

# Solar 185

## Mobile hoist

### User instruction

#### Important information

This user instruction must be read before the Solar 185 is used.

This user instruction is intended for technicians, installers, therapists, and other personnel, in connection with the use, servicing and maintenance of the Solar 185.



*Scan the QR-code for further information*

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# 1. AIM AND USE

## 1.1 Purpose

The Solar 185 mobile hoist/lift, referred to in this manual as Solar, is designed to transfer persons in institutions such as nursing homes, hospitals, care centres and in homecare. Solar 185 can be used for transfer between bed and chair/wheelchair, from chair to another chair and from chair to a toilet.

Solar is approved to transfer with a maximum load of 185 kg. (408 lb).

### The use of the Solar requires the following instructions:

- Personnel have received qualified instruction by Winncare Nordic in using the Solar.
- The Solar has been assembled correctly and according to the user instruction.
- NEVER use the Solar for other purposes than described in this user instruction.
- Persons, who are transferred, must not be squeezed or trapped in the lifting situation.
- The Solar has been developed for use with Winncare Nordic lifting slings and other sling products authorized by Winncare Nordic. See Winncare Nordic's user instruction for slings for specific information about which models can be used.
- The Solar is intended for indoor use under normal temperatures (+2°C to +40°C) (36°F to 104°F) and relative humidity (40-90%).

## 1.2 Safety instructions



### Important – Warning!

**This user instruction must be read thoroughly before the Solar is taken into use.**

- All parts must be mounted correctly according to this user instruction.
- There must be no indication of wear and tear on the Solar or the lifting sling.
- Never begin lifting if there is suspicion of any defect (abnormal sound, loose brackets etc.). In such cases it is important to find the cause of the problem and take the Solar out of service. Contact your dealer or Winncare Nordic.
- Never raise the patient without correct sling attachment.
- Never lift higher than necessary in the actual lifting situation.
- The lifting capacity is 185 kg. (408 lb.) and must NEVER be exceeded. When using the Solar in connection with other components e.g. slings it is always the component with the LOWEST weight capacity that decides the maximum lifting capacity.
- Ensure that neither carers/helpers nor patients/users can be hurt during the lifting.
- See section 5.1 (annual check) for further information.

### 1.3 Before use

The carer/helper is responsible for ensuring that a daily check is carried out BEFORE the Solar and accessories are used, including the following:

- Check that the Solar is complete, and no parts are missing.
- Check that there are no signs of rust, wear and tear or other defects. If there is any sign of a defect the Solar must be taken out of use.
- Check the key functions, up/down and the leg adjustment are working on both the control box and the hand control. If the checks or the use of the Solar generate unusual noises, then the Solar must not be used before a qualified technician has carried out a safety check on the Solar.
- Check the lifting slings for any damages especially as regards to the lifting straps for tears in the material. The slings must not be used if defects are detected.
- If in any doubt concerning the use of Solar or lifting slings, contact Winncare Nordic for advice and guidance.

### 1.4 Terminology

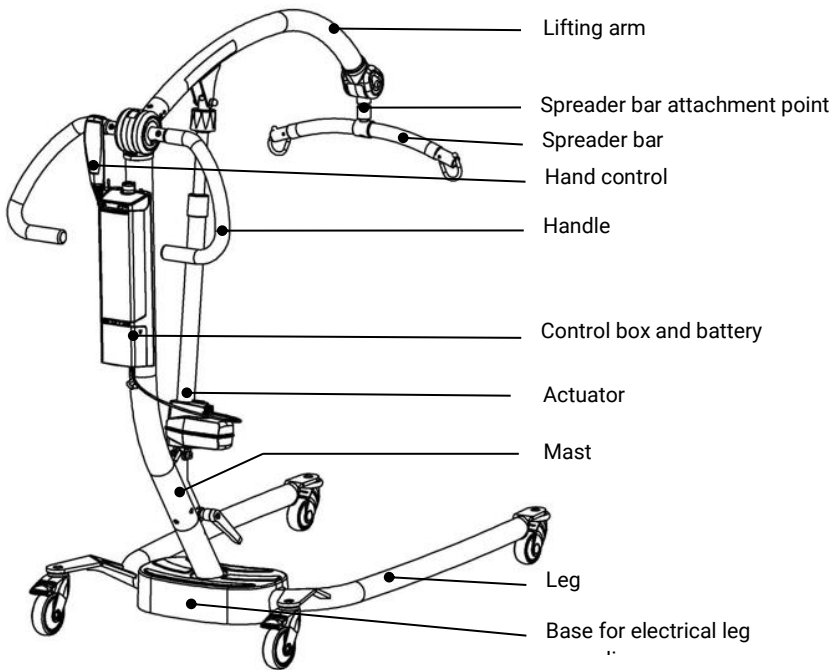


Fig. 1.4

## 1.5 Unpacking

Check that all the parts are present and undamaged. Any suspicion of damage or shortage should be reported to your dealer or Winncare Nordic. We recommend that the box packaging is kept if the Solar is to be used on other sites or for return shipment in case of repair or annual check.

### Content of the box:

1. Base with legs and leg spreading
2. Mast with actuator and lifting arm
3. Spreader bar
4. Hand control
5. Control box
6. Handles
7. Battery
8. Tools (Allen key, spanner)
9. User instruction

## 1.6 Assembling instruction

### Following step by step the assembling guidance:

1. Place the base on the floor and apply the brakes (Fig. 1.6A)
2. Assembly the mast/lifting arm with the base part (Fig. 1.6B) and tighten the hand screw (Fig. 1.6C)

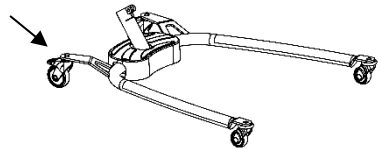


Fig. 1.6A

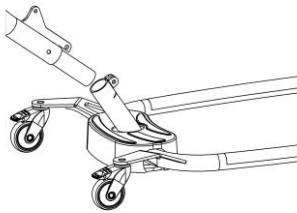


Fig. 1.6B

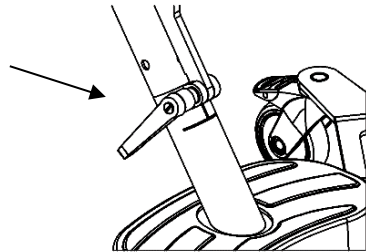


Fig. 1.6C

3. Assembly the actuators piston rod to the lifting arm. Use the Allen key and the spanner to tighten the bolt/nut. (Fig. 1.6D). Put the cap on the nut.

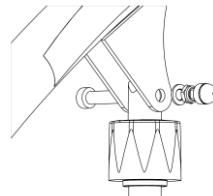


Fig. 1.6D

4. Assemble the handles on the mast with two screws and tighten with the Allen key. (Fig 1.6E)

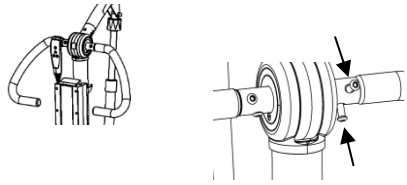


Fig. 1.6E

5. Before first time use and after each service check the control box must be reset push up/down buttons simultaneously on the hand control (Fig 1.6G). See section 3.1 – Using the control box.

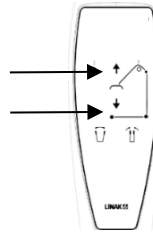


Fig. 1.6G

6. Attach the spreader bar. Rotate the attachment point so it is pointing upwards, insert the spreader bar and rotate 90° clockwise while pressing down firmly (Fig. 1.6H).

**Note:** A firm press must be held to be able to engage the bayonet. If the spreader bar does not stay in the attachment point, the spreader bar was not pressed in hard enough.

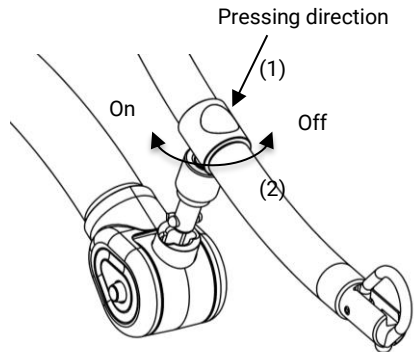


Fig. 1.6H

## 1.7 Spreader bar and lifting slings

The Solar is equipped with a spreader bar, which is designed for use with Winncare Nordic lifting slings. Winncare Nordic's lifting slings have 2-5 lifting straps and are designed for lifting hooks larger than  $\varnothing 8$  mm ( $5/16$  in).

If using non-authorized slings, Winncare Nordic will have no responsibility for faults or accidents.

Winncare Nordic can assist in choosing the correct sling and offers training sessions in transfer techniques and the correct use of slings.

### Attach slings on the Winncare Nordic spreader bar.

Winncare Nordic accepts no responsibility if slings are attached incorrectly, it is always the onus of the carer/helper to ensure that the sling is correct for the situation needs and is correctly mounted.

Hygienically, the hook can be opened / closed without the use of hands just place the sling strap loop around the hook and pull the strap towards yourself (Fig. 1.7A).

The sling strap is placed over the hook in its open position (Fig. 1.7B).

The strap is pulled downwards so that the hook locks (Fig. 1.7C).

The design of the lifting hook is that the weight of the patient/user helps to close the hook.

To release the strap after lifting simply pull upwards to open the hook.



Fig. 1.7A

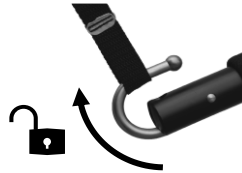


Fig. 1.7B

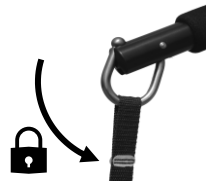


Fig. 1.7C

**Note:** Risk of finger entrapment - ensure that user's fingers cannot get trapped.

## 2. FUNCTIONS

### 2.1 Pictograms and functions – control-box

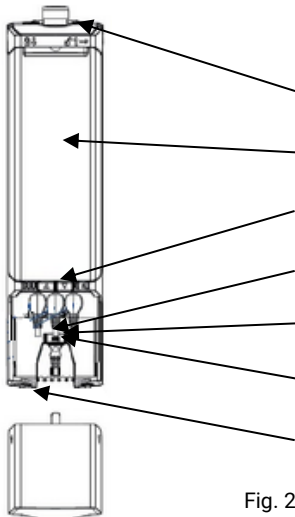


Fig. 2.1A

Emergency stop – See section 2.3

Battery

Lift up/down and LED indicator

Connecting plug - electrical leg spreading

Connecting plug - lifting actuator

Connecting plug - hand control

Connecting plug - power supply

LED indicator	LED 1 2 3			4 5	
	LED state	Description	Buzzer		
LED 1-2-3	on	Battery full			
LED 1-2	on	Battery 50%			
LED 1	on	Low battery	A beep at startup		
LED 1	Switches to yellow and flashes	Two cycles left	Single beep on key activation		
LED 4-5	on	Emergency stop activated			
Led 5	Flashing slowly	Overload state kept for 10 sec.			
Led 4	on	Service needed			

Fig. 2.1B

## 2.2 Pictograms and functions – hand control



**Up/Down** – These functions operates the lifting arm to move up or down.

**Leg spreading** – Press → ← and the leg spreading moves together. Press ↔ and the leg spreading will spread outwards.

## 2.3 Safety functions

### Emergency stop:

This function is only to be used in an emergency e.g. if the Solar does not react or does not stop after pressing a button on the hand control.

If the emergency button has been activated all functions immediately stop. The emergency stop can be released by turning the red button a ¼ turn clockwise. (Fig 2.3A).

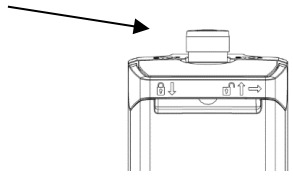


Fig. 2.3A



### Emergency lowering:

This function is only to be used in an emergency, where it is necessary to safely lower a patient. The emergency lowering is placed on the lifting actuator and is activated by turning the red knob clockwise, the lifting arm will then be lowered. (Fig 2.3B).

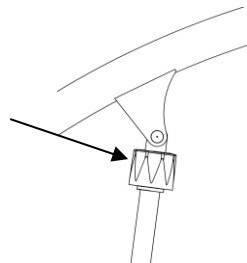


Fig. 2.3B

## 2.4 Charging

The Solar is equipped with a battery that requires regular charging. Winncare Nordic recommends that the battery is charged when the Solar 185 is not in use or every night. The Solar can be charged from the mains (wall outlet).

There are 3 symbols on the Control box, which indicate the power level in the battery. (Fig. 2.1B)

**Warning!** – If low battery. The battery must IMMEDIATELY be put on charge. In this situation remain on charge for 24 hours.

**Note:** The Solar cannot be overcharged.

### Charge directly from the wall outlet

- 1) Remove the mains plug, placed in the bracket on the side of the control box and plug into the wall socket.
- 2) The cable from the charger to the mains must be loose.
- 3) On the control box there is a diode, that lights yellow during charging.

**Note:** Solar cannot be used during charging.

**Note:** Re-place the mains plug in the bracket before using.

The Solar battery can also be charged in the external wall charger (see the accessories list). Remove the battery from the lift and place it in the charger.

## 2.5 Transport

The Solar is most safely transported using the original packing.

Symbols are printed on the packaging to ensure the best information to carrier companies.

# 3. USE

## 3.1 Using the Solar

Solar is ready for use if all assembly instructions have been followed and the emergency stop has been released.

### Operation of the Solar when turning:

To turn the Solar with the patient, it is important that the career is turn ergonomically around. Sometimes it can be a help to brake one of the wheels.

## 3.2 Using the control box

The control box keeps track of a variety of data such as:

- Service counters
- Battery state
- Overload information
- Service visit reports
- System error
- SW number
- ID

To access this information a readout tool is required.

This service data tool can be purchased from Winncare Nordic or your local dealer

More information about OneConnect™ can be found on LINAK's homepage.

Every 12 months or 8000 lifting cycles, the service LED on the control box will inform the user that the annual service check must be carried out.

See chapter 5.1 for a complete service check list.

**Note:** Before first time use and after each service check (service interval 365 days) must the service indicator be reset by holding up/down buttons simultaneously on the hand control. Await a BEEP-sound from the control box before releasing buttons again.

# 4. MAINTENANCE

## 4.1 Cleaning

The Solar may be cleaned using a slightly damp cloth with a standard household cleaning agent. Chemicals and other strong/abrasive agents must not be used.

It is recommended that the Solar be cleaned after each use to avoid infection. The Solar can be disinfected with household alcohol.

## 4.2 Storage

The Solar must be stored in a dry environment with relative humidity under 90%.

If the Solar is not to be used over a longer period, it is best to fully charge the unit and activate the emergency button to save battery before putting in storage.

It is recommended to charge the battery every 6 months.

## 4.3 Special environments

The Solar is not intended for use in aggressive environments e.g., leisure centres or swimming pools. For these situations, please contact your local dealer or Winncare Nordic.

## 5. CHECK, SERVICE DATA AND TROUBLESHOOTING

### 5.1 Annual check

The manufacturer Winncare Nordic stipulates that a qualified and authorised person MUST check this hoist at least once a year. This annual check is also recommended in the Standard (EN/ISO 10535:2007) for lifters/hoists. It is the customer to ensure that the annual check is carried out.

Scheduled maintenance and replacement of parts must always be carried out by authorised persons, who have been approved by Winncare Nordic.

**Note:** Replacement must only be done with Winncare Nordic products. If original spare parts are not used, all warranty and product liability are void.

Please contact local dealer for advisement of service companies. Local dealer can also be found at Winncare Nordic homepage.

The following items is to be inspected during the annual check:

- **Leg spreading:** Actuator runs both ways without any abnormal sounds.
- **Cables:** Must be without signs of breakage.
- **Spreader bar:** Attachment points intact and securely mounted. PU-foam intact.
- **Emergency stop:** Works and releases again.
- **Lifting mechanism:** Actuator runs both ways. Actuator is mounted correct. Lifts from bottom to top with max SWL 185 kg. (408 lb).
- **Hand Control:** All functions work as specified in the user guide.
- **Control Box and battery:** Correctly mounted. No visible defects.
- **Wheels:** Wheels and brakes work. Securely fastened.
- **Frame and Welding's:** Must be checked for visual signs of cracks, rust or deformations.
- **Handles:** Securely mounted.
- **Service interval:** After service has been carried out the service interval must be reset.

**Warranty** - See sales and delivery terms for warranty information at [www.Winncare.com](http://www.Winncare.com)

### 5.2 Troubleshooting

#### Fault:

The hoist does not react when the hand control buttons UP/DOWN are used.	Possible cause:	Emergency stop is activated. (see section 2.1)
	Solution:	Release the emergency stop (see section 2.3)
	Possible cause:	Defect hand control.
	Solution:	Try using another hand control. Alternative is to get a new hand control from the dealer.
	Possible cause:	Flat battery.
	Solution:	Charge battery (see section 2.4).

#### Fault:

Some functions work, while others don't.	Possible cause:	Fault in the control box. (see section 2.1)
	Solution:	Replace the control box.
	Possible cause:	Defect hand control.
	Solution:	Try using another hand control. Alternative is to get a new hand control from the dealer.
	Possible cause:	Fault in electrical circuit
	Solution:	Check wiring

**Fault:**

The lifting actuator is noisy or vibrates abnormally	Possible cause:	Lifting actuator is defect.
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Solution:	Replace the lifting actuator.
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**Fault:**

Does not charge	Possible cause:	Charger is not connected to the main supply.
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Solution:	Connect charger.
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Possible cause:	Defect control box.
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Solution:	Try another control box. Order a new from Winncare Nordic or the dealer.
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Possible cause:	Defect battery.
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Solution:	Replace battery.
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## 6. TECHNICAL DATA AND DIMENSIONS

### 6.1 Technical specifications

**Lifting properties:**

Load capacity:	185 kg (408 lb)
Number of lift movements:	40-60 with 80 kg (176 lb) / 0.5 m (1.6 ft) lift
Duty cycle:	10%, max, 2 min/18 min
Manually emergency lowering:	Yes
Electronically lowering:	Yes

**Electrical details:**

Power supply (Input):	100-240 VAC 50/60 Hz, max 0.4 A
Output voltage:	24V ===
Control box (Output):	250 VA
Battery capacity:	2,9Ah

IP-class:	IPx6
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**Noise:**

LWA during lifting/lowering without load is 48dB(A)  
 LWA during lifting/lowering at maximum load is 52dB(A)

**Material:**

Powder coated steel, stainless steel. ABS, PU.

## 6.2 Dimensions

1. Highest point
2. Maximum reach point
3. Lowest position

a) Max. height of CSP\* 1980 mm (75 in)  
 b) Min. Height of CSP\* 680 mm (27 in)  
 c) Lifting range 1300 mm (51 in)

d) Min. Dist. from wall to CSP\*  
 at max. height (legs spread): 530 mm (21 in)

e) Min. Dist. from wall to CSP\*  
 at max. reach (legs spread): 180 mm (7 in)

f) Min. Dist. from wall to CSP\*  
 at min. height (legs spread): 360 mm (14 in)

g) Max. reach at 600 mm  
 (Reference height): 580 mm (23 in)

h) Max. reach from base 600 mm (24 in)

i) Reach from base with  
 legs spread to 700 mm 180 mm (7 in)

j) Base height 120 mm (5 in)

k) Floor to baseplate 50 mm (2 in)

l) Min. internal width 550 mm (22 in)

m) Max. internal width 920 mm (36 in)

n) Internal width at max reach 890 mm (35 in)

Turning diameter 1430 mm (56 in)

\* Central suspensions point

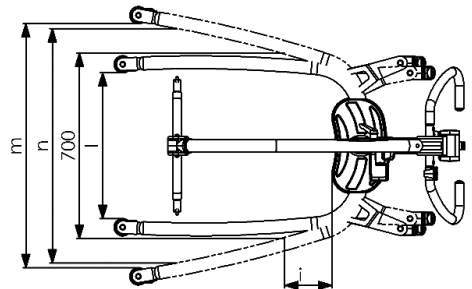
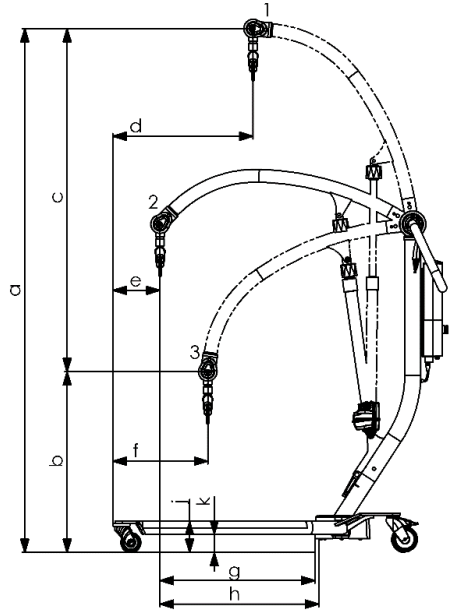
### **Weight:**

Weight in total: 45.0 kg

Mast incl. battery: 20.2 kg

Base/legs: 24.8 kg

**Note:** Total weight is without spreader bar.



## 7. ENVIRONMENT AND QUALITY

Solar 185 has an expected lifetime of minimum 10 years under the assumption that all recommended service checks have been carried out and that the normal maintenance and care instructions have been followed.

### 7.1 Disposal

Disposal of this Solar can be made through Winncare Nordic. After useful lifetime Winncare Nordic will receive the Solar back and split the individual fractions in an environmentally friendly way either through reuse or recycling.

Fractions that contain aluminum, lead acid batteries, electrical component, ABS plastic, steel may damage the environment if not handled in an environmentally responsible way.

### 7.2 Battery

The Solar is equipped with one battery, which may be returned either to the local recycling station or to Winncare Nordic at the end of their lifetime

### 7.3 Quality

Winncare Nordic is certified according to the quality standard ISO 9001:2015 and ISO 13485:2016.

These certifications mean that the products and the company complies with the international standards for quality management and standards for traceability of medical products.

Solar 185 is classified as a medical device class 1 product.

### 7.4 Symbols and abbreviations



Direct current



Double insulated



The patient is not separated from the ground and the chassis



The product should be reused where possible



Refer to user instruction

**SWL**

Safe working load (user + sling)

## 8. ACCESSORIES

### Spreader bars

015-02126	2-points 48 cm. spreader bar
015-02106	3-points spreader bar

### Spreader bars with weigh scale

017-00144	2-points 48 cm. spreader bar with weigh scale
017-00143	3-points spreader bar with weigh scale

### Wall charger

017-00200EU	Wall charger/EU plug
017-00200AUS	Wall charger/AUS plug
017-00200UK	Wall charger/UK plug

*Spare parts list can be ordered. Contact Winncare Nordic for more information.*

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**Manufacturer:**  
WinnCare Nordic ApS  
Taarnborgvej 12 C  
4220 Korsøer  
Denmark

Phone: +45 70 27 37 20  
Fax: +45 70 27 37 19  
Email: [info@winncare.dk](mailto:info@winncare.dk)  
[www.winncare.com](http://www.winncare.com)

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