
COX

Research and Technology, Inc.

DUPLEX PUMP
CONTROL PANEL
WEST KENTUCKY

AS BUILTS

JUNE 29, 2010

FIELD REVISIONS

DECEMBER 9, 2020

Cox Research and Technology, Inc.
14697 S. Harrells Ferry Road
Baton Rouge, LA. 70816
(225) 756-3271 Fax (225) 755-1030

CP-2206R1

SOLD TO:
TAG: West Kentucky Duplex Pump Control Panel
-

SHIP TO:
-
-

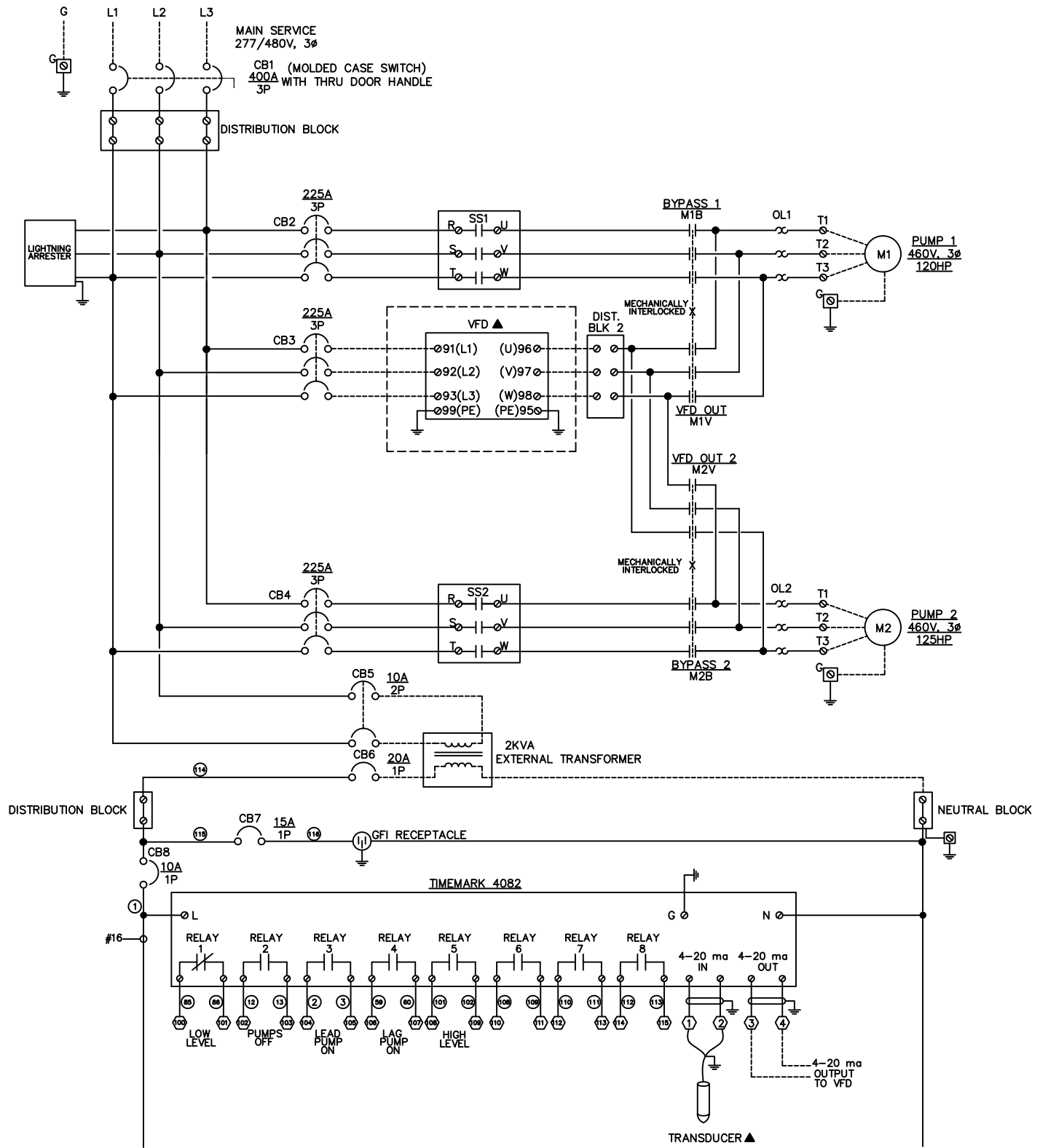
SPECIAL NOTES:

Alarm Light - Panel Door Mount	
Alarm Light - Panel Top Mount	
Alarm Light - Remote	
Alarm Test Switch	
Alarm Silence Switch	
Alarm Acknowledge Switch	
Alternator with Lead Pump Selector Switch	
Audible Alarm - Bell	
Audible Alarm - Horn	X
Audible Alarm - Piezo	
COX™ CAMO™ System	
Cycle Counters	
Economy Version	
Elapsed Time Meter	X
Flasher	
Green Run Lights vs. Red	
Ground Fault Receptacle	X
High Temp Lights	
High Temp Pump Shutdown - Auto Reset	
High Temp Pump Shutdown - Manual Reset	X
Intrinsically Safe Relays Pts.	X
Lightning Arrestor	X
Main Disconnect with Door Mt. Handle	
Opti-Float® Level Dectector Pts.	
Panel Heater / Thermostat W=	
Phase Monitor	
Pole, Box, Seal	
Seal Fail Lights	X
Seal Fail Relay - Fixed	
Seal Fail Relay - Adjustable	
Seal Fail Shutdown	
Starters - IEC	
Starters - NEMA	
Unpowered Alarm Circuits #	

OTHER:

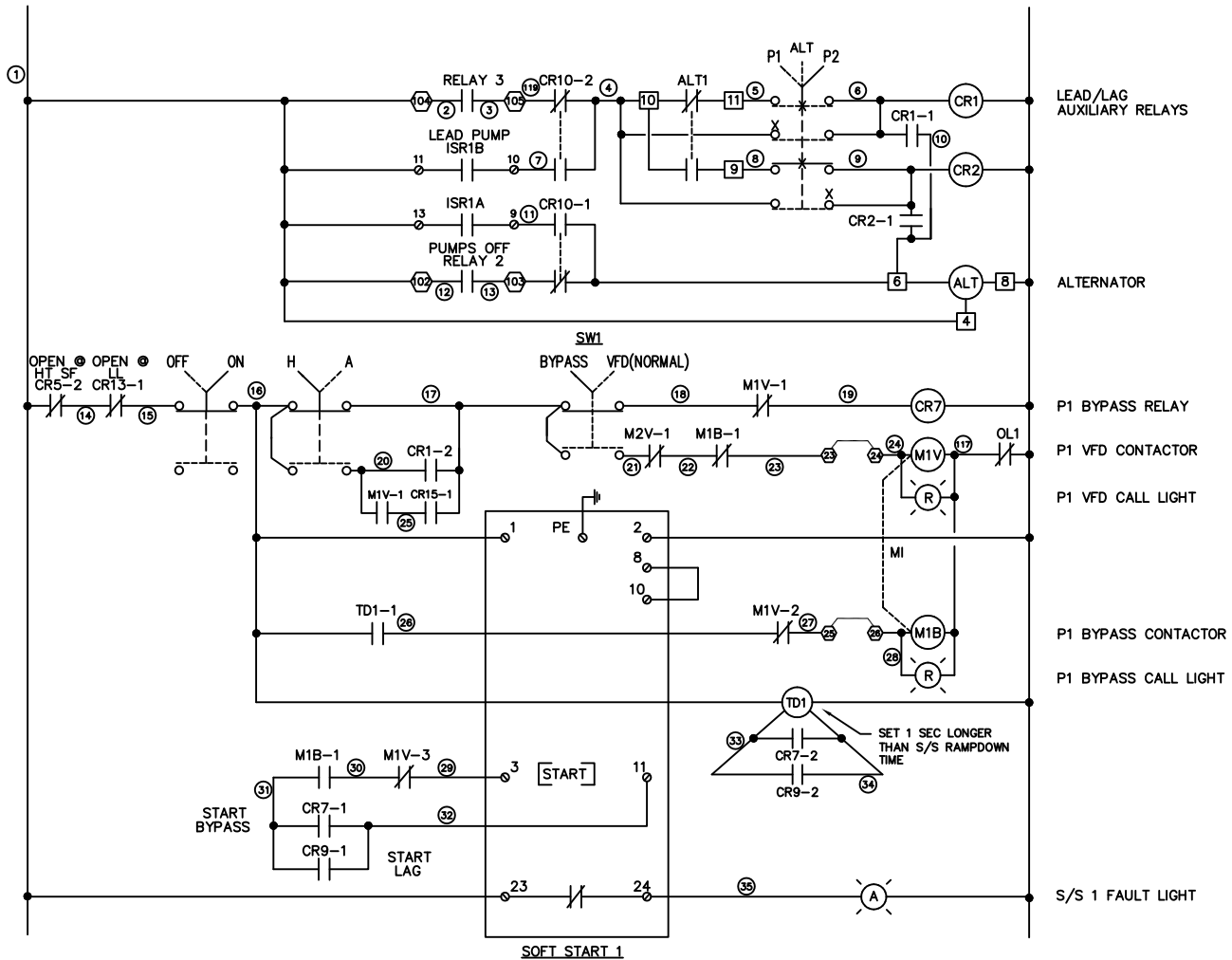
Panel Type	Duplex
Voltage	277/480
Phase/HZ	3/60
No. Motors	2
HP	120, 125
FLA	148, 169.4
Pump Manufacturer	GR, Barnes
Type of Pump	Submersible
Catalog Number	JS8AD60-E120,8SHTM125044
Capacitors	No
Control Voltage	120
Control Power Transformer = 2KVA	Yes
Enclosure NEMA Rating	3R
Enclosure Material	Painted Steel
Enclosure Size	60x48x16
Inner Swing Panel	-
Conrol Sensor	Transducer
UL508A Labeling	No
UL698A Labeling	No

	Drawing Title		R1	P2 CHANGES TO BARNES NEW		12/09/20	N.B.
	PANEL DESCRIPTION			SCHNEIDER SOFT START			
		REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
DATE 3/07/06		S/N	Sales Engineer C.C.	Application Engineer R.C.	DRAWN BY C. RACHAL	APPROVED BY	DATE
	Project Title	COX Research and Technology, Inc.			P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)755-1030	PURCHASE ORDER NUMBER	
	DUPLEX PUMP CONTROL PANEL					DRAWING NUMBER CP-2206R1	
						SHEET NUMBER 1	



▲ EXTERNALLY MOUNTED, NOT SUPPLIED BY CONTROL PANEL MANUFACTURER

Drawing Title	R1		P2 CHANGES TO BARNES NEW		12/09/20	N.B.
			SCHNEIDER SOFT START			
DATE 3/07/06	REFERENCE DRAWING		NO.		ECN	DATE
	S/N		Sales Engineer		BY	DATE
Project Title	Application Engineer		DRAWN		APPROVED	
	C.C.		R.C.		BY C. RACHAL	
DUPLIX PUMP CONTROL PANEL	COX		P.O. Box 77808 Baton Rouge, LA 70809		PURCHASE ORDER NUMBER	
					DRAWING NUMBER CP-2206R1	
	Research and Technology, Inc.		Ph. (225)756-3271 Fax (225)755-1030		SHEET NUMBER	
					2	



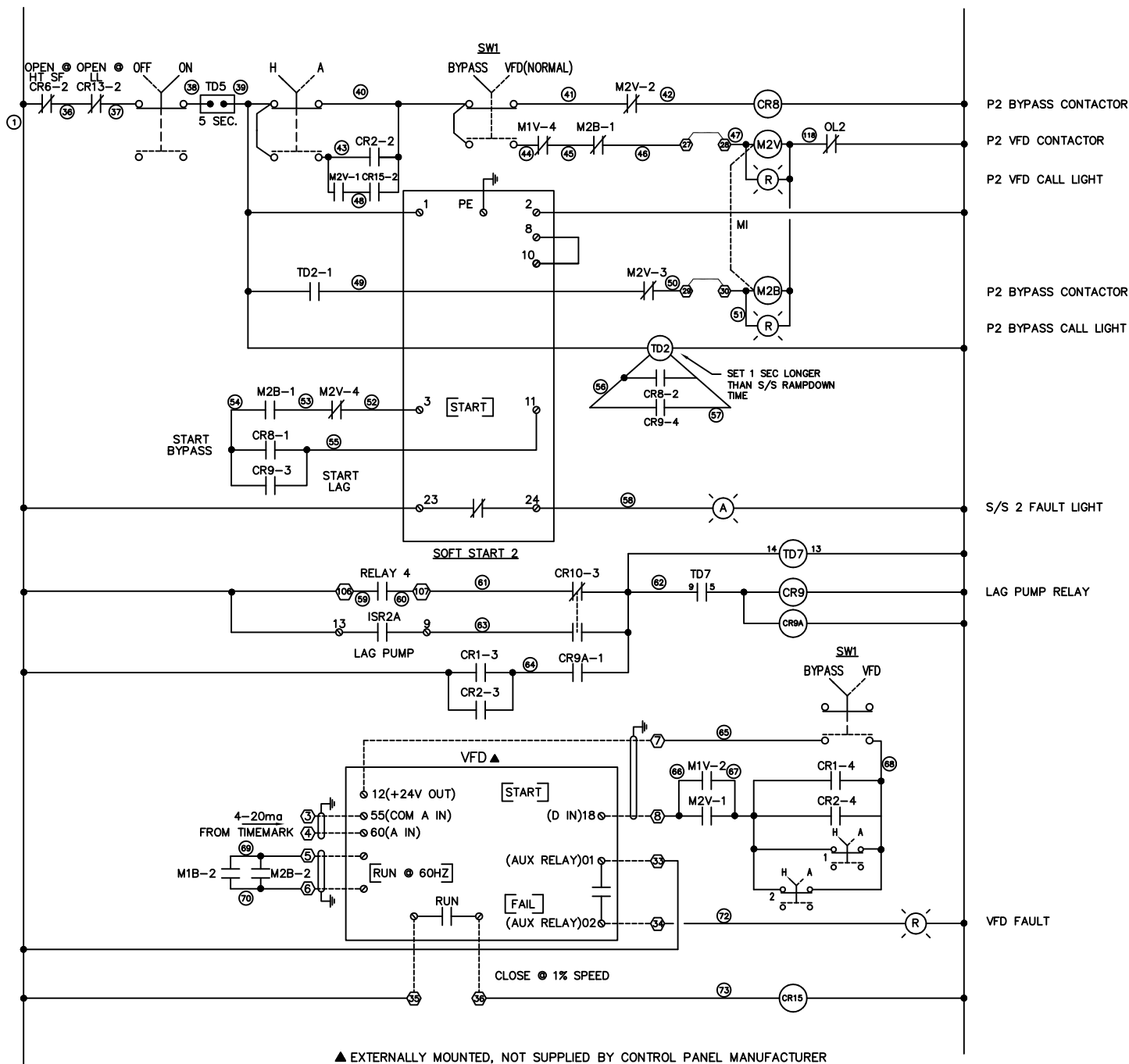
NOTES:

- VFD RAMP DOWN TIME MUST BE LONGER THAN SOFT START RAMP DOWN TIME.(RECOMMEND 8 SEC. MINIMUM.)
- TO RESET SOFT START FAULT, TURN "OFF-ON" SWITCH OFF, THEN BACK ON.
- LOW LEVEL WILL LOCK OUT SOFT STARTS AND CAUSE FAULT LIGHTS TO COME ON. PRESS RESET BUTTON WHEN LEVEL RISES.
- ON OVERLOAD TRIP, TURN POWER OFF BEFORE RESETTING OVERLOADS.

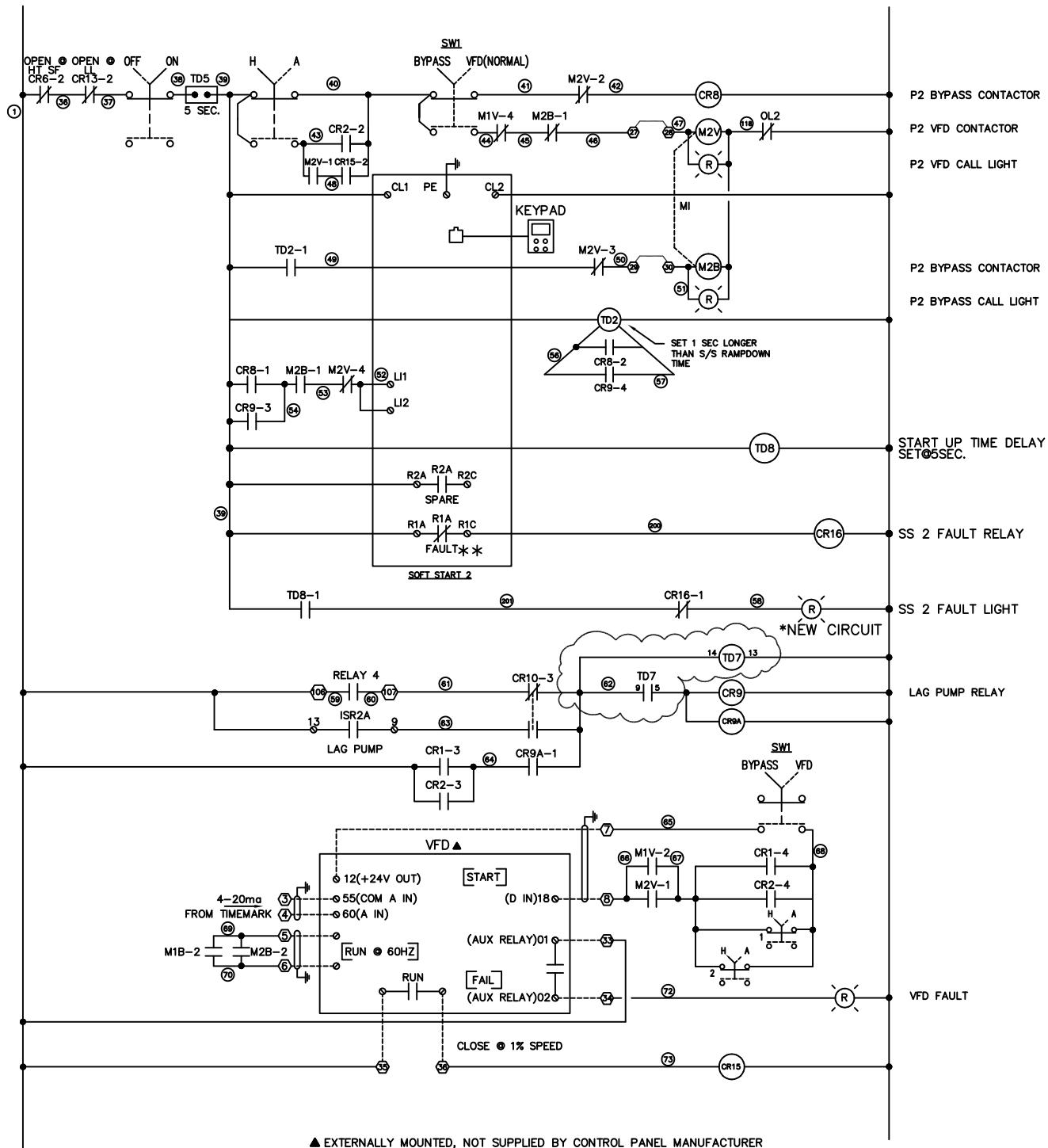
FACTORY TIME DELAY SETTINGS:

TD1: 6 SEC.	TD4: 2 SEC.	SS1 RAMP UP: 5 SEC.
TD2: 6 SEC.	TD5: 5 SEC.	SS1 RAMP DN: 3 SEC.
TD3: 2 SEC.	TD6: 2 SEC.	SS2 RAMP UP: 5 SEC.
		SS2 RAMP DN: 3 SEC.

DATE 3/07/06	Drawing Title		R1	P2 CHANGES TO BARNES NEW	12/09/20	N.B.
	CONTROL DIAGRAM			SCHNEIDER SOFT START		
	REFERENCE DRAWING		NO.	REVISION-LOCATION	ECN	DATE
	S/N		Sales Engineer C.C.	Application Engineer R.C.	BY C. RACHAL	APPROVED
Project Title		COX			PURCHASE ORDER NUMBER	
DUPLUX PUMP CONTROL PANEL		Research and Technology, Inc.			DRAWING NUMBER CP-2206R1	
					SHEET NUMBER	
					3	



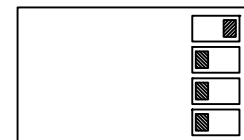
	Drawing Title <	
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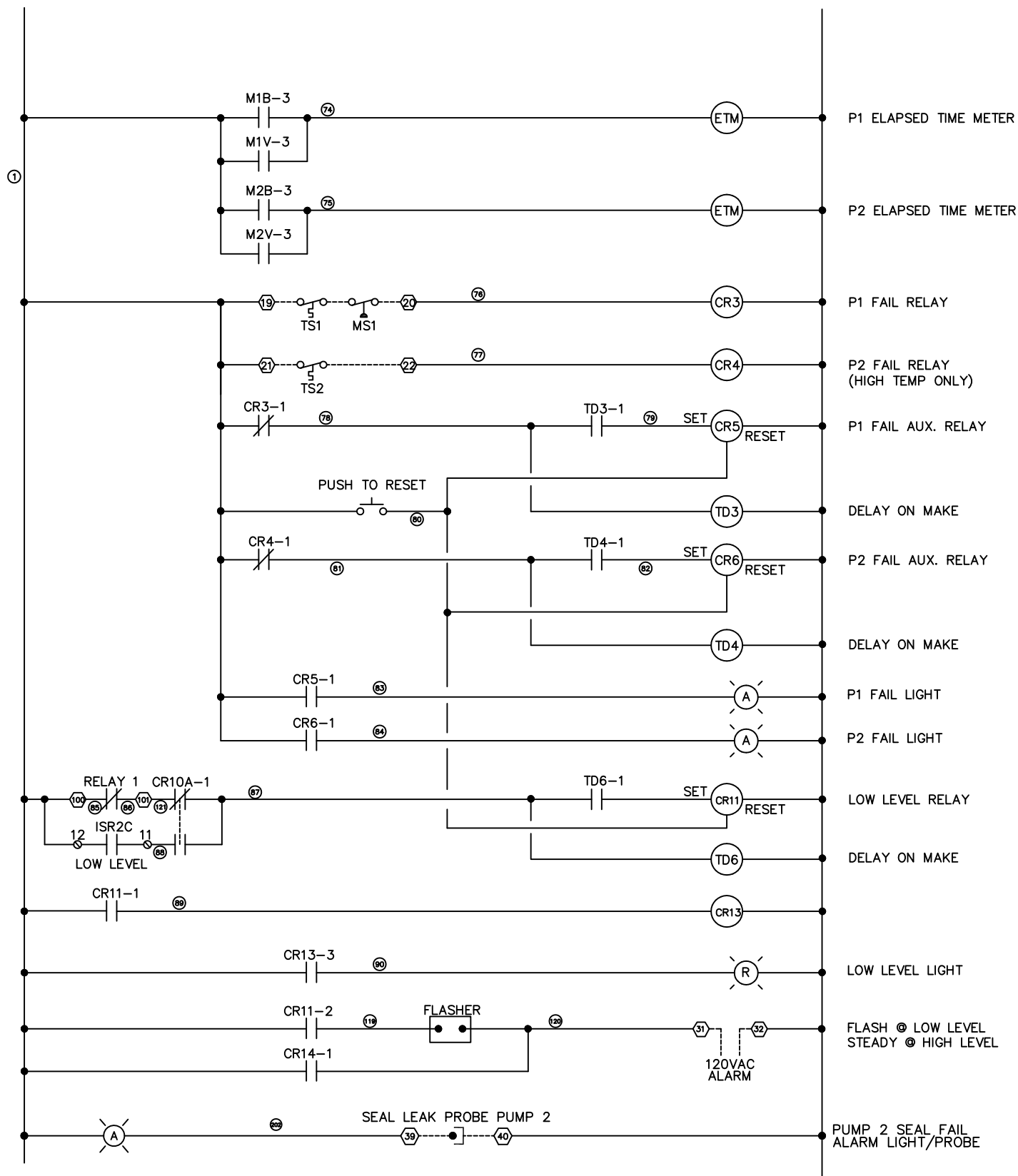
* REMOVE WIRE #62 FROM CR9 & 9A, MOVE TO TD7 Ø 9, 14
 RUN NEW WIRE FROM TD7 Ø 5 TO CR9, 9A
 RUN NEW WIRE FROM CR9 NEUTRAL TO TD7 Ø 13

** UPON SOFT START ENERGIZATION, RELAY CLOSSES IF NO FAULT. RELAY OPENS ON FAULT.

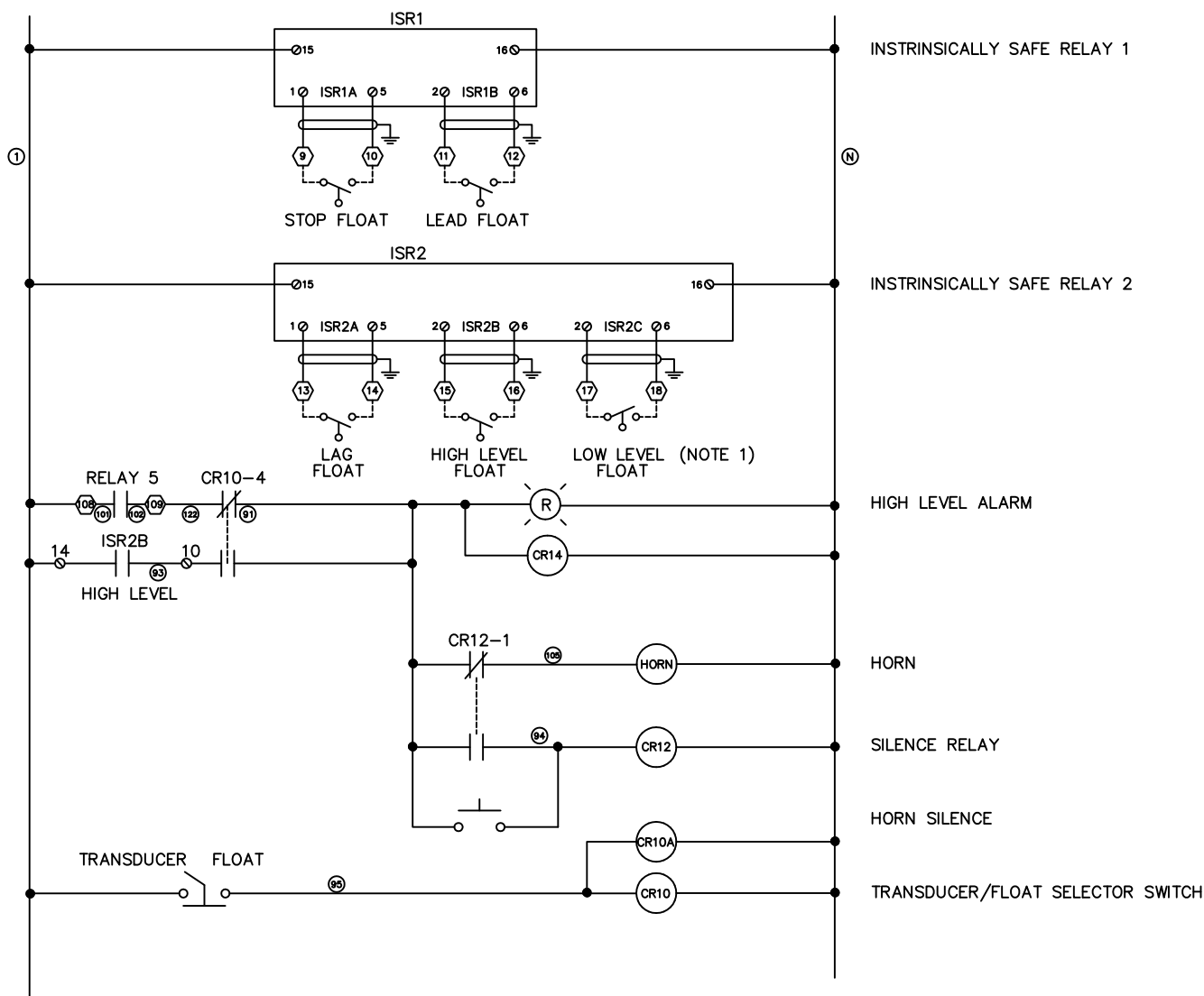
DIP SWITCH
 SETTINGS



DATE 5/10/06	Drawing Title		R1	P2 CHANGES TO BARNES NEW	12/09/20	N.B.
	LAG PUMP TIME DELAY CIRCUIT			SCHNEIDER SOFT START		
Project Title	REFERENCE DRAWING		NO.	REVISION-LOCATION	ECN	DATE
	S/N		Sales Engineer C.C.	Application Engineer R.C.	BY C. RACHAL	APPROVED
Project Title		COX		P.O. Box 77808 Baton Rouge, LA 70809	PURCHASE ORDER NUMBER	
Project Title		Research and Technology, Inc.		Ph. (225)756-3271 Fax (225)755-1030	DRAWING NUMBER CP-2206R1	
Project Title					SHEET NUMBER 4A	



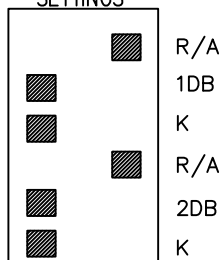
	Drawing Title	R1	P2 CHANGES TO BARNES NEW	12/09/20	N.B.
	CONTROL DIAGRAM		SCHNEIDER SOFT START		
DATE	3/07/06	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN
		S/N	Sales Engineer	Application Engineer	DATE
			C.C.	R.C.	BY
	Project Title			BY C. RACHAL	APPROVED
	DUPLEX PUMP CONTROL PANEL				DATE
					PURCHASE ORDER NUMBER
					DRAWING NUMBER
					CP-2206R1
					SHEET NUMBER
					5



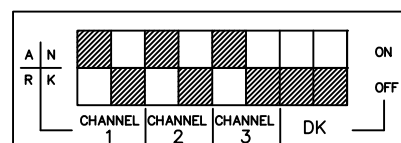
NOTE:

1. THIS FLOAT MUST BE A NORMALLY CLOSED FLOAT

**ISR1
DIP SWITCH
SETTINGS**



**ISR2
DIP SWITCH
SETTINGS**



	Drawing Title	R1	P2 CHANGES TO BARNES NEW	12/09/20	N.B.
	CONTROL DIAGRAM		SCHNEIDER SOFT START		
DATE 3/07/06		REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN
	Project Title	S/N	Sales Engineer C.C.	Application Engineer R.C.	DATE
	DUPLEX PUMP CONTROL PANEL			BY C. RACHAL	APPROVED
				BY	DATE
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					SHEET NUMBER

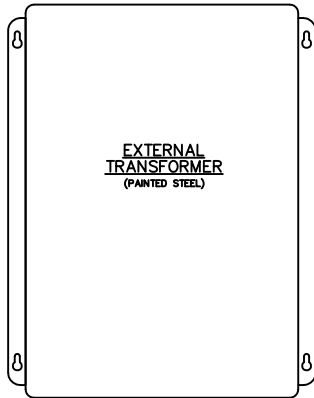
COX

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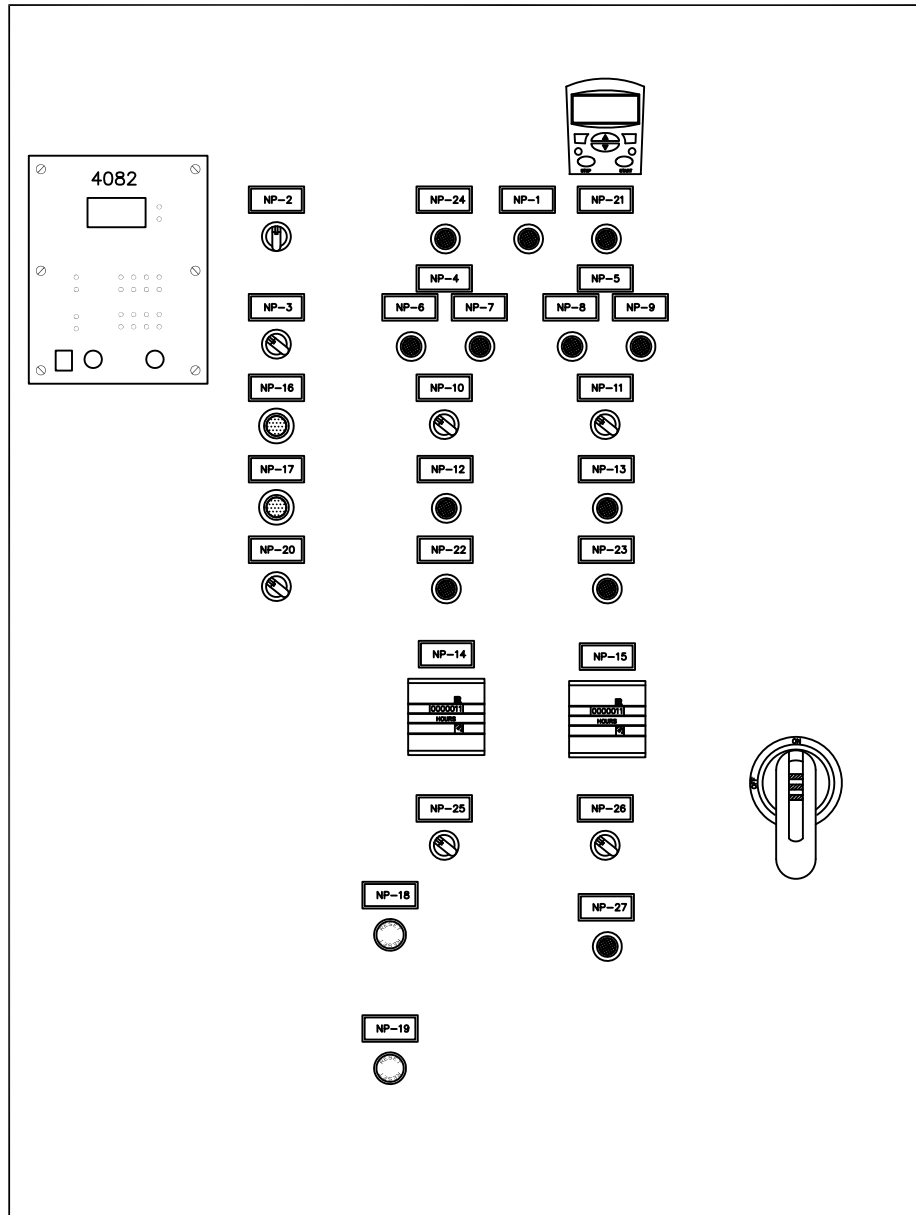
Ph. (225)756-3271
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NEMA 3R PAINTED STEEL ENCLOSURE



HORN

LIGHTNING ARRESTER



VIEW OF SWING OUT PANEL

NAMEPLATE SCHEDULE

NP-1	HIGH LEVEL	NP-14	RUN TIME
NP-2	PI-ALT-P2	NP-15	RUN TIME
NP-3	BYPASS-VFD	NP-16	SILENCE
NP-4	PUMP 1	NP-17	ALARM RESET
NP-5	PUMP 2	NP-18	PUMP 1 OVERLOAD/RESET
NP-6	VFD CALL	NP-19	PUMP 2 OVERLOAD/RESET
NP-7	BYPASS CALL	NP-20	TRANSDUCER/FLOATS
NP-8	VFD CALL	NP-21	LOW LEVEL
NP-9	BYPASS CALL	NP-22	SOFT START FAULT
NP-10	OFF-ON	NP-23	SOFT START FAULT
NP-11	OFF-ON	NP-24	VFD FAULT
NP-12	PUMP FAIL	NP-25	H-A
NP-13	PUMP FAIL	NP-26	H-A
		NP-27	SEAL FAIL

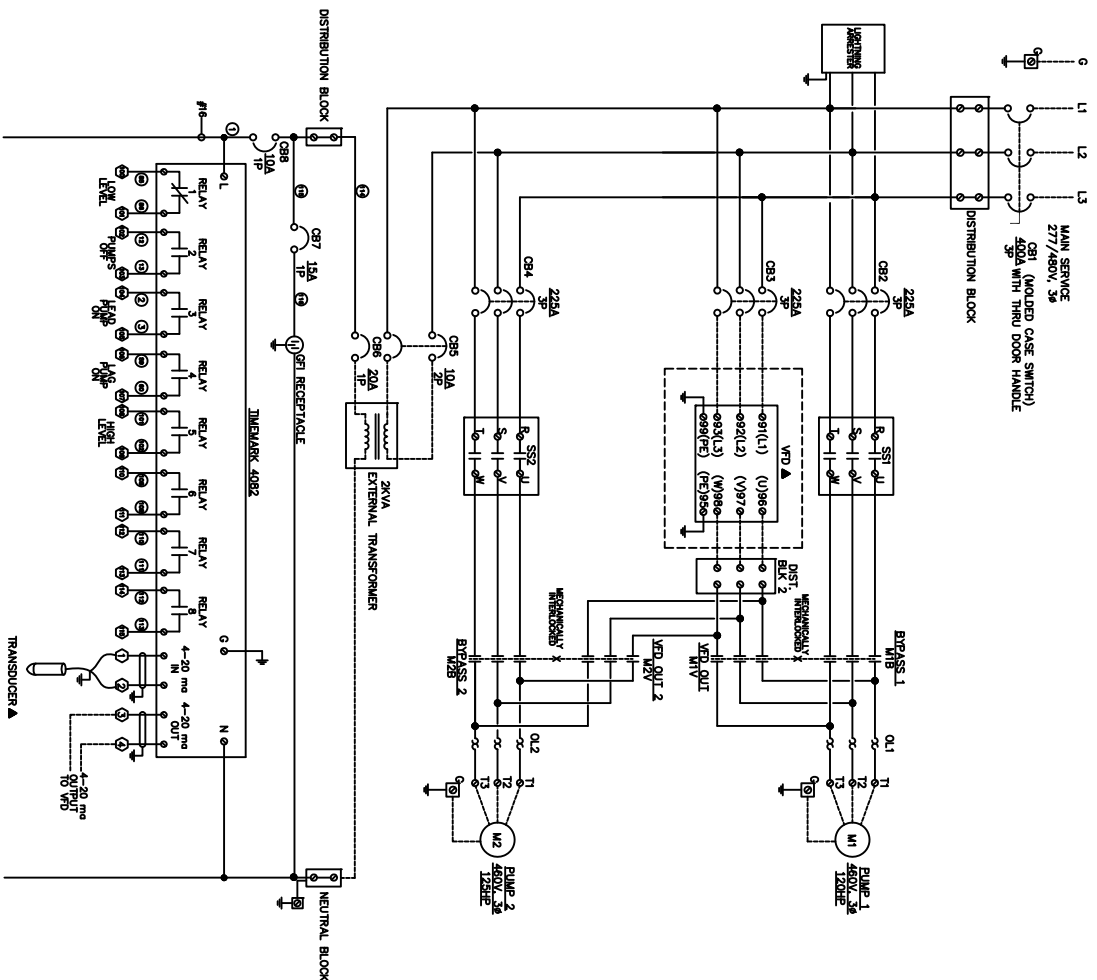
SEWER GASSES WILL DESTROY COMPONENTS IN PANEL. PROPER SEALS MUST BE INSTALLED EXTERNAL TO THE PANEL TO PREVENT ENTRY OF GASSES.

	Drawing Title 	
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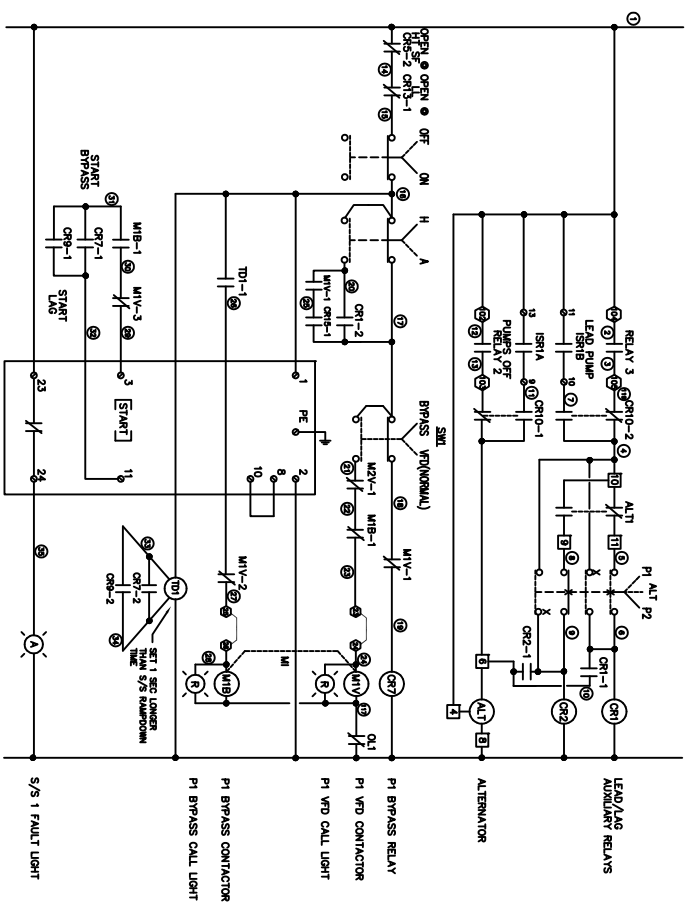
BILL OF MATERIALS

ITEM	QTY	MANUFACTURER	PART NO.	DESCRIPTION
1	1	C&I	C604816DRH	ENCLOSURE
1a	1	C&I	CI-6048P	BACKPLATE
1b	1	C&I	CI-6048SPA	DEAD FRONT
2	1	ABB	S5H400DW	MOLDED CASE SWITCH
3	4	ABB	A260N5-30-11-84	MOTOR STARTERS
4	2	ABB	TA200DU175	OVERLOAD 1,2
5	3	ABB	S3N225TW	CB2, CB3, CB4
6	1	SQUARE D	2S1F	TRANSFORMER
7	1	TIMEMARK	261DT120	ALTERNATING RELAY
8	7	A-B	800H-QR10R	RED PILOT LIGHT
9	1	DAYTON	2A561	TD5
10	1	ABB	K5VDM	MECHANICAL OPERATOR
11	1	ABB	OX10X225	SHAFT
12	1	ABB	OH895J10	HANDLE
13	6	A-B	800H-HR2A	2 POSITION SWITCH
14	1	SQUARE D	QOU115	CB7
15	1	SQUARE D	QOU110	CB8
16	4	A-B	800H-QR10A	AMBER PILOT LIGHT
17	2	REDINGTON	711-0190	ELAPSED TIME METER
18	3	MAGNECRAFT	W388AMLCPX-9	LATCHING RELAY CR 5,6,11
19	2	A-B	800H-AR2A	PUSH BUTTON
20	1	TIMEMARK	4082	LIQUID LEVEL CONTROLLER
21	2	MARATHON	1321580	DISTRIBUTION BLOCK
22	2	ABB	KPR3-104B	O.L. RESET
23	1	EDWARDS	870P-N5	HORN
24	14	IDEC	RU4S-A110	CR1,2,3,4,7,8,9,9A,10,10A,12,13,14,15
25	1	SQUARE D	QOU120	CB6
26	1	STOCK		GFI
27	14	ABB	CAL5-11	AUXILIARY CONTACTS
28	1	TURCK	MK13-22EXOR-115VAC	ISR1
29	1	ABB	S202UP-K10	CB5
30	1	DELTA	LA603	LIGHTNING ARRESTER
31	2	ABB	VM300H	MECHANICAL INTERLOCK
32	1	SQUARE D	9080LBA365106	DISTRIBUTION BLOCK
33	2	SQUARE D	9080LB53	DIST. BLOCK COVERS
34	1	SQUARE D	9080LBA3652021	DISTRIBUTION BLOCK
35	2	ABB	ATK300/2	TERMINAL LUG 2 POLE
36	4	ABB	ATK300	TERMINAL LUG
37	1	SSAC	FS126RC	FLASHER
38	6	ABB	K4TD	BREAKER LUGS
39	2	ABB	K5TG	BREAKER LUGS
40	1	TURCK	MK13-33EXOR/115VAC	ISR2
41	3	OMRON	H3YN2AC120	TD 3,4,6
42	2	DAYTON	5YZ88N	TD 1,2
43	1	WEG	SSW060170T2257ESZ	SOFT START 1
44	1	SQUARE D	9001KS401B	3 POSTION SWITCH
45	1	SQUARE D	9001KA1	CONTACT BLOCK
46	1	SQUARE D	9001KA2	CONTACT BLOCK
47	1	SQUARE D	9001KA3	CONTACT BLOCK
48				
49	1	FINDER	55.34.8.120.0050	CR16
50	1	FINDER	85.04.0.125.0000	TD8
51	2	FINDER	94.04	CR16,T8 BASE
52	1	SCHNEIDER	ATS22C21S6U	SOFT START 2
53	1	SIEMENS	52PYA	SEAL FAIL RELAY
54				

Drawing Title 49 <div style="text-align: center; font-size: 1.2em; font-weight: bold;">BILL OF MATERIALS</div>	R1	P2 CHANGES TO BARNES NEW SCHNEIDER SOFT START	12/09/20	N.B.
DATE 3/07/06	REFERENCE DRAWING		NO.	REVISION-LOCATION
	S/N	Sales Engineer C.C.	Application Engineer R.C.	DRAWN BY C. RACHAL
	APPROVED		BY	DATE
	PURCHASE ORDER NUMBER			
Project Title <div style="text-align: center; font-size: 1.2em; font-weight: bold;"> DUPLEX PUMP CONTROL PANEL </div>	<div style="font-size: 1.5em; font-weight: bold; margin: 0;">COX</div> <div style="font-size: 0.8em; margin: 0;">Research and Technology, Inc.</div>		P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)755-1030	
		DRAWING NUMBER CP-2206R1		
		SHEET NUMBER		8



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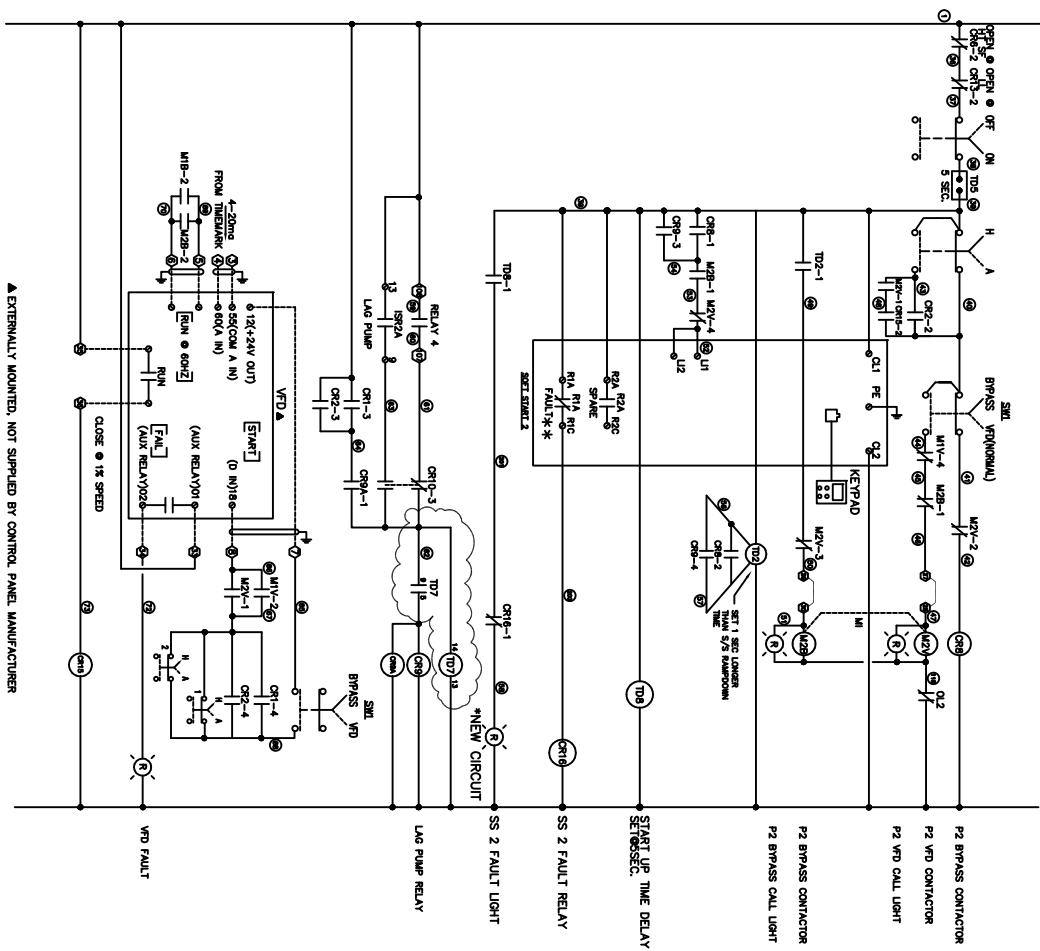
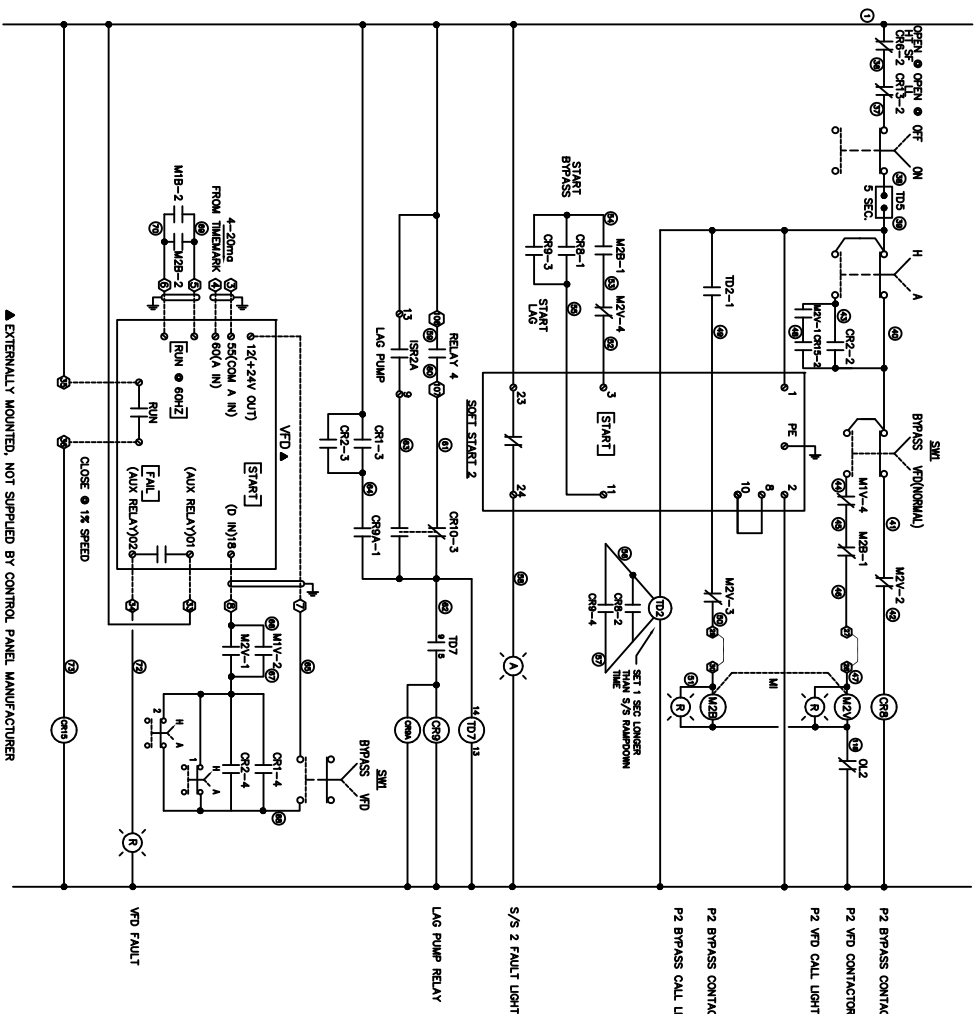
- NOTES:**
1. VFD RAMP DOWN TIME MUST BE LONGER THAN SOFT START RAMP DOWN TIME (RECOMMEND 8 SEC. MINIMUM.)
 2. TO RESET SOFT START FAULT, TURN "OFF-ON" SWITCH OFF, THEN BACK ON.
 3. LOW LEVEL WILL LOCK OUT SOFT STARTS AND CAUSE FAULT LIGHTS TO COME ON. PRESS RESET BUTTON WHEN LEVEL RISES.
 4. ON OVERLOAD TRIP, TURN POWER OFF BEFORE RESETTING OVERLOADS.

FACTORY TIME DELAY SETTINGS:

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TD2: 6 SEC.	TD5: 5 SEC.
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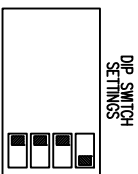
SSI RAMP UP: 5 SEC.
SSI RAMP DN: 3 SEC.
SS2 RAMP UP: 5 SEC.
SS2 RAMP DN: 3 SEC.

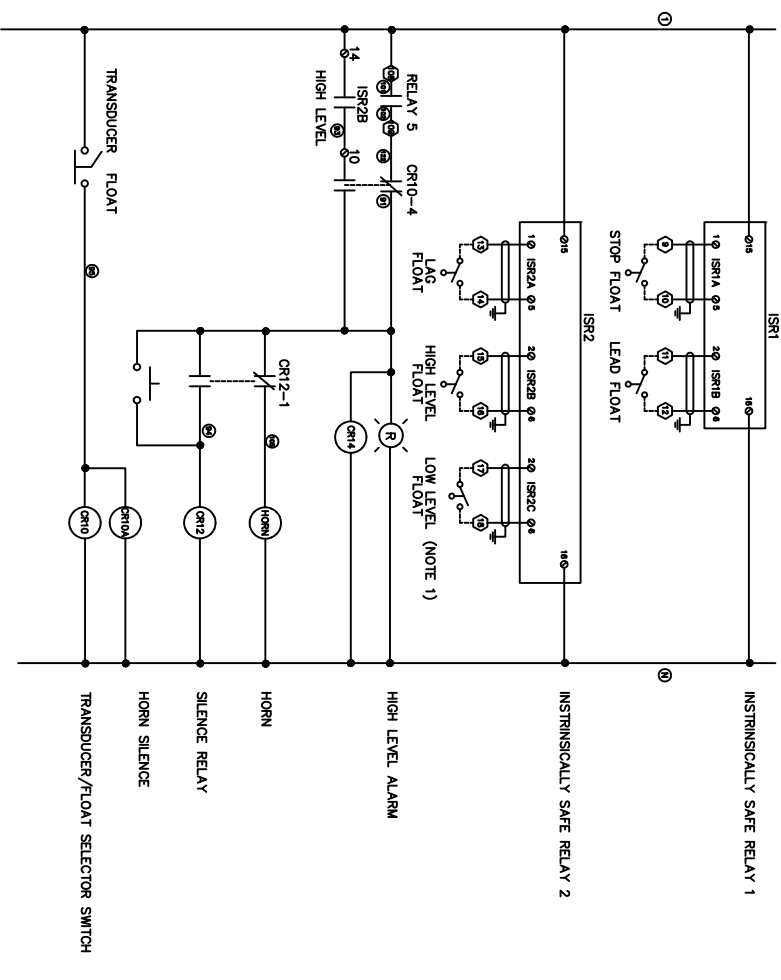
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* REMOVE WIRE #62 FROM CR9 & 9A, MOVE TO TD7 & 9, 14
 RUN NEW WIRE FROM TD7 & 5 TO CR9, 9A
 RUN NEW WIRE FROM CR9 NEUTRAL TO TD7 & 13
 ** UPON SOFT START ENERGIZATION, RELAY CLOSURES IF NO
 FAULT. RELAY OPENS ON FAULT.





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