X-MCC1 Datasheet

- Universal drive allows control of 1, 2, 3, or 4 axes, including bipolar stepper motors, linear motors, or voice coil motors with up to 6 Arms (10 A peak) per phase
- Allows different control modes, including independent axis control with trapezoidal velocity profiles or interpolated multi-axis control with line, arc, or circle primitives
- Uses AutoDetect to identify and configure attached Zaber AutoDetect peripherals
- One high speed differential quadrature encoder input, one single-ended encoder input and 3 limit switch inputs per axis
- 4 isolated digital inputs, 4 isolated digital outputs, 4 analog inputs, and 1 analog output
- Multiple communications options: Ethernet, USB, and RS-232
- Intuitive ASCII protocol, programmable triggers, and macros simplify complex automation tasks
- Designed for easy mounting to panels, breadboards, lab benches, and enclosures
- Axes can be locked together to move simultaneously as if they were a single

axis, carrying out all motion in parallel
- E-Stop input allows for immediate interruption of power to the motor(s) in an unsafe situation
- Internal regenerative resistor dissipates excess power during hard braking which can be augmented with an external regen resistor if required
- Encoder outputs available on up to 4 axes for easy synchronization with other systems. See our article for details

X-MCC Series Overview

The X-MCC is Zaber’s full feature multi-axis universal drive controller and is available in 1, 2, 3, and 4 axis options. The universal drive is capable of controlling stepper motors, linear motors, and voice coil motors on any axis. Each axis may be equipped with its own encoder (digital or analog, single-ended or differential) and up to three limit sensors, including home and away.

When connected to the X-MCC, Zaber’s AutoDetect peripherals will be automatically identified and the axis will be configured with optimized drive settings for the specific device. No additional user input is needed.

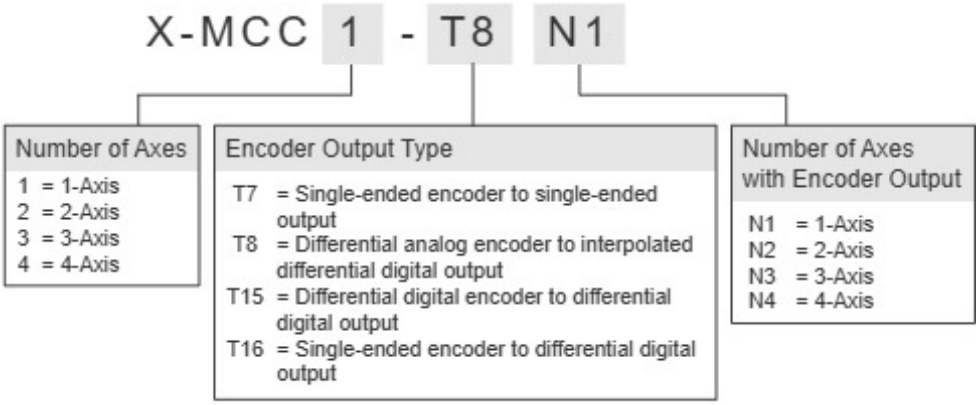
The controller provides for 4 channels each of isolated digital inputs, isolated digital outputs, and non-isolated analog inputs. There is also a single analog output channel available.

An intuitive ASCII interface allows the user to easily communicate with the device using our free software, either Zaber Motion Library with APIs for several popular languages or Zaber Launcher. Third-party terminal programs that can communicate over a serial port can also be used.The X-MCC uses lines, circles, arcs, and helices as geometric primitives while obeying velocity, acceleration, and timing constraints. The result is an easy-to-use set of 2D commands and a seamless transition between lines and curves.

An E-Stop interface is available on the X-MCC series that will stop current flow to all motors. The E-Stop is implemented fully in hardware to guarantee torque is removed from all motors.The X-MCC series is compatible with all of Zaber's existing X-Series products. When daisy-chained with several units, the X-MCC can also share a single power supply with multiple X-Series products.Click here to see the list of devices the X-MCC can control.

For more information visit: https://www.zaber.com/products/controllers-joysticks/X-MCC

X-MCC Series Part Numbering & Options



X-MCC1 Drawings

- X-MCC1.pdf (Drawing for the X-MCC1)
- X-MCC2.pdf (Drawing for the X-MCC2)
- X-MCC3.pdf (Drawing for the X-MCC3)
- X-MCC4.pdf (Drawing for the X-MCC4)

X-MCC1 Specifications

AutoDetect	
Communication Interface	RS-232, USB 2.0, Ethernet (10/100 Mbit/s)
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8, USB-B
Power Supply	24-48 VDC
Power Plug	5.0 mm screw terminal
Maximum Current Draw	Motor and supply voltage dependent
Controller Maximum Current Per Phase	6 Arms (10 A peak)
Motor Connection	D-Sub 26 female
Manual Control	Indexed knobs with push switches
Axes of Motion	1
Limit Sensors per Axis	3
Isolated Digital Input	4
Isolated Digital Output	4
Analog Input	4
Analog Input Range	0-10 V
Analog Input Resolution	1 mV
Analog Output	1
Analog Output Range	0-10 V
Analog Output Resolution	2.5 mV
Analog Output Impedance	1 0 0 !&
External Regen Resistor	5 !& , 3 0 0 W
Encoder Output Axes	0
Encoder Output Type	No
E-Stop Input Range	12-48 V
2D Primitives Supported	Lines, Arcs, Circles, and Helices
Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	0.5 kg (1.102 lb)

Contact

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