




Drive	Input Voltage (VAC)	Output Voltage (VDC)	Max Current (ADC)	HP Rating @ 90 VDC Output	HP Rating @ 180 VDC Output	Enclosure	Reversing *****	Isolation	Field Supply (VDC) ****	Form Factor	UL 	CUL 	CE 
MM23011C	115/230	0-90 / 0-180	1.5	1/20 - 1/8	1/10 - 1/4	Chassis	—	***	YES	1.37	YES	YES	YES
MM23111C	115/230	0-90 / 0-180	1.5	1/20 - 1/8	1/10 - 1/4	NEMA 1	—	***	YES	1.37	YES	YES	YES
MM23211C	115/230	0-90 / 0-180	1.5	1/20 - 1/8	1/10 - 1/4	NEMA 1	YES	***	YES	1.37	YES	YES	YES
MM23411C	115/230	0-90 / 0-180	1.5	1/20 - 1/8	1/10 - 1/4	NEMA 4X	—	***	YES	1.37	YES	YES	YES
MM23001C	115/230	0-90 / 0-180	10*	1/8 - 1	1/4-2	Chassis	—	***	YES	1.37	YES	YES	YES
MM23101C	115/230	0-90 / 0-180	10**	1/8 - 1	1/4-2	NEMA 1	—	***	YES	1.37	YES	YES	YES
MM23201C	115/230	0-90 / 0-180	10**	1/8 - 1	1/4-2	NEMA 1	YES	***	YES	1.37	YES	YES	YES
MM23401C	115/230	0-90 / 0-180	10	1/8 - 1	1/4-2	NEMA 4X	—	***	YES	1.37	YES	YES	YES

\* Heatsink number 223-0159 must be used when the output is above 5 Amps.

\*\* Heatsink number 223-0174 must be used when the output is above 5 Amps.

\*\*\* Built in isolation is not available on the MM23000C family of drives. Minarik Drives recommends using the PCM23001A (Pg 8), MM-PCM (Pg 10), MM300 Series (Pg 9), or PCM4 (Pg 45).

\*\*\*\* The field supply is rated at 1 Amp DC. A 50/100 VDC field is available with 115 VAC input, and a 100/200 VDC field is available with 230 VAC input.

\*\*\*\*\* Reversing models are designed for occasional reversing and braking using the switches on the enclosure. See Regenerative drives in Section C for drives that can reverse on-the-fly or for drives with the ability to remote mount direction and braking switches.

The MM23000C Series of drives are a reliable and cost-effective solution for controlling your permanent magnet or shunt-wound DC motors in variable-speed applications. The MM23000C series uses SCRs to provide full-wave rectification of the AC line input. These dual voltage drives operate using 115 VAC or 230 VAC, 50/60 Hz, to run 90 or 180 VDC SCR brush-type motors. These drives control motors from 1/20 to 2 HP and come in chassis, NEMA 1, and NEMA 4X models. Cased models include AC line fuses.

See page 50 for an in-depth comparison of the different models of drives.



MM23001C  
MM23011C



MM23101C  
MM23111C

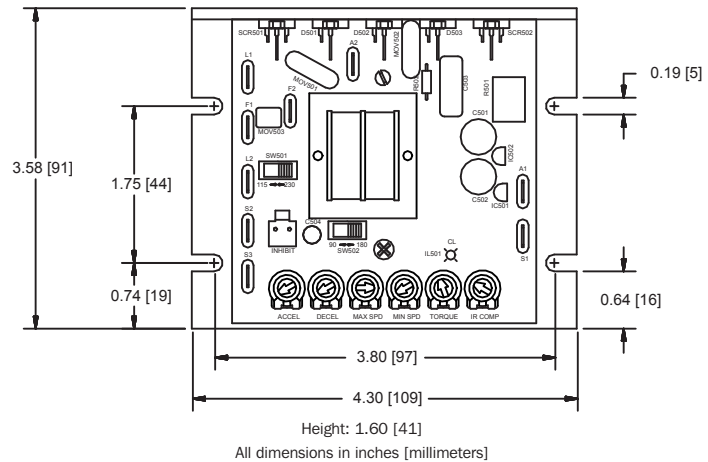


MM23201C  
MM23211C



MM23401C  
MM23411C

### MM230x1C DIMENSIONS



Dimensions of drives not shown above can be found on page 54.

Wiring diagrams of chassis drives can be found on page 59 and 68.

### FEATURES

- **MM footprint:** Chassis drives have a compact industry standard footprint.
- **Speed range and regulation:** 1% regulation over 60:1 speed range.
- **User adjustable calibration pots:** IR compensation, min speed, max speed, current limit, acceleration and deceleration.
- **Diagnostic LED:** LED for current limit status on all models. Cased models have a green power light.
- **Stopping Modes:** Inhibit (N/O) for coasting to a stop on all models. Dynamic braking included on MM232x1C.
- **Spade and screw terminals:** Easy to use spade terminals on chassis; screw terminals on enclosed units.
- **Options:** “-Q” option on chassis drives include quick disconnect terminal block and power LED.
- **Accessories:** Heatsink 223-0159 or 223-0174. 201-0024 inhibit plug with 18” leads, DLC600 digital closed loop controller, PCM4 isolation card.