miControl®

Single AXIS BLDC SERVO AMPLIFIER
mcDSA-E32

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Instruction notes for electrical personnel

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E475093

UL-Recognition (UL 61800-5-1 and CSA C22.2 No 274-13)
While operating the mcDSA-E32 in USA or Canada it is essential to observe the following information.

Input / Output Ratings

Circuit	Input ratings: DC Voltage Isolated Power Source				
	Input Voltage (V DC)	Input Current (A DC)	Frequency (Hz)	Base Frequency PWM (kHz) / Duty Cycle	Phases
Control	24	3.2	DC	-	1
Power	24	12	DC	-	1
	60	10	DC	-	1

Circuit	Output ratings:				
	Output Voltage (V DC)	Output Current (A DC)	Frequency (Hz)	Base Frequency PWM (kHz) / Duty Cycle	Phases
Power Continuous Ratings	24	12	0 .. 50k	25, 32, 50	3
	60	10	0 .. 50k	25, 32, 50	3
Power Duty Cycle Rating	60	40	0 .. 50k	Ton = x s Toff = 60 s	3
		Current and Ton values can be chosen freely if the I²t is under 6240 A²s with following formula: I² x Ton <= 6240 A²s = (I²t)max			

Important

General Requirements:

- Open type brushless DC (BLDC) servo motor controller
- Maximum Surrounding Air Temperature 40°C
- Installation on a secondary side of an PELV isolated power supply (DVC A circuit)
- For use in pollution Degree 2 and overvoltage Category II environments only
- Motor overtemperature sensing is not provided by the drive. Where required, integral thermal protection shall be provided on or in the motor(s).
- Multiple rated equipment (See **Input / Output Ratings**)

Important

Solid State Short Circuit Protection:

USA: Integral solid state short circuit protection does not provide branch circuit protection. Branch circuit protection must be provided in accordance with the National Electrical Code and any additional local codes.

Canada (EN): Integral solid state short circuit protection does not provide branch circuit protection. Branch circuit protection must be provided in accordance with the Canadian Electrical Code, Part I.
Canada (FR): La protection intégrale contre les courts-circuits à semi-conducteurs ne fournit pas de protection des circuits de dérivation. La protection du circuit de dérivation doit être fournie conformément au Code canadien de l'électricité, partie I.

Important

Motor Overload Protection: provided by IxT current limit at 115% rated motor load

The motor is protected by a dynamic current limitation (IxT) which must be adjusted for each used type of motor. Information on peak current, continuous current and permissible overload time have to be gathered from the motor manufacturer.
The following parameters have to be set:

- 3224.00h - Mode (CURR_DynLimitMode)
- 3224.01h - Peak Current (CURR_DynLimitPeak)
- 3224.02h - Continuous Current (CURR_DynLimitCont)
- 3224.03h - Time (CURR_DynLimitTime)

The dynamic current limitation is set back to default with power loss. Therefore the motor has to cool down to ambient temperature before restart. Cooling down times are provided by the motor manufacturer. A restart without enough cooling down time can damage the motor and drive controller even if the dynamic current limiting is set properly. To set the parameters please read the manual.

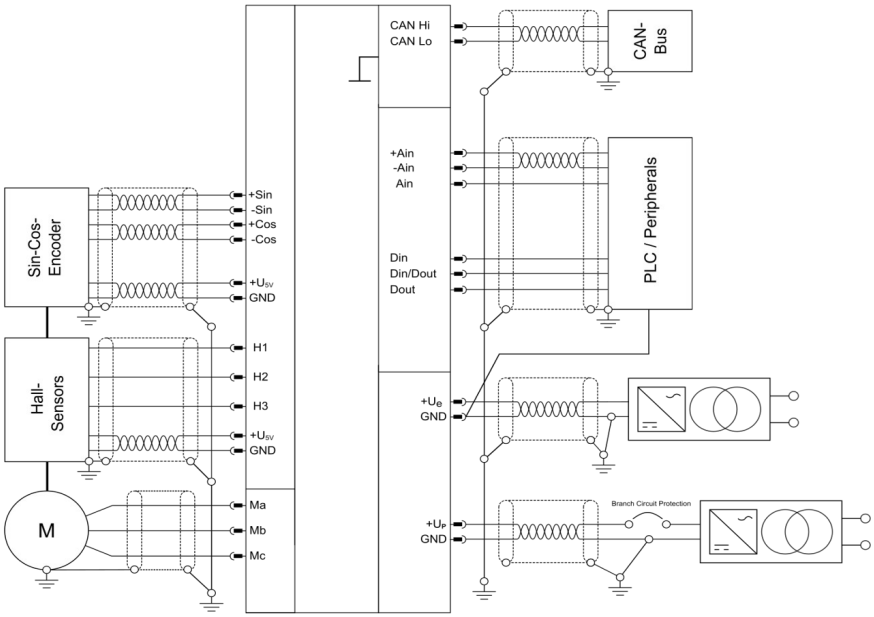
Important

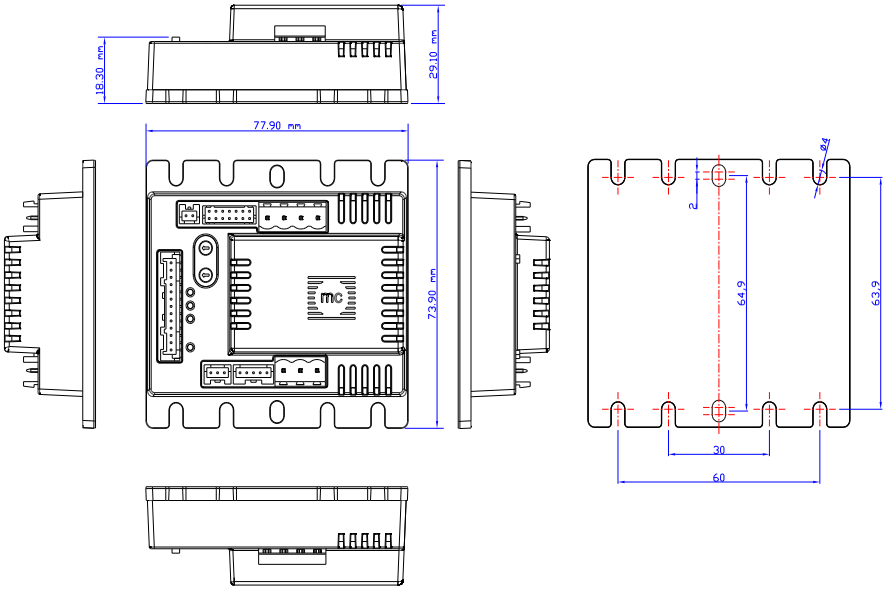
SCCR:

Suitable For Use on A Circuit Capable of Delivering Not More Than 280 rms Symmetrical Amperes, 60 Volts Maximum.

Branch Circuit Protection:	Factory wiring terminals:
UL 489 circuit breaker 30A, 60VDC, 1 pole, C standard, 14kA SCCR	• Use 60°C/75°C copper conductors only

Wiring Diagram (Principle Circuit Diagram) and Dimension





Modul mass:
95 g