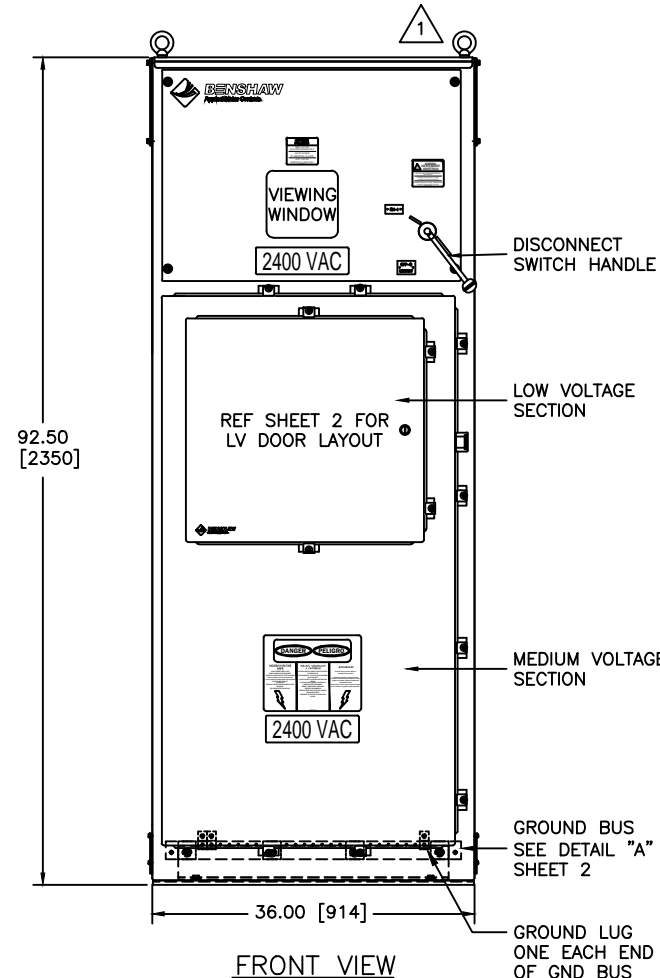
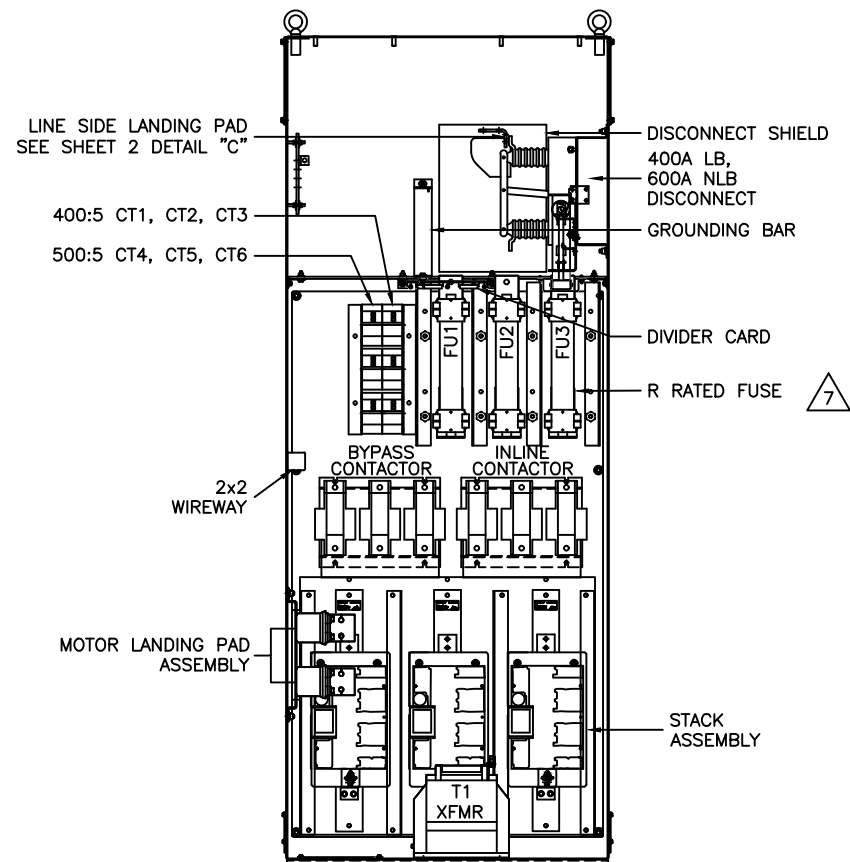


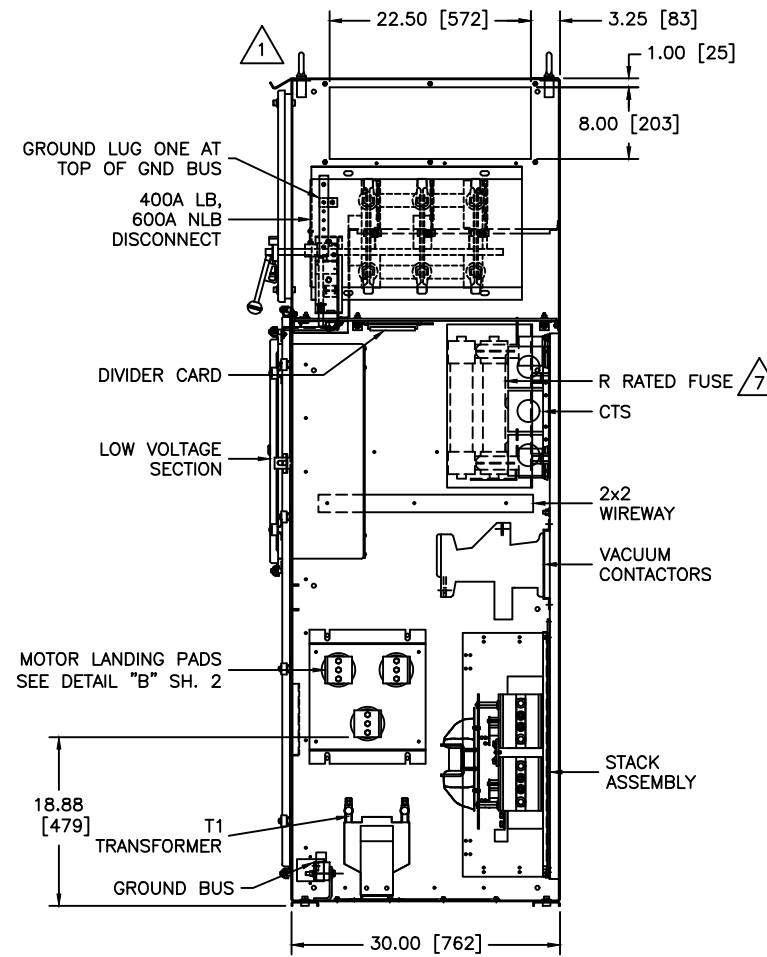
TOP VIEW



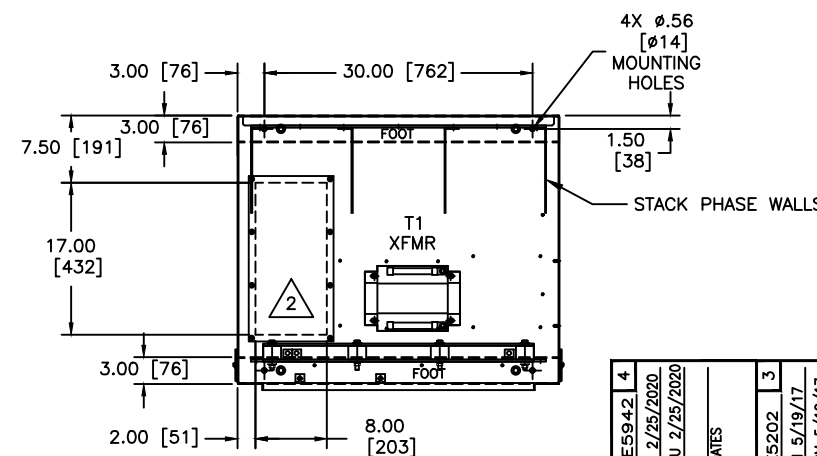
FRONT VIEW



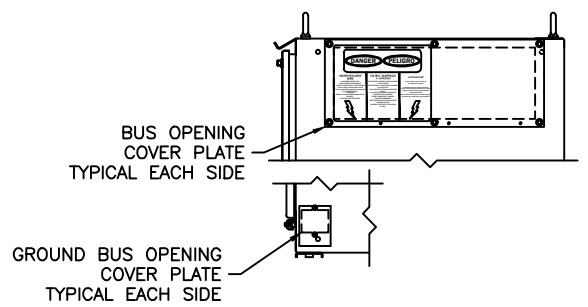
FRONT INTERIOR VIEW



RIGHT SIDE INTERIOR VIEW



FRONT OF ENCLOSURE PLAN VIEW



- NOTES:
- 1 REMOVABLE LIFTING EYEBOLTS
  - 2 CABLE ENTRY/EXIT AREA. CUTOUT W/ COVER PLATE SUPPLIED
  - 3 CABLE ENTRY/EXIT AREA. NO CUTOUT SUPPLIED. CUSTOMER TO CUT AS REQUIRED.
  - 4 ENCLOSURE COLOR: ANSI 61 GREY
  - 5 TIGHTEN BOLTS PER CHART BELOW

STEEL BOLT TORQUE IN POUND-FOOT [NEWTON-METER]				
1/4-20	5/16-18	3/8-16	1/2-13	5/8-11
5 [6.8]	12 [16.3]	20 [27]	50 [67.8]	95 [128.8]

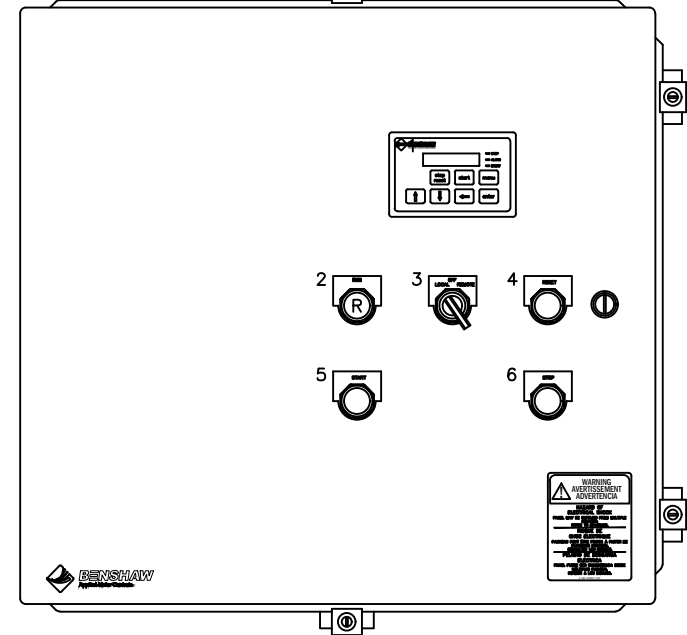
- 6 APPROXIMATE WEIGHT IS 1600LBS [726KG]
- 7 R-FUSES SHOWN FOR REFERENCE. REFERENCE SALES ORDER FOR FUSE SIZE.

ECO# E5942 APPRD:JBU 2/25/2020 CHG BY:JBU 2/25/2020 CHANGE: UL 347 UPDATES	ECO# E5202 APPRD:SNM 5/19/17 CHG BY:RBM 5/19/17 CHANGE: CHANGED TO MICRORUPTER DISCONNECT	ECO# E5202 APPRD:JBU 7/26/16 CHG BY:JBU 7/26/16 CHANGE: INITIAL RELEASE	REVISION DO NOT SCALE DWG	THIRD ANGLE PROJECTION THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN, IS THE PROPERTY OF BENSCHAW INC., AND MAY NOT BE REPRODUCED, OR DWGULGED TO UNAUTHORIZED PERSONS WITHOUT THE EXPRESS WRITTEN CONSENT OF BENSCHAW INC. IT IS PROVIDED SOLELY FOR THE CONVENIENCE OF THE USER AND SHALL BE RETURNED UPON REQUEST.	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES [mm] INTERPRET DRAWING PER ASME Y14.5M-1994 TOLERANCES: .XX ± .03 .XXX ± .015 ANGLES ± 1°	SIGNATURES	DATE	TITLE: UL LABELED CFMVRMX12-1500-2300-12 SOLID STATE STARTER ENCLOSURE LAYOUT		
						DRWN. JBU	7/26/16		CHKD.	ENG. JBU
MATERIAL: FINISH:						SIZE	DWG. NO.	SCALE: 3/32 : 1	SHEET 1 OF 7	REV 4

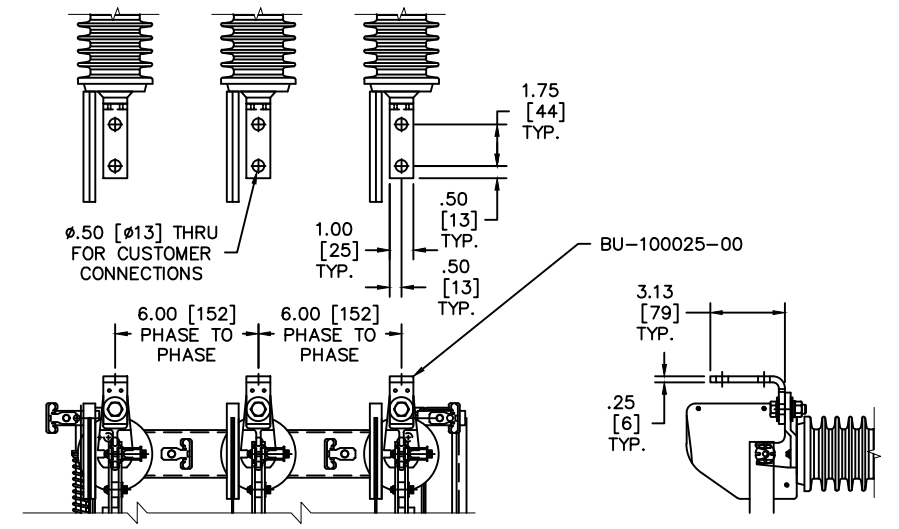


**CUSTOMER TERMINAL BLOCKS**

6	REMOTE E-STOP
6C	REMOTE E-STOP
6B	REMOTE E-STOP
65	START/STOP COMMAND CUSTOMER SUPPLIED
66	START/STOP COMMAND CUSTOMER SUPPLIED
80	FAULT INDICATION IN S.S. MODE FOR CUSTOMER USE
81	FAULT INDICATION IN S.S. MODE FOR CUSTOMER USE
82	FAULT INDICATION IN S.S. MODE FOR CUSTOMER USE
83	UP-TO-SPEED INDICATION IN S.S. MODE FOR CUSTOMER USE
84	UP-TO-SPEED INDICATION IN S.S. MODE FOR CUSTOMER USE
85	UP-TO-SPEED INDICATION IN S.S. MODE FOR CUSTOMER USE
86	RUN INDICATION IN ATL & S.S. MODES FOR CUSTOMER USE
87	RUN INDICATION IN ATL & S.S. MODES FOR CUSTOMER USE
88	RUN INDICATION IN ATL & S.S. MODES FOR CUSTOMER USE
92	ANALOG OUTPUT FOR CUSTOMER USE
93	ANALOG OUTPUT FOR CUSTOMER USE
94	ANALOG OUTPUT FOR CUSTOMER USE
95	O/L FAULT IND. IN ATL MODE FOR CUSTOMER USE
96	O/L FAULT IND. IN ATL MODE FOR CUSTOMER USE
97	O/L FAULT IND. IN ATL MODE FOR CUSTOMER USE
98	RS-485
99	RS-485
SHD	
SP	
SP	
SP	

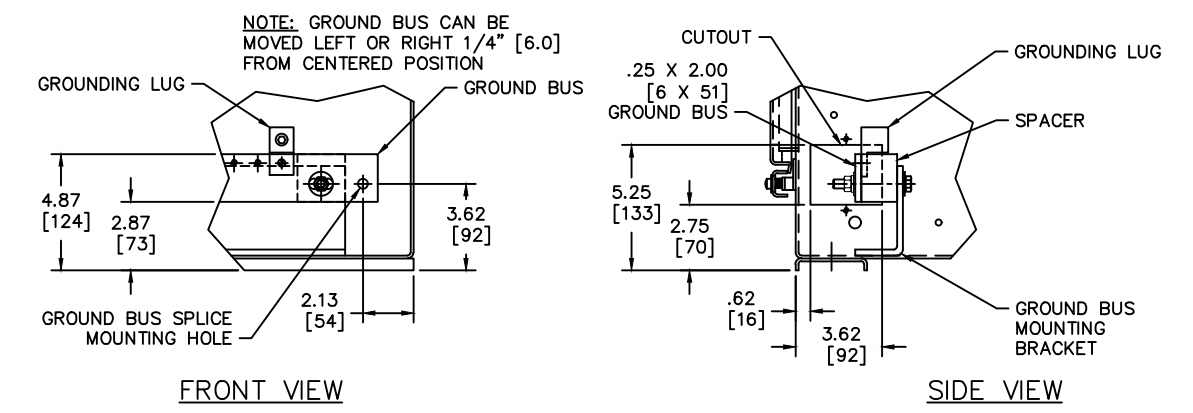
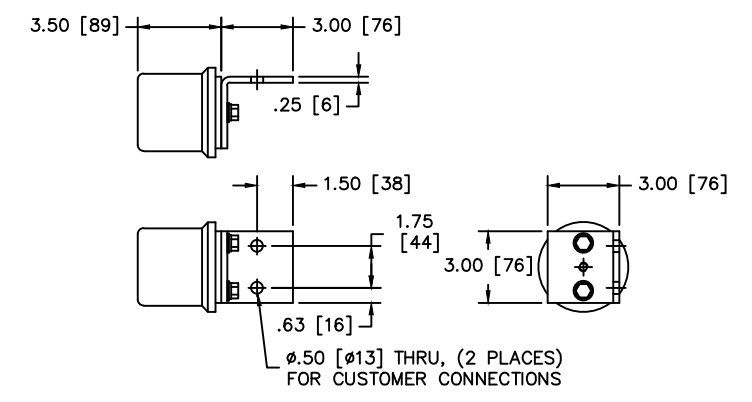
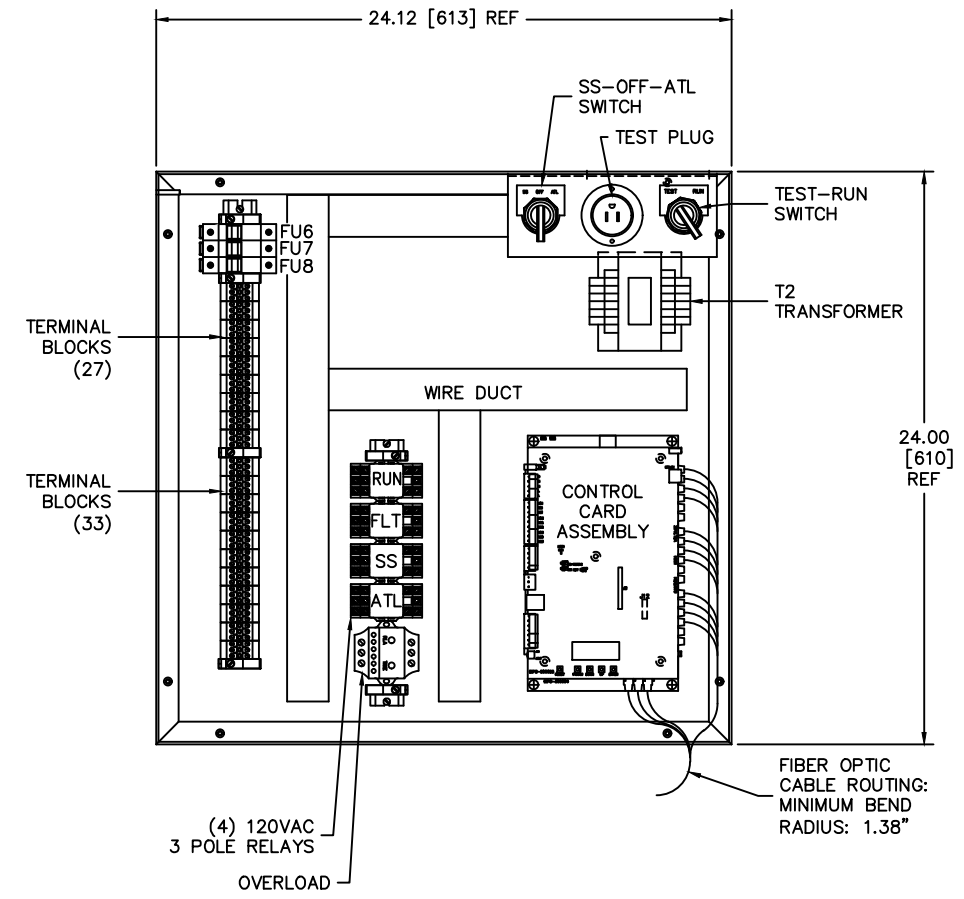


- DEVICE LEGEND**
1. KEYPAD DISPLAY
  2. "RUN" (RED) PILOT LIGHT
  3. "LOCAL-OFF-REMOTE" SELECTOR SWITCH
  4. "RESET" (BLACK) PUSHBUTTON
  5. "START" (GREEN) PUSHBUTTON
  6. "STOP" (RED) RAISED PUSHBUTTON



**BENSHAW TERMINAL BLOCKS**

4
5A
6
6
6B
6B
6B
7
7
7
7
7
7
7
7
7
5
5
10
10
13
36
41
42
43
44
51
52
SP
SP
SP
SP



ECO# E5942	ECO# E5202	1	THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES [mm] INTERPRET DRAWING PER ASME Y14.5M-1994	SIGNATURES	DATE	TITLE: UL LABELED CFMVRMX12-1500-2300-12 SOLID STATE STARTER LOW VOLTAGE COMPARTMENT AND ENCLOSURE DETAILS	<p>815 ALPHA DRIVE PITTSBURGH, PA. 15238 550 BRIGHT ST. E. LISTON, ONTARIO N4W 3K2</p>
APPRD: JBU 2/25/2020 CHG BY: JBU 2/25/2020 CHANGE: UL 347 UPDATES	APPRD: SMM 5/19/17 CHG BY: RBM 5/19/17 CHANGE: CHANGED TO MICROUPTER DISCONNECT	APPRD: JBU 7/26/16 CHG BY: JBU 7/26/16 CHANGE: INITIAL RELEASE	DO NOT SCALE DWG	TOLERANCES: .XX ± .03 .XXX ± .015 ANGLES ± 1°	DRWN: JBU 7/26/16 CHKD: ENG: JBU 7/26/16	7/26/16		
			REVISION	MATERIAL: FINISH:	SIZE: DWG. NO. <b>D MVRXE121500230012</b>		REV <b>4</b>	

SHOP NOTES:

- S1 ALL INSTRUMENT AND CONTROL GROUND WIRES ARE #12AWG GREEN WIRE, EXCEPT WHERE NOTED, RUN SEPARATELY TO GROUND LUG POINT. DO NOT DAISY CHAIN GROUND WIRES. RUN ALL GROUND WIRES A MINIMUM OF FOUR (4) INCHES FROM POWER CABLE AND HEATSINKS.
S2 ALL SECONDARY POWER WIRING MUST BE ROUTED SEPARATE FROM GROUND WIRES AND CONTROL WIRING.
S3 ALL CURRENT TRANSFORMER SIGNAL WIRING TO BE COVERED WITH HIGH VOLTAGE SLEEVING. ALL CURRENT TRANSFORMERS TO BE SEPARATELY GROUNDED TO GROUND BUS.
S4 ALL WIRING IN THE MEDIUM VOLTAGE AREA WITHIN FOUR (4) INCHES OF THE HEATSINK ASSEMBLY OR POWER CABLE MUST HAVE 5KV SLEEVING.
S5 SEPARATE LOW VOLTAGE SUPPLY & CONTROL WIRING AS MUCH AS POSSIBLE FROM MV WIRING. MINIMUM SPACE IS 3". WIRES TO CROSS AT 90° ANGLES.
S6 14AWG GREEN WIRE, EXCEPT WHERE OTHERWISE NOTED, RUN SEPARATELY TO GROUND LUG POINT. DO NOT DAISY CHAIN GROUND WIRES. RUN ALL GROUND WIRES A MINIMUM OF FOUR (4) INCHES FROM POWER CABLE AND HEATSINKS.
S7 SCR GATE WIRES TO BE COVERED WITH HIGH VOLTAGE SLEEVING.
S8 ALL CONTROL WIRING TO BE 14AWG EXCEPT WHERE NOTED.

PARAMETER SETTINGS

SEE MANUAL FOR ADDITIONAL SETTINGS

Table with 4 columns: GROUP, DISPLAY, FUNCTION, AS BUILT. Lists parameters such as QST 04 LOCAL SRC, QST 05 REMOTE SRC, I/O 26 Kpd Stop, DI 1-8 CONFIG, R1-6 CONFIG, I/O 21 Aout Fctn, RTD 01-02 RTD Mod1/2 Addr.

Table with 4 columns: GROUP, DISPLAY, FUNCTION, AS BUILT. Lists parameters such as FUN 03 CT RATIO, FUN 05 RATED VOLTS, FUN 07 STARTER TYPE, FUN 20 STACK OL, FUN 21 STACK RATING.

STANDARD LEGEND

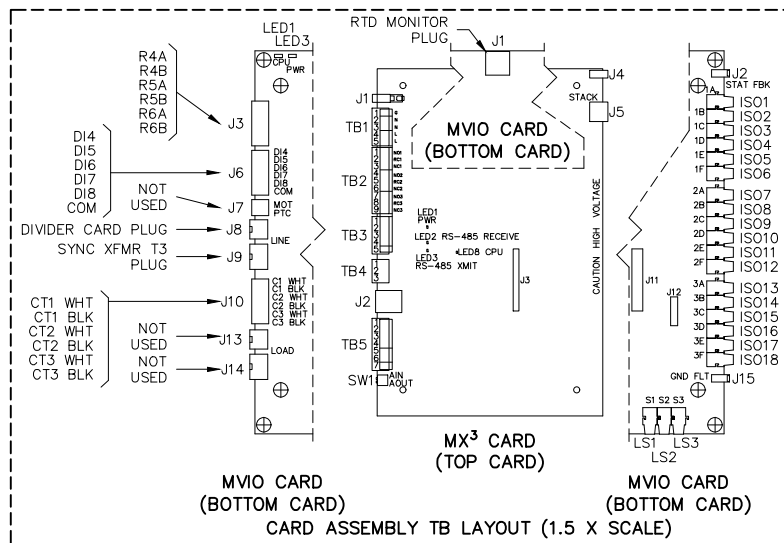
- WIRE NODE SYMBOL
BENSHAW SUPPLIED TERMINAL BLOCK
POWER CONNECTION
TWISTED PAIR
TWISTED, SHIELDED PAIR
SHIELDED
FIBER OPTIC CABLE
ARROW INDICATES DIRECTION OF SIGNAL
(C-3) UNDERLINED CONTACT REFERENCES ARE NORMALLY CLOSED
(C-3) NORMALLY OPENED CONTACT REFERENCES ARE NOT UNDERLINED

CUSTOMER NOTES:

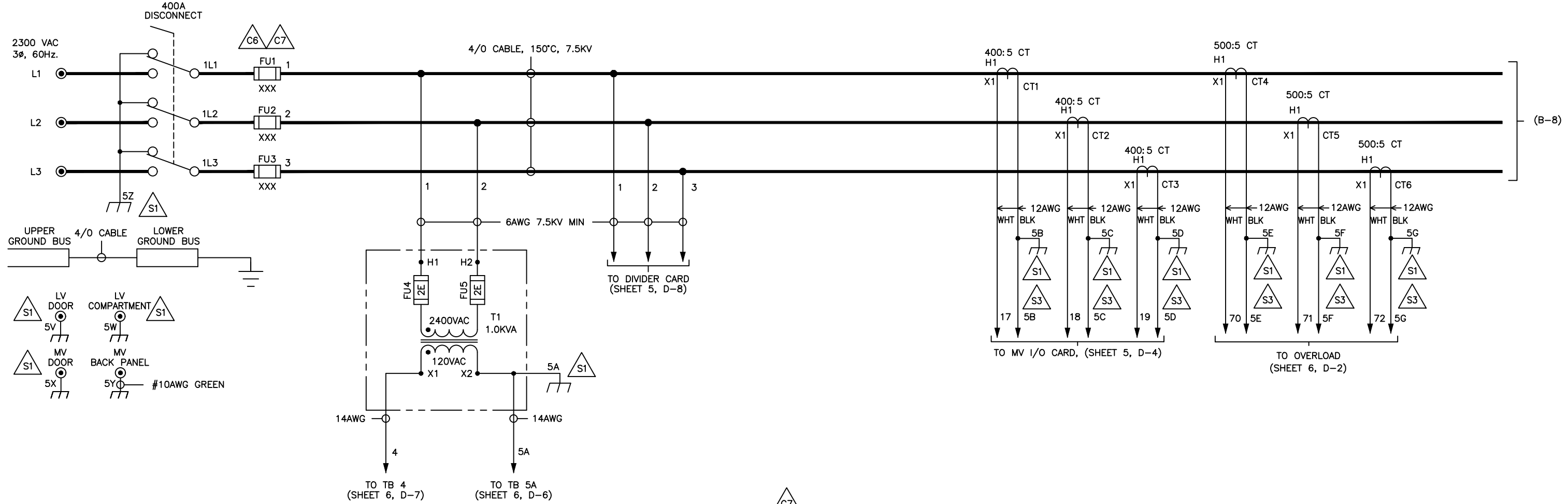
- C1 ITEM LOCATED IN STARTER MEDIUM VOLTAGE SECTION.
C2 ITEM LOCATED IN STARTER LOW VOLTAGE SECTION.
C3 R1 RELAY SHOWN IN DE-ENERGIZED STATE. R1 N.O. CONTACT WILL OPEN AND R1 N.C. CONTACT WILL CLOSE ON SYSTEM FAULT. R1 RELAY INDICATES FAULT ON POWER-UP UNTIL STARTER SELF-CHECK IS COMPLETE.
C4 LED STATUS WITH POWER APPLIED.
C5 REMOVE REMOTE RUN COMMAND PRIOR TO RESETTING A FAULT TO PREVENT IMMEDIATE RESTART OF THE MOTOR.
C6 REFERENCE SALES ORDER FOR R-FUSE SIZE.
C7 THE ACTUAL HP AND FLA RATINGS VARY PER MOTOR. SIZE R-FUSES PER MOTOR FLA. THE MAXIMUM SIZE R-FUSE FOR THIS MODEL MVRXE IS 24R.

Table with 3 columns: CARD, SOFTWARE VERSION, MANUAL. Lists MX3 CARD and MVIO CARD with their respective version numbers.

xx VERSION AT TIME OF SHIPMENT



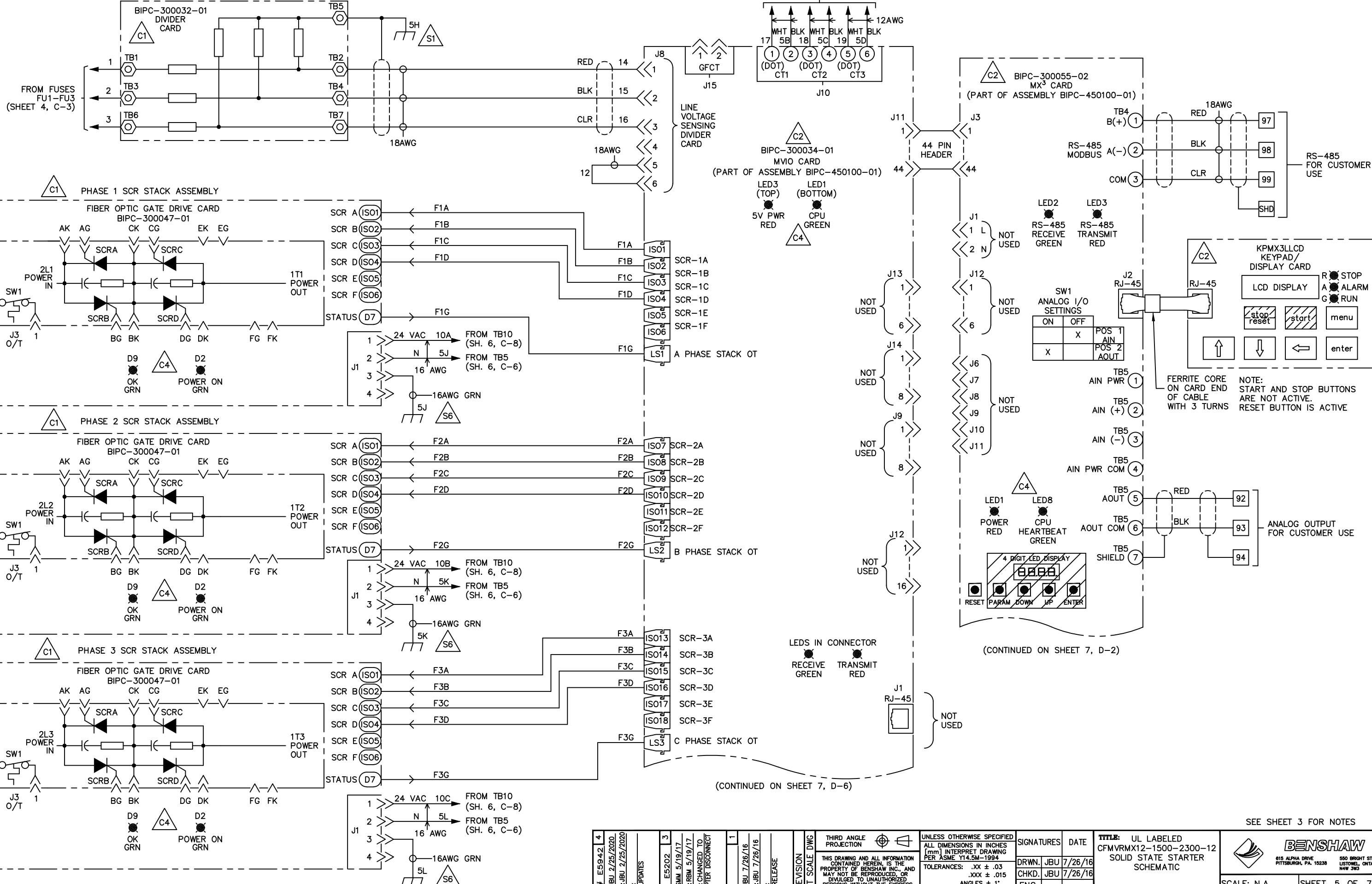
Revision history table, drawing title (UL LABELED CFMVRMX12-1500-2300-12 SOLID STATE STARTER SCHEMATIC NOTES), signatures, dates, and company information (BENSHAW).



**CAUTION:**  
SEVERE DAMAGE MAY RESULT IF SURGE CAPACITORS, LIGHTNING ARRESTERS, OR POWER FACTOR CORRECTION CAPACITORS ARE CONNECTED TO THE LOAD SIDE OF THE SOLID STATE STARTER. CONSULT FACTORY BEFORE USING ANY OF THESE POWER QUALITY ENHANCEMENT DEVICES.

SEE SHEET 3 FOR NOTES

ECO# E5942	4	APPRD: JBU 2/25/2020	ECO# E5202	3	APPRD: SMM 5/19/17	THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED	SIGNATURES	DATE	TITLE: UL LABELED CFMVRMX12-1500-2300-12 SOLID STATE STARTER SCHEMATIC	<p>815 ALPHA DRIVE PITTSBURGH, PA. 15238</p> <p>550 BRIGHT ST. E. LONDON, ONTARIO N4W 3K2</p>
CHG BY: JBU 2/25/2020		CHANGE: UL 347 UPDATES	CHG BY: RBM 5/19/17		CHANGE: CHANGED TO MICRODRIFTER DISCONNECT	DO NOT SCALE DWG	ALL DIMENSIONS IN INCHES [mm] INTERPRET DRAWING PER ASME Y14.5M-1994	DRWN. JBU 7/26/16	7/26/16		
			APPRD: JBU 7/26/16	1	CHG BY: JBU 7/26/16	THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN, IS THE PROPERTY OF BENSHAW INC., AND MAY NOT BE REPRODUCED, OR DIVULGED TO UNAUTHORIZED PERSONS, WITHOUT THE EXPRESS WRITTEN CONSENT OF BENSHAW INC. IT IS PROVIDED SOLELY FOR THE CONVENIENCE OF THE USER AND SHALL BE RETURNED UPON REQUEST.	TOLERANCES: .XX $\pm$ .03 .XXX $\pm$ .015 ANGLES $\pm$ 1'	CHKD.			SHEET 4 OF 7
			CHANGE: INITIAL RELEASE			REVISION	MATERIAL:	ENG. JBU 7/26/16			REV 4
						DO NOT SCALE DWG	FINISH:				



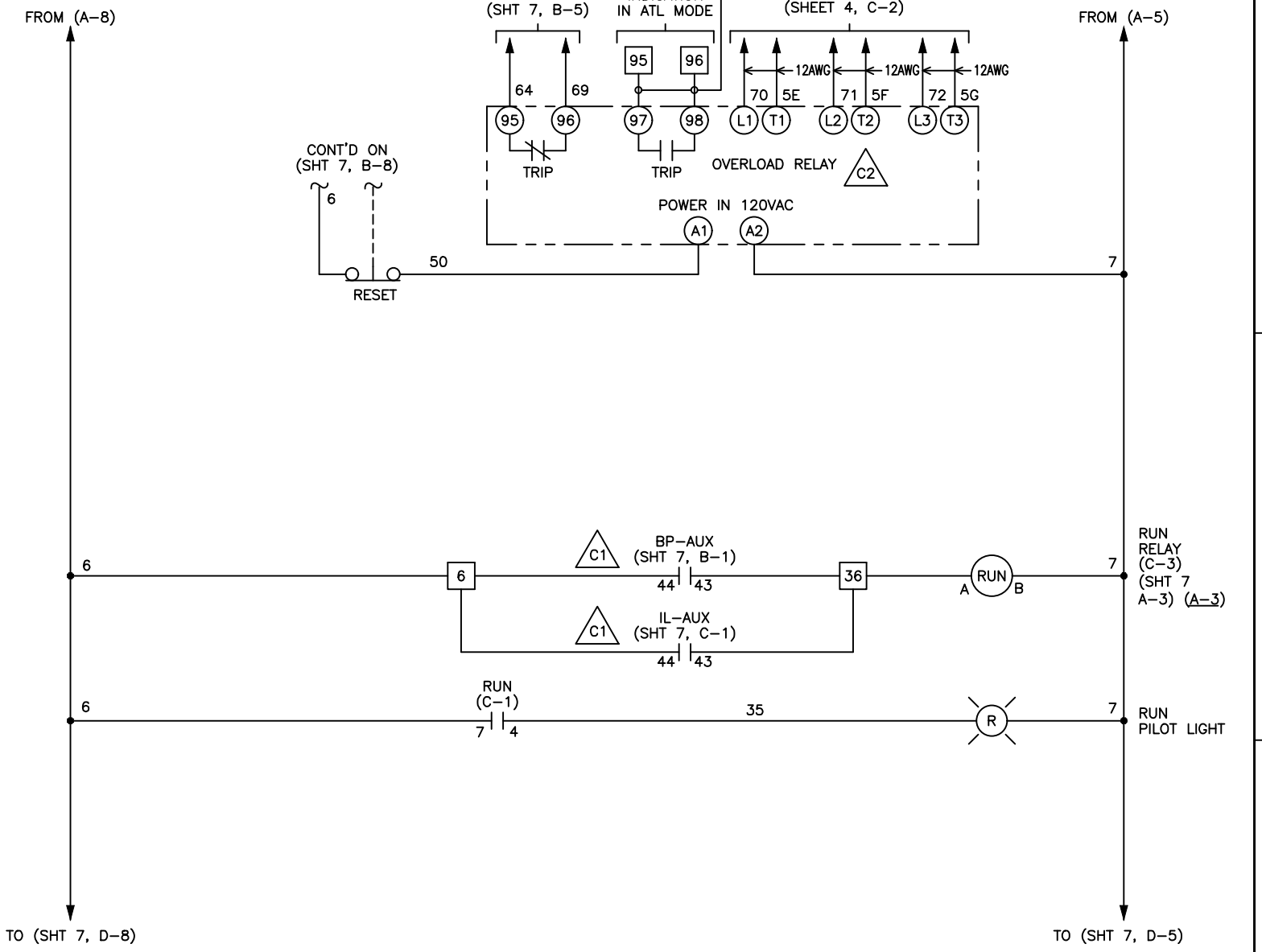
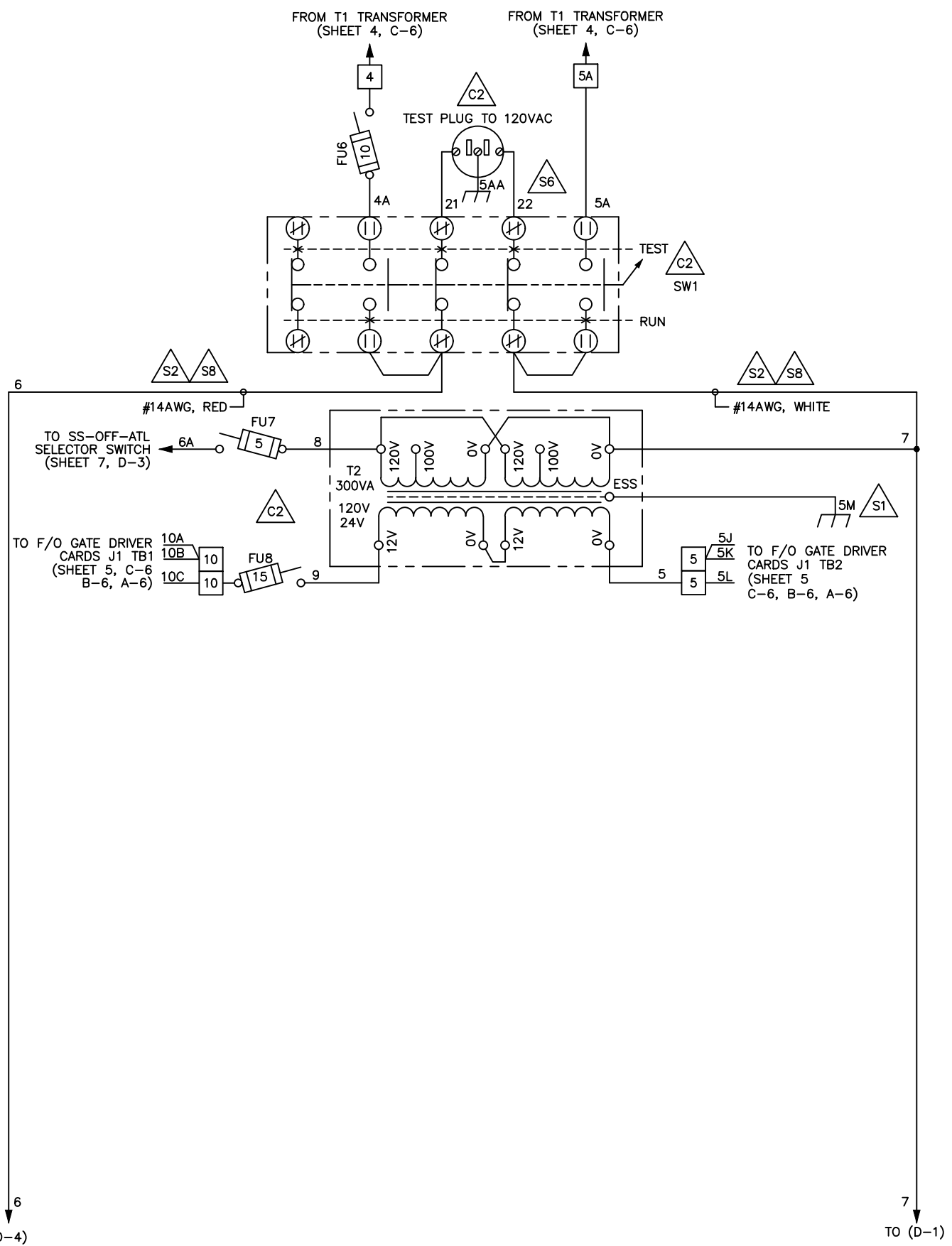
(CONTINUED ON SHEET 7, D-6)

(CONTINUED ON SHEET 7, D-2)

ECO# E5942 APPRD: JBU 2/25/2020 CHG BY: JBU 2/25/2020 CHANGE: UL 347 UPDATES	ECO# E5202 APPRD: SNM 5/19/17 CHG BY: RBM 5/19/17 CHANGE: CHANGED TO MICRODRIFTER DISCONNECT	1 APPRD: JBU 7/26/16 CHG BY: JBU 7/26/16 CHANGE: INITIAL RELEASE	REVISION DO NOT SCALE DWG	THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES [mm] INTERPRET DRAWING PER ASME Y14.5M-1994 TOLERANCES: .XX ± .03 .XXX ± .015 ANGLES ± 1°	SIGNATURES DRWN: JBU 7/26/16 CHKD: JBU 7/26/16 ENG:	DATE 7/26/16	TITLE: UL LABELED CFMVRMX12-1500-2300-12 SOLID STATE STARTER SCHEMATIC	SEE SHEET 3 FOR NOTES	SCALE: N.A.	SHEET 5 OF 7	REV 4
---	---	---	------------------------------	------------------------	---	--	-----------------	---	-----------------------	-------------	--------------	-------

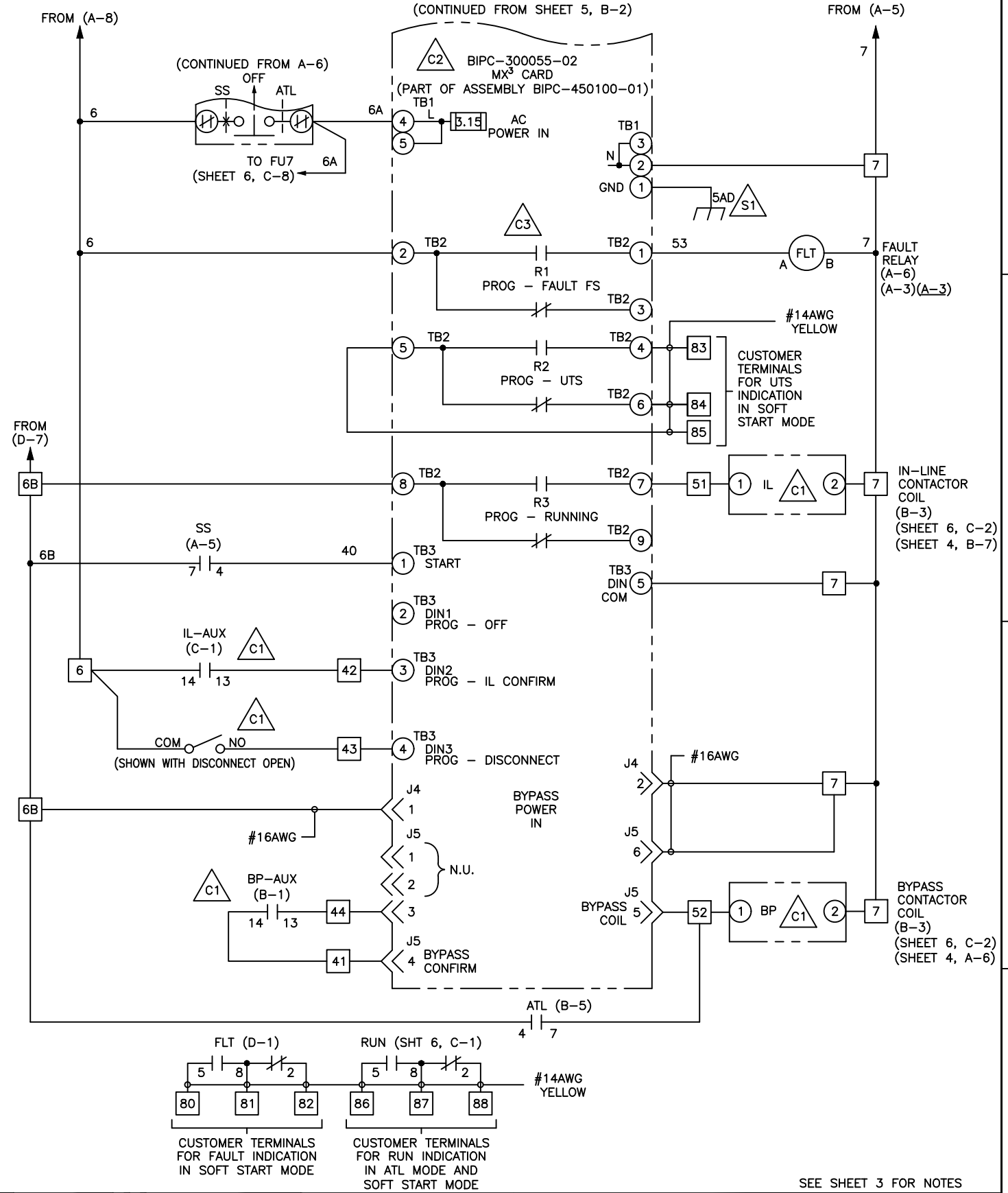
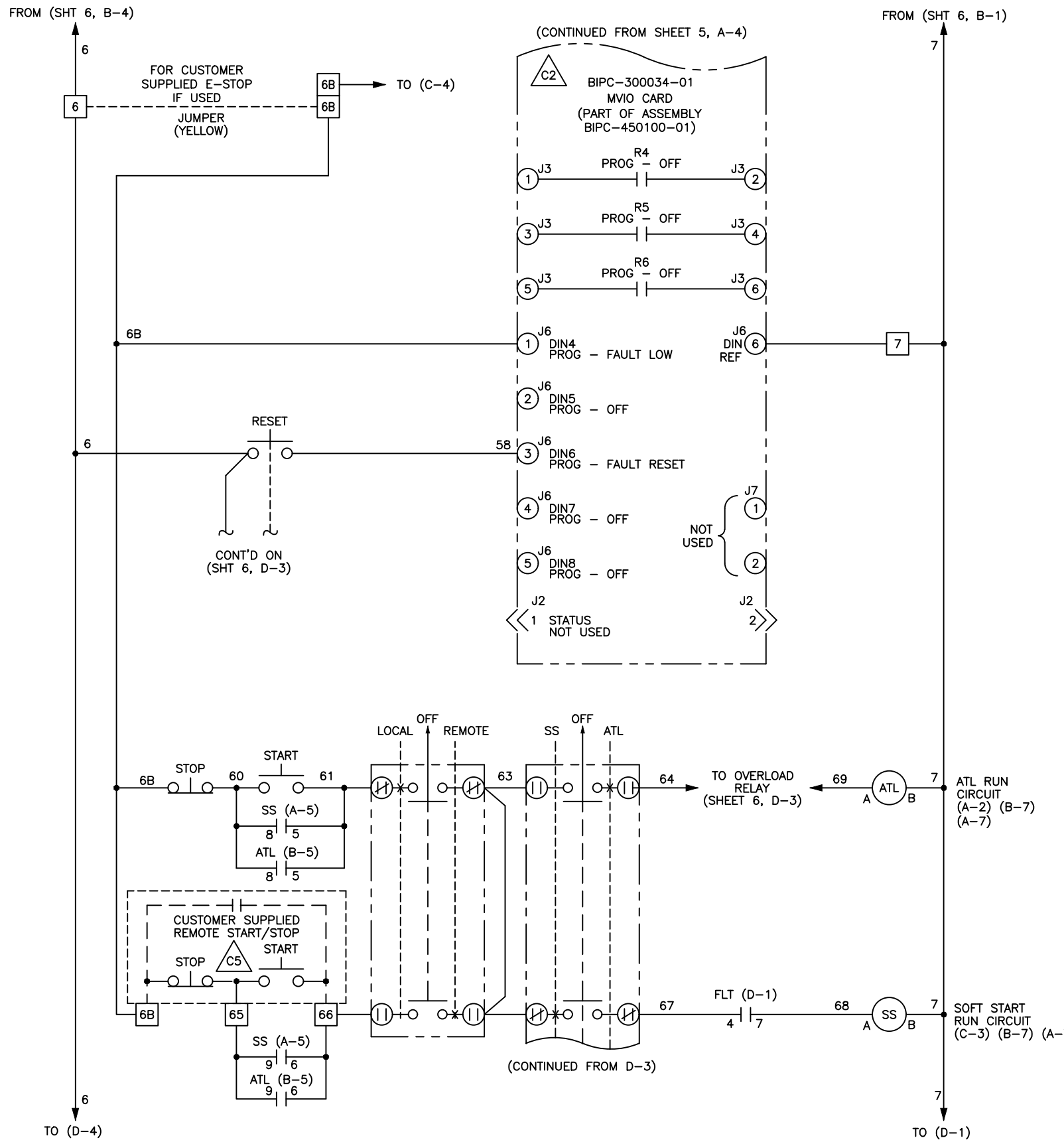


D MVRXE121500230012



ECO# E5942 4 APPRD: JBU 2/25/2020 CHG BY: JBU 2/25/2020 CHANGE: UL 347 UPDATES	ECO# E5202 3 APPRD: SMM 5/19/17 CHG BY: RBM 5/19/17 CHANGE: CHANGED TO MICROFLUOR DISCONNECT	1 APPRD: JBU 7/26/16 CHG BY: JBU 7/26/16 CHANGE: INITIAL RELEASE	REVISION DO NOT SCALE DWG	THIRD ANGLE PROJECTION THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN IS THE PROPERTY OF BENSCHAW INC. AND MAY NOT BE REPRODUCED, OR DIVULGED TO UNAUTHORIZED PERSONS WITHOUT THE EXPRESS WRITTEN CONSENT OF BENSCHAW INC. IT IS PROVIDED SOLELY FOR THE CONVENIENCE OF THE USER AND SHALL BE RETURNED UPON REQUEST.	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES [mm] INTERPRET DRAWING PER ASME Y14.5M-1994 TOLERANCES: .XX ± .03 .XXX ± .015 ANGLES ± 1°	SIGNATURES DRWN. JBU 7/26/16 CHKD. ENG. JBU 7/26/16	DATE 7/26/16	TITLE: UL LABELED CFMVRMX12-1500-2300-12 SOLID STATE STARTER SCHEMATIC	815 ALPHA DRIVE PITTSBURGH, PA. 15238 550 BRIGHT ST. E. LITTONWEL, ONTARIO N4W 3K2	SCALE: N.A.	SHEET 6 OF 7	REV 4
---	--	--	------------------------------	--	---	--	-----------------	---	--	-------------	--------------	----------

SEE SHEET 3 FOR NOTES



ECO# E5942	ECO# E5202	APPRD: JBU 2/25/2020	APPRD: JBU 7/26/16	CHG BY: JBU 2/25/2020	CHG BY: JBU 7/26/16	CHANGE: UL 347 UPDATES	CHANGE: SMM 5/19/17	CHG BY: RBM 5/19/17	CHANGE: CHANGED TO MICRODISCONNECT	1	INITIAL RELEASE	REVISION	DO NOT SCALE DWG	THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES [mm] INTERPRET DRAWING PER ASME Y14.5M-1994 TOLERANCES: .XX ± .03 .XXX ± .015 ANGLES ± 1° MATERIAL: FINISH:	SIGNATURES	DATE	TITLE: UL LABELED CFMVRMX12-1500-2300-12 SOLID STATE STARTER SCHEMATIC	SEE SHEET 3 FOR NOTES	SCALE: N.A.	SHEET 7 OF 7	REV 4
													DRWN. JBU 7/26/16		CHKD. JBU 7/26/16		ENG. JBU 7/26/16					
														D MVRXE121500230012								