

All-round Joystick

Multifunctional operable wheelchair joystick



All-round Joystick Omni (P002-71) – R-net (P002-75)

All-round Joystick Omni Light (P002-72) – R-net (P002-76)

Or version for different wheelchair electronics connection

Contact & Product

mo-Vis bvba



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All-round Joystick User & Installation manual

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Contents

Contact & Product-----	2
mo-Vis bvba-----	2
All-round Joystick User & Installation manual-----	2
Contents -----	3
Important information about this Manual -----	5
Support, scrapping and spare parts -----	7
Warranty-----	8
Safety precautions -----	10
Design and function of the All-round Joystick -----	14
Parts and accessories-----	16
mo-Vis configurator software -----	19
Intended use-----	20
Installation instructions -----	23
Preparations -----	23
Joystick table mount-----	25
Satellite Twister installation -----	26
Joystick mounting set installation -----	27
All-round Joystick installation -----	28
Defining position (parameters) -----	29
Testing -----	30
First time use -----	33
Using the All-round Joystick-----	34

Conditions of use	34
Error codes	35
Fault log	35
Maintenance	36
Parameter settings	38
Mounting Settings (User Level)	38
Deadband	38
Compensation	39
Tilt	41
Compensation mode	42
Technical data	43

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 begin 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 additional connection manual is considered as a comprehensive part of this manual. The mo-Vis product should be adjusted with the mo-Vis Configurator software.

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.

Referenced products

This manual is valid for the All-round Joystick and the All-round Joystick Light. For readability purposes, we only mention “All-round Joystick”. Whenever “All-round Joystick” is mentioned, it also applies for the All-round Joystick Light, unless stated otherwise.

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 All-round Joystick 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 (RA) 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 All-round Joystick, 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 All-round Joystick is intended to be fitted on any power wheelchair with Omni (P002-71/72) or R-net (P002-75/76) connection. Other versions for different wheelchair connections are available. Check the connection manual or contact your dealer or mo-Vis for more information.

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.

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 All-round Joystick, integrated cabling included, is considered as a non-serviceable part.

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

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. All-round Joystick complies with these limit values.

WARNING!

Assembly

The All-round Joystick 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 All-round Joystick 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 All-round Joystick should always be tested without any person sitting in the wheelchair after every alteration of the physical installation or adjustment of the joystick parameters.

Design and function of the All-round Joystick

Purpose

The All-round Joystick is the compact version of a standard electronics wheelchair joystick module. Developed for all-round use, it is suitable for the major part of wheelchair users. It can be used as a standard joystick, chin joystick or as an attendant joystick. The All-round Joystick Light has the same specifications, but with medium force (ca. 120 gr - 4.23 oz). Both joysticks are positioned at the top of our joystick series:

- **All-round Heavy Duty Joystick:** large size joystick, extreme force (ca. 650 gr – 22.93 oz)
- **All-round Joystick:** regular size joystick, regular force (ca. 250 gr – 8.81 oz)
- **All-round Joystick Light:** regular size joystick, medium force (ca. 120 gr – 4.23 oz)
- **Multi Joystick:** smaller size joystick, limited force (ca. 50 gr – 1.76 oz), operated with finger, chin, lip, ...
- **Micro Joystick:** very small sized joystick, minimal force (ca. 10 gr – 0.3 oz), operated with finger, chin, tongue, lip, ...

Features

The All-round Joystick is:

- Fully proportional with standard throw and force (ca. 250 gr – 8.82 oz) (All-round Joystick), or with medium throw and force (ca. 120 gr – 4.23 oz) (All-round Joystick Light)
- Built in a compact housing, with two 3.5 mm jacks for switch input
- Linkable with one or two switches (on/off = red jack socket and mode = yellow jack socket), with any 3.5 mm jack
- Integrated interface
- Mini USB connection for configuration purposes
- Fully adjustable to individual possibilities and needs with well-thought electronics
- Easily configurable with the free mo-Vis Configuration software: positioning of the joystick. For other parameters, the wheelchair software settings are used.
- Compatible with multiple types of wheelchair electronics . See the connection manual for more information.

Mounting

The All-round Joystick can be mounted at any location on the wheelchair.


- On any flat surface: with 4 bolts
- Use the Quick-to-mount (Q2M) to install the All-round Joystick on any other location on the wheelchair.

- Use the Multi Swing mounting arm to easily install the All-round Joystick as a chin joystick.
- You can equally use any other mounting system.

Parts and accessories





All-round Joystick package

An All-round Joystick package consists of the following parts:

	Product description	Product code
	All-round Joystick set, with integrated cabling (illustration: Omni version)	P002-71/72 (Omni) P002-75/76 (R-net) Or version for different connection
	All-round Joystick manual	D-P002-71-70
	Connection manual	D-P002-81-70 (Omni) D-P002-85-70 (R-net) Or version for different connection

All-round Joystick accessories

For mounting and further personalisation, the following accessories are available:

	Product description	Product code
 The image shows two black circular mounting plates with four holes each. To the right of the plates are four silver-colored screws and a black cylindrical tube.	Mounting set 8 mm for Quick-to-Mount system	M002-60
 The image shows two black circular mounting plates with four holes each. To the right of the plates are four silver-colored screws and a black cylindrical tube.	Mounting set 6 mm for Quick-to-Mount system (M001-09 adapting rod 10-6mm included)	M002-61
 The image shows a single black circular joystick ball.	All-round Joystick ball - 48 mm diameter - 38 mm height	M002-76
 The image shows a circular mounting ring assembly with a green inner ring and a black outer ring. It has four yellow screws around the perimeter.	mounting ring assembly, for mounting the joystick in a flat surface	M002-25

	Product description	Product code
	Satellite Twister (incl. All-round insert), short cable (300 mm)	P005-40 (black) P005-41 (red) P005-42 (yellow) P005-43 (blue) P005-44 (green)

All-round Joystick unit detail

The connections of the All-round Joystick unit have protective covers to avoid the intrusion of dust or moist during usage.



CAUTION!

Before inserting a connector, remove the protective cover.



CAUTION!

Always put or keep the protective cover in case the connections are not used.



When in use, a green LED on the All-round Joystick indicates the proper functioning of the unit. In case of an error, the LED flashes. See the Connection manual for the error codes.

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.

mo-Vis configurator software

The All-round Joystick positioning is adjustable with the mo-Vis Configurator software.

Software download

- You can download the software on the mo-Vis website: www.mo-vis.com.
- For all details on how to install and use the software, we advise you to consult the manual of the mo-Vis Configurator software (see the support/download section at www.mo-vis.com).

Profiles

Depending on your profile (user, attendant, dealer, OEM), you will be able to configure a number of parameters for the All-round Joystick.

- For a user profile, no password is required.
- Attendant, Dealer and OEM profiles require a password.

Intended use

The All-round Joystick is a joystick module which can be connected directly to the wheelchair electronics to control the wheelchair functions.

The All-round Joystick is a proportional joystick which requires standard force and movement. The All-round Joystick Light requires medium force and movement.

Safety precautions



CAUTION!

Protect the joystick 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.

Functioning

The movements of the joystick are translated into according movements of the wheelchair, e.g. driving or menu navigation.

Common practice to navigate the wheelchair with the All-round Joystick is as follows:

- **Direction:** point the joystick into the direction you want the wheelchair to move. The wheelchair then moves in that direction.
- **Speed:** the further you move the joystick from the default (center) position, the faster the wheelchair moves.
- **Stop:** whenever you release the joystick, the joystick moves back to the default (center) position and the wheelchair stops.

Safe driving

It is mandatory to have a wheelchair power on/off switch – which immediately shuts down the wheelchair power and electronics – within easy reach of the user while driving. This allows to instantly stop the wheelchair in case of problems or an emergency.



WARNING!

The on/off switch must be available to the user at all times.

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

Connection options

You can connect one or two switches to the All-round Joystick. One connection is to control the power (pwr) on and off, one connection is to control a mode (in).

The connection interface depends on the joystick version. Please refer to the connection manual for more information on the connectivity

Installation instructions

Preparations

Qualified service engineer

Only a qualified service engineer may install the All-round Joystick.



WARNING!

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

Tools

Use an Allen wrench to install the mo-Vis Quick-to-mount and All-round Joystick.



CAUTION!

Use the proper tools to install and adjust the All-round Joystick. 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:

- Where which part of the All-round Joystick should be placed.
- How the All-round Joystick will be operated: hand, chin or by attendant.
- A robust and reliable positioning. Hard or sudden movements of the wheelchair may not disorganise the installation.



CAUTION!

Protect the joystick 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.

Joystick table mount

When mounting the All-round Joystick on a flat surface (e.g. a table), insert 4 M4 bolts (not included in the package) through the surface to secure the All-round Joystick directly on the surface or use the mounting ring (M002-25)..



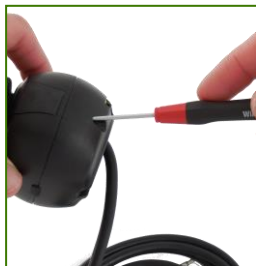
CAUTION!

Tighten the bolts firmly, but not excessively. Excessive force may damage the unit.

Satellite Twister installation

You can mount one or two Satellite Twister to the All-round Joystick.

1. Define the location of the Satellite Twister(s): left, right or on both sides.
2. Unscrew and remove the cover for the Satellite Twister connection with a Phillips screwdriver.
3. Place the Satellite Twister firmly into the open slot.
4. Use the screw of the cover to secure the Satellite Twister to the All-Round Joystick.
5. If required, place a second Satellite Twister in the same way.
6. Connect the cabling of the Satellite Twister to the All-round Joystick.

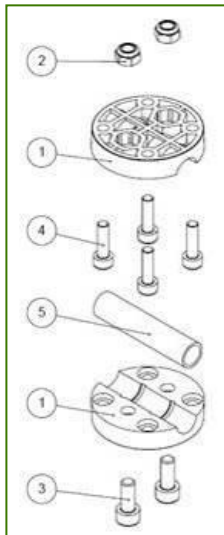


CAUTION!

Tighten the screws firmly, but not excessively. Excessive force may damage the unit.

Joystick mounting set installation

1. Define the position of the joystick.
When the USB connection points towards the user, a forward movement of the joystick will result in an according forward movement of the wheelchair. If needed, you can change this positioning in steps of 90° with the mo-Vis Configurator software.
2. Determine which of the 2 slots you will use to guide the cable.
3. Place the two M5 locknuts (2) in the first mounting plate
4. Secure the Mounting Plate (1) with the 4 M4 bolts (4) to the base of the joystick housing.
5. Place the adaptor 6-10 mm (6 mm mounting set), or use the heat shrink (8 mm mounting set) (5) on an 8 mm rod.
6. Secure the second Mounting Plate with the 2 M5 bolts (3)



CAUTION!

Tighten the screws firmly, but not excessively. Excessive force may damage the unit.

All-round Joystick installation

- 1. With 6 mm mounting set:** slide the unit over a Q2M rod, or any other 6 mm rod, to position the All-round Joystick on the wheelchair.
With 8 mm mounting set: If an 8 mm rod is used, use a heat shrink (included in the mounting set) on the rod to guarantee a firm connection.
 - You can use any other Q2M rod, e.g. a C-rod or S-rod, which are included in the mo-Vis Multi Swing.
 - Contact your dealer or mo-Vis for more information.
- 2.** 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.

- 3.** If required, place a power on/off (pwr) and/or mode (in) switch, secure their cabling and insert their connections.



CAUTION!

Before inserting a connector, remove the protective cover.



CAUTION!

Always put or keep the protective cover in case the connections are not used.

4. Connect the cabling to the wheelchair electronics



WARNING!

All wheelchair electronics must be switched off during installation.

Defining position (parameters)

If the All-round Joystick is not mounted with the USB connection pointing towards the user, you can adjust the Joystick direction in steps of 90° with the mo-Vis Configurator software.

- This software must be installed and ready to use on a pc.
- Depending on your profile (user, attendant, dealer, OEM), you will be able to change a number of parameter settings.
- To define the movements during the installation procedure, we advise having at least a dealer profile.

Defining parameter settings

To define the parameter settings, proceed as follows:

1. Connect the All-round Joystick to a pc. Use a standard mini-USB – USB cable.
2. Configure the parameters with the software.
3. Upload the configuration.
4. Test the configuration and adjust if necessary.

Parameter settings

Please see “Parameter Settings” for a list of all parameter settings.

Testing

After installation of the All-round Joystick, execute the following tests before the wheelchair is delivered or put into service, in according order:

1. Check the All-round Joystick for intactness
2. Operational test
3. Test drive
4. Stop test

Check the All-round Joystick for intactness

Check whether:

- The joystick is not bent or damaged
- Housing, cabling and all connectors are not damaged
- The joystick returns to its default position when moving and releasing the joystick forward, backward, left and right.

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. The green LED on the joystick must be on.
If the LED flashes, an error is detected. Do not proceed before resolving the error.
3. Move the joystick slowly forward until you hear the parking breaks switch off.



CAUTION!

The wheelchair may start moving.

4. Immediately release the joystick. You should hear the parking break react within a few seconds.
5. Repeat steps 3 and 4 three times, while slowly moving the joystick towards you, to the left and to the right.
6. Check whether the power on/off and mode Switch function properly.

Test drive

Make a test drive with the wheelchair.

- Check whether the wheelchair and all its functionalities function fully correctly in all positions the user may use the All-round Joystick and switches.
- Check no cabling or parts may get damaged or hindered in any possible position of the wheelchair.

Stop test

Drive full speed ahead and shut down the wheelchair with the power on/off switch.

The wheelchair may not suddenly stop, but must slow down to a gradual stop.

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 and/or his attendant).

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 All-round Joystick:
 - Are the All-round Joystick and switches within easy reach?
 - Can the user safely operate the wheelchair with the least effort?
 - Is the placement of the joystick and buttons in all available positions optimal for the user?
3. If needed, adjust the All-round Joystick.
4. Explain to the customer possible problems and how to address them.

Using the All-round Joystick

Conditions of use

The All-round Joystick 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.

Error codes

When a fault occurs, the LED of the All-Round Joystick will start to flash. A long delay is followed by a number of flashes with a short delay.

The error message depends on the connection type. Count the number of flashes and look up the according error message in the Connection manual.

Fault log

A fault log with counters is maintained. The fault log can be accessed by the configurator (Dealer Level).

The fault log depends on the connection type. See the Connection manual for the possible faults.

Maintenance

Cleaning

Clean all parts of the All-round Joystick 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.

Joystick knob

The knob on top of the Joystick can be removed without tools.

- You may shortly immerse the knob in warm water with a gentle cleaning agent.

Let the knob dry before putting it back on.

- If the knob is damaged, worn out or remains dirty, replace the knob (product code M002-74). Contact your dealer or mo-Vis for spare parts

Maintenance of the optional All-round Joystick ball (product code M002-76) is similar to the maintenance of the joystick knob.

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 All-round Joystick is maintenance-free. Under regular use circumstances, the Joystick with integrated interface unit and different parts do not require additional maintenance.

Parameter settings

With the mo-Vis Configurator Software you can change the parameters of the All-round Joystick. Depending on your profile (user, attendant, dealer, OEM) you will be able to change a number of parameters.

Mounting Settings (User Level)

Setting	Description	Parameters	
Mounting direction	Sometimes it is easier to mechanically mount the joystick under an angle. This function swaps the joystick axis per 90 degrees clockwise. This parameter allows to compensate for the rotation of the joystick.	Default	0°
		Min.	0°
		Max.	270°
		Steps	90°

Deadband

Setting	Description	Parameters	
Deadband	Neutral zone around the joystick center position.	Default	5%
		Min.	5%
		Max.	10%

Setting	Description	Parameters	
	Prevents creeping of the wheelchair after releasing the joystick.		

Note: Most wheelchair electronics have their own deadband setting. It is advised to keep the default setting.

Compensation

Setting	Description	Parameters	
Compensation factor	<p>Lowers forward/backward (Y) driving speed on rough terrain. Wheelchair type and weight have an impact on this factor.</p> <ul style="list-style-type: none"> — Heavy loaded wheelchairs may need to lower the setting to Weak. — Light wheelchairs may need to increase the setting to Strong. — If the joystick is mounted on a location that may multiply the value of a shock (e.g. on an arm), the setting should be lowered to Weak or Very weak. 	Very weak	almost no slow down
		Weak	slows down less compared to Normal
		Normal	Default setting
		Strong	slows down more compared to Normal
		Very strong	slows down more compared to Strong

Setting	Description	Parameters	
	<ul style="list-style-type: none"> Front wheel-driven wheelchairs are less affected by this factor than back wheel-driven ones. 		
X compensation	<p>To limit the steering reaction if the wheelchair overreacts on steering commands. This may happen due to compensation on the X direction that unables the wheelchair to overcome an obstacle due to the loss of torque. The value is based on the compensation in Y direction.</p>	None	No compensation
		1/2 Y	X = 50% of Y level
		2/3 Y	X = 66% of Y level
		Equal Y	X = 100% of Y level
(de)activation pattern	<p>Active if compensation mode is set to Manual.</p> <p>To activate / deactivate: nudge the joystick Forward + Backward + Forward.</p> <ul style="list-style-type: none"> Agile users may be able to execute this pattern quite quickly. Set this parameter according to the agility of the user. Caution: "Slow" may cause the wheelchair to drive while executing the pattern. 	Fast	fast executing speed
		Normal	normal executing speed
		Slow	slow executing speed

Tilt

Setting	Description	Parameters
Enable	<p>The joystick can detect the joystick tilt referenced to the earth's gravitation.</p> <p>The wheelchair will stop driving when the parameter 'Enable' is set 'On' and the joystick is tilted more than 70 degrees, this in any direction. The Tilt sensor inhibit becomes inactive again - which means that the joystick is active again - if the angle becomes less than 60 degrees.</p> <p>The use of this functionality certainly makes sense when a mo-Vis joystick is integrated in a tray or other tilting surface / mounting aid.</p> <p>The default setting of the Tilt sensor is 'off'.</p> <p>Important: the Tilt sensor response time is less or equal to 1s.</p>	

Compensation mode

Setting	Description	Parameters	
Compensation mode	Defines activation of the compensation algorithm. For R-net: can be set individually for each profile.	Off	always deactivated
		Manual	(de)activated manually by the user
		On	always activated

Product description & Code

- All-round Joystick Omni (P002-71) – R-net (P002-75)
- All-round Joystick Omni Light (P002-72) – R-net (P002-76)
- Or version for different wheelchair electronics connection

Joystick connectors

- 3.5 mm mono jack in on/off
- 3.5 mm mono jack in mode
- Mini USB
- Wheelchair connector, depending on the joystick version
Refer to the Connection manual for more information.

Dimensions

- 110 x 66 x 60 mm / 4.33 x 2.60 x 2.36 in (HxWxD)
- 96.5 x 66 x 60 mm / 4.33 x 2.60 x 2.36 in (HxWxD) (light)

Required Force

- All-round Joystick : ca. 250 gr (8.82 oz)
- All-round Joystick Light: ca. 120 gr (4.23 oz)

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.