in figure 9 + 10)
3. Press on the 'mode' button (B) to select the 'adjustment options' mode. The controller will now be in the 'adjustment options' mode. It is possible to follow the status on the actuator.

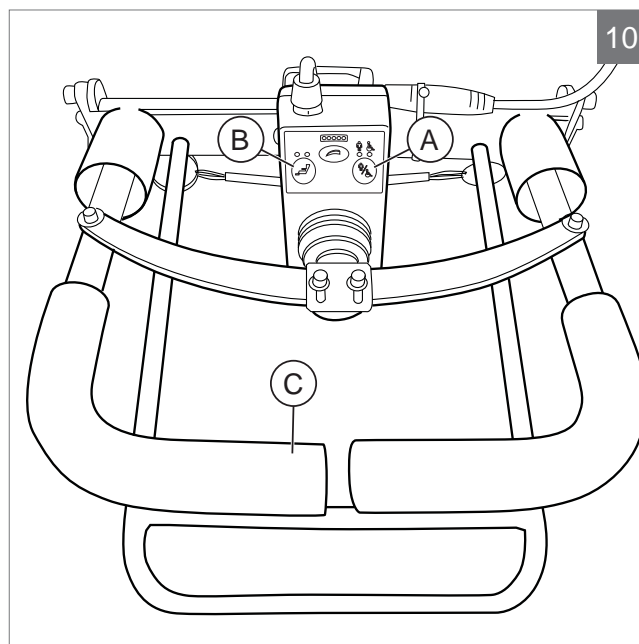
The joystick or the push handles (C) are used to select and operate the electronic adjustment options.

4. Move the joystick / handles to the left or the right to select the desired adjustment option. The actuator LED's indicates the currently selected seating function.
5. Moving the joystick forwards / backwards or the handles up / down will activate the selected electric adjustment option (see table on next page). Move the joystick / handles until the desired adjustment option has been attained.



Adjustment	Move joystick backwards / Pushing the push handles down
Tilt	The entire chair will tilt backwards
High/low	The entire chair will be raised
Backrest	The backrest will tilt backwards
Legrest	The legrest angle will increase, the footplate will be raised

Adjustment	Move joystick forwards / Lifting the push handles up
Tilt	The entire chair will tilt forwards
High/low	The entire chair will be lowered
Backrest	The backrest will tilt forwards
Legrest	The legrest angle will decrease, the footplate will be lowered



6. To return to the 'drive' mode: Press on the 'mode' button to select the 'drive' mode

5. Lights

Not every wheelchair has been equipped with lights. You can activate the following functions only by using VR2 Lights and/or VR2 Seat&Lights:

- Lights (I in figure 5)
- Hazard Lights (J in figure 5)
- Direction indicators (K1 & K2 in figure 5)

6. Troubleshooting

If the wheelchair will not function while the batteries are fully charged, check the following points before consulting your dealer:

- Switch the controller off and then switch it on again. Check to see if the malfunction has been solved.
- Check if the free wheel switch was switched to Drive.
- Check if the joystick was in the 0 position when the controller was switched on. In other words, the joystick must not be moved when the controller is being switched on or off.

Malfunctions list

An extended malfunction list can be found in the appendix of the service manual (for qualified specialists only). The service manual can be found on www.handicare.com

7 Locking the controller

To lock the controller;

- While the control system is switched on, depress and hold the on/off button.
- After 1 second the control system will beep. Now release the on/off button
- Deflect the joystick forwards until the control system beeps.
- Deflect the joystick in reverse until the control system beeps.
- Release the joystick, there will be a long beep.
- The wheelchair is now locked.

To unlock the controller;

- If the control system has switched off, press the on/off button.
- Deflect the joystick forwards until the control system beeps.
- Deflect the joystick in reverse until the control system beeps.
- Release the joystick, there will be a long beep.
- The wheelchair is now unlocked.

8 Technical specifications

Supply Voltage	24 Vdc
Operating Voltage	16Vdc to 35Vdc
Peak Voltage	35Vdc
Reverse Battery Voltage	40Vdc
PWM Frequency	20kHz \pm 0.5%
Brake Voltage	12Vdc or 24Vdc
Brake Current	100mA min. 1A max.
Charger Connector	Use only Neutrik NC3MX
Batt. Charging Current	12Arms max.
Actuator Current	12A max.
Maximum Drive Current	VR2 50 50A VR2 60 60A VR2 70 70A VR2 90 90A
Moisture Resistance	IPx4
Operating Temperature	-25°C to +50°C
Storage Temperature	-40°C to +65°C

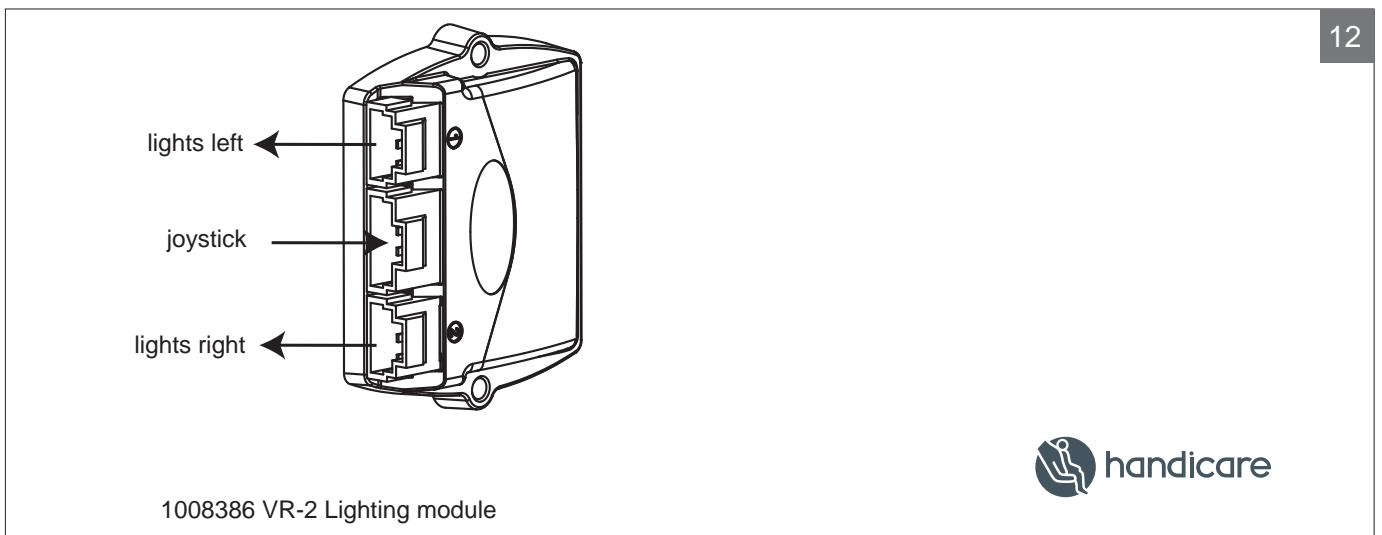
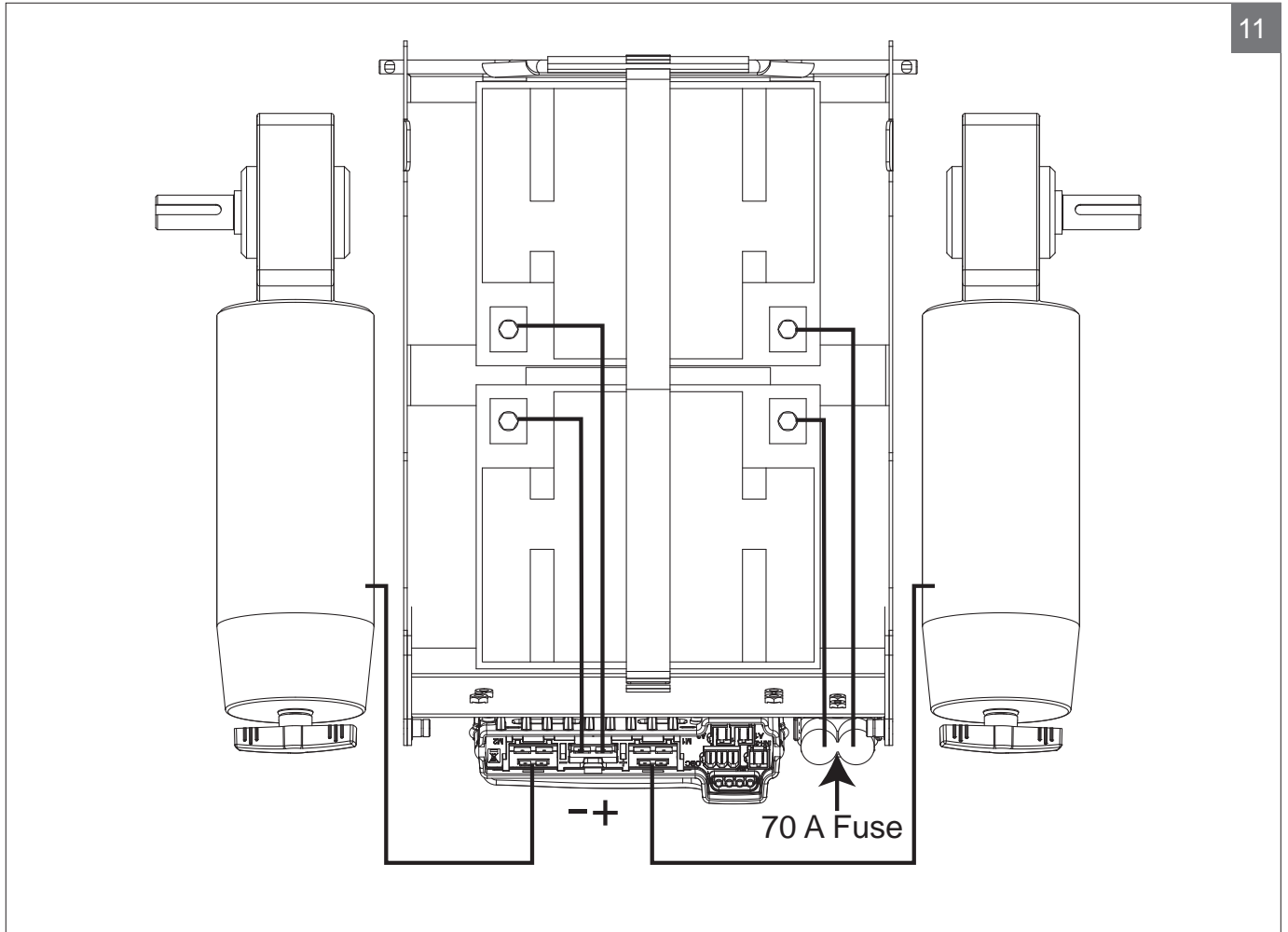
EMC tested on sample wheelchair:

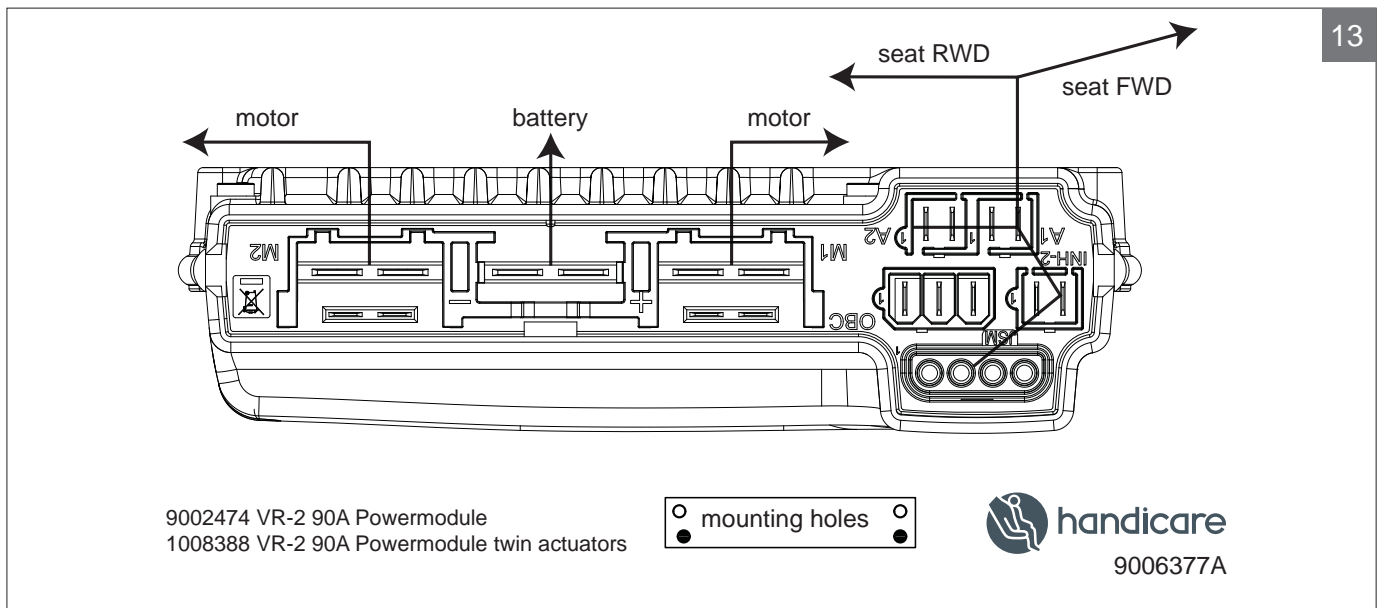
Applicable aspects	Applicable standards
Radiated emissions Electrostatic discharge immunity Radiated r.f. field immunity	EN12184: 2009 and underlying norms

9 Technical diagrams

9.1 Technical diagram

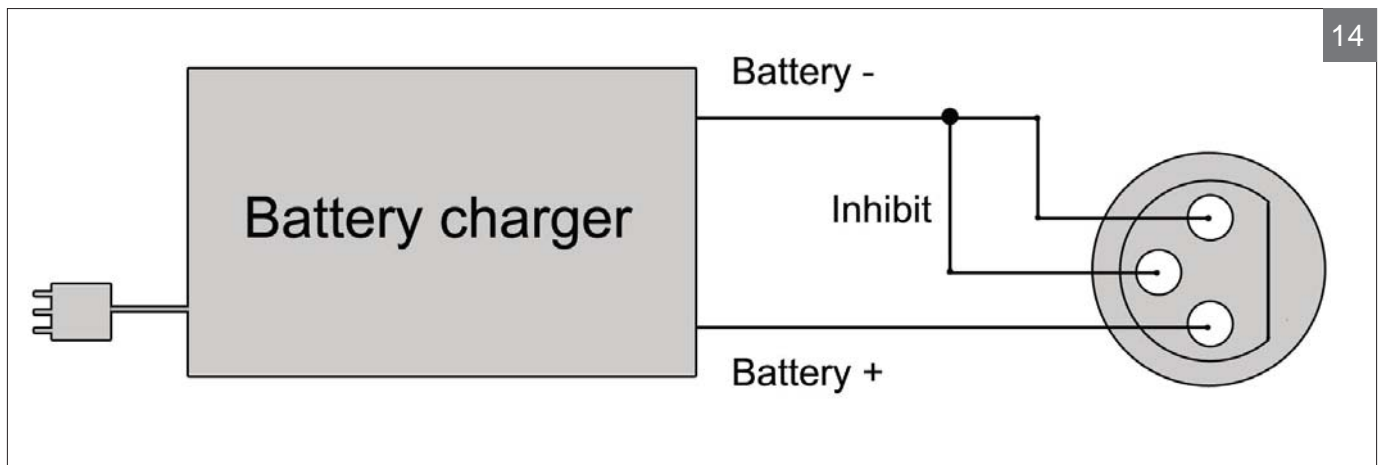
The technical diagrams can also be found on the cover of the specific electronic component.





9.2 Technical diagram battery charger

The controller's standard configuration includes a '3-pin connection'. Ensure that the battery charger is properly connected so that the 'negative pole' and the 'inhibit' are connected, enabling the system to prevent the wheelchair from moving when the battery is being charged.



Dealer:

Serial number:

