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General Description

The Elite® series of D.C. motor controls provide full range speed and torque control of 5-300 HP D.C. motors rated for NEMA type "C" power supplies. The E06000 series for non-regenerative applications and the E12000 regenerative series are offered in compact panel mounted assemblies. There are ten basic models in each series. Please refer to the Elite® 5-150 HP manual for information on the lower HP drives.

Each model is easily programmed for operation on 230 VAC, 380 VAC and 460 VAC line supplies. 230 VAC input models supply variable armature voltage up to 240 VDC and a fixed field supply of 150 VDC. 380 VAC input models supply variable armature voltage up to 415 VDC and a fixed field supply of 230 VAC. 460 VAC input models supply variable armature voltage up to 500 VDC with a fixed field at 300 VDC. All models feature a field economy circuit to automatically reduce the field supply voltage 35% when stopped for a time period adjustable by the customer from 1 minute to 3 minutes.

Semiconductor line fuses are provided for A.C. line protection with auxiliary line fuses for optional equipment and the field supply. Also provided is fuse protection for the 115 VAC control voltage input.

Standard relay logic interfaces with customer supplied operators for Emergency Stop, Ramp Stop, Run, Jog, and Forward/Reverse direction control on the E12000 regenerative models.

The E12000 series regenerative models provide full four quadrant operation. This means direction of motor rotation can be electronically reversed without switching the motor contactor and that motoring or braking torque can be supplied in both the forward and reverse directions.

Available options include contactor run/brake chassis models, braking resistors, a disconnect switch, blower starters, and enclosures. Also a drive circuit monitor, model DCM100-000, is available to assist in set-up and troubleshooting by plugging into a Control Board connector to easily access 20 separate signals.

Features

- Programmable for 230, 380 or 460 VAC 3 phase line input
- Insensitive to phase rotation of A.C. input
- Full 10 ampere rated field supply with provisions for interfacing the Field Loss circuit to an external field supply or regulator
- Automatic Field Economy with customer adjustable "delay after stop" to reduce "idling" field voltage by 35%
- Current transformers for isolated armature current sensing
- High impedance isolation for armature and line voltage sensing
- Electrically isolated power modules rated at 1400 volts PIV and 1000 volts/microsecond DVDT
- Individual SCR R-C networks for transient protection
- Semiconductor line fuses for power circuit protection
- Thermostatically controlled fan to extend life of the fan
- Latching FAULT logic for safety shutdown with form "C" contact output and LED indicators for Phase Loss, Field Loss, Heatsink Overtemp and Overcurrent.
- 5 jumper selectable armature current ranges for each model to match motor rated armature current
- Timed Foldback current limiting and Overcurrent Trip with four programmable time periods. Allows operating current up to 150% of selected current range for chosen time period; then after time period, 15, 30, 45 or 60 seconds, "folds back" current to 112%. Continued operation with load sustained at 105% current for the chosen time period, 1 min 15 sec, 2 min 30 sec, 3 min 45 sec or 5 minutes, will result in Overcurrent Trip.
- Control of positive and negative (regen models only) motor torque from external pot or voltage reference
- Lockout of either direction of motor rotation from external contact (reverse on regen models only)
- Independently adjustable linear acceleration and deceleration for both forward and reverse directions with two ranges, 1-8 seconds and 8-60 seconds for each.
- Speed feedback is jumper selectable for Armature Voltage, D.C. Tachometer voltage (7,50 or 100 V/1000 RPM), A.C. Tachometer voltage (45 or 90 V/1000 RPM) or Digital Encoder (300 PPR)
- D.C. Tachometer voltage is insensitive to po-