High jog deceleration: Equal to the default acceleration (see value set in the software utility or with the AC command).

Low jog velocity: Equal to the default velocity (see value set in the software utility or with the VA command) divided by 1000.

Low jog acceleration: Low jog velocity / 2s (means final velocity is reached after 2 seconds).

Low jog deceleration: Equal to the default acceleration (see value set in the software utility or with the AC command).

NOTE

Any jog motion always respects the software limits (see settings in the software utility or with the SL and SR commands). When approaching a software limit, the controller decelerates with the programmed acceleration even if the jog buttons are pressed.

Pressing the Exec. button when the three most right letters are DIS, gets the controller to the DISABLE state. In DISABLE state the motor is not energized and the control loop is open. But the encoder is still read and the current position gets updated. The DISABLE state can be used for instance for manual adjustments or to make sure that no energy goes to the motor. To go from DISABLE state to the JOGGING state, press the Exec. button again.

The buttons of the keypad can get disabled by the JD command.

NOTE

The keypad does not allow stopping any motion started from a computer (all buttons are disabled when the controller is in MOVING state). To take computer control when the controller is in JOGGING state the controller must first get to the READY state (change state from the software utility or by using the JD command).

NOTE

For a complete description of all commands, please refer to the SMC100CC User's Manual.

SMC-RC Quick Start

1.0   Overview

The SMC-RC is a remote control keypad for the SMC100CC motion controller. It allows basic use of the SMC100CC controller without a computer and features a 16 characters position display and four push buttons for configuration, jogging, homing, and enabling/disabling motors. It comes with a 0.5 m long helix cable that plugs to the KEYPAD connector on the SMC100CC.
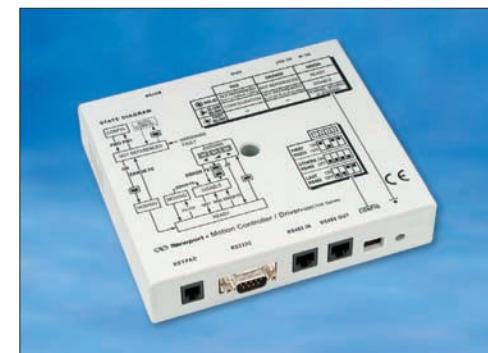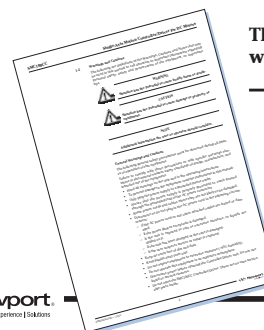

CAUTION

The SMC-RC remote control keypad is only compatible with SMC100CC with firmware version V2.00 or higher.

CAUTION

Before connecting or using the SMC-RC remote control keypad, it is very important to read carefully the general safety precautions on page 2 of the SMC100CC User's Manual.

2.0 Description

Specifications

General description	Remote control keypad for SMC100CC
Display	1 line x 16 characters LCD display for position and short action description of Exec. button depending on controllers state
Function of push buttons	(from left to right) – Jog left – High jog velocity (when pressed together with jog left or jog right) – Jog right – Exec. (function as indicated in display depending on controllers state)
Cable	0.5 m helix cable, both sides terminated with RJ11-4/4 connectors

Dimensions
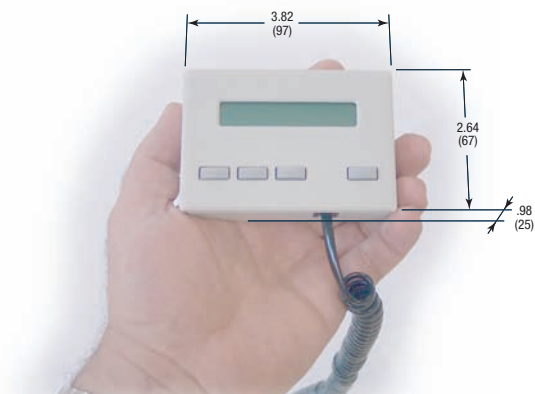
3.0 SMC100CC with SMC-RC Keypad

The SMC-RC keypad allows basic use of the SMC100CC controller without a computer. It features a 16 characters position display and four push buttons for configuration, jogging, homing, and enabling/disabling motors. It can be also used in parallel to a computer control.

If not already done, carefully unpack and visually inspect the SMC100CC controller, the SMC-RC keypad, all stages and all accessories for any damage. Place all components on a flat and clean surface.

❶ Connect the SMC-RC to the SMC100CC (KEYPAD connector).

❷ Connect your stage to the SMC100CC (MOTOR connector).

❸ Connect the SMC100CC to the SMC-PS80 (DC IN connector).

❹ Connect the SMC-PS80 to power.

During the initialization, the SMC100CC controller checks if a SMC-RC keypad is connected. If so, it checks whether all buttons are open (not pressed). If not, an error message gets generated.

NOTE

The SMC100CC does not recognize an SMC-RC after the initialization. Also, disconnecting the SMC-RC from the controller and reconnecting without reinitializing the controller does not work.

To reinitialize the SMC100CC controller, temporarily disconnect from power and reconnect again, or send the RS command.

When using the SMC100CC for the first time with a Newport ESP compatible stage (see blue label on the product) a message **AUTOCONFIG ?   YES** gets displayed for about 5 seconds. Press the Exec. button to configure the SMC100CC to the connected stage. Once done, this message gets not displayed anymore during later initialization unless the SMC100CC recognizes a different Newport ESP compatible stage than the one it is configured to. This message gets also not displayed if the controller is already configured correctly using the SMC100CC software utility.

After successful initialization, the controller is in the NOT REFERENCED state and the display displays **+0.00000 HOM** (for more details about the SMC100CC states, please refer to section 5.1). Press the Exec. button to home the stage. The stage starts moving to its home position. When done, the display shows **+0.00000 JOG**. The digital value indicates the current position of the stage. The default units for Newport positioners are millimeters for linear stages and actuators, and degrees for rotation stages.

Pressing the Exec. button again gets the controller to the JOGGING state and the display changes to **+0.00000 DIS**. The jog buttons "<", "<< >>", and ">" are now enabled. Pressing the "<" (jog left) or ">" (Jog right) button starts a motion at slow velocity and with slow acceleration. Releasing the button stops the motion. These slow speed motion are ideal for precise adjustments. Pressing the "<" (jog left) or ">" (Jog right) button and the "<< >>" (high speed) simultaneously starts a high speed motion. These high speed motion are ideal for coarse adjustments. The jog speed and jog acceleration settings are as follow:

High jog velocity: Equal to the default velocity (see value set in the software utility or with the VA command).

High jog acceleration: High jog velocity / 2s (means final velocity is reached after 2 seconds).

NOTE

For a complete description of all commands, please refer to the SMC100CC User's Manual.