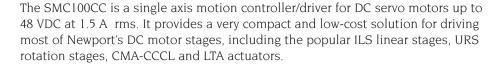
SMC100CC

Single-Axis DC Motor Controller/Driver





Communication with the SMC100CC is achieved via the integrated RS-232-C interface, or from a USB port using the external adapter SMC-USB (requires WindowsTM operating system). Intuitive, Windows-based software supports all configurations and enables basic motion. Advanced application programming is simplified by an ASCII command interface and a set of two-letter mnemonic commands.

When used with Newport ESP enhanced positioners, the SMC100CC will detect the connected product automatically for the most straightforward system configuration. This exclusive Newport feature does not only reduce configuration time, but provides also the best protection of your equipment from any accidental damages.

Up to 31 controllers can be networked through the internal RS-485 communication link. This internal multi-drop full-duplex serial link simplifies communication to several units, without the need for sending "address selection commands". This results in enhanced multi-axes management with improved program readability and faster communication compared to alternative systems based on a RS-232-C chain. The SMC100CC also features advanced "multi-axes" commands, such as "Stop all" or "Start a motion of all axes" and performs at a 57,600 baud rate communication speed.



Key Features

- Affordable single-axis control of small DC motors (up to 48 VDC @ 1.5 A rms)
- Very compact design with central hole for mounting and stacking
- RS-232-C or USB communication for easy user interfacing
- Internal RS-485 link allows networking up to 31 controllers
- Convenient multi-axis programming
- Enhanced system safety by reading parameters from Newport ESP compatible stages



The SMC-RC is an affordable remote control for the SMC100 controller. It features a 16-characters LCD for position display and 4 push buttons for +/- jog motion, configuration, homing, motor on and motor off.





SMC100CC compatible Newport positioners and drive power consumption

The following table lists all Newport positioners compatible with the SMC100CC. Listed also is the maximum power consumption for each stage when used at max. speed, with full load and with max. acceleration.

The SMC100CC allows chaining power from one SMC100CC to another one using the power cable included with the controller. But the total power consumption of all stages connected to the same power supply should not exceed 80 W.

	Max. Power		
Model	Consumption		
BGM50CC, BGM80CC	6 W		
CMA-CCCL	5 W		
LTA series	6 W		
MFA-CC, MFA-CCV6	6 W		
ILS-CCL	40 W		
MTMCC.1	36 W		
PR50CC	10 W		
RV80CCHL	6 W		
SR50CC	5 W		
URMCC	6 W		
URMCCHL	36 W		
URSCC	50 W		
UTMCC1DD, UTMCC.11	DD 7 W		
UTMCC.1	11 W		
UTMCC1HL	36 W		
UZM80CC.1	6 W		
VP-25AA, VP-25XA	48 W		

Example: The maximum power consumption of a VP-25XA is 48 W. The maximum power consumption of an LTA-HS is 6 W. So it is possible to connect one VP-25XA and up to 5 LTA-HS to the same power supply. But it is not possible to connect two VP-25XA to the same power supply.



Spectra-Physics A Division of Newport Corporation

Specifications

General Description	Single-axis motion controller/driver for DC servo motors
Control Capability	DC servo motors
	Open or closed loop operation
Motor Output Power	48 VDC @ 1.5 A rms, 3 A peak
	100 kHz PWM switching frequency
Control Loop	Floating point digital PID loop with velocity and friction feedforward
	2 kHz servo rate
	Backlash compensation mode
Motion	Point-to-point motion with S-gamma velocity profile and jerk time control
Computer Interface	RS-232-C with 57,600 baud rate
	USB compatible with external adapter SMC-USB (requires Windows™ operating system)
	RS-485 internal link for chaining up to 31 controllers from the same COM port
Programming	40+ intuitive, 2 letter ASCII commands
	Command set includes software limits, user units, synchronized motion start, stop all
General Purpose I/O	4 TTL out (open collector)
	4 TTL in (2.21 $k\Omega$ pull up to 5 V)
	1 analog input, ±10 V, 8-Bit
Dedicated Inputs	RS-422 differential encoder input for A, B, and I, max. 2 MHz rate
	Forward and reverse limit, home switch and index pulse
Dedicated Outputs	1 open-collector output for "InMotion"
	1 open collector output for "NotReferenced"
Status Display	Two color LED
Internal Safety Feature	Watchdog timer
Dimensions (W x D x H)	

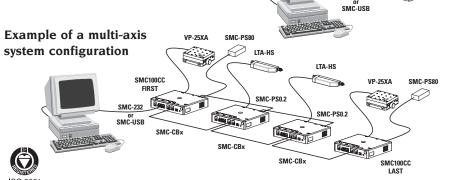
Ordering Information

Description	Model		
SMC100CC controller/driver; Includes 0.2 m long power and RS-485 cable	SMC100CC		
Remote control keypad for SMC100CC	SMC-RC		
80 W power supply – AC input: 100-240 VAC, 47-63 Hz, 1.9 A max.	SMC-PS80		
RS-232-C cable, 3 m length (pin-to-pin cable, DB9F to DB9F)	SMC-232		
USB interface, Includes one USB to COM port adapter and one RS-232-C cable; requires Windows™ operating interface system	SMC-USB		
1 m RS-485 cable ⁽¹⁾	SMC-CB1		
3 m RS-485 cable (1)	SMC-CB3	VP-25XA	SMC-PS80

¹⁾ Only required when RS-485 cable included with SMC100CC is too short.

Example of a single-axis

system configuration



Newport Corporation, Irvine, California, has been certified compliant with ISO 9001 by the British Standards Institution.

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SMC100CC

FIRST

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SMC100-DS (12/05)