

iZIP II Powerchair / Peripheral Device Control System

The iZIP II is a highly versatile powerchair drive control system allowing virtually unlimited solutions for complex rehab applications.

By using a combination of 4,3,2 or 1 mechanical or proximity switches, including an adjustable LED beam switch, connected to the OneSwitch™ port, the iZIP II provides comprehensive control solutions for individuals with limited movements and/or strength.

The iZIP II is intended for use by individuals presenting conditions such as ALS, MD, MS, SCI, SMA or similar.

Magitek's complex rehabilitation technology reliably improves quality of life for many persons requiring assistive drive control systems to retain mobility.

Switch Choices: Fixed or adjustable LED - Proximity / Mechanical

First, determine number of switches to be used, switch type(s) and placement.

Four switch is setup is considered "standard", i.e., Forward, Reverse, Right and Left when mounted to Magitek's ROTATABLE SENSOR ARRAY. (Pictured below)

The iZIP II allows the use of a single switch to control a toggle option when required: I.e., a single knee proximity switch is used to control Fwd/Rev responses and a second single knee proximity switch is used to control Rt/Lt responses.

The combinations of inputs are many, depending on the individual, reliable switch locations, as well as consideration of future or progressive issues, maximizing effectiveness of the iZIP II. Inputs are received by the Magitek controller in real-time from the user.



Sensors in transfer position



Sensors in operational position

The Control Module

Speed – FWD/REV is a speed reduction adjustment for Fwd/Rev speed. The iZIP II features electronic overdrive accessed by connecting the FWD sensor to the FWD+ port. To use, activate the FWD sensor as normal then let off the sensor and reactivate. The system will automatically toggle back and forth from the first speed setting to the faster overdrive speed circuit imbedded in the controller.

Display Dimmer – Adjusts the brightness of LED display for varying light conditions.

Speed – LT/RT is a speed reduction adjustment for Lt/Rt speed.

Emergency Stop – This 3.5mm port allows a e-stop button (i.e., red jellybean) to be mounted on rear of chair for caregiver access. If pressed, chair operation will cease. Power wheelchair electronics off and back on to reset.

Controller 5 – pin is the Interface Cable for connecting the Magitek controller to the power wheelchair electronics. Permobil, Quantum and Sunrise Medical use the 9-pin cable. IC cables are available for Dynamic Controls and Invacare Linx.

Universal Signal Port – All Magitek controllers feature our exclusive Universal Signal Port (USP). The USP receptacle provides four discreet high load switched outputs to activate wireless modules such as call alarms, door openers, lights, TV, or any desired ECU device. To activate the USP, press and hold the iZIP activate switch for 3 seconds to disable drive signals and energize the USP. Once in USP mode, directional inputs allow the user to access these functions while the powerchair is stationary. To reset, press the active switch to return to stand-by then press again to initiate the drive start up sequence.

Note: any feature of the wheelchair controller normally accessed by a joystick may be accessed/operated in the same manner with the Magitek controller.



Interface Cable

The Magitek Interface Cable connects the drive control to the powerchair display. PG Drives (Permobil, Sunrise Quantum) use a 9-pin sub-D. IC cables are available for Dynamic Controls and Invacare Lynx.



Multimode Display

The three (3) LED display operates in two modes depending on input selection. Top level of text indicates drive control status for 2,3,4 switches while bottom level of text indicates which direction the chair will move when the switch command is given to the OneSwitch™ port. Input sequence is always Fwd/Rt/Fwd/Lt. The Rt/ Lt movements feature an imbedded reverse component. The user learns to sequence the inputs to control direction, menu etc. The display assists the user visually. Although the Magitek is designed with a unique “reverse turn component”, it is advisable to program adequate reverse speed so the powerchair will do a “quartering” turn to back away from a counter or desk or a caregiver may press a switch connected to reverse if desired.



OneSwitch™

The OneSwitch™ port connection allows control of all powerchair functions using a single switch input. Often, a LED adjustable beam switch is used in this type of application. Switch location sites are virtually unlimited, determined by the individuals presented ability to reliably make even the slightest of movement. Note: A basic mechanical or proximity switch may also be used in this port.

OneSwitch™ using a LED beam works well for individuals with extremely limited movement and/or strength. Once switch location is determined, the “trip point” distance may be adjusted between 0.8 inch to 4.0 inches. The sequence of inputs from either adjustable beam, mechanical or proximity switch is always: Green – FWD, Amber – RT, Blue – LT; The user learns to sequence these inputs in real time, as desired, to control direction of powerchair, access other functions such as seating, and control blue-tooth signals when desired.



Programming

It is important to remember all Magitek systems are recognized by each powerchair controller as either analogue, joystick or proportional. **This setting is critical for proper operation.** This is normally the default input type on most controllers.

Program the powerchair controller in such a manner that results in a gentle, lower powered performance profile, especially for beginners. In addition to less speed, it is important to set acceleration low; this prevents the powerchair from “jumping” or “oscillating”, while deceleration is set higher, which will help prevent “fishtailing”. Additional profiles may be programmed for different environments. Often a joystick is mounted on the back of the powerchair for caregiver use, which also requires its own profile.

ALL INSTALLATION AND PROGRAMMING OF ANY MAGITEK SYSTEM SHOULD ONLY BE PERFORMED BY A CERTIFIED, EXPERIENCED ASSISTIVE TECHNOLOGY PROFESSIONAL. FOLLOW ALL SAFETY ITEMS LISTED IN EACH PARTICULAR MANUFACTURERS MANUALS. WHEN PROGRAMMING FOR MAGITEK, ALWAYS FOLLOW THE SAME GUIDELINES AS IF INSTALLING A REMOTE JOYSTICK.