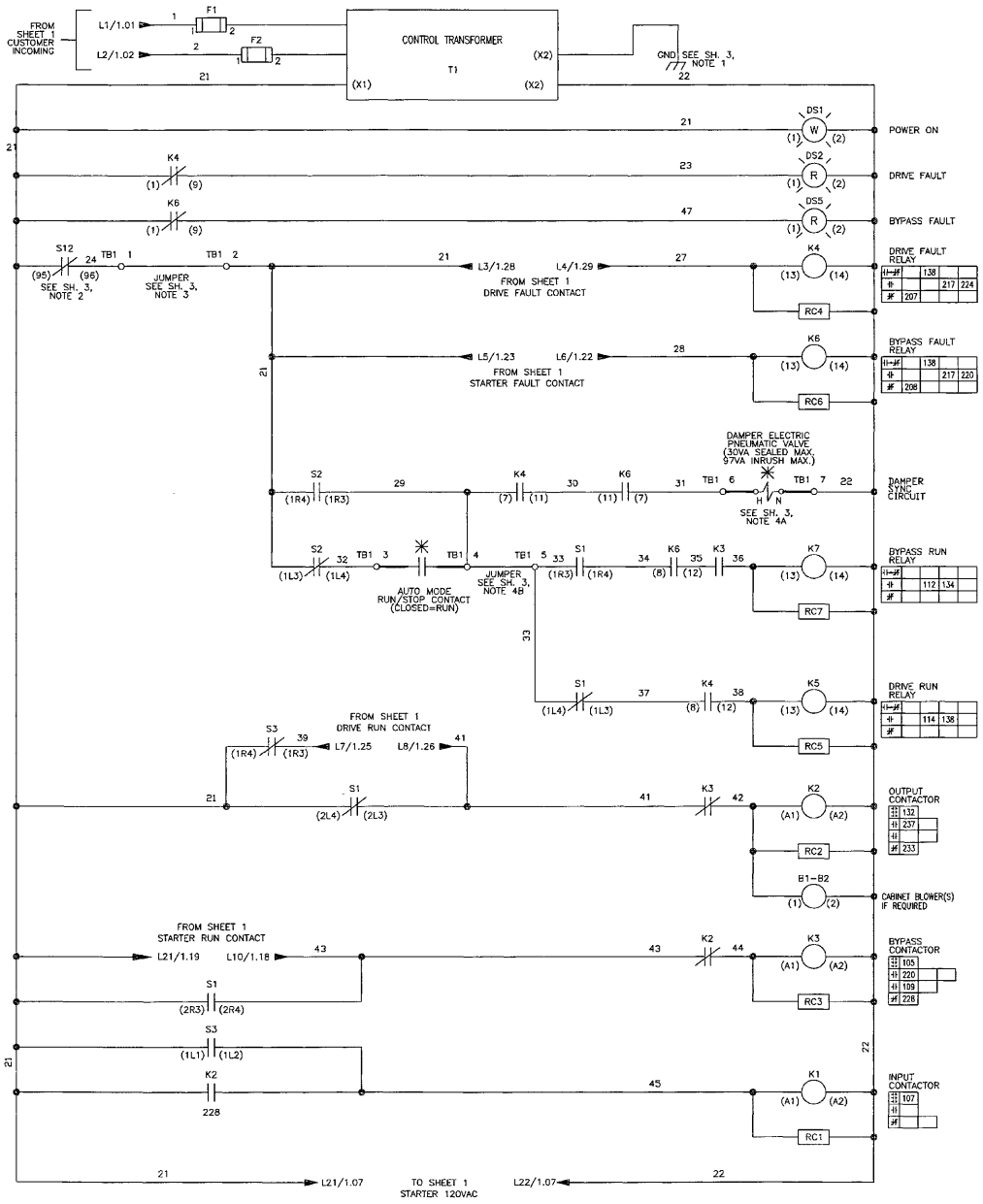
FROM SHEET 1 CUSTOMER INCOMING
L1/1.01
L2/1.02
F1
F2
CONTROL TRANSFORMER
T1
(X1)
(X2)
GND SEE SH. 3, NOTE 1
POWER ON
DRIVE FAULT
BYPASS FAULT
DRIVE FAULT RELAY
BYPASS FAULT RELAY
S12
SEE SH. 3, NOTE 2
JUMPER SEE SH. 3, NOTE 3
L3/1.28
L4/1.29
FROM SHEET 1 DRIVE FAULT CONTACT
L5/1.23
L6/1.22
FROM SHEET 1 STARTER FAULT CONTACT
DAMPER ELECTRIC PNEUMATIC VALVE (30VA SEALED MAX, 97VA INRUSH MAX.)
SEE SH. 3, NOTE 4A
DAMPER SYNC CIRCUIT
AUTO MODE RUN/STOP CONTACT (CLOSED=RUN)
JUMPER SEE SH. 3, NOTE 4B
BYPASS RUN RELAY
DRIVE RUN RELAY
FROM SHEET 1 DRIVE RUN CONTACT
L7/1.25
L8/1.26
OUTPUT CONTACTOR
CABINET BLOWER(S) IF REQUIRED
FROM SHEET 1 STARTER RUN CONTACT
L21/1.19
L10/1.18
BYPASS CONTACTOR
INPUT CONTACTOR
L21/1.07
TO SHEET 1 STARTER 120VAC
L22/1.07

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Job Name:
Contractor:

Document: C21-Soft Start
Sheet 3 of 3

(SEE NOTE 7)
SPECIAL PARAMETER SETTINGS TABLE 1

PARAMETER	DATA	UNIT	DESCRIPTION/REMARKS
n001	3	N/A	READ/WRITE TO ALL PARAMETERS
n003	460(230)	V	STANDARD MAX VOLTAGE SETTING
	208	V	MAX VOLTAGE SETTING FOR BASE NO. "D_"
n006	1	N/A	REVERSE RUN DISABLED
n007	0	N/A	LOCAL/REMOTE KEY DISABLED
n018	60.0	S	ACCELERATION TIME
n019	60.0	S	DECELERATION TIME
n024	10.0	HZ	KEYPAD SPEED REFERENCE
n025	6.0	HZ	HAND MODE SPEED REFERENCE
n033	---	AMPS	MOTOR FULL LOAD AMPS- (MUST BE SET BY CUSTOMER)
n038	5	N/A	REMOTE/LOCAL (USED FOR NORMAL/TEST)
n043	0	N/A	0 TO 10VDC AUTO MODE SIGNAL (FACTORY SETTING)
	1	N/A	4-20 MADC AUTO MODE SIGNAL
n055	1	N/A	MOMENTARY POWER LOSS RIDE THROUGH ENABLED
n056	20	%	SPEED SEARCH OPERATION LEVEL
n057	1.0	S	MINIMUM BASE BLOCK TIME
n058	25	%	V/F DURING SPEED SEARCH
n061	1	N/A	DRIVE FAULT RELAY DE-ENERGIZED DURING AUTO RESTART ATTEMPTS
n068	50	%	DC INJECTION BRAKING CURRENT LEVEL
n070	5.0	S	DC INJECTION BRAKING TIME AT START

CONTACT SEQUENCE CHART FOR S1
X - INDICATES CONTACT CLOSED

CONTACT	POSITION			MANUF. LOCATION /TYPE
	BYPASS	OFF	DRIVE•	
1	X			1RO
2			X	1LO
3	X			2RO
4			X	2LO
5			X	3LO

• SCHEMATIC SHOWS THIS POSITION.

CONTACT SEQUENCE CHART FOR S2
X - INDICATES CONTACT CLOSED

CONTACT	POSITION			MANUF. LOCATION /TYPE
	HAND	STOP	AUTO•	
1	X			1RO
2			X	1LO
3	X			2RO

• SCHEMATIC SHOWS THIS POSITION.

CONTACT SEQUENCE CHART FOR S3
X - INDICATES CONTACT CLOSED

CONTACT	POSITION		MANUF. LOCATION /TYPE
	TEST	NORMAL•	
1		X	1RO
2	X		1LC
3	X		2RC
4	X		2LC

• SCHEMATIC SHOWS THIS POSITION.

NOTES:

✳ COMPONENTS NOT SUPPLIED BY YASKAWA.

━ CUSTOMER WIRING. - FOR 0 TO 100 AMPS, USE 60° -75°C COPPER WIRE.
ABOVE 100 AMPS, USE 75° C COPPER WIRE.

○ CUSTOMER CONNECTION POINT ON PANEL MOUNTED TERMINAL BLOCK TB1. TORQUE WIRE CONNECTIONS TO 10 LB. IN.

□ FACTORY CONNECTION POINT ON DRIVE A1.

1. CONNECTED TO PANEL. CUSTOMER TO CONNECT PANEL GROUND LUG TO EARTH GROUND.
2. MOTOR OVERLOAD RELAY S12 IS FACTORY SET FOR MANUAL RESET. CUSTOMER TO ADJUST S12 TRIP SETTING FOR THE AC MOTOR'S FULL LOAD AMPS.
3. TERMINALS SUPPLIED FOR INSERTION OF NORMALLY CLOSED CUSTOMER SAFETY CONTACTS I.E. FIRESTAT, FREEZESTAT, WINDING OR BEARING TEMPERATURE ACTIVATED SWITCHES. IF APPLICABLE, REMOVE THE FACTORY INSTALLED JUMPER J1.
4. A, TERMINALS SUPPLIED FOR INSERTION OF CUSTOMER SUPPLIED DAMPER ELECTRIC PNEUMATIC VALVE (SOLENOID), WITH A MAXIMUM POWER RATING OF 30VA SEALED AND 87VA INRUSH, USED TO CONTROL THE OPENING AND CLOSING OF A SYSTEM DAMPER. IF APPLICABLE, CHANGE DRIVE PARAMETER n004 TO 1.

   B. TERMINALS SUPPLIED FOR INSERTION OF CUSTOMER SUPPLIED, NORMALLY OPEN DAMPER END SWITCH (OPEN=DAMPER CLOSED, CLOSED=DAMPER FULLY OPEN). IF APPLICABLE, REMOVE THE FACTORY INSTALLED JUMPER J2.
5. INSULATED TWISTED SHIELDED WIRE IS REQUIRED. 2 CONDUCTOR #18GA. (BELDON #8760, OR EQUIVALENT). SHIELD TO CONNECT TO PROPER TERMINAL AS SHOWN. CONNECT THE SHIELD ONLY AT THIS END. STUB AND ISOLATE THE OTHER END. DO NOT RUN THESE WIRES IN THE SAME CONDUIT AS THE AC POWER AND AC CONTROL WIRES.
6. DRIVE PARAMETER n070 IS PROVIDED TO PREVENT THE DRIVE FROM STARTING INTO A SPINNING MOTOR FOLLOWING A TRANSITION FROM THE BYPASS MODE TO THE DRIVE MODE OF OPERATION. CUSTOMER TO FIELD ADJUST n070 FOR THE DECELERATION TO STOP TIME (IN SECONDS) OF THE AC MOTOR FROM MAXIMUM SPEED, WHEN SWITCHING FROM THE BYPASS TO THE DRIVE MODE OF OPERATION.
7. IF A "2 WIRE" OR "3 WIRE" INITIALIZATION IS PERFORMED ON THE DRIVE, THEN THE DRIVE PARAMETERS NEED TO BE RE-ENTERED, AS SHOWN IN THE SPECIAL PARAMETER SETTINGS TABLE 1.
8. HAND/STOP/AUTO SWITCH OPERATION:
   THE FUNCTION OF THE HAND/STOP/AUTO SWITCH IS TO SELECT SPEED AND RUN/STOP CONTROL. THE AUTO POSITION SELECTS THE AUTO SIGNAL INPUT FOR SPEED AND A CUSTOMER SUPPLIED CONTACT FOR A RUN COMMAND. THE HAND POSITION SELECTS THE DRIVE KEYPAD FOR SPEED AND SUPPLIES THE RUN COMMAND.
9. TEST/NORMAL SWITCH OPERATION:
   THE FUNCTION OF THE TEST/NORMAL SWITCH IS TO TEST THE DRIVE WHILE IN EITHER THE OFF OR BYPASS MODE. IF THE TEST/NORMAL SWITCH IS IN THE TEST POSITION WHILE OPERATING IN THE DRIVE MODE, THEN THE DRIVE WILL FAULT ON AN "EF3". THIS FAULT MAY BE RESET BY FIRST SWITCHING TO EITHER "BYPASS" OR "OFF", AND THEN PRESSING RESET ON THE DRIVE KEYPAD.
10. SEE TECHNICAL MANUAL TM5550 FOR PROPER ADJUSTMENT OF THE BYPASS SOFT STARTER PARAMETERS.