

Actuator Keypad

Control the actuators of a powered wheelchair



Actuator Keypad Button R-net CJSM1 (P016-96)

Actuator Keypad Paddle R-net CJSM1 (P016-97)

Actuator Keypad Button R-net CJSM2 (P016-98)

Actuator Keypad Paddle R-net CJSM2 (P016-99)

Contact & Product

mo-Vis bvba



Biebuyckstraat 15 D
9850 Deinze - Belgium

Website: www.mo-vis.com

E-mail: contact@mo-vis.com

Telephone: +32 9 335 28 60



Actuator Keypad User & Installation manual

Produced and published by mo-Vis bvba, Belgium

Edition 2, September 2019

Manual item: D-P016-96-70-01

Download the latest version of this manual from:
<http://www.mo-vis.com/en/support/downloads>

Contents

Contact & Product-----	2
mo-Vis bvba-----	2
Actuator Keypad User & Installation manual-----	2
Contents -----	3
Important information about this Manual -----	4
Support, scrapping and spare parts-----	5
Warranty-----	6
Safety precautions -----	8
Design and function of the Actuator Keypad -----	12
Operation of the device-----	13
Intended use-----	17
Installation instructions -----	19
Preparations -----	19
Installation -----	21
Testing -----	22
First time use -----	23
Conditions of use -----	24
Maintenance-----	25
Technical data -----	26

Important information about this Manual

Congratulations for choosing a mo-Vis product! If you would like to learn more about mo-Vis and its products, we invite you to visit our website: www.mo-vis.com.

Before you install or start using this product, it is important that you read and understand the content of these installation and operating instructions, the safety instructions in particular. The installation instructions will guide you as an installer through the options and possibilities with the mo-Vis product.

The operating instructions are primarily intended to acquaint you with the functions and characteristics of the mo-Vis product and how you can use it in the best manner possible. They also contain important safety and maintenance information, as well as describe possible problems that can arise during use.

Always keep the operating instructions handy in connection with your wheelchair, since the need for important information can arise concerning its use, safety and maintenance.

All information, pictures, illustrations and specifications are based on the product information that was available at the time of printing. Pictures and illustrations shown in these instructions are representative examples and are not intended to be exact depictions of the various parts of the product.

We reserve the right to make changes to the product without prior notice.

Ordering documentation

You can download additional copies of this User & Installation manual on the mo-Vis website: www.mo-vis.com.

Support, scrapping and spare parts

Technical support

In case of technical problems, we advise you to contact your dealer.

If the dealer is not available, or unknown, please contact mo-Vis bvba by email support@mo-vis.com or by phone +32 9 335 28 60.

Always state the device serial number when contacting mo-Vis. This ensures you are provided with the correct information.

Spare parts and accessories

Spare parts and accessories must be ordered by the dealer at mo-Vis bvba.

Scrapping & recycling

For scrapping, adhere to your local waste legislation.

Dispose of obsolete electronic parts responsibly in accordance with local recycling regulations.

Warranty

mo-Vis bvba warrants the Actuator Keypad to be free from defects in material and workmanship for a period of 2 years under proper use, care & service. All warranties only cover parts and do not extend beyond the initial purchaser from an authorised mo-Vis dealer.

Start of the warranty period

Each warranty shall begin on the date the product is first delivered to the customer.

Repair and replacement

For warranty service, we advise you to contact the dealer from whom the product was purchased. In the event of a defect in material or workmanship, the dealer must obtain a return authorisation (RMA) number from mo-Vis and the product must be shipped to a service centre designated by mo-Vis. mo-Vis will repair or, at mo-Vis' option, replace any product covered by the warranty.

Disclaimer and Limitations of Remedies

The express warranties set forth in this agreement are in lieu of all other warranties of merchantability or fitness of purpose. In no event shall mo-Vis be liable for any direct, indirect, incidental or consequential damages resulting from any defect in this product. Warranty of parts subject to "normal wear and tear" (e.g. pads,

joystick balls, batteries ...) are not covered in the warranty except as it applies to defects in material or construction.

Amendments

No person is authorised to alter, extend or waive the warranties of mo-Vis.

Voiding of warranties

The foregoing warranties are contingent upon the proper installation, use, maintenance and care of the product. The warranty will be void if the product has been installed or used improperly, or if it has been repaired or any part replaced by persons other than mo-Vis or an authorised dealer. The Actuator Keypad, integrated cabling included, is considered as a non-serviceable part.

The addition of equipment or features that are not manufactured or recommended by mo-Vis could affect the intended function of the mo-Vis product and may invalidate the warranty.

Understanding usage

The health care professional (authorised installer) is responsible for understanding the intended use of the mo-Vis equipment, the specifications and its programming parameters. mo-Vis cannot be held responsible for damage caused by incorrect installation or incorrect use of the product. Misuse, mishandling or storage is not covered by this warranty.

Safety precautions

General

The Actuator Keypad allows to control the actuators of a powered wheelchair with an R-net control system.

There are different Actuator Keypads available for the CJSM1 and CJSM2 joystick (they are not compatible with both at the same time, because each type of CJSM needs a different resistor value).

Incorrect use or installation may lead to risk of injury to the user and damage to the wheelchair or other property.

In order to reduce these risks, you should carefully read this instruction manual, paying particular attention to the safety instructions and warning texts.

Only install this product on a wheelchair where the wheelchair manufacturer allows the installation of third party parts.

Only qualified service engineers should mount and install mo-Vis products.

Any unauthorised use of the product may lead to increased risk of accident. Carefully follow the recommendations in this manual in order to prevent accidents from use.

The Actuator Keypad, integrated cabling included, is considered as a non-serviceable part.

In case of doubt for alterations and adjustments, always contact a qualified service engineer.

In case any serious incident occurs in relation to the device, this should be reported immediately to mo-Vis and the competent authority of the Member State in which the user is established.

Warning labels

This manual contains the following warning labels, which are intended to draw attention to situations that could lead to unwanted problems, e.g. personal injury or damage to the wheelchair.



CAUTION!

Please use caution where the symbol appears.



WARNING!

Please use extreme caution where the symbol appears. Failure to observe warnings can lead to personal injury or property damage.



CAUTION!

Limited liability

mo-Vis accepts no liability for personal injury or damage to property that may arise from the failure of the user or other persons to follow the recommendations, warnings and instructions in this manual.



CAUTION!

EMC Requirements

The electronics of a power wheelchair and its options can be affected by external electromagnetic fields (for example from mobile telephones). Similarly, the electronics of the wheelchair or options themselves can also emit electromagnetic fields that can affect the immediate surroundings (for example certain alarm systems in businesses).

The limit values for Electromagnetic Compatibility (EMC) with respect to power wheelchairs are set in the harmonised standards for the EU in the Medical Devices Directive, No. 93/42/EEC.

The Actuator Keypad complies with these limit values.



WARNING!

Assembly

The Actuator Keypad should only be installed or adjusted by a qualified service engineer or someone with adequate knowledge to perform the adjustment in an expert manner.

Maintenance and service

Carry out only the service and maintenance activities specified in this manual, as long as you comply with the demands stated in this manual for a specific action.

All other service, alterations to and interventions on the Actuator Keypad must be carried out by a qualified service engineer or someone with adequate knowledge to perform the adjustment in an expert manner. In case of doubt, contact a qualified service engineer or mo-Vis.

Use only spare parts or accessories approved or recommended by mo-Vis. All other use could lead to changes which might impair the function and safety of the product. It could also lead to the warranty becoming void.



CAUTION!

Testing

The Actuator Keypad should always be tested without any person sitting in the wheelchair after every alteration of the physical installation or adjustment of the parameters.

Design and function of the Actuator Keypad

Purpose

The Actuator Keypad allows to control the seating positions of a powered wheelchair with an R-net control system.

Features

The Actuator Keypad has the following characteristics:

- The Keypad allows to control the actuator's axes (lifts) 1 to 5 on an R-net system.
- The Keypad is available in two versions: with buttons or with paddles.
- There are two different versions of Keypads available for CJSM1 or CJSM2 joysticks.
- Simple connection: via a 3.5mm stereo jack into the mode socket of the joystick.
- Some R-net parameters need to be set correctly before the keypad is operational. For these settings we refer to the Curtiss-Wright manual.

Mounting

The Actuator Keypad can be mounted in-line or sideways on a CJSM1 or CJSM2 joystick.

Compatibility with the Scoot Control

Actuator Keypads P016-98 and P016-99 (those compatible with the CJSM2 joystick), are also compatible with the Scoot Control (P015-61).

In that case, there is even a parameter available to control 10 axes, instead of 5.

Operation of the device

Keypad



Actuator Keypad with Buttons



Actuator Keypad with Paddles

A keypress will send an axis command into the R-net system, causing the actuators to move. To set the parameters, please refer to the Curtiss-Wright manual (SK7798-14 | R-net Technical Manual | Chapter 3-Programming).

A parameter is available to control 5 axes if it is mounted on a CJSM1 or CJSM2 joystick.

If the Actuator Keypad is mounted on a Scoot Control, there is a parameter available to control 10 axes. Only the Actuator Keypad CJSM2 (button or paddle) is compatible with the Scoot Control.

Keypad 5 Axes
















Number	Command	Action
1	AXIS 1 up	Move Axis up
2	AXIS 1 down	Move Axis down
3	AXIS 2 up	Move Axis up
4	AXIS 2 down	Move Axis down
5	AXIS 3 up	Move Axis up
6	AXIS 3 down	Move Axis down
7	AXIS 4 up	Move Axis up
8	AXIS 4 down	Move Axis down
9	AXIS 5 up	Move Axis up
10	AXIS 5 down	Move Axis down

Keypad 10 Axes

Number	Command	Action
1	AXIS 1 toggle	Toggle Axis, start with Up then Down
2	AXIS 2 toggle	
3	AXIS 3 toggle	
4	AXIS 4 toggle	
5	AXIS 5 toggle	
6	AXIS 6 toggle	
7	AXIS 7 toggle	
8	AXIS 8 toggle	
9	AXIS 9 toggle	
10	AXIS 10 toggle	

Sticker sheet

A sticker sheet is included in the package to facilitate the use of the keypad. However, these are only suggestions. The user is free to assign his own function to each button/paddle.

Icon	Action	Icon	Action
	Sit-stand		Adjustment headrest
	Adjustment footplate		Adjustment anti tip wheels
	Both leg rests		Adjustment back support
	Left leg rest		Up-down
	Right leg rest		Robotic arm
	Tilting		Motor unit 1-4
	Stand up		Motor unit 1-4
	Chin control		

Mounting parts

Contact mo-Vis for information on available mounting parts, and advice on mounting the device.

The Keypad Bracket In Line Set (M016-93) and the Keypad Bracket Side Mounted set (M016-94) are available as dedicated mounting parts to the CJSM1 and CJSM2 joystick.

With a Scoot Control Keypad Bracket Set (M015-91) you can mount the Actuator Keypad (P016-98 & P016-99) on the Scoot Control.

Ordering spare parts

Spare parts and accessories must be ordered by the dealer at mo-Vis bvba. Always mention Product code & Product description of items to be ordered.

Intended use

The Actuator Keypad is a module which can be connected directly to a CJSM1 or CJSM2 joystick or to the mo-Vis attendant controller 'Scoot Control'. By pushing the buttons or the paddles, the actuators of the powered wheelchair will start to move.

Safety precautions



CAUTION!

Protect the device against bumps.



WARNING!

Avoid hitting obstacles during driving.



WARNING!

Mind damaging the unit and wiring. Make sure that cabling is mounted in such a way that excessive wear and tear is avoided.



CAUTION!

Make sure the buttons stay clean, so they are not blocked.



WARNING!

If the rubber keypad is damaged, replace the Actuator Keypad. Water ingress could cause bad contact.



WARNING!

Check the mounting: the keypad must be fixed securely onto the wheelchair.



WARNING!

Check the housing: if the housing is damaged, the keypad should be replaced.

Safe driving



WARNING!

In case the wheelchair responds in an unexpected way, the user must immediately release the Actuator Keypad or use the power on/off switch.

Installation instructions

Preparations

Qualified service engineer

Only a qualified service engineer may install the Actuator Keypad.



WARNING!

An incorrect programming of the wheelchair electronics may cause damage to the devices, or injury to the user.

Tools



CAUTION!

*Use the proper tools to install and adjust the Actuator Keypad.
The use of improper tools may cause damage to the device.*



CAUTION!

Do not tighten screws with an excessive force.

Installation plan

Set up an installation plan before starting the installation. Based on the users' needs and capabilities of the wheelchair and user, this plan should take into account:

- At which position (height, inclination,...) the Actuator Keypad should be placed.
- To set how the Actuator Keypad will move the actuators: change the parameter settings.
- A robust and reliable positioning. Hard or sudden movements of the wheelchair may not disorganise the installation.



CAUTION!

Protect the device against bumps



WARNING!

Mind damaging the unit and wiring. Make sure that cabling is mounted in such a way that excessive wear and tear is avoided.



CAUTION!

Any connection must always be secured with all delivered screws. Only use the screws provided in the package.

Serial number sticker

The additional serial number sticker which can be found in the package should be adhered to the back of this manual.

Installation

1. Mount the unit with suited mounting parts at the desired location.
Contact your dealer or mo-Vis for more information.
2. Connect the cabling to the wheelchair electronics: plug the 3.5 mm stereo jack in the mode socket of the standard R-net joystick or Scoot Control.
3. Place and secure all cabling on the wheelchair.



WARNING!

Mind damaging the unit and wiring. Make sure that cabling is mounted in such a way that excessive wear and tear is avoided.



WARNING!

All wheelchair electronics must be switched off during installation.

After installation of the Actuator Keypad, execute the following tests before the wheelchair is delivered or put into service, in according order:

1) *Check the Actuator Keypad for intactness*

Check whether:

- The device is not bent or damaged
- Housing, cabling and all connectors are not damaged

2) *Operational test*



WARNING!

Execute this test only on a level surface, with at least one meter of free space around the wheelchair.

1. Activate the wheelchair operating system
2. Check for any error message
3. Press on a button/paddle of the Actuator Keypad until the actuator's movement is finished. Repeat for all buttons/paddles.



WARNING!

The wheelchair seat will move. Avoid dangerous positions and situations while moving the seating unit.

Dealer assistance

During first time use by the user it is advised that the dealer or service engineer assists and explains the different possibilities to the customer (the user of the Actuator Keypad).

If needed, the dealer can make final adjustments.

User testing

It is important that the customer is fully aware of the installation, how to use it and what can be adjusted to optimise his experience.

As a dealer, proceed as follows:

1. Explain and show the customer how you have executed the installation, and explain the function of every (new) button.
2. Have the user test all positions of the Actuator Keypad:
 - Are the Actuator Keypad and buttons within easy reach?
 - Can the user safely adjust the seating of the wheelchair with the least effort?
 - Is the placement of the device in all available positions optimal for the user?
3. If needed, adjust the position of the Actuator Keypad.
4. Explain to the customer possible problems and how to address them.

Conditions of use

The Actuator Keypad is intended for use as installed by the dealer, in accordance to the installation instructions in this manual.

The foreseen conditions of use are communicated by the dealer or service engineer to the user and/or attendant during the first time use.

If the conditions of use change significantly, please contact your dealer or a qualified service engineer to avoid excessive wear and tear or unintended damage.

Maintenance

Cleaning

Clean all parts of the Actuator Keypad on a regular basis (monthly), or whenever needed.

- Gently remove dust and dirt with a damp cloth
- Use only non-aggressive disinfectant cleaning agents



WARNING!

Do not immerse in water or use excessive amounts of liquid.



CAUTION!

Do not apply additional lubricants to the moving parts.

Monthly check

Monthly, or whenever needed, check whether:

- All bolts and screws are still firmly tightened
- There is no damage to any wiring
- There is no excessive wear to any of the parts

Yearly check

We advise to have at least yearly a full check of the wheelchair and its operating systems by a qualified service engineer.

Contact your local dealer or mo-Vis for more information.

Maintenance free

The Actuator Keypad is maintenance-free. Under regular use circumstances, the device and different parts do not require additional maintenance.

Technical data

Product description & Code

- Actuator Keypad Button R-net CJSM1 (P016-96)
- Actuator Keypad Paddle R-net CJSM1 (P016-97)
- Actuator Keypad Button R-net CJSM2 (P016-98)
- Actuator Keypad Paddle R-net CJSM2 (P016-99)
- Keypad Bracket In Line Set (M016-93)
- Keypad Bracket Side Mounted Set (M016-94)
- Scoot Control Keypad Bracket Set (M015-91)

Device connector

- 3.5 mm stereo jack (actuator panel).

Specifications

Factor	Specification
Electrical Connection	Curtiss-Wright R-net Compatible Mode Jack Connection
Resistor Value	CJSM1 169E / CJSM2 34E
Cable Length	Pigtail 250 mm Jack Stereo male connector
Operating Force Button	180g (1.8N) / 6.35 oz
Maximum Allowed Force Button	800g (8N) / 28.22 oz
Operating Force Paddle	200g (2.0N) / 7.05 oz
Maximum Allowed Force Paddle	800g (8N) / 28.22 oz
Weight Size	80g / 2.82 oz 89.7 x 55.5 x 20 mm / 3.53 x 2.19 x 0.79 in (WxDxH)
Mounting	2 * M4 (6mm / 0.24 in depth) (55mm / 2.17 in center/center)

Installation date: . . / . . /

Dealer:



Dealer stamp:

A large, empty rectangular box with a thin green border, intended for a dealer stamp.

Serial number sticker

A large, empty rectangular box with a thin green border, intended for a serial number sticker.