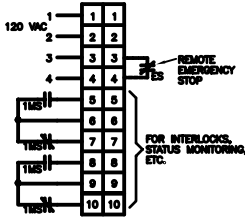
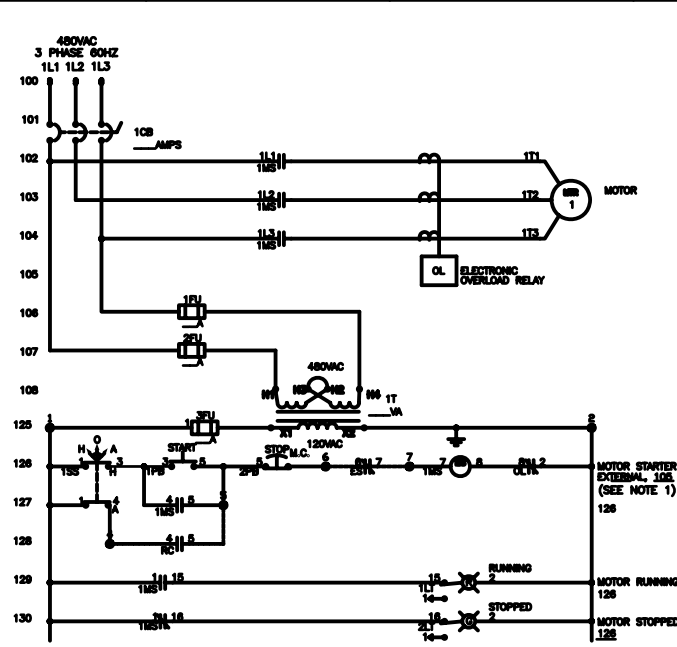


**SEQUENCE OF OPERATION**

- WITH BYPASS SELECTOR SWITCH 1SS IN TEST POSITION, "NORMAL" CONTACTOR 1NS AND "BYPASS" CONTACTOR 2MS WILL BE OPEN AND MOTOR WILL BE STOPPED. THE ADJUSTABLE FREQUENCY DRIVE WILL BE CONNECTED TO THE LINE.
- WITH BYPASS SELECTOR SWITCH 1SS IN NORMAL POSITION, "NORMAL" CONTACTOR 1NS WILL BE CLOSED AND "BYPASS" CONTACTOR 2MS WILL BE OPEN; MOTOR WILL BE CONTROLLED BY THE ADJUSTABLE FREQUENCY DRIVE.
- WITH BYPASS SELECTOR SWITCH 1SS IN THE BYPASS POSITION, "NORMAL" CONTACTOR 1NS WILL BE OPEN AND "BYPASS" CONTACTOR 2MS WILL BE CLOSED; MOTOR WILL RUN AT FULL SPEED.
- WITH BYPASS SELECTOR SWITCH IN EITHER THE NORMAL OR THE BYPASS POSITION, OPENING OF NORMALLY CLOSED FRESTAT, SMOKE DETECTOR, OR FREEZESTAT CONTACTS WILL CAUSE MOTOR TO STOP AND FAULT LED TO LIGHT.
- WITH INTERNALLY ACCESSIBLE SERVICE SELECTOR SWITCH IN THE NORMAL POSITION, "SERVICE" CONTACTOR 3MS WILL BE CLOSED AND THE ADJUSTABLE FREQUENCY DRIVE WILL BE CONNECTED TO THE LINE.
- WITH THE INTERNALLY ACCESSIBLE SERVICE SELECTOR SWITCH IN THE SERVICE POSITION, "SERVICE" CONTACTOR 3MS WILL BE OPEN AND THE ADJUSTABLE FREQUENCY DRIVE WILL BE DISCONNECTED FROM THE LINE.



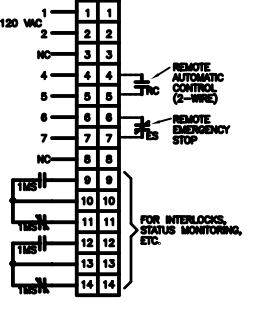
**MOTOR CONTROL DIAGRAM - AFC BYPASS/ISOLATION**  
SCALE: NONE



**SEQUENCE OF OPERATION**

- WITH H-O-A SELECTOR SWITCH "1SS" IN ANY POSITION AND MOTOR NOT RUNNING, GREEN "STOPPED" PILOT LIGHT "2LT" IS ON, RED "RUNNING" PILOT LIGHT "1LT" IS OFF.
- WITH H-O-A SELECTOR SWITCH "1SS" IN "HAND" POSITION, PRESS "START" PUSHBUTTON "1PS", MOTOR STARTS, RED "RUNNING" PILOT LIGHT "1LT" IS ON AND GREEN "STOPPED" PILOT LIGHT "2LT" IS OFF.
- WITH H-O-A SELECTOR SWITCH "1SS" IN "AUTO" POSITION, CLOSING OF MAINTAINED CONTACT REMOTE CONTROL CONTACTS "1C" STARTS MOTOR, RED "RUNNING" PILOT LIGHT "1LT" IS ON, GREEN "STOPPED" PILOT LIGHT "2LT" IS OFF.
- WITH H-O-A SELECTOR SWITCH "1SS" IN ANY POSITION, OPENING OF MAINTAINED REMOTE "EMERGENCY STOP" CONTACTS "ES" STOPS MOTOR, GREEN "STOPPED" PILOT LIGHT "2LT" IS ON, RED "RUNNING" PILOT LIGHT "1LT" IS OFF.
- WITH H-O-A SELECTOR SWITCH "1SS" IN "HAND" OR "AUTO" POSITION, PRESS MAINTAINED ACTION, ROTARY RELEASE "STOP" PUSHBUTTON, MOTOR STOPS, GREEN "STOPPED" PILOT LIGHT "2LT" IS ON, RED "RUNNING" PILOT LIGHT "1LT" IS OFF.

**MOTOR CONTROL DIAGRAM - TWO WIRE CONTROL**  
SCALE: NONE



**GENERAL NOTES**

- NUMBERS ON THE RIGHT SIDE OF LADDER DIAGRAMS INDICATE DRAWING LINE NUMBERS FOR CONTROL DEVICE CONTACTS. UNDERLINED NUMBER INDICATES A NORMALLY CLOSED CONTACT.

DRAWING DEVELOPED FOR ML-3/ML-4 PROJECTS. FOR ML-1/ML-2, ADDITIONAL REQUIREMENTS AND QA REVIEWS ARE REQUIRED. (REMOVE THIS NOTE WHEN INSERTED INTO A DRAWING PACKAGE).

DESIGNER: EDIT MOTOR CONTROL DIAGRAMS TO BE PROJECT-SPECIFIC.

2	7-12-08	UPDATED TITLE BLOCK	LT	DP	RD	DP	TD
1	11-19-02	NEW DRAWING NO. CORRECTED LINES. REPLACES 97-7027	SP	DP	DP	DP	TD
NO	DATE	CLASS/REV	ADD	DESCRIPTION	DRW	CHKD	APP

**ENGINEERING STANDARDS PROGRAM**

<b>ENGINEERING STANDARDS MANUAL</b>		DRWN	D.E. FOWELL
MOTOR CONTROL DIAGRAMS		CHKD	D.E. FOWELL
		DATE	08-23-02

BLDG	7A-	APPROVED FOR RELEASE
SUBMITTED	DAVID W. FOWELL	TOM ORLICH

Los Alamos	PROJECT NO	DRAWING NO	DATE	REV
CLASSIFICATION: UNCL	REVISION: DONALD WISMAN	DATE:		

NOT FOR CONSTRUCTION