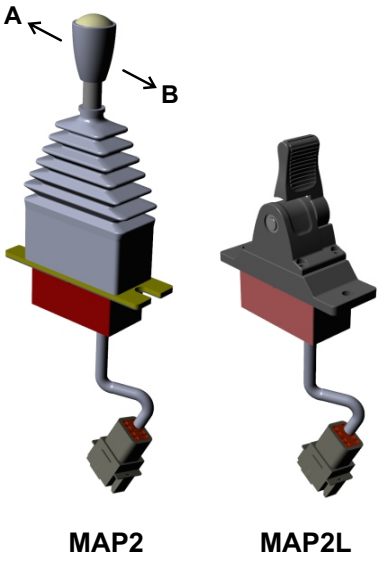
Instructions for calibration with PRG2R

MAP2 and MAP2L are single axis electronic joysticks with PWM outputs.
They command directly a couple of proportional solenoid valves.

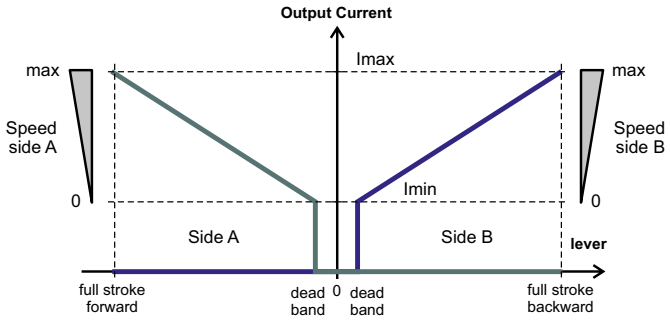
The range of output currents is preset in factory to specific values.
Currents range values and frequency depend on the order code.

The range of currents can be easily modified by the user to fine-tune the sensitivity and the speed of the machine commanded by the joystick.

Next page shows how to adjust the current range using the PRG2R tool.



Some important concepts are explained below:



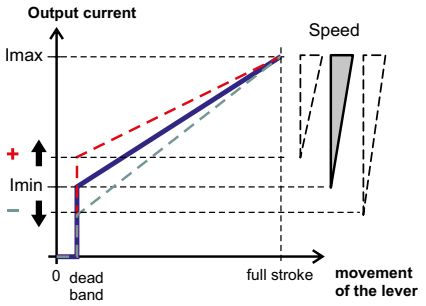
Imin adjustment

This adjustment changes the start value of the current.

This is the value of current sent to the solenoid when the lever is at the beginning of the movement, just out of the dead band.

If the movement starts too fast, you must reduce **Imin**.

Instead, if the movement starts late, when the lever is too far from the center, you must increase **Imin**.



Imax adjustment

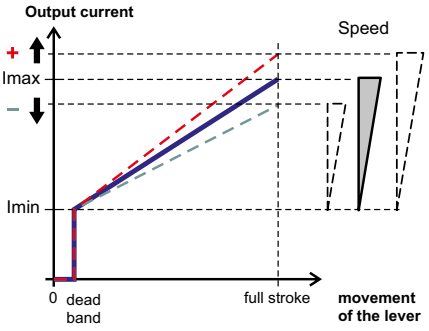
This adjustment changes the final value of the current.

This is the value of current sent to the solenoid when the lever is at full stroke. It correspond to the max opening of the valve (the max speex of the movement).

If the max speed of movement is reached before the lever is at full stroke or the speed is too high, reduce **Imax**.

If the **max** speed of movement is too low, increase **Imax**.

Increasing current over the max value specified by the valve manufacturer will have no effect on max speed, as at the Imax value the valve is already fully opened.

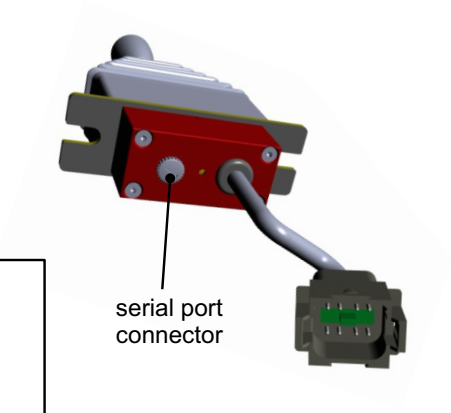


Using PRG2R to calibrate currents

If you need only to calibrate the currents range of a MAP2 joystick, the simplest way is to use the PRG2R programmer. With the PRG2R programmer you can only adjust Imin and Imax currents.

There are many other working parameters that can be configured in a MAP2 joystick (example: ramps). To access and modify them you need a PC with a serial port, a serial adapter AISR and the SepSim program.

ADJUSTING CURRENTS PROCEDURE
To adjust currents you must have access to the connector of the serial port, located under the joystick.



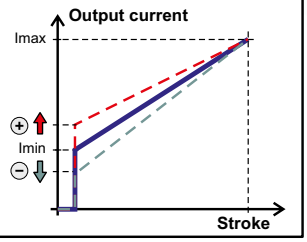
Remove the cap and plug the PRG2R connector into the serial port of the joystick. LED on PRG2 when connected flashes every two seconds.

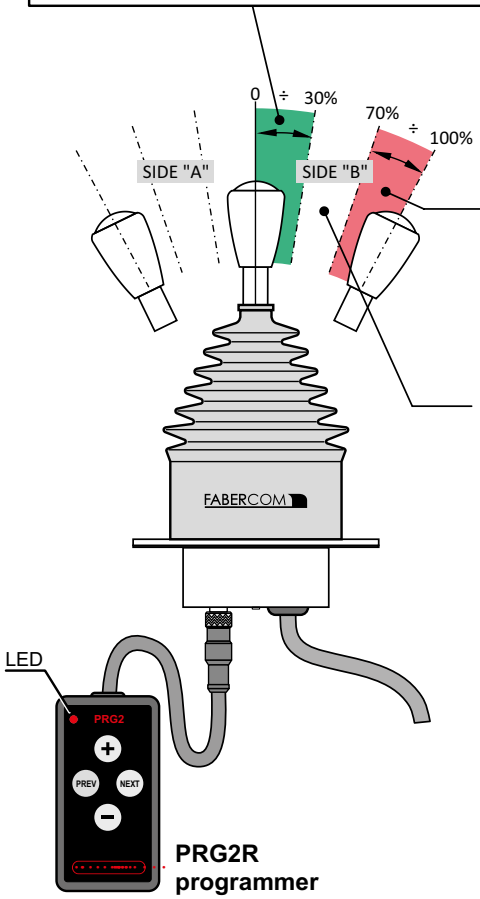
Be careful! The joystick will work normally during the calibration. The lever movement will cause the movement of your machine.

- Select the side you want to adjust: A or B pushing or pulling the lever.

MINIMUM CURRENT ADJUSTMENT AREA

To adjust the Imin keep the lever in this area (from 0 to 30% of stroke), then use:
"+" push button to increase the Imin value
"-" push button to decrease the Imin value.

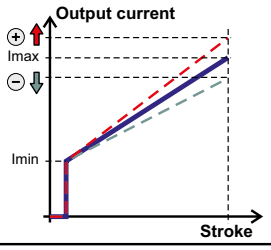




PRG2R programmer

MAXIMUM CURRENT ADJUSTMENT AREA

To adjust the Imax keep the lever in this area (from 70 to 100% of stroke), then use:
"+" push button to increase the Imax value
"-" push button to decrease the Imax value.



Within this area (lever from 30 to 70 % of stroke) and when lever is in center, pushbuttons "+" and "-" of PRG2 have no effect.

- Repeat the adjustments on both sides A and B.

Test movements and adjust currents as much as you need.

When you are satisfied of the setting reached, save the new calibration in permanent memory pushing together both buttons PREV and NEXT for a second. When you release all buttons, if the save command has been accepted and sent, the LED on PRG2 flashes fast for five seconds.

Now you can unplug the PRG2R programmer and mount the cap on the serial port connector.

We recommend to switch off and on again the power supply and test your system to verify that the calibration has been correctly saved in memory.