



USER MANUAL

Power Tilt in Space - RPTS10





About REAC

REAC is passionate about helping people in their daily lives, and by providing a wide range of advanced power solutions suitable for many different applications, we hope to make people's lives a little bit easier. Our aim is to offer our clients an excellent service, backed up by experience and know-how in the application of advanced motion systems.

REAC's power solutions contain compact and strong electrical RPTS10s, lift and tilt systems, control boxes and hand controls. We know that our customers have different needs and therefore our products are designed to be customized according to their application's specific requirements.

We are confident to say that we can solve a wide range of motion problems, so please challenge us!

Contact information:

REAC AB

Forsbrogatan 4

662 34 Åmål

Sweden

Phone: +46 (0)532 78 50 00

Email: info@reac.se

Web: www.reac.se

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1 Introduction

1.1 About this manual

The aim with this user manual is to describe the RPTS10 with focus on:

- Working principle descriptions
- Safety
- Maintenance
- Troubleshooting
- Service

Next to this manual the following documentation is available:

- RPTS10 Data Sheet

1.2 Symbols

The following symbols will be used in this document:



Failure to comply with these instructions may result in accidents involving personal injury.



Failing to follow these instructions can result in the product being damaged or destroyed.



Useful tips, recommendations and information for efficient, trouble-free use.

1.1 Product overview

REAC Power Tilt in Space – RPTS10 is a drive unit for a Tilt motion in e.g. manual wheelchairs or other gurney seat applications.

Together with a REAC control unit and a REAC hand control, REAC can offer a complete package that can be adapted to wheelchairs and other seating functions in need of a tilting/rocking motion.



2 Technical data

2.1 Basic characteristics

Basic characteristics	
Operating voltage	24 VDC
Current consumption (Max load)	4 A
Current consumption (No load)	1.5 A
Maximum capacity at drive junction	500 N
Tilting angle	0 °-50 °
Speed at max force	22 mm/s
IP-class	IPX1 (IPX4 option)
Duty cycle	10%
Weight	3.5 kg
Gear release mechanism	Manual spring device
Color	RAL 9005
Surface treatment (metal)	Electro coated

2.2 Environmental conditions

Environmental conditions	Operating	Storage
Ambient temperature	-15 °C to +50 °C	-25 °C to +70 °C
Relative humidity	15% to 90%	15% to 90%
Atmospheric pressure	700 to 1060 hPa	700 to 1060 hPa
Oxygen rich environment	No	n/a



Using the the product outside its specified limits may lead to malfunction or personal injury.

2.3 Mounting instruction

Mounting brackets can be tailored to its final application.

2.4 Operating instructions

To operate the RPTS10 a REAC control unit is needed. The following REAC control units can be used together with the RPTS10:

- RCB10
- RCB11
- RCB12

All control units can be combined with a REAC hand control (RHC10). Joysticks, buddy buttons, digital switches or similar can also be used via digital inputs.

For further information regarding the control unit, the hand control and digital inputs, please view REAC website for data sheets and user manuals.

3 Safety

3.1 Manual Gear Release

The RPTS10 is equipped with a manual gear release function, intended to be used in case of an emergency when the normal function is not working.

The gear release is designed to allow the operator to release the motor unit from the main gear. When in released mode, the tilt unit is free to be maneuvered by hand. A spring-loaded pin, controls the position of the motor unit, either in engaged or disengaged mode.

To disengage RPTS10:

Pull the ring and turn the motor unit to next position.

To engage RPTS10:

Pull the ring and turn the motor unit to next position. Make sure that the spring-loaded pin is in correct position and secured.



Engaged mode



Disengaged mode



During engage and disengage, the tilt function is loose and can start to swing or move by itself. Only trained personnel is allowed to perform this action, wrongly handled this may lead to personal injury.

3.2 End Stops

RPTS10 does not have any electronic device for end travel limitation, it is intended to stop at mechanical ends in customer application. At mechanical end stop the motor will stall with a peak force. The REAC control unit will detect the peak force and stop all movements when the current limit is reached.



Inadequate designed mechanical end stops may result in the product being damaged or destroyed.

4 Maintenance

4.1 Service intervals

To ensure proper and safe operation, regular service is required. When used together with a REAC control unit (RCB11 and RCB12) a service interval based on number of RPTS10 cycles can be configured. Based on the configured limits a feedback in form of a sound or a LED on the hand control can be activated when the service time is due.

Note: there can be national norms for the applications in which the RPTS10 is used, that specify a certain service interval. This can easily be handled with configuration.

Between this service points regular maintenance and minor inspection must also be performed. Below follows a suggested maintenance schedule:

	Initially	Regularly	At planned service
Tilt unit Ensure tilt unit is firmly fixed.	✓		✓
Manual release function Verify function of the release mechanism.	✓		✓
Bolts and brackets Bolts and brackets are to be inspected and must be replaced if there are signs of wear.			✓
Cables Ensure cable that connects tilt with control box is firmly connected.	✓	✓	✓
Cover Check plastic covers for mechanical damage (cracks).	✓		✓
Drive rack Visual inspection of wear.			✓

4.2 Cleaning and disinfection

Product	Cleaning instructions
RPTS10	Clean with a damp cloth or with a brush and water



The systems must not be washed directly with a high-pressure cleaner. Cleaning with a steam cleaner is not permitted.



For disinfection it is recommended to use soap or equal and clean with a damp cloth. Cleaners and disinfectants must not:

- be highly alkaline or acidic;
- contain caustic agents;
- be able to change the structure of the surface or adhesion of the plastic;
- break down grease.

4.3 Waste disposal



All REAC products are marked with this symbol, which according to *Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/CE* means that products marked with this sign must be taken to a proper disposal site and cannot be disposed in in normal household waste.

The RPTS10 consist of several parts with different material, which means that it cannot be disposed as one single item. It is recommended (at disposal) to disassemble and divide the product as much as possible into feasible waste groups to be able to recycle the product in the most environmental friendly way. The following waste groups have been identified for the RPTS10:

	Cables	Metal	Plastic
RPTS10	<ul style="list-style-type: none"> • Connector cable 	<ul style="list-style-type: none"> • Motor • Drive unit • Gear rack • Mounting plates • Screws • Nuts 	<ul style="list-style-type: none"> • Motor cover • Gear cover • Bushings

Some of these main groups can be divided into sub-groups, for example metal can be divided into iron, stainless steel and aluminum and alloy steel. Plastic can e.g. be divided into ABS, PA, PE and POM.

4.4 Warranty

The warranty covers manufacturing defects in the product, starting from the date of manufacture. Standard warranty is 12 months. The warranty is limited to the value of the product.

REACs warranty does not apply to damage or failure of the product which is caused by improper or unprofessional use. The products must not be exposed to violent treatment. In the event of this, the warranty will be invalid.

4.5 Repairs

To avoid the risk of malfunction, all repairs must only be carried out by authorised REAC workshops or by a REAC appointed representative. If the RPTS10 is opened or by other mean modified by other than authorised personnel, there may be a risk of subsequent malfunction.

Products under warranty must also be returned to an authorised REAC workshop.



Only authorised REAC workshops or by REAC appointed representatives must open or modify the product.



4.6 Troubleshooting

Problem	Probable cause	Description	Solution
No RPTS10¹ movement (or RPTS10 switches off during operation)	Over current	If the RPTS10 run in to a mechanical stop the current will increase fast.	Run in opposite direction.
	Over load	If alert indication LED and/or sound alarm is available these will be activated.	Reduce load.
	Duty cycle protection (RCB11 and RCB12)	Duty cycle protection is a function to protect the motor from overheating. If alert indication LED is available (RHC10) it will be lit during an attempt to run the RPTS10.	Wait until RPTS10 "rest time" has elapsed.
	RPTS10 not correctly connected to control box		Make sure RPTS10 is properly plugged into control box.
	RPTS10 cable faulty		Check the cable and replace the RPTS10 if necessary
	Short circuit	If alert indication LED is available, it will be lit (RHC10).	Service needed.
	Charging ongoing	Operation is not allowed (and is prevented by the system) during charging.	Disconnect charging cable.

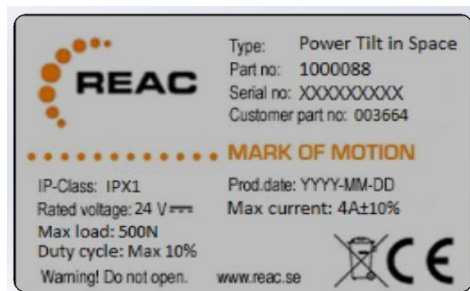
¹ Combination with REAC control system assumed

5 Labeling

The following symbols are used on the label of RPTS10.

IPXX	Ingress of particles (first character) and water (second character) as per EN60529.
	WEEE compliant
	CE-label attached based on Low Voltage Directive and EMC Directive.

Example of label:



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REAC AB
Forsbrogatan 4
662 34 Åmål, Sweden

REAC Poland Sp. z o.o
Ul. Sulejowska 45
97-300 Piotrków Trybunalski, Poland

www.reac.se
E-mail: info@reac.se
Phone: +46 532 78 50 00

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