

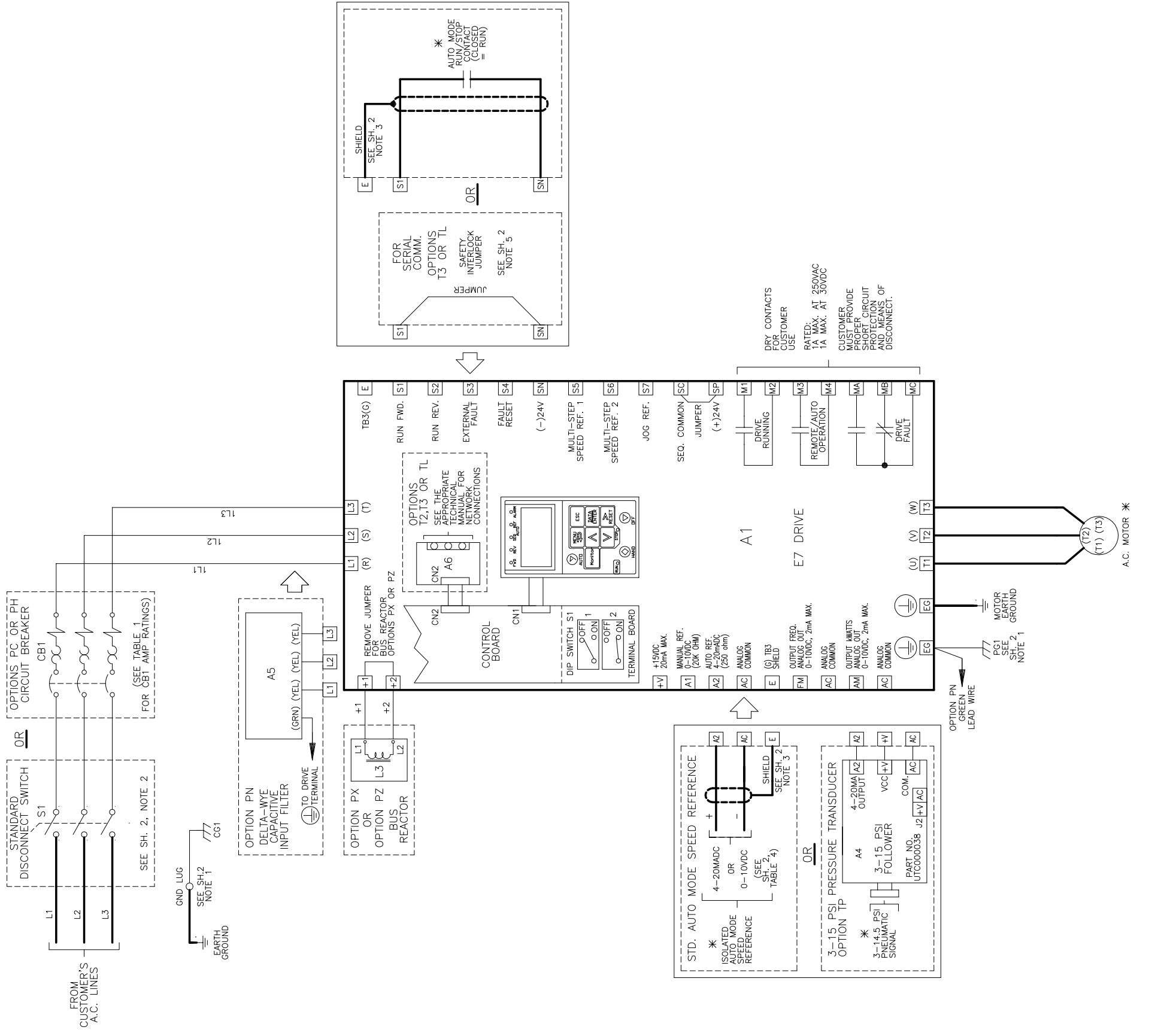
CUSTOMER WIRING REQUIREMENTS
 • FOR 0 TO 100 AMPS, USE A MINIMUM OF 60°-75°C COPPER WIRE.
 • FOR ABOVE 100 AMPS, USE A MINIMUM OF 75°C COPPER WIRE.
 (UNLESS SPECIFIED OTHERWISE)

TABLE 1
 A.C. LINE WIRING

E7 CONFIG. MODEL NO. BASE NUMBER E7SVXXXX	TO STANDARD INPUT DISCONNECT SWITCH		OR WITH OPTIONS PC OR PH, TO CIRCUIT BREAKER		
	MFG. PART NUMBER	WIRE SIZE RANGE (AWG)	TIGHTENING TORQUE (LB.-IN.)	WIRE SIZE RANGE (AWG)	TIGHTENING TORQUE (LB.-IN.)
208V	A002	14 - 8	19	14 - 10	50
	A003	12 - 6	40	8 - 3/0	120
D002	A004				
D003	A006				
D004	A009				
D007	A015				
D010	A022				
D016	A028				
D024	A034				
D030	A040				
	A042				
D046	A054				
D059	A068				
	A080				
D074	B077				
D088	B080				
D114	B096				
	B124				

TABLE 2
 A.C. MOTOR WIRING

E7 CONFIG. MODEL NO. BASE NUMBER E7SVXXXX	TO STANDARD AC DRIVE		EARTH GROUND WIRING		CONTROL WIRING	
	MFG. PART NUMBER	WIRE SIZE RANGE (AWG)	TIGHTENING TORQUE (LB.-IN.)	TO GROUND LUG	TO DRIVE TERMINALS	TIGHTENING TORQUE (LB.-IN.)
208V	A002	14 - 10	35	26 - 16	4.2 - 5.3	50
D002	A003	8 - 4	40	20 - 14	7.0 - 8.8	120
D004	A004					
D007	A006					
D010	A009					
D016	A015					
D024	A022					
D030	A028					
D046	A042					
D059	A054					
D074	B077					
D088	B080					
D114	B096					



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* - INDICATES COMPONENTS NOT SUPPLIED BY YASKAWA.
 - - INDICATES CUSTOMER WIRING.
 SEE SHEET 2 FOR NOTES AND TABLES 3 AND 4.

NOTES:

- CONNECTED TO THE CABINET. CUSTOMER TO CONNECT THE CABINET GROUND LUG TO EARTH GROUND.
- IF THE CIRCUIT BREAKER (OPTION PC OR OPTION PH) IS NOT ADDED, THEN BRANCH CIRCUIT PROTECTION (CIRCUIT BREAKER OR AC INPUT FUSES) MUST BE SUPPLIED BY THE CUSTOMER.
- INSULATED TWISTED SHIELDED WIRE IS REQUIRED. 2 CONDUCTOR #18GA. (BELDEN NO. 8760, OR EQUIVALENT) OR 3 CONDUCTOR #18GA. (BELDEN NO. 8770, OR EQUIVALENT). CONNECT THE SHIELD TO DRIVE TERMINAL E(G). CONNECT THE SHIELD ONLY AT THIS END, STUB AND ISOLATE THE OTHER END. KEEP THIS LEAD LENGTH AS SHORT AS POSSIBLE TO MAINTAIN SIGNAL QUALITY (50 METERS OR LESS). DO NOT RUN THESE WIRES IN THE SAME CONDUIT AS THE AC POWER AND AC CONTROL WIRES.
- SERIAL COMMUNICATION OPTIONS: T2, T3, T4, TL, TU OR TV (SEE TABLE 4).
 OPTION T2 = ETHERNET/IP, OPTION T3 = BACNET, OPTION T4 = METASYS N2, OPTION TL = LONWORKS, OPTION TU = APOGEE FLN AND OPTION TV = DRIVE EMBEDDED MODBUS PROTOCOL.
- WHEN OPTION TL OR OPTION T3 IS ORDERED, A JUMPER IS REQUIRED FROM DRIVE TERMINALS S1 TO SN, SO THAT THE LONWORKS SERIAL COMMUNICATIONS CAN CONTROL THE RUN, STOP AND SPEED OF THE AC MOTOR. CUSTOMER TO REPLACE THE JUMPER WITH NORMALLY CLOSED SAFETY INTERLOCKS, OR RUN/STOP CONTACT, IF APPLICABLE.

TABLE 4 DRIVE OPERATION MODE SELECTION

OPTION PRESENT	FACTORY SET E7S CONFIGURED DRIVE PARAMETERS										DRIVE CONTROL BOARD SWITCH S1 SETTING		DRIVE MODE SPEED COMMAND							
	b1-01		b1-02		F6-02		F6-03		H3-08		H3-13		H5-02		H5-07		H5-08		DRIVE KEYPAD IN THE "AUTO" MODE AND AUTO MODE RUN/STOP CONTACT AT DRIVE TERMINALS S1 AND SN	
	1	2	1	2	0	1	0	1	3	1	3	1	0	0	1	0	0			
NONE +	1	1	0	1	2	1	3	1	3	1	3	1	0	0	OFF	ON	YES	0-10 VDC		3-15 PSI
NONE	1	1	0	1	0	1	3	1	3	1	3	1	0	0	OFF	OFF	YES	YES		
TP	1	1	0	1	2	1	3	1	3	1	3	1	0	0	OFF	ON	YES	YES		
T2 +	3	3	0	1	2	0	3	1	3	1	3	1	0	0	OFF	ON	YES		YES	4
T2	1	3	0	1	0	1	3	1	3	1	3	1	0	0	OFF	OFF	YES	YES		4
T2 AND TP	1	3	0	1	2	1	3	1	3	1	3	1	0	0	OFF	ON	YES	YES		4
T3 +	2	2	1	3	2	0	3	1	3	1	3	1	0	0	OFF	ON	YES		YES	4,5
T3	1	2	1	3	0	1	3	1	3	1	3	1	0	0	OFF	OFF	YES	YES		4,5
T3 AND TP	1	2	1	3	2	1	3	1	3	1	3	1	0	0	OFF	ON	YES	YES		4,5
TJ +	2	2	0	1	2	0	3	1	3	1	3	1	1	1	OFF	ON	YES		YES	4
TJ	1	2	0	1	0	1	3	1	3	1	3	1	1	1	OFF	OFF	YES	YES		4
TJ AND TP	1	2	0	1	2	1	3	1	3	1	3	1	1	1	OFF	ON	YES	YES		4
TU +	2	2	0	1	2	0	2	1	2	1	2	1	2	2	OFF	ON	YES		YES	4
TU	1	2	0	1	0	1	2	1	2	1	2	1	2	2	OFF	OFF	YES	YES		4
TU AND TP	1	2	0	1	2	1	2	1	2	1	2	1	2	2	OFF	ON	YES	YES		4
TV +	2	2	0	1	2	0	3	1	3	1	3	1	0	0	OFF	ON	YES		YES	4
TV	1	2	0	1	0	1	3	1	3	1	3	1	0	0	OFF	OFF	YES	YES		4
TV AND TP	1	2	0	1	2	1	3	1	3	1	3	1	0	0	OFF	ON	YES	YES		4
TL +	2	2	0	1	2	0	3	1	3	1	3	1	0	0	ON	ON	YES		YES	4,5
TL	1	2	0	1	0	1	3	1	3	1	3	1	0	0	ON	OFF	YES	YES		4,5
TL AND TP	1	2	0	1	2	1	3	1	3	1	3	1	0	0	ON	ON	YES	YES		4,5

+ = STANDARD E7S CONFIGURED SET UP
 * = FACTORY 2-WIRE INITIALIZATION/DEFAULT SETTING

TABLE 3 FACTORY SET E7S CONFIGURED DRIVE PARAMETERS

PARAMETER	DATA	UNIT	DESCRIPTION/REMARKS
b1-01	SEE TABLE 4	N/A	FREQUENCY REFERENCE SELECTION
b1-02	SEE TABLE 4	N/A	RUN COMMAND SELECTION
b1-08	1	N/A	RUN COMMAND SELECTION DURING PROGRAMMING - ENABLED
d1-01	10.0	HZ.	FREQUENCY REFERENCE 1 - SEE TABLE 4
E1-01	240(480)	VOLTS	STANDARD INPUT VOLTAGE SETTING
	208	VOLTS	INPUT VOLTAGE SETTING FOR BASE NUMBER "D_--"
	230(460)	VOLTS	STANDARD MAXIMUM OUTPUT VOLTAGE SETTING
	208	VOLTS	MAXIMUM OUTPUT VOLTAGE SETTING FOR BASE NUMBER "D_--"
F6-02	SEE TABLE 4	N/A	SERIAL COMMUNICATIONS EXTERNAL FAULT DETECTION SELECTION
F6-03	SEE TABLE 4	N/A	SERIAL COMMUNICATIONS EXTERNAL FAULT STOPPING METHOD SELECTION
H3-08	SEE TABLE 4	N/A	TERMINAL A2 SIGNAL SELECTION
H3-13	SEE TABLE 4	N/A	TERMINALS A1 AND A2 MASTER FREQUENCY REFERENCE SELECTION
H5-02	SEE TABLE 4	N/A	SERIAL COMMUNICATIONS SPEED SELECTION BAUD RATE
H5-07	SEE TABLE 4	N/A	REQUEST TO SEND (RTS) CONTROL SELECTION
H5-08	SEE TABLE 4	N/A	SERIAL COMMUNICATIONS PROTOCOL SELECTION
H5-09	10.0	SEC.	SERIAL COMMUNICATIONS ERROR DETECTION TIME
L4-05	0	N/A	FREQUENCY REFERENCE LOSS DETECTION DISABLED
L5-01	10	N/A	NUMBER OF AUTO RESTART ATTEMPTS
L5-03	10.0	SEC.	MAXIMUM RESTART TIME AFTER FAULT
o2-03	1	N/A	USER INITIALIZATION FACTORY SET PARAMETER DEFAULT VALUES (FOUND IN A1-03="1110")
o3-02	1	N/A	DIGITAL OPERATOR KEYPAD READ ALLOWED ENABLED

SEE SHEET 1 FOR TABLES 1 AND 2.



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DRAWN BY: D.R. CMELAK
 CHECKED: K. FLIERL
 TECH: J. ZUEHLKE
 APPROVED: J. ZUEHLKE
 ORIGINAL DESIGNER: D.R. CMELAK

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 E7 CONFIGURED

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