

## ***GenSet Wiring Diagram Index***

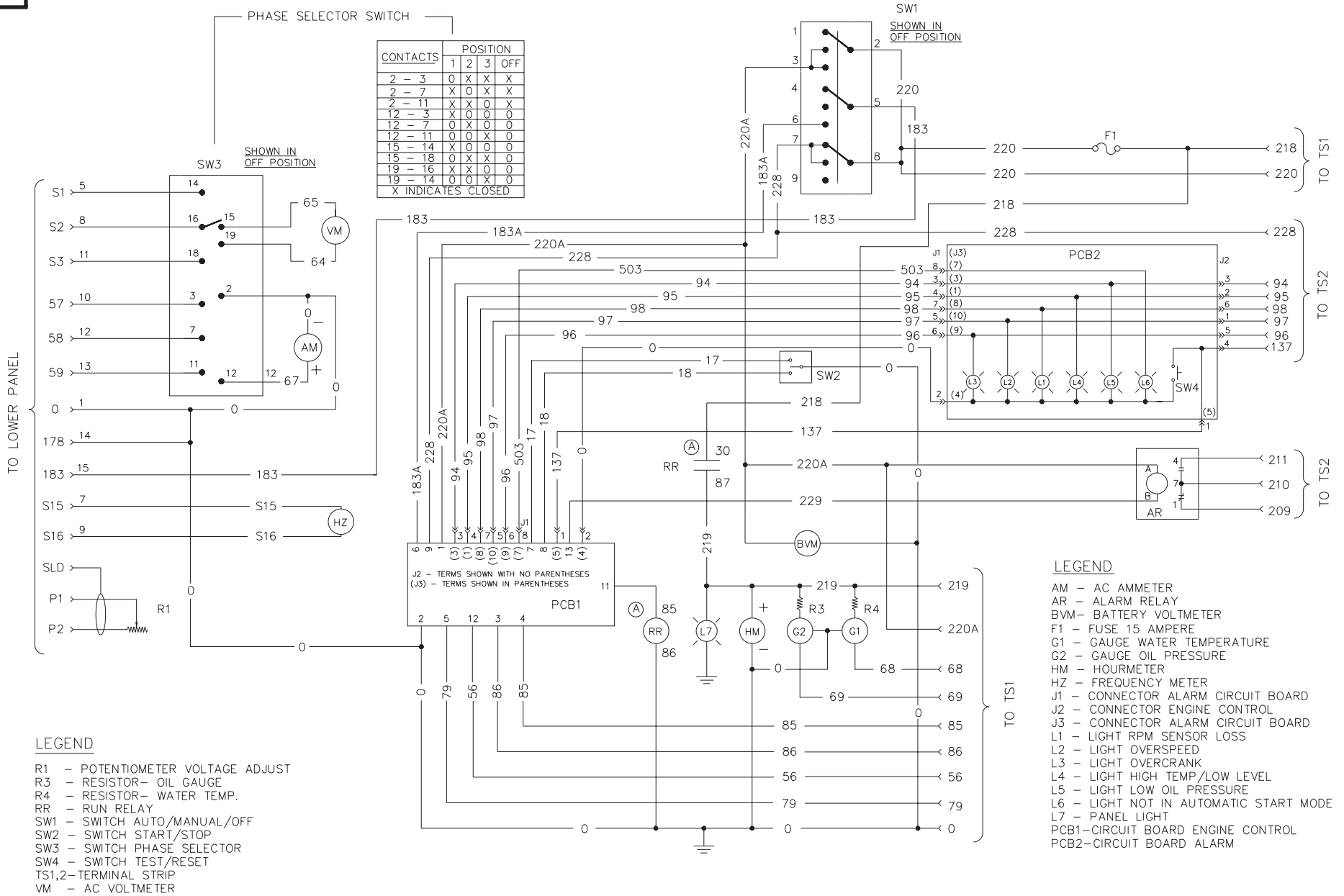
	<b>SD400</b>	<b>SD500</b>	<b>SD625</b>	<b>SD800</b>	<b>SD1020</b>
GenSet Schematic Diagram	A8506	A8506	A8508	A8510	A8510
GenSet Wiring Diagram	A8507	A8507	A8509	A8511	A8511
Alternator Connection Options	A8513	A8513	A8513	A8513	A8513
“C Panel” Interconnection Diagram	A7296	A7296	A7296	A7296	A7296
	<b>SD1200, SD1635</b>	<b>SD1350, SD1500, SD1825, SD2000</b>			
GenSet Schematic Diagram	C2097		C2349		
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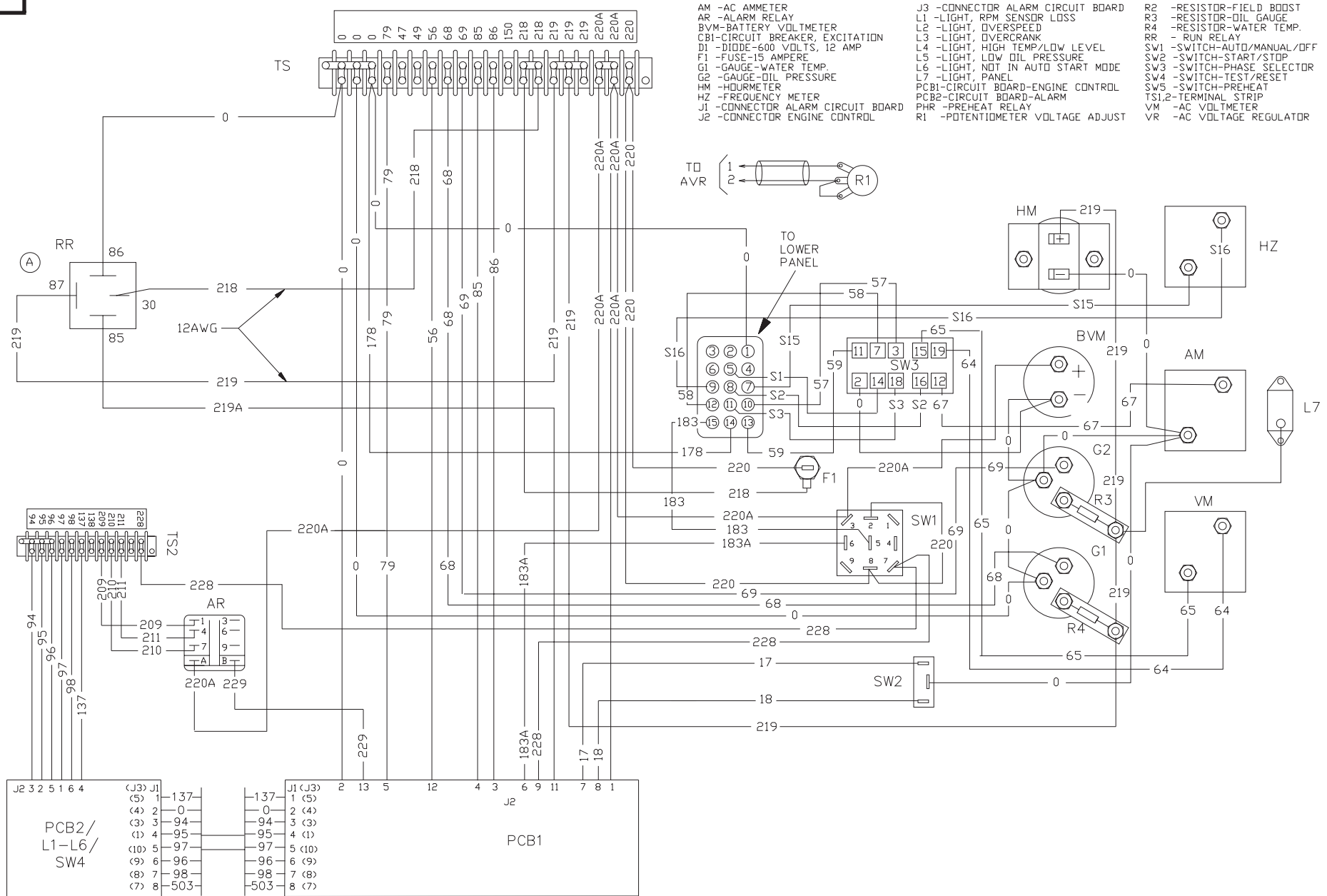
## ***Control Panel Diagrams***

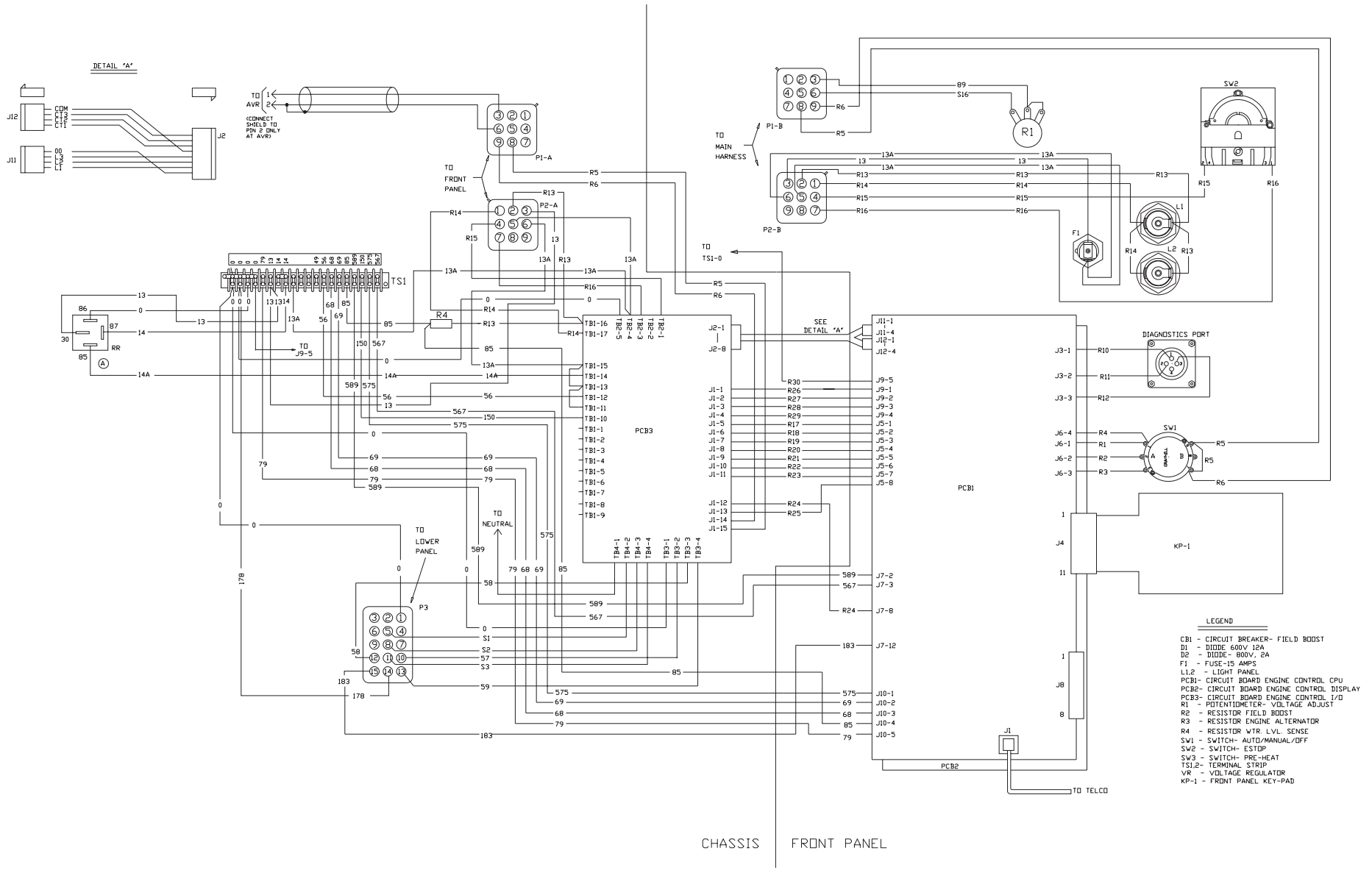
	<b>“C Panel”</b>	<b>RamPower “D Panel”</b>	<b>“E Panel”</b>
Schematic Diagram	A4722	A5799	C1375
Wiring Diagram	A4723	A5798	C1376
Remote Annunciator Harness		A8797	

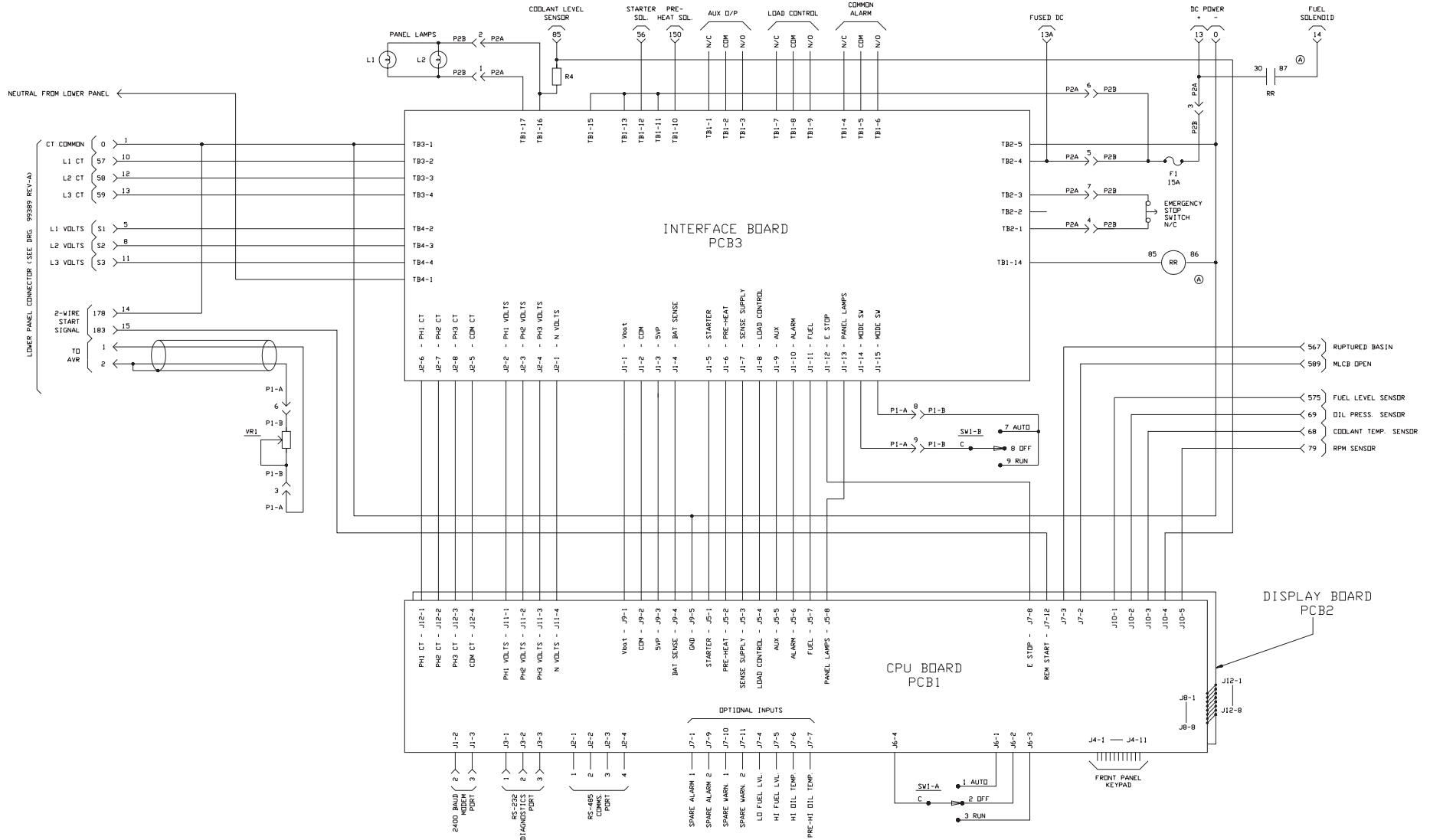
### ***Control Panel Option Drawings***

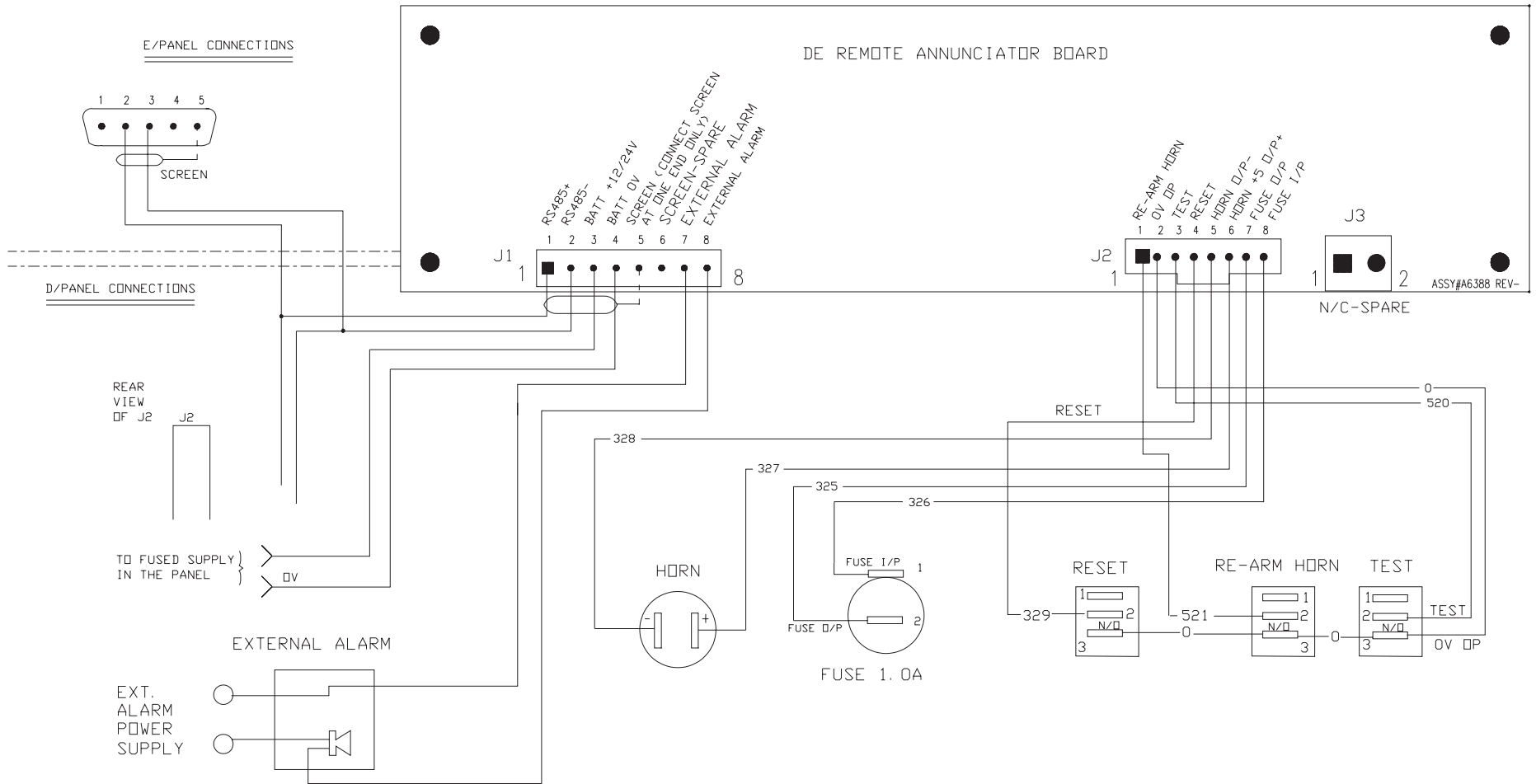
<b>Drawing Number</b>	<b>Drawing Type</b>	<b>Description of Drawing</b>	<b>Rev Date</b>
A6398	Wiring Diagram	Wiring for Overvolts Relay	01/05/98
A7169	Diagram	"D" and "E" Panel Remote Annunciator Connection Diagram	03/04/98
A8797	Schematic	"D" Panel Remote Annunciator Harness	08/13/98
C2455	Schematic	"C" Panel 24 VDC Shunt Trip	04/23/99
C2717	Wiring Diagram	Control Box Heater	05/11/99
C3115	Schematic	"C" Panel Additions to Diagram A4722	06/21/99
C3116	Wiring Diagram	"C" Panel Additions to Diagram A4723	06/21/99
C3256	Schematic	"E" Panel Shunt Trip	07/06/99
C3257	Wiring Diagram	"E" Panel Shunt Trip	07/06/99

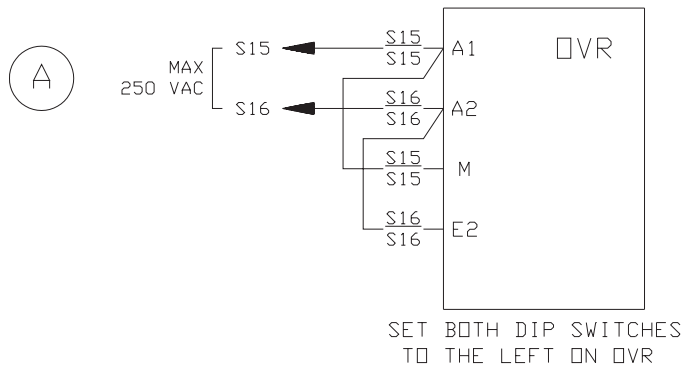
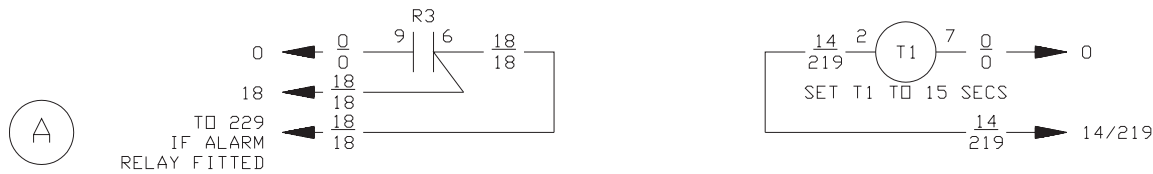
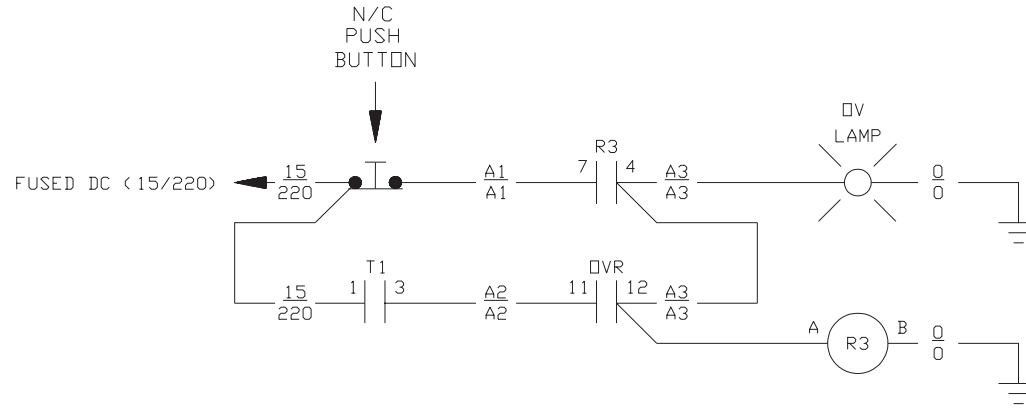






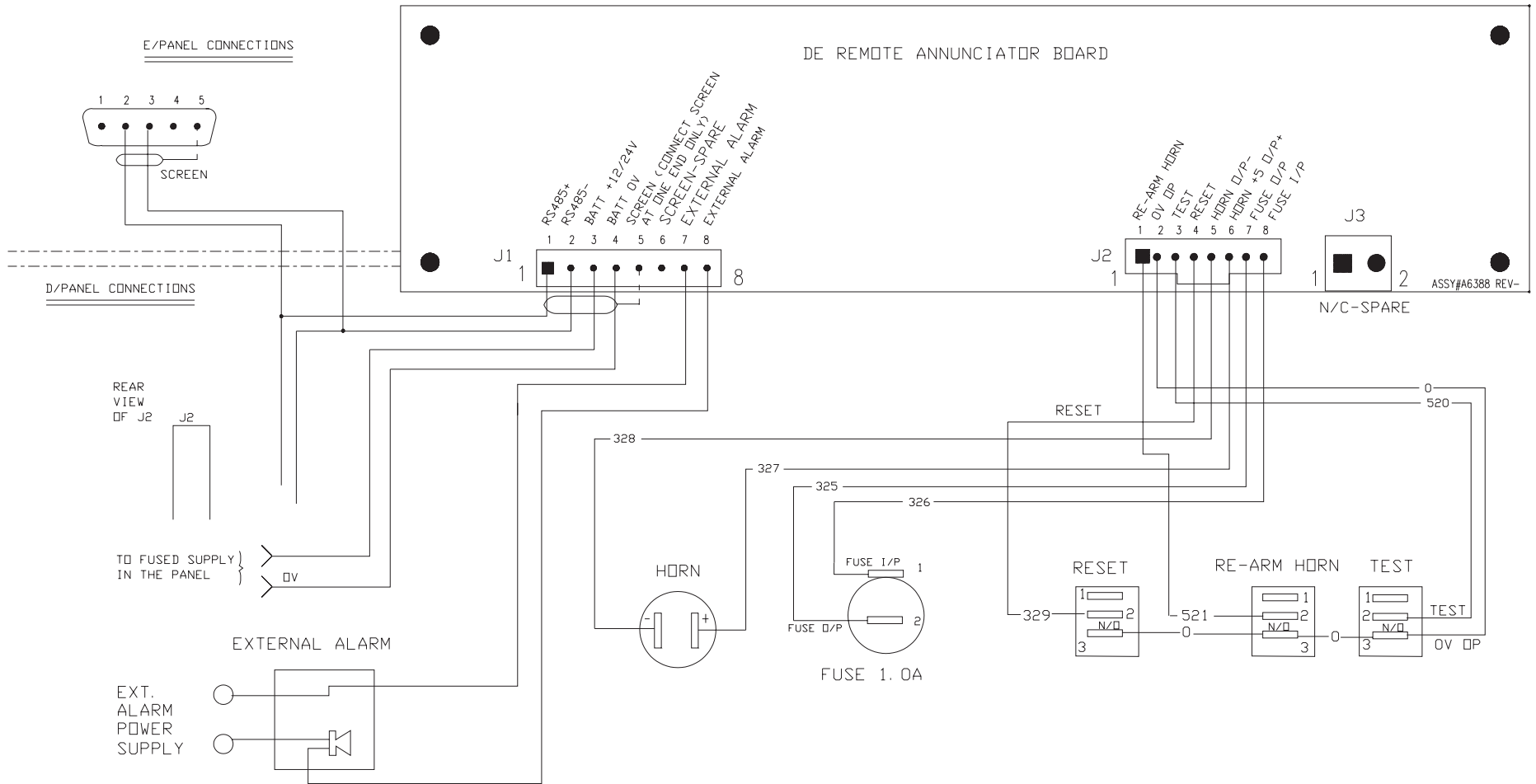




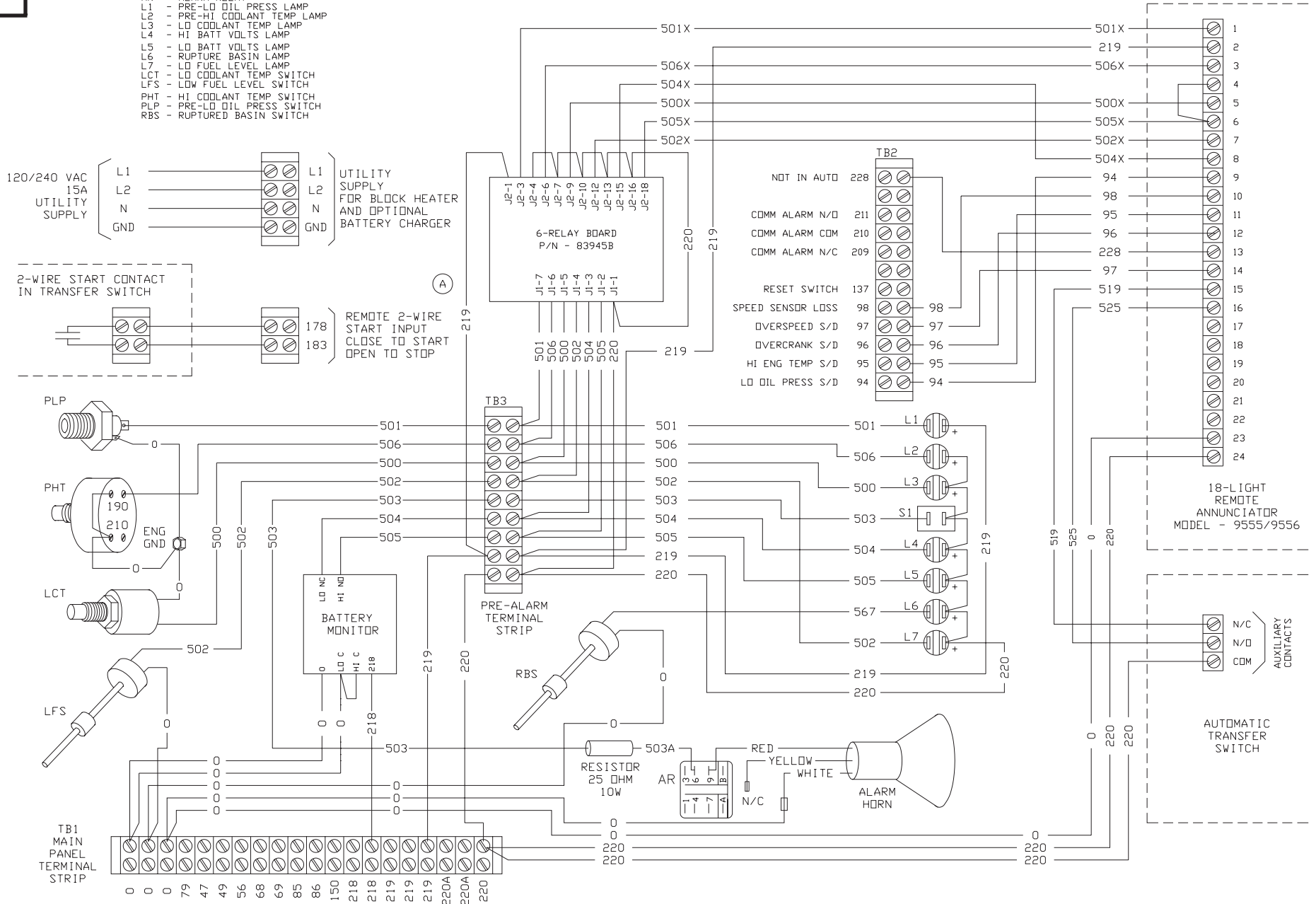


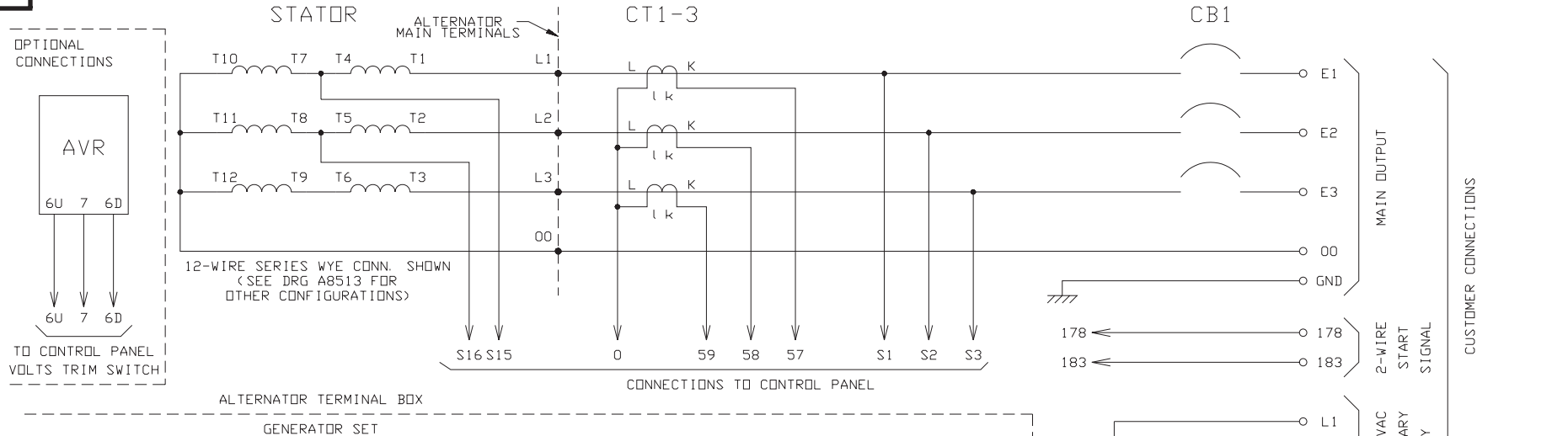
**NOTE:**  
 15 - TOP WIRE # FOR 12 VDC SYS.  
 220 - BOTTOM WIRE # FOR 24 VDC SYS.

**LEGEND**  
 T1 - TIME DELAY ON RELAY  
 R3 - RELAY  
 OVR - OVERVOLTAGE RELAY  
 N/C PB - PUSH BUTTON  
 OV LAMP - OVERVOLTAGE LAMP



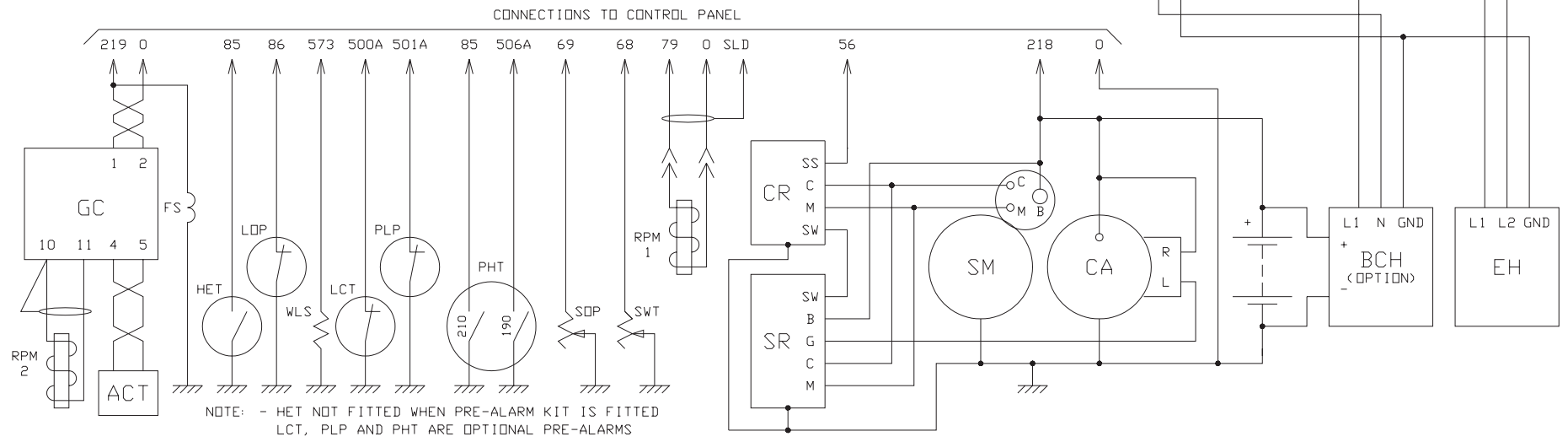
- AR - ALARM RELAY
- L1 - PRE-LO OIL PRESS LAMP
- L2 - PRE-HI COOLANT TEMP LAMP
- L3 - LO COOLANT TEMP LAMP
- L4 - HI BATT VOLTS LAMP
- L5 - LO BATT VOLTS LAMP
- L6 - RUPTURE BASIN LAMP
- L7 - LO FUEL LEVEL LAMP
- LCT - LO COOLANT TEMP SWITCH
- LFS - LOW FUEL LEVEL SWITCH
- PHT - HI COOLANT TEMP SWITCH
- PLP - PRE-LO OIL PRESS SWITCH
- RBS - RUPTURED BASIN SWITCH

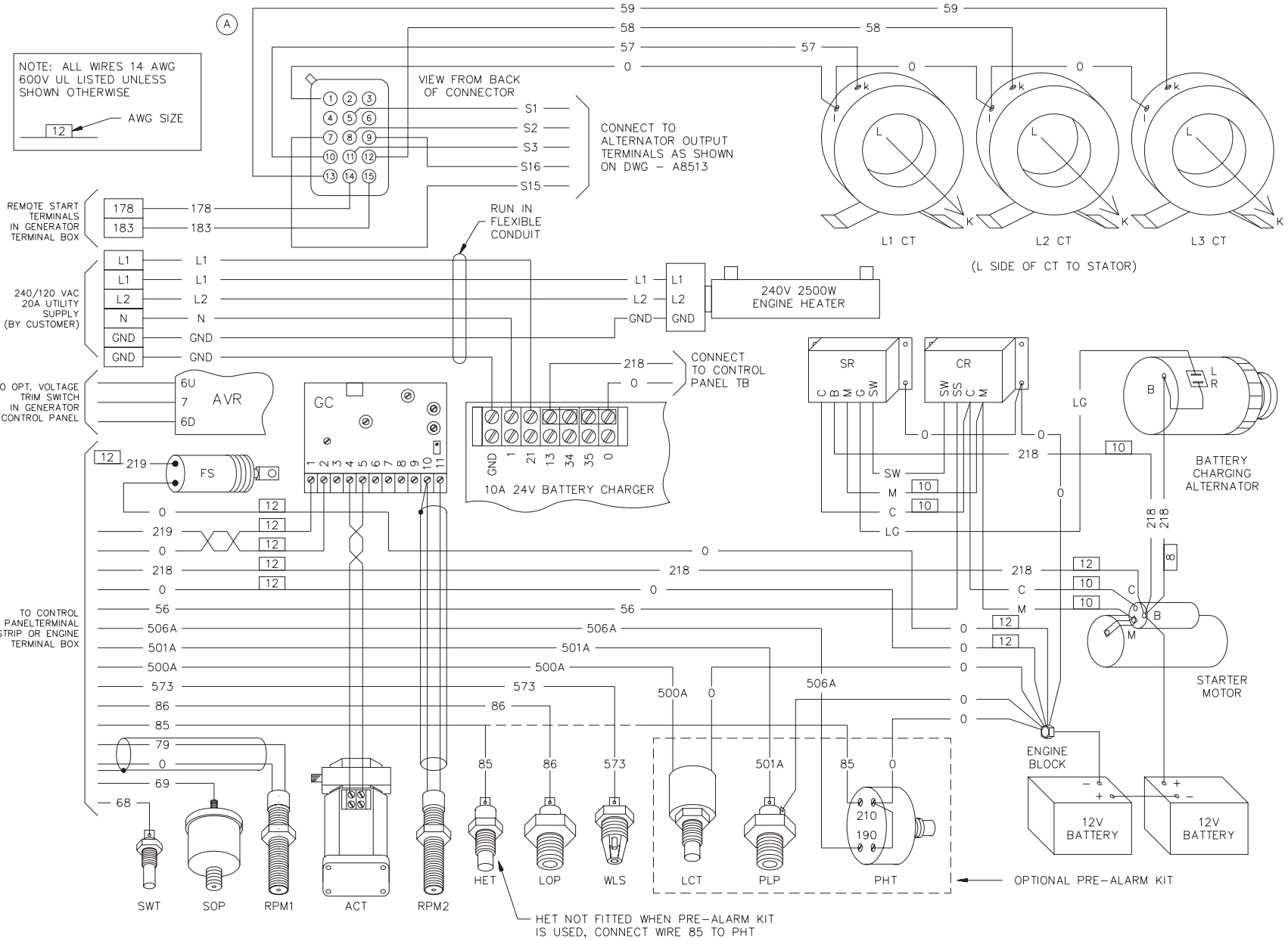


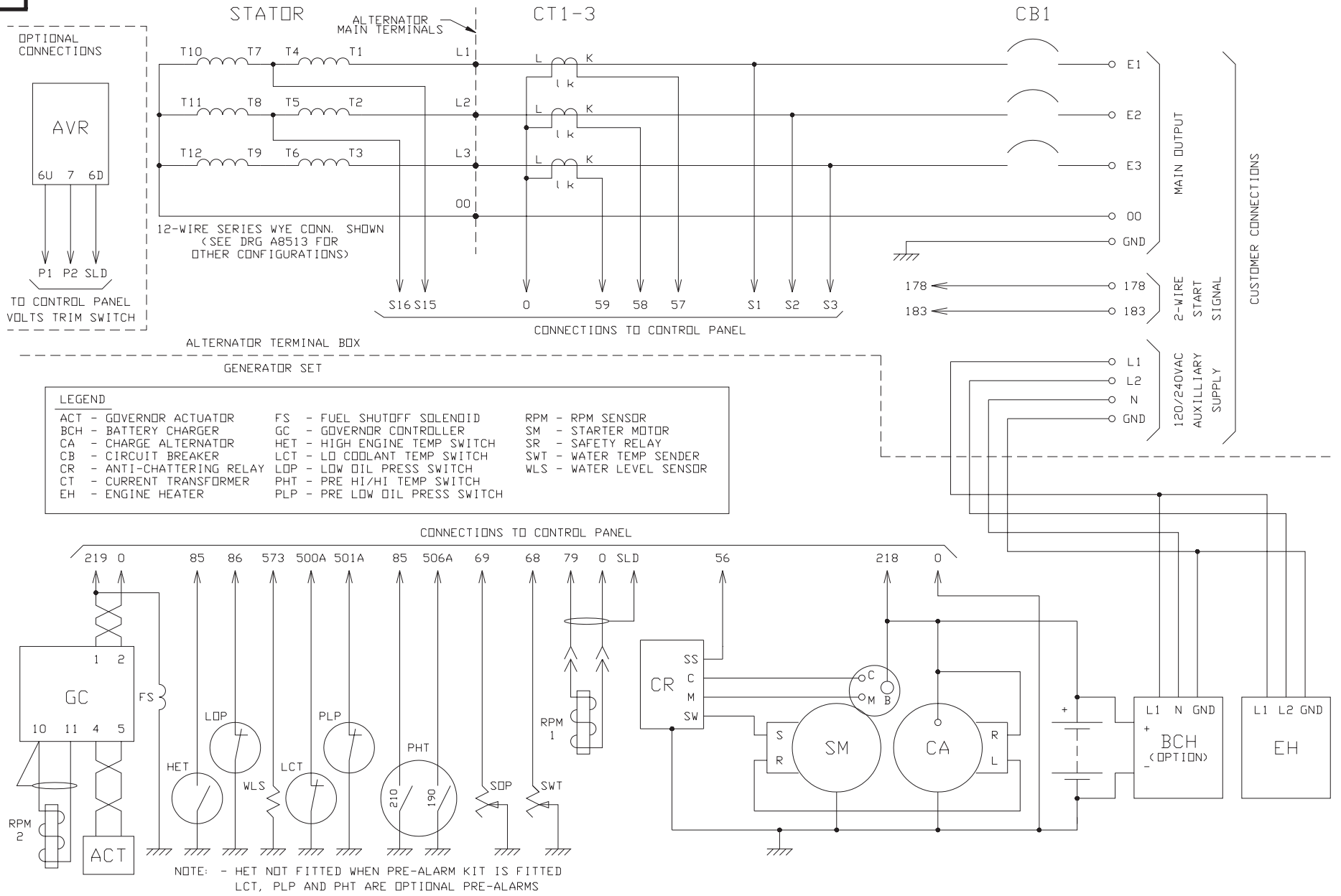


LEGEND

ACT - GOVERNOR ACTUATOR	FS - FUEL SHUTOFF SOLENOID	RPM - RPM SENSOR
BCH - BATTERY CHARGER	GC - GOVERNOR CONTROLLER	SM - STARTER MOTOR
CA - CHARGE ALTERNATOR	HET - HIGH ENGINE TEMP SWITCH	SOP - OIL PRESS SENDER
CB - CIRCUIT BREAKER	LCT - LO COOLANT TEMP SWITCH	SR - SAFETY RELAY
CR - CHATTERING RELAY	LDP - LOW OIL PRESS SWITCH	SWT - WATER TEMP SENDER
CT - CURRENT TRANSFORMER	PHT - PRE HI/HI TEMP SWITCH	WLS - WATER LEVEL SENSOR
EH - ENGINE HEATER	PLP - PRE LOW OIL PRESS SWITCH	

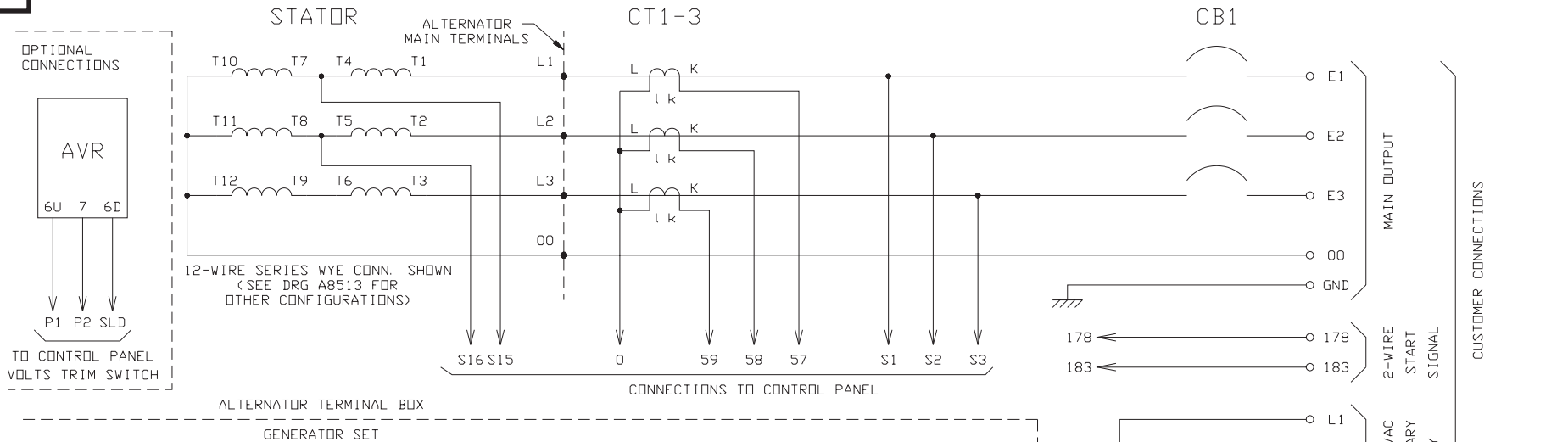






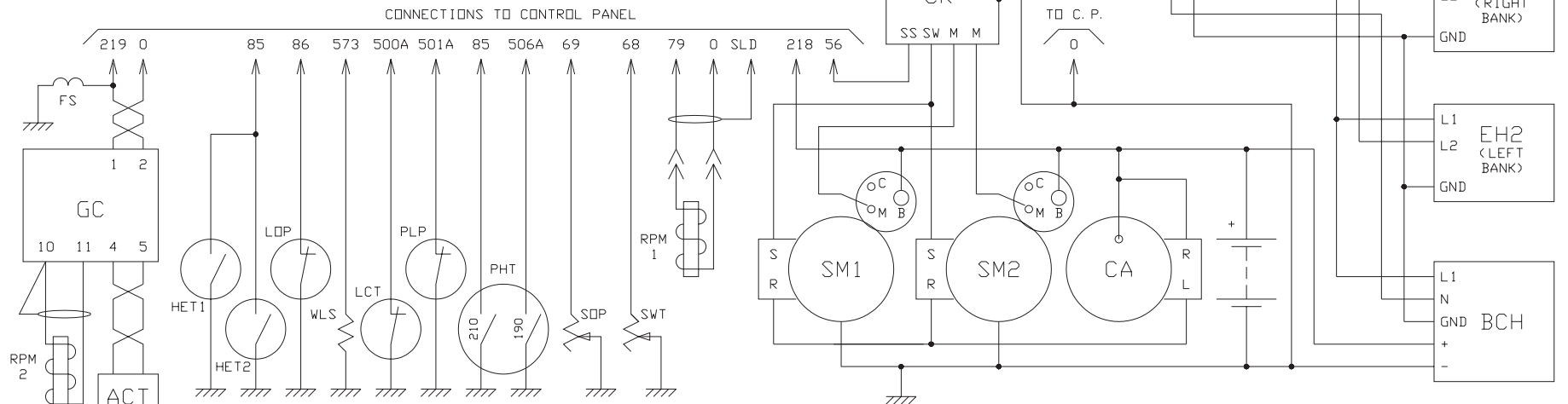
NOTE: - HET NOT FITTED WHEN PRE-ALARM KIT IS FITTED  
LCT, PLP AND PHT ARE OPTIONAL PRE-ALARMS





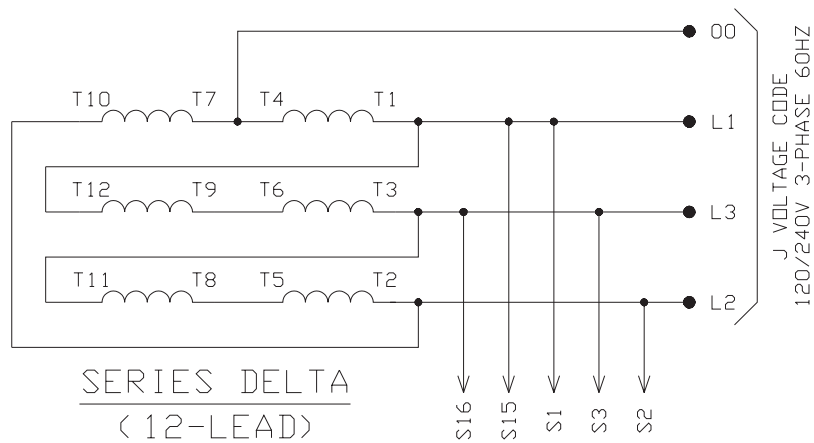
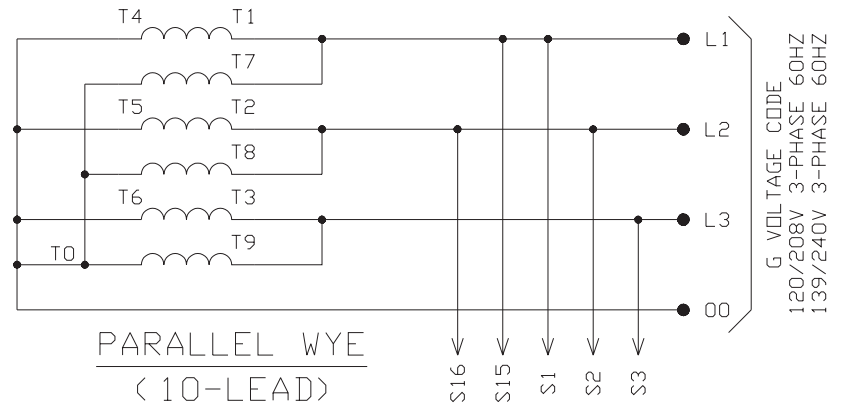
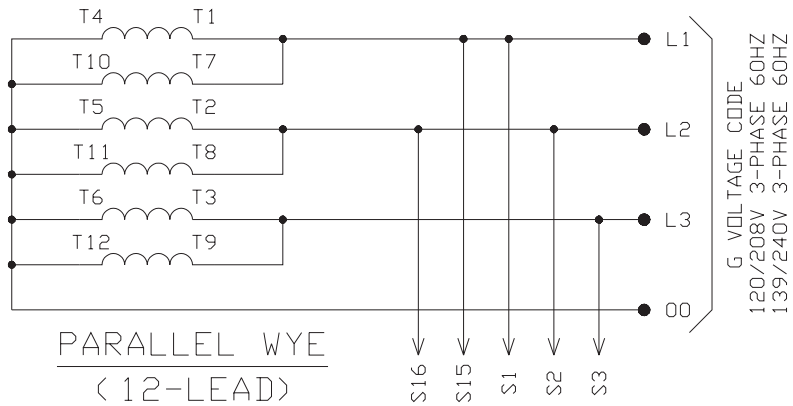
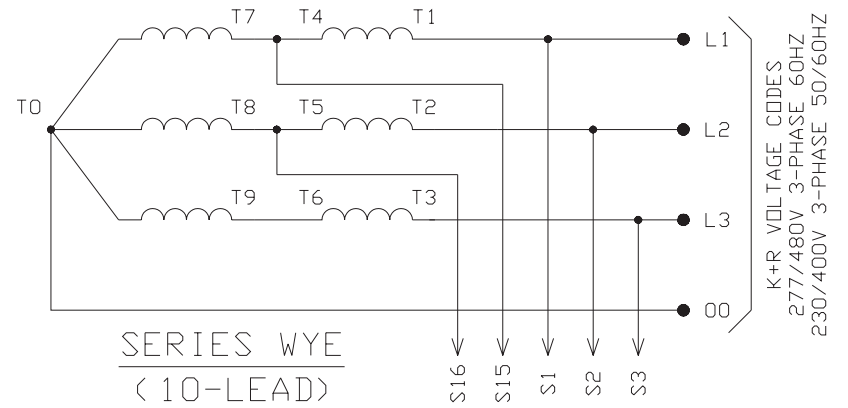
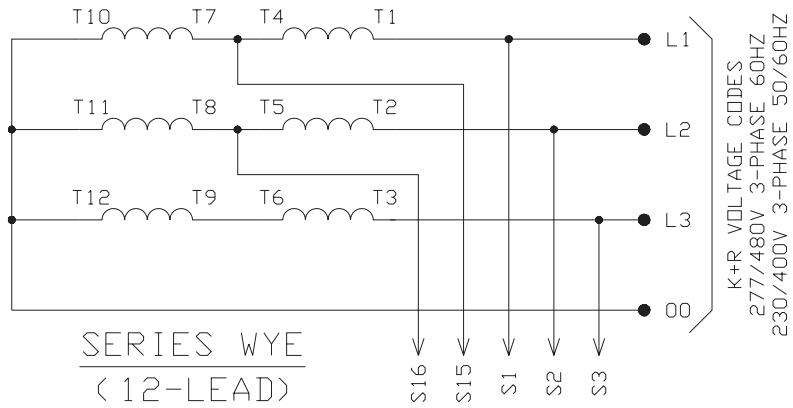
**LEGEND**

BCH - BATTERY CHARGER	FS - FUEL SHUTOFF SOLENOID	SOP - OIL PRESS SENDER
CA - CHARGE ALTERNATOR	GC - GOVERNOR CONTROLLER	SWT - WATER TEMP SENDER
CB - CIRCUIT BREAKER	ACT - GOVERNOR ACTUATOR	SR - SAFETY RELAY
CR - ANTI-CHATTERING RELAY	RPM - RPM SENSOR	SM - STARTER MOTOR
CT - CURRENT TRANSFORMER	HET1+2 - HIGH ENG TEMP SWITCH	WLS - WATER LEVEL SENSOR
EH - ENGINE HEATER	LDP - LOW OIL PRESS SWITCH	



NOTE: - HET1 FITTED IN RIGHT BANK 'STAT HOUSING, HET2 FITTED IN LEFT BANK 'STAT HOUSING  
 HET2 NOT FITTED WHEN PRE-ALARMS FITTED, PLP, LCT AND PHT ARE OPTIONAL PRE ALARMS

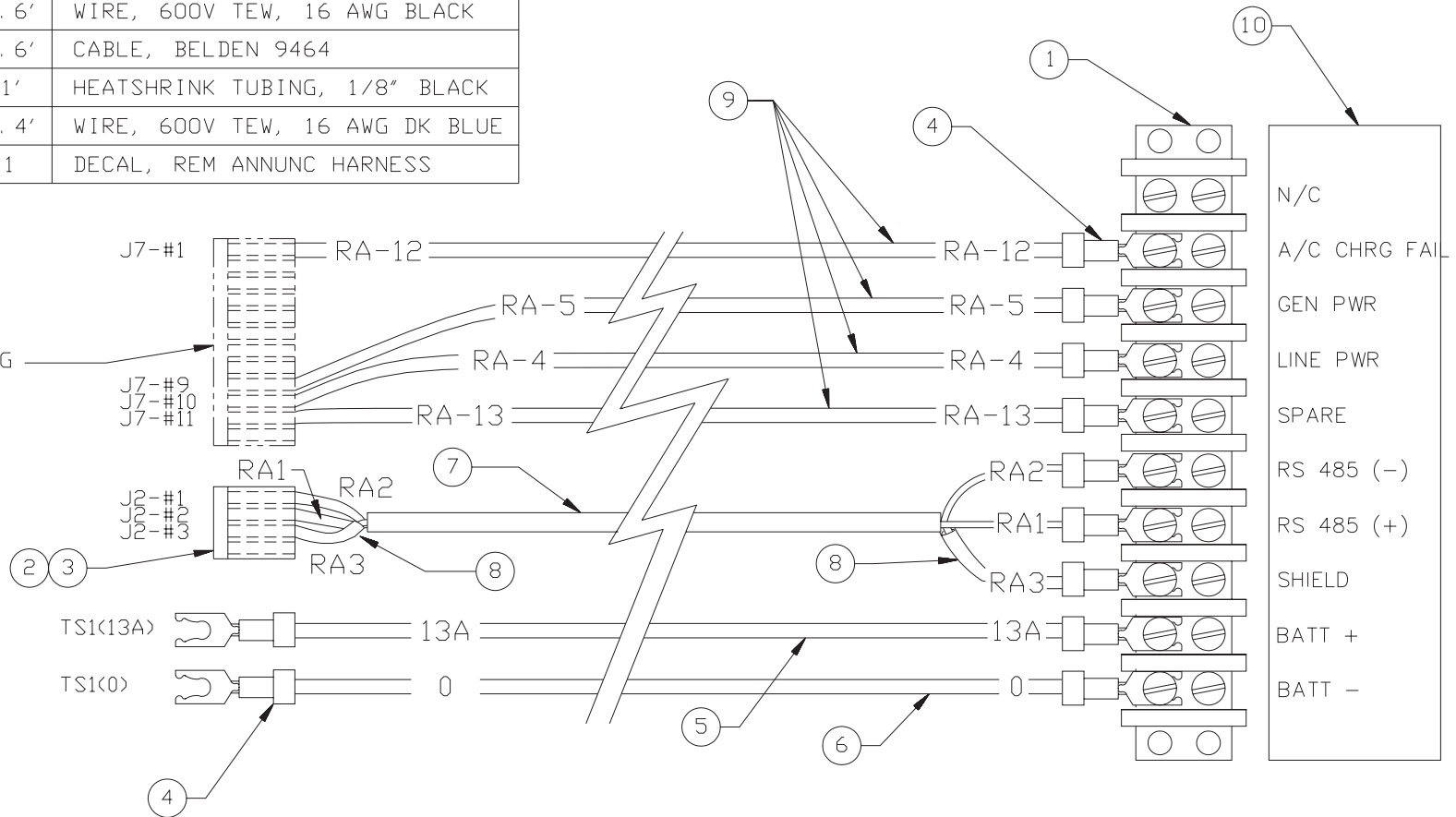


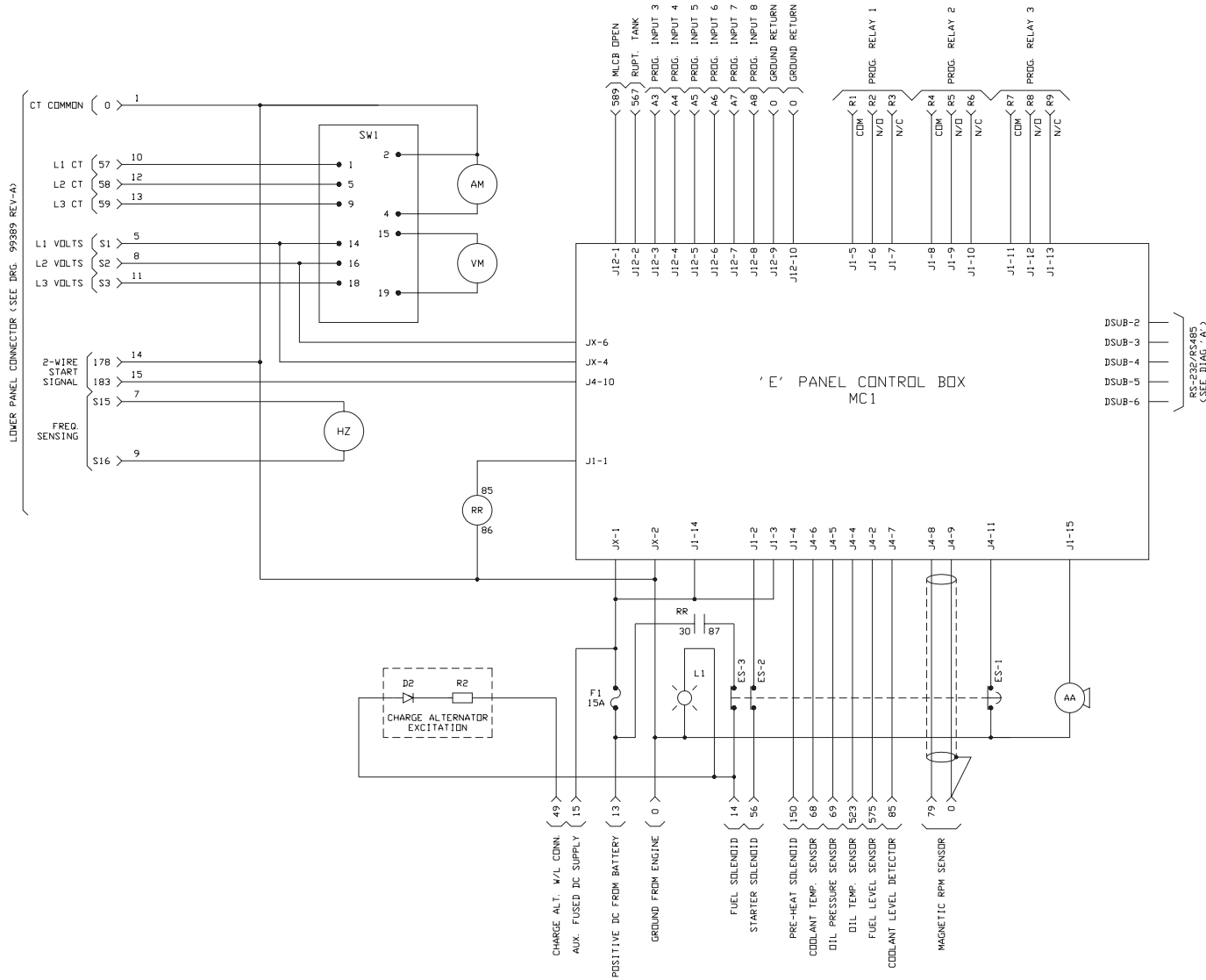


NOTE: S1, S2, S3, S15 AND S16  
METERING CONNECTIONS TO CONTROL  
PANEL ARE SHOWN FOR CLARITY.

ITEM	PART NO.	QTY	DESCRIPTION
1	91471	1	TERM BLOCK, 10 POS. #6 PANEL
2	73194F	1	CONNECTOR HOUSING , 4P .156 CTR
3	71270	7	CONNECTOR CONTACTS, AMP SL156
4	61446	11	LUG, SPD 22-18 I-T
5	93914A	1.6'	WIRE, 600V TEW, 16 AWG RED
6	93914B	1.6'	WIRE, 600V TEW, 16 AWG BLACK
7	86156	1.6'	CABLE, BELDEN 9464
8	50696	.1'	HEATSHRINK TUBING, 1/8" BLACK
9	55199L	6.4'	WIRE, 600V TEW, 16 AWG DK BLUE
10	A9994	1	DECAL, REM ANNUNC HARNESS

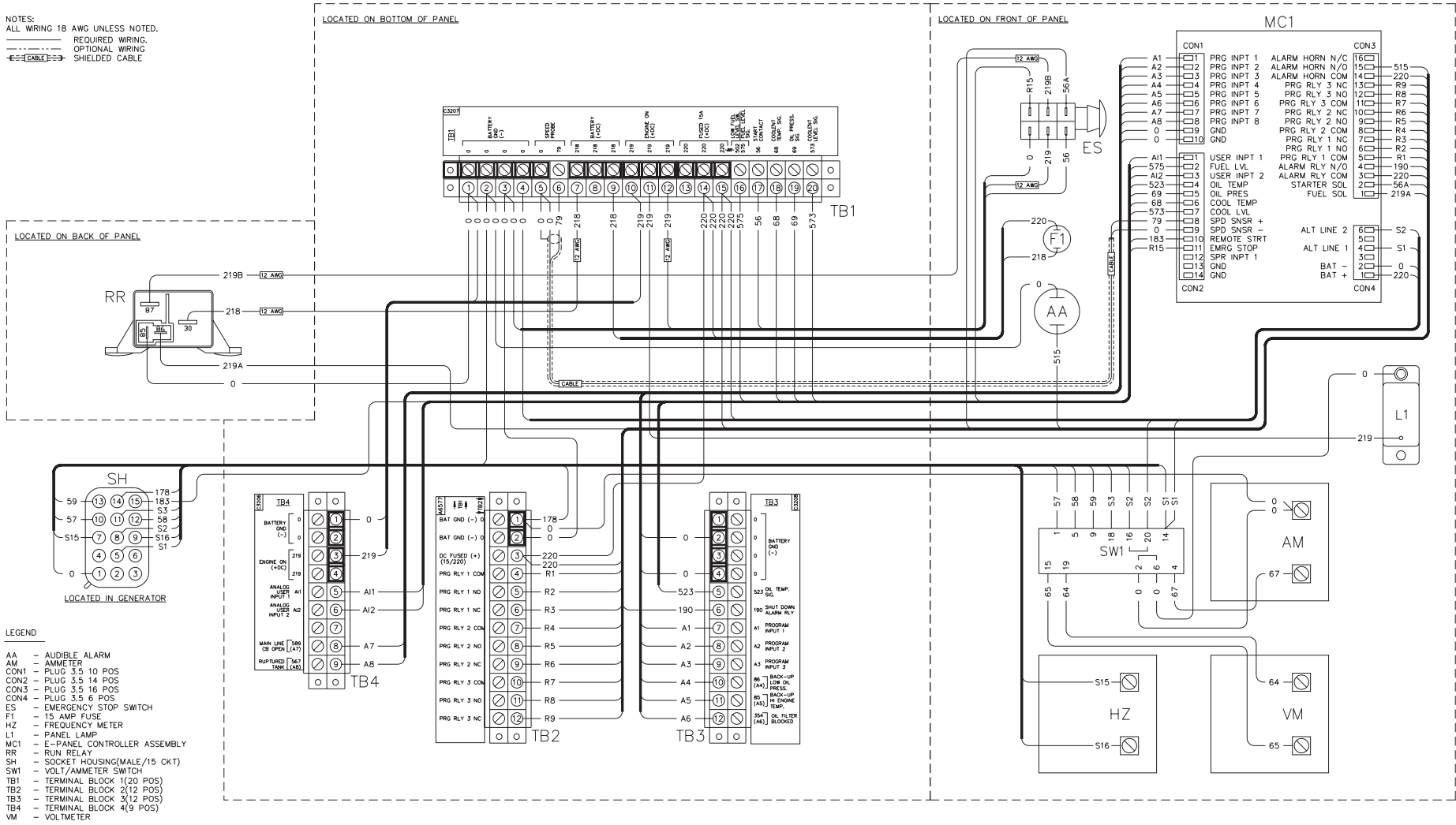
WIRES AND PINS ARE TO BE ADDED TO EXISTING 12-PIN CONNECTOR





CODE	QTY	PART NO.	DESCRIPTION
AA	1	61286	AUDIBLE ALARM
AM	1	VARIDUS	AMMETER
D2	1	25192	CHARGE ALT EXCITER DIODE
ES	1	98426A	EMERGENCY STOP BUTTON
ES1-3	3	98426C	NORMALLY CLOSED CONTACTS
HZ	1	VARIDUS	FREQUENCY METER
L1	1	70202	PANEL LAMP
MC1	1	A4087	E-PANEL CONTROLLER ASSEMBLY
R2	1	44213	CHARGE ALT EXCITER RESISTOR
SW1	1	61945	VOLT/AMMETER SWITCH
VM	1	VARIDUS	VOLTMETER
RR	1	86035	RUN RELAY (70A)
F1	1	32300	PANEL FUSE (15A)

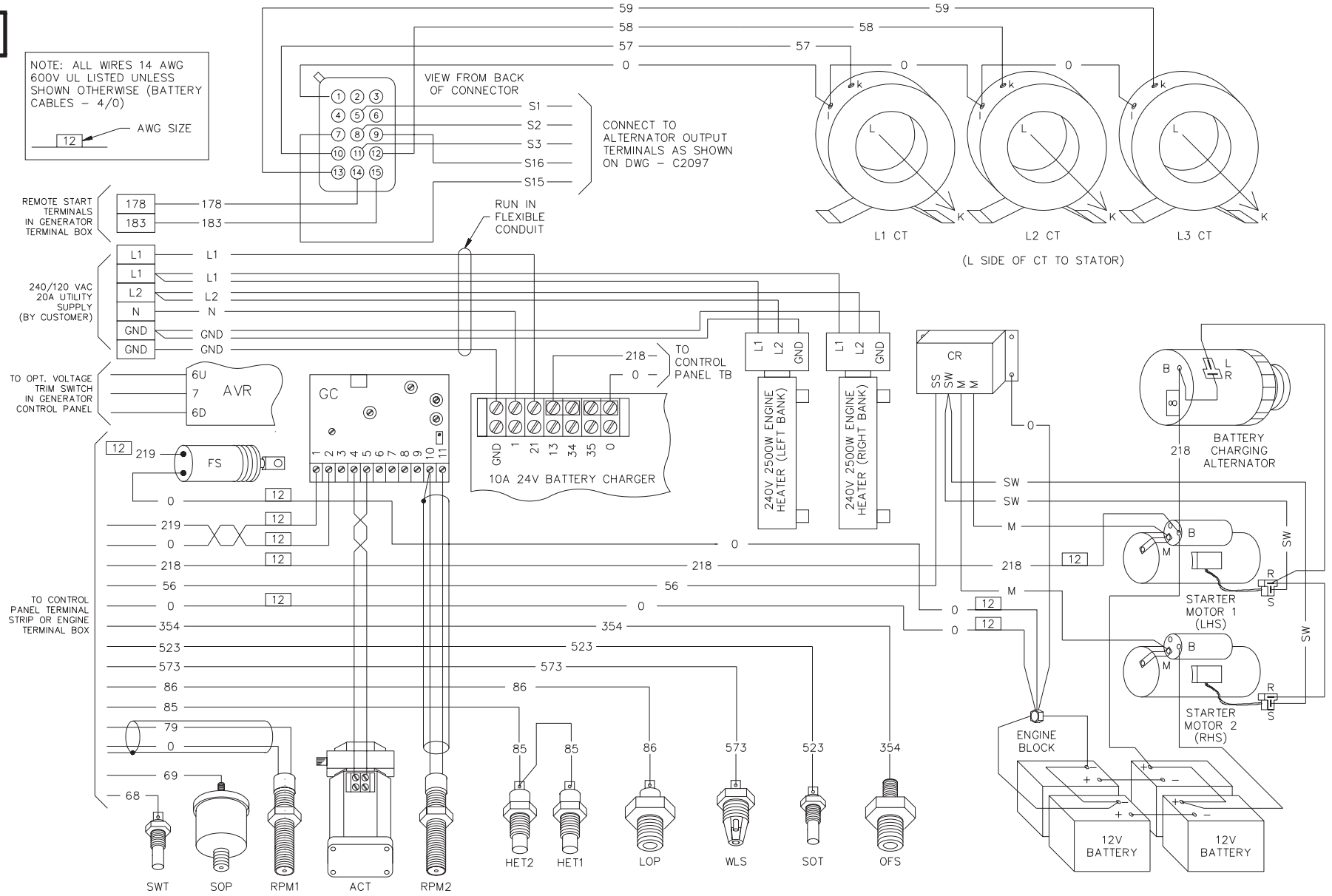
NOTES:  
 ALL WIRING 18 AWG UNLESS NOTED.  
 ——— REQUIRED WIRING.  
 - - - - - OPTIONAL WIRING.  
 ———(CABLE)——— SHIELDED CABLE



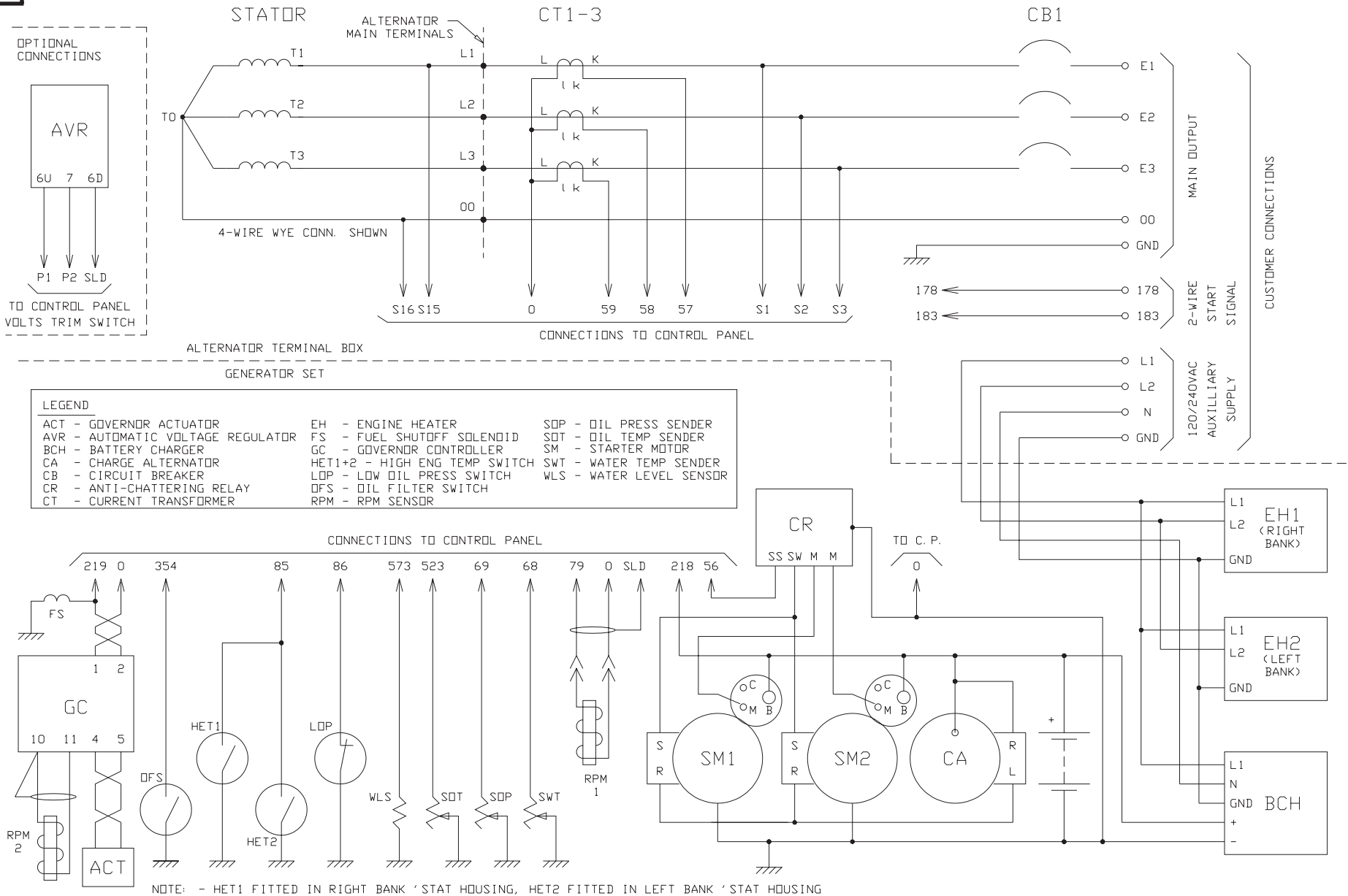
- LEGEND
- AA - AUDIBLE ALARM
  - AM - AMMETER
  - CON1 - PLUG 3.5 10 POS
  - CON2 - PLUG 3.5 14 POS
  - CON3 - PLUG 3.5 16 POS
  - CON4 - PLUG 3.5 6 POS
  - ES - EMERGENCY STOP SWITCH
  - F1 - 15 AMP FUSE
  - F2 - FREQUENCY METER
  - L1 - PANEL LAMP
  - MC1 - E-PANEL CONTROLLER ASSEMBLY
  - RR - RUN RELAY
  - SH - SOCKET HOUSING(MALE/15 CKT)
  - SW1 - VOLT/AMMETER SWITCH
  - TB1 - TERMINAL BLOCK 1(20 POS)
  - TB2 - TERMINAL BLOCK 2(12 POS)
  - TB3 - TERMINAL BLOCK 3(12 POS)
  - TB4 - TERMINAL BLOCK 4(9 POS)
  - VM - VOLTMETER

NOTE: ALL WIRES 14 AWG  
600V UL LISTED UNLESS  
SHOWN OTHERWISE (BATTERY  
CABLES - 4/0)

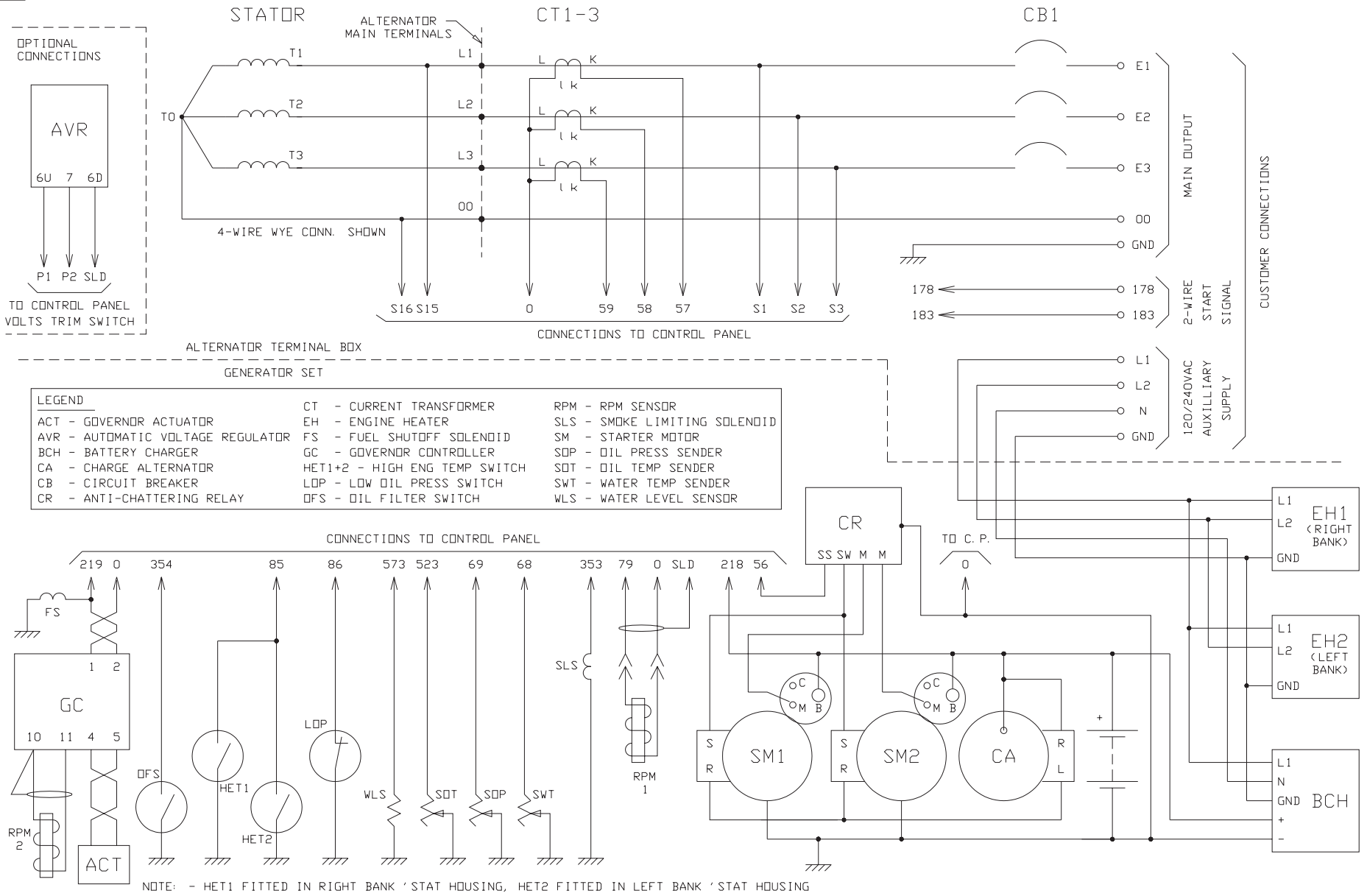
12 AWG SIZE



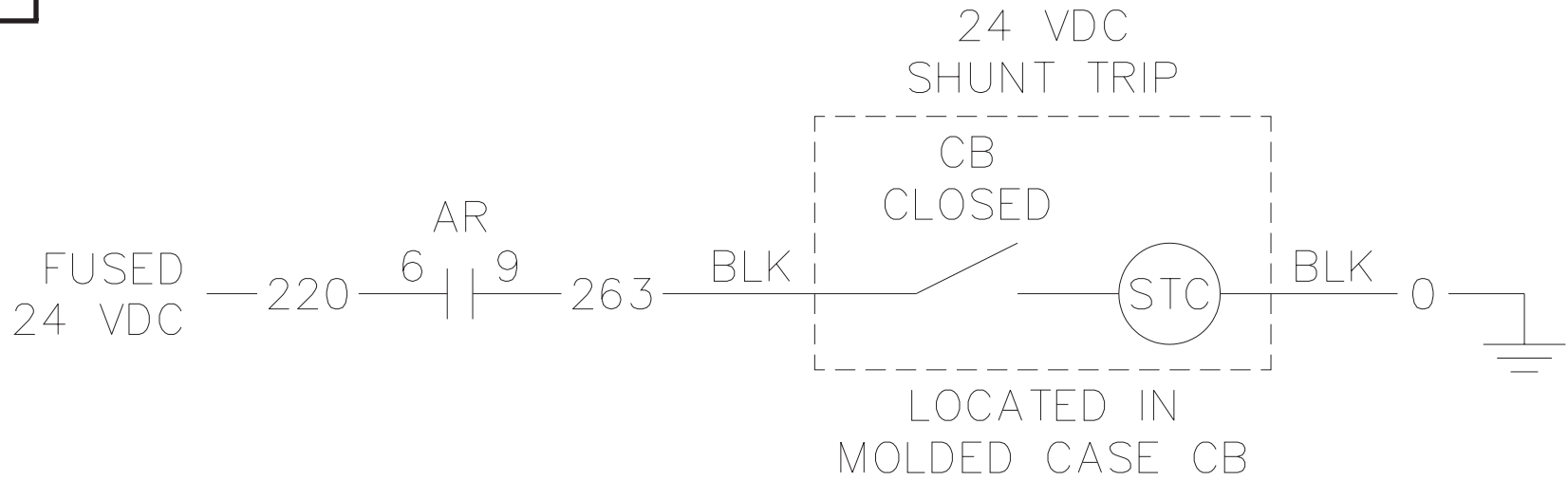
- LEGEND**
- ACT - ACTUATOR
  - AVR - AUTOMATIC VOLTAGE REGULATOR
  - CR - ANTI-CHATTER RELAY
  - CT - CURRENT TRANSFORMER
  - FS - FUEL SOLENOID
  - GC - GOVERNOR CONTROL
  - HET1+2 - HI ENG TEMP SW.
  - LOP - LOW OIL PRESS SW.
  - OFS - OIL FILTER SWITCH
  - RPM1 - PANEL SPEED SENSOR
  - RPM2 - GOV. SPEED SENSOR
  - SOP - OIL PRESS SENDER
  - SOT - OIL TEMP SENDER
  - SWT - COOLANT TEMP SENDER
  - WLS - COOLANT LEVEL SW.



NOTE: - HET1 FITTED IN RIGHT BANK 'STAT HOUSING, HET2 FITTED IN LEFT BANK 'STAT HOUSING

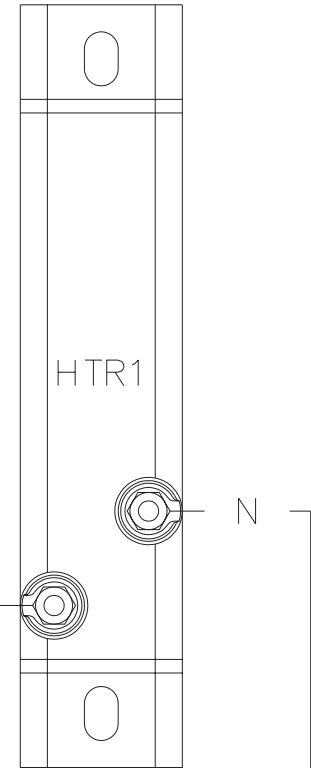
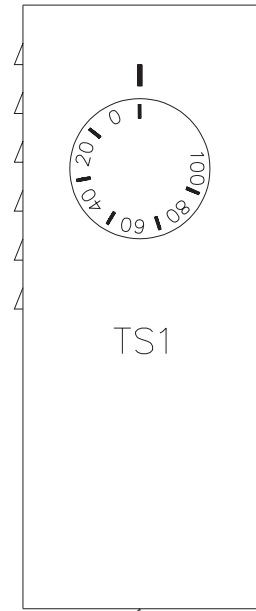
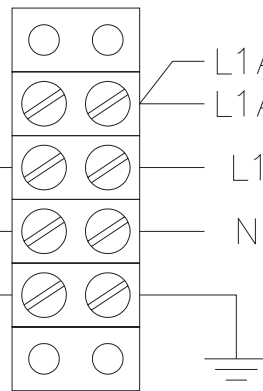
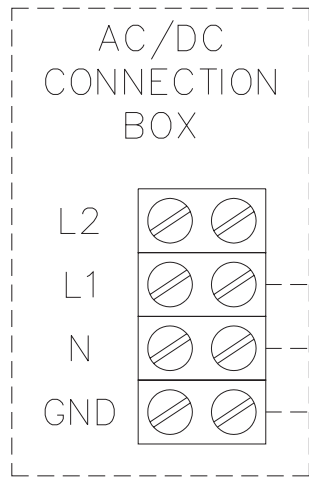
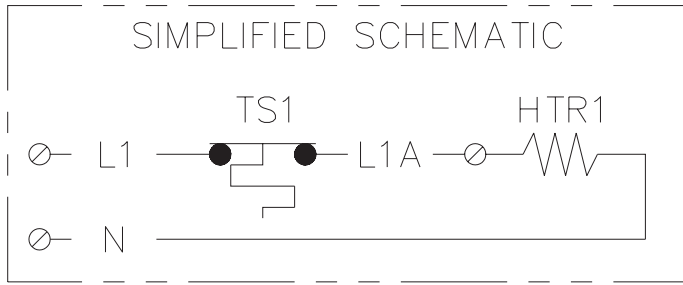






LEGEND

- AR — ALARM RELAY
- CB — CIRCUIT BREAKER
- STC — SHUNT TRIP COIL

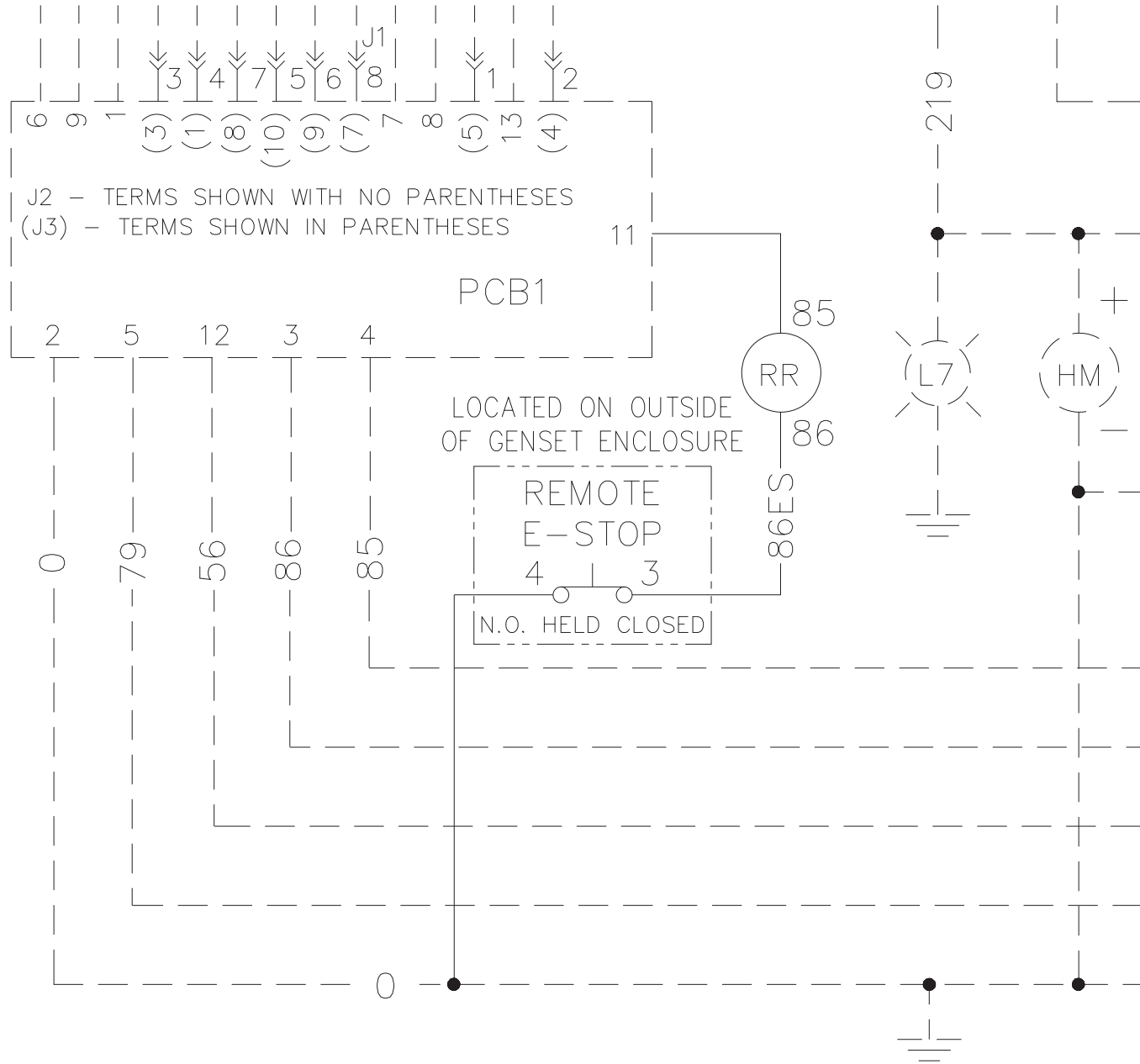


BLK  
RED

LEGEND

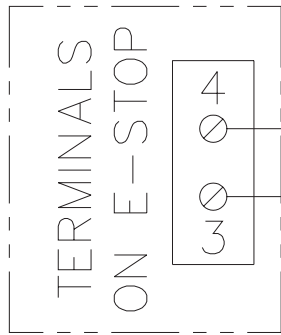
HTR1 - HEATER ELEMENT

TS1 - TEMPERATURE SWITCH



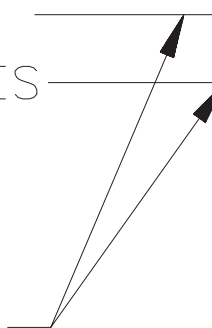
ADDITIONS TO SCHEMATIC DIAGRAM A4722

LOCATED ON OUTSIDE  
OF GENSET ENCLOSURE

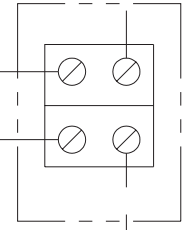


0  
86ES

CUSTOMER WIRING  
12 AWG MTW MIN.



TERMINALS INSIDE  
AC/DC CONNECTION BOX  
LOCATED ON SIDE  
OF ALTERNATOR



86ES

RR

86

87

218

30

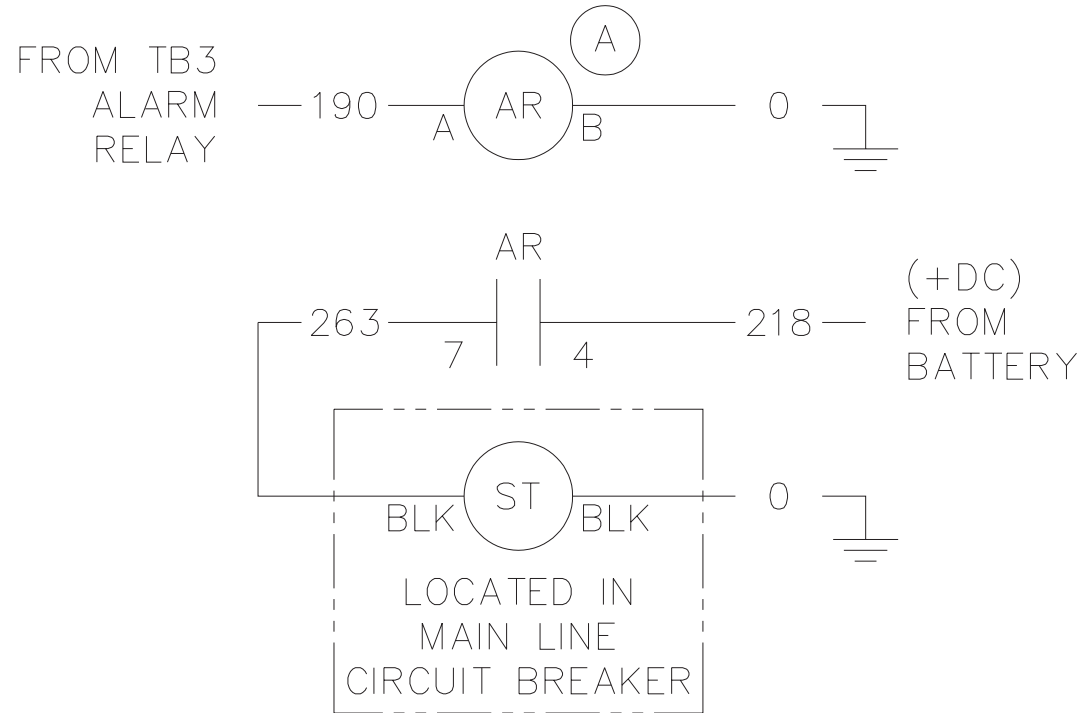
219

85

LEGEND

AR - ALARM RELAY

ST - SHUNT TRIP



NOTES:

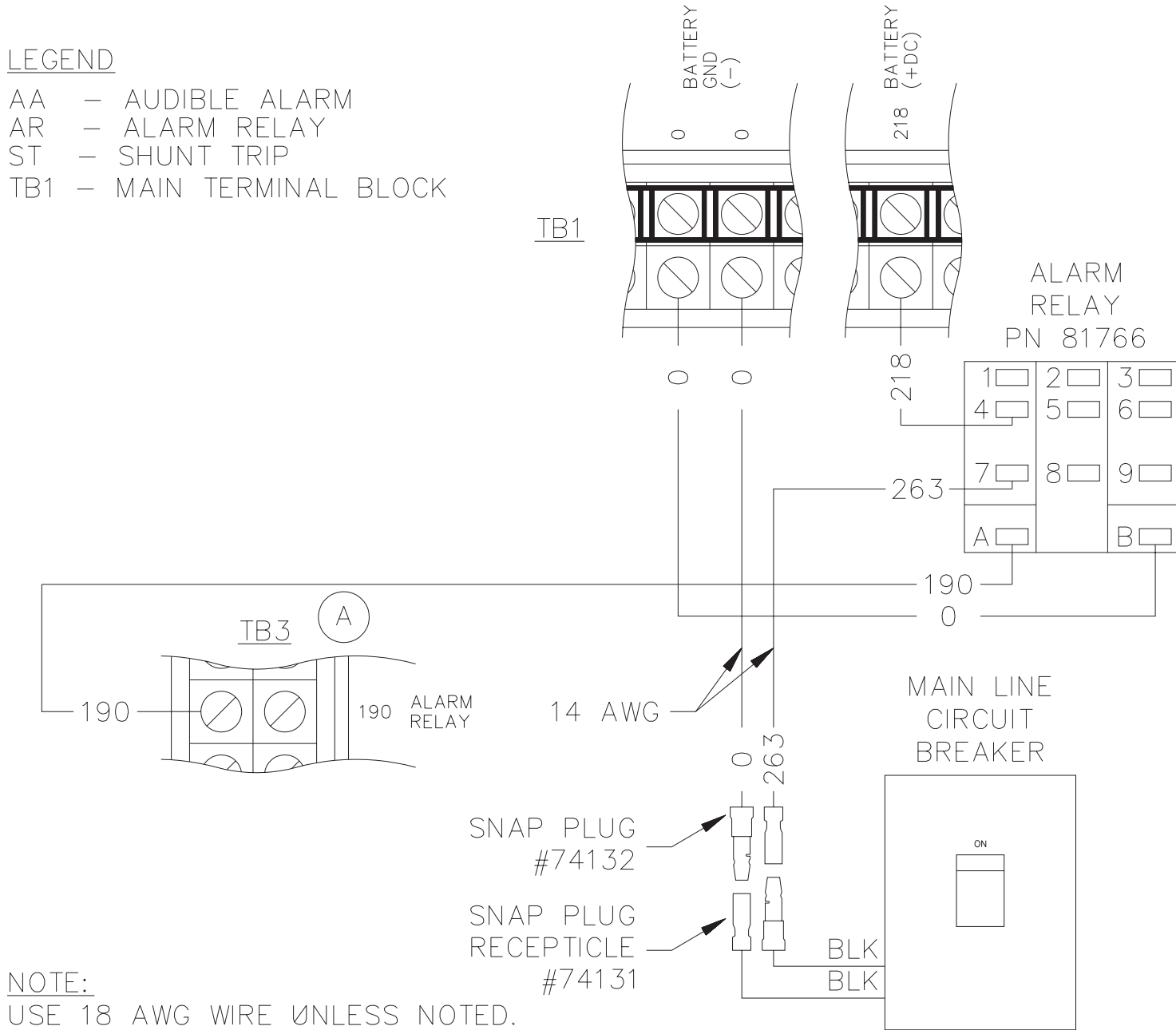
— — — EXISTING WIRING.

———— NEW WIRING

ADDITIONS TO SCHEMATIC DIAGRAM C1375

LEGEND

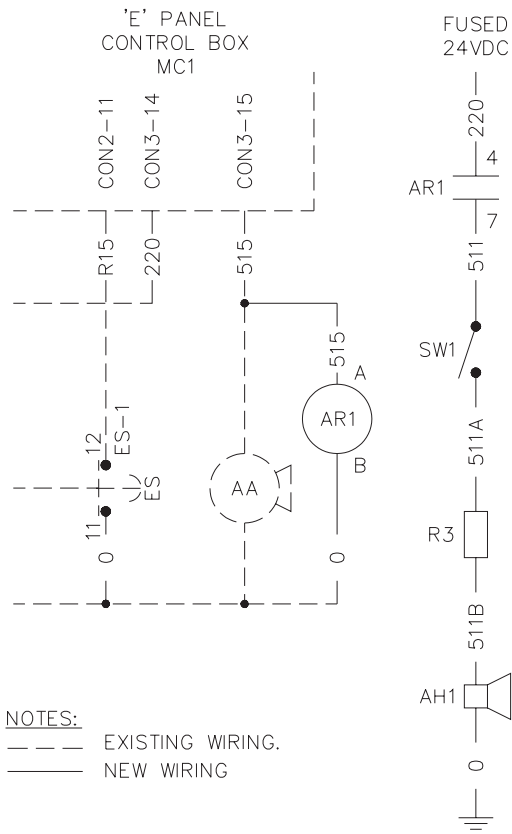
- AA - AUDIBLE ALARM
- AR - ALARM RELAY
- ST - SHUNT TRIP
- TB1 - MAIN TERMINAL BLOCK



NOTE:  
USE 18 AWG WIRE UNLESS NOTED.

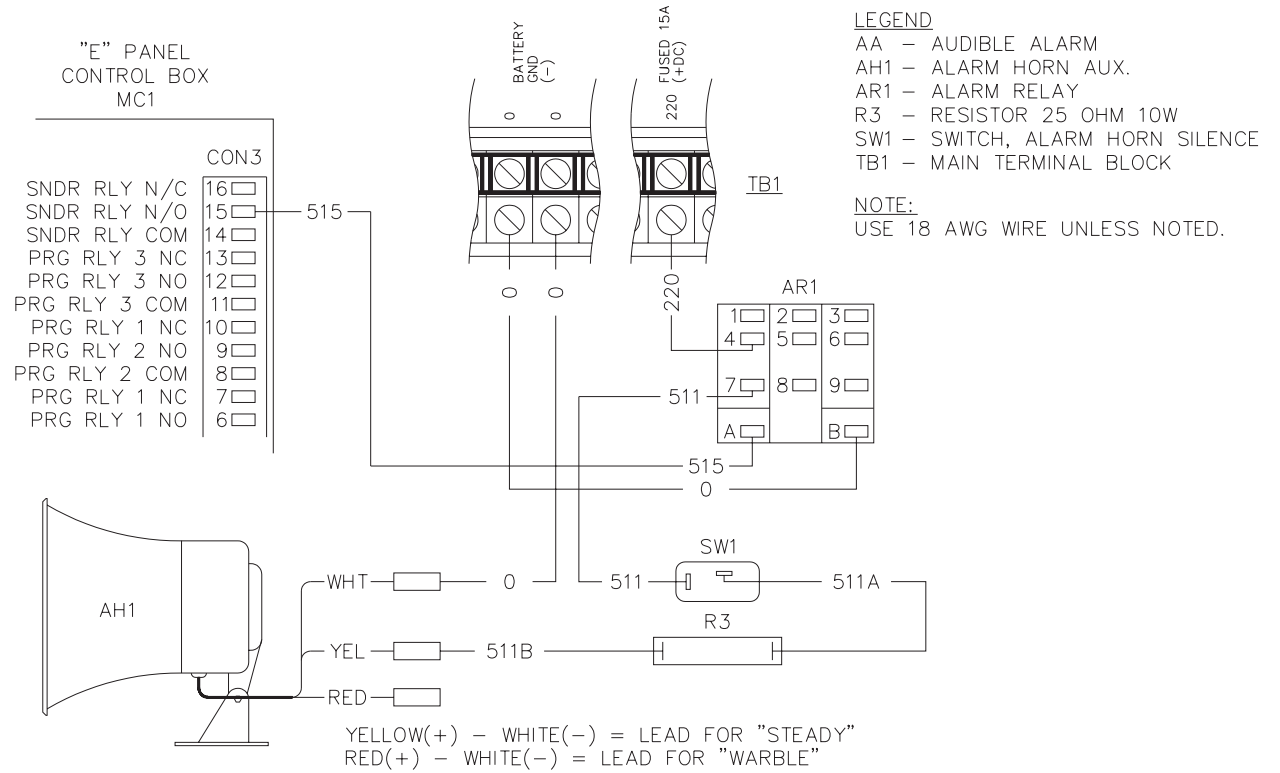
ADDITIONS TO SCHEMATIC DIAGRAM A4722

SCHEMATIC DIAGRAM  
ADDITIONS TO SCHEMATIC DIAGRAM C1375



NOTES:  
 - - - - - EXISTING WIRING.  
 ———— NEW WIRING

WIRING DIAGRAM  
ADDITIONS TO SCHEMATIC DIAGRAM C1376



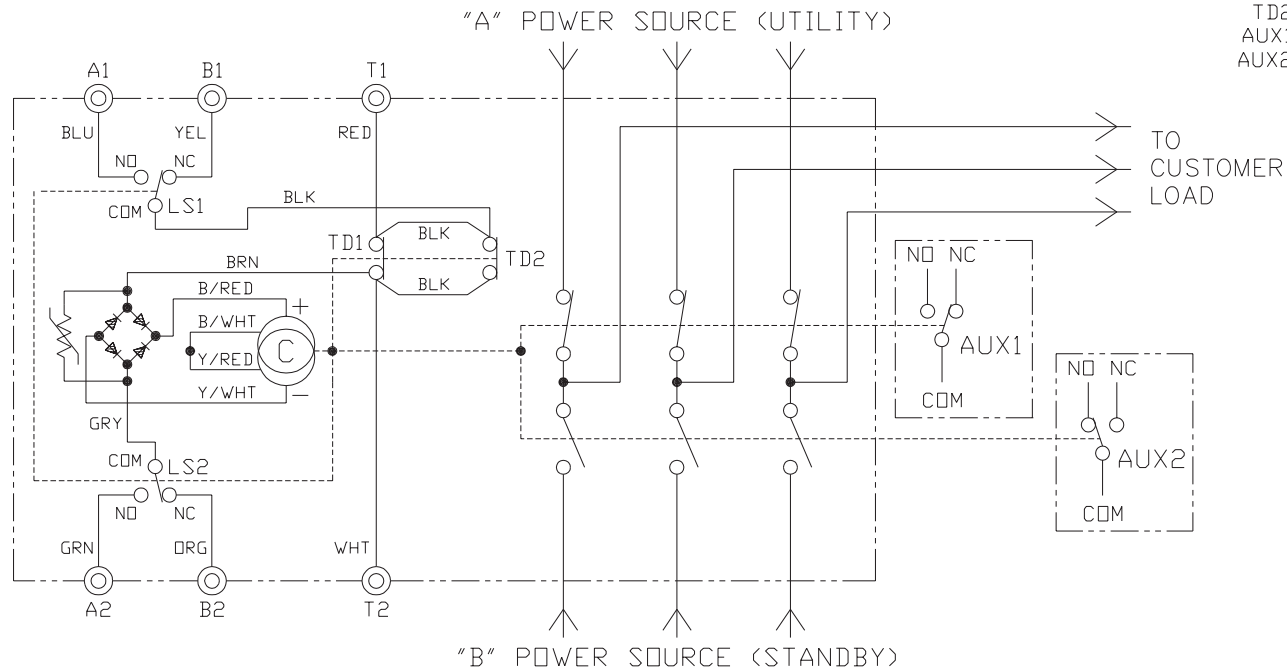
SEE C3366 FOR PARTS LIST.

# TRANSFER SWITCH DRAWINGS

# INDEX TO TRANSFER SWITCH DRAWINGS

DRAWING NUMBER	DRAWING TYPE			DESCRIPTION OF DRAWING	REV. DATE
A8047	Schematic			W Type Transfer Switch with Neutral	08/21/98
A8834	Wiring Diagram			208/240 VDC Transfer Switch with Inphase Monitor	08/25/98
A8835	Schematic			208/240 VDC Transfer Switch with Inphase Monitor	08/25/98
A8836	Wiring Diagram			416 VDC 3-Pole Transfer Switch with Inphase Monitor	08/25/98
A8837	Schematic			416 VDC 3-Pole Transfer Switch with Inphase Monitor	08/25/98
A8838	Wiring Diagram			416 VDC 4-Pole Transfer Switch with Inphase Monitor	08/25/98
A8839	Schematic			416 VDC 4-Pole Transfer Switch with Inphase Monitor	08/25/98
A8840	Wiring Diagram			480/600 VDC Transfer Switch with Inphase Monitor	08/25/98
A8841	Schematic			480/600 VDC Transfer Switch with Inphase Monitor	08/25/98
64135	Wiring Diagram			3 and 4 Pole Transfer Switch	08/07/90
64142	Wiring Diagram			2 Pole Transfer Switch	08/07/90
71324	Schematic			Mervyn's Transfer Switch	04/20/89
72214	WD & Sch.			Y Type Transfer Switch	03/23/90
72446	Schematic			Transfer Switch	05/29/87
72447	Wiring Diagram			Transfer Switch	05/29/87
73658	Schematic			Wn Type Transfer Switch	09/29/87
74324	Wiring Diagram			240 VDC WN Type Transfer Switch with CPU and TDC	12/02/87
74325	Schematic			240 VDC WN Type Transfer Switch with CPU and TDC	12/02/87
74328	Wiring Diagram			416 VDC WN Type Transfer Switch with CPU and TDC	12/03/87
74329	Schematic			416 VDC WN Type Transfer Switch with CPU and TDC	12/03/87
74332	Wiring Diagram			480/600 VDC WN Type Transfer Switch with CPU and TDC	08/19/96
74333	Schematic			480/600 VDC WN Type Transfer Switch with CPU and TDC	08/20/96
74497	Sch & WD			100 Amp 2-Pole Transfer Switch	07/28/89
74498	Sch & WD			200 Amp 2-Pole Transfer Switch	07/28/89
74499	Sch & WD			100 and 200 Amp 3-Pole Transfer Switch	07/28/89
74699	Wiring Diagram			240 VDC Y Type 3 & 4 Pole Transfer Switch with TDN	03/03/88
75017	Schematic			240 VDC Y Type Transfer Switch with CPU and TDN	03/08/88
75018	Sch & WD			GTS — Y-Type — 240 Volt with TDN	11/27/90
75018A	Sch & WD			GTS — Y-Type — 208/240 Volt with TDN and Logic	11/27/90
76964	Wiring Diagram			3-Pole Wn Type Multi Volt Transfer Switch with TDN and Logic	01/30/92
76965	Schematic			3 & 4-Pole Wn Type Multi Volt Transfer Switch with TDN and Logic	01/30/92
80653	Schematic			Y-Type 208/240/ Volt Single Phase — MCI	07/12/90
81222	WD & Sch.			UL Switch — 100 AZP	01/31/91
83594	Wiring Diagram			Wn Type Transfer Switch — Dayton	01/10/92
83595	Schematic			Wn Type Transfer Switch — Dayton	11/25/91
86160	WD & Sch.			100 and 200 Amp, 3-Pole Transfer Switch	05/14/93





LEGEND

- C = CLOSING COIL (DUAL COIL BOBBIN)
- LS1 = SOURCE SELECTING LIMIT SWITCH
- LS2 = SOURCE SELECTING LIMIT SWITCH
- TD1 = POWER SWITCHING CONTACTS
- TD2 = POWER SWITCHING CONTACTS
- AUX1 = AUXILIARY SWITCHES
- AUX2 = AUXILIARY SWITCHES

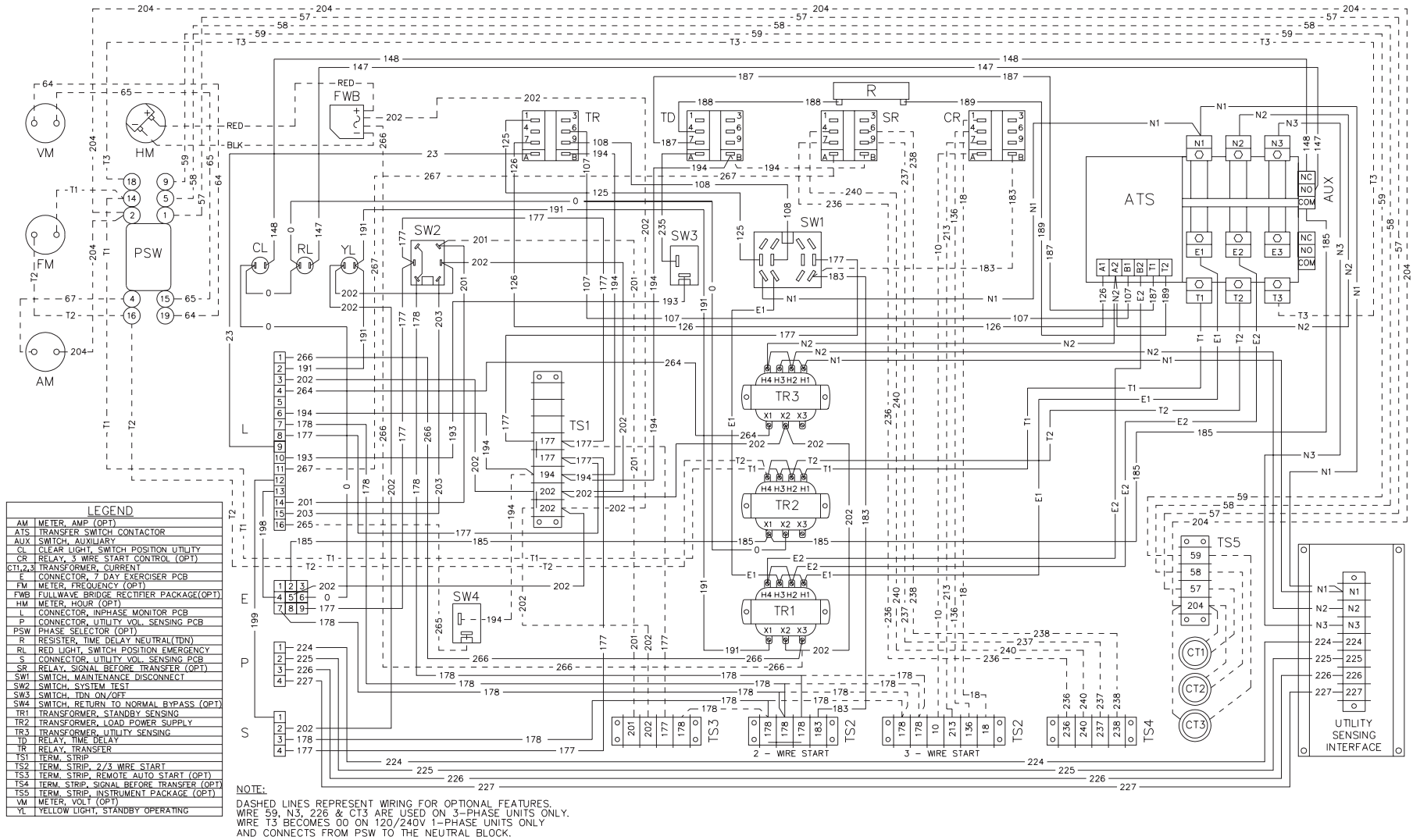
WIRE COLORS

- BLU = BLUE WIRE
- YEL = YELLOW WIRE
- RED = RED WIRE
- BLK = BLACK WIRE
- BRN = BROWN WIRE
- GRY = GREY WIRE
- GRN = GREEN WIRE
- ORN = ORANGE WIRE
- WHT = WHITE WIRE
- B/RED = BLUE INSUL. ON TER./ WITH RED WIRE
- B/WHT = BLUE INSUL. ON TER./ WITH WHITE WIRE
- Y/RED = YELLOW INSUL. ON TER./ WITH RED WIRE
- Y/WHT = YELLOW INSUL. ON TER./ WITH WHITE WIRE

SWITCH POSITION	UTILITY	NEUTRAL	STANDBY
AUX. 1	COM-NC	X	0
	COM-NO	0	X
AUX. 2	COM-NC	0	X
	COM-NO	X	0

X = CLOSED 0 = OPEN

NOTE:  
ALL CONTACTS SHOWN WITH  
MAIN POWER CONTACTS CLOSED  
IN UTILITY POSITION

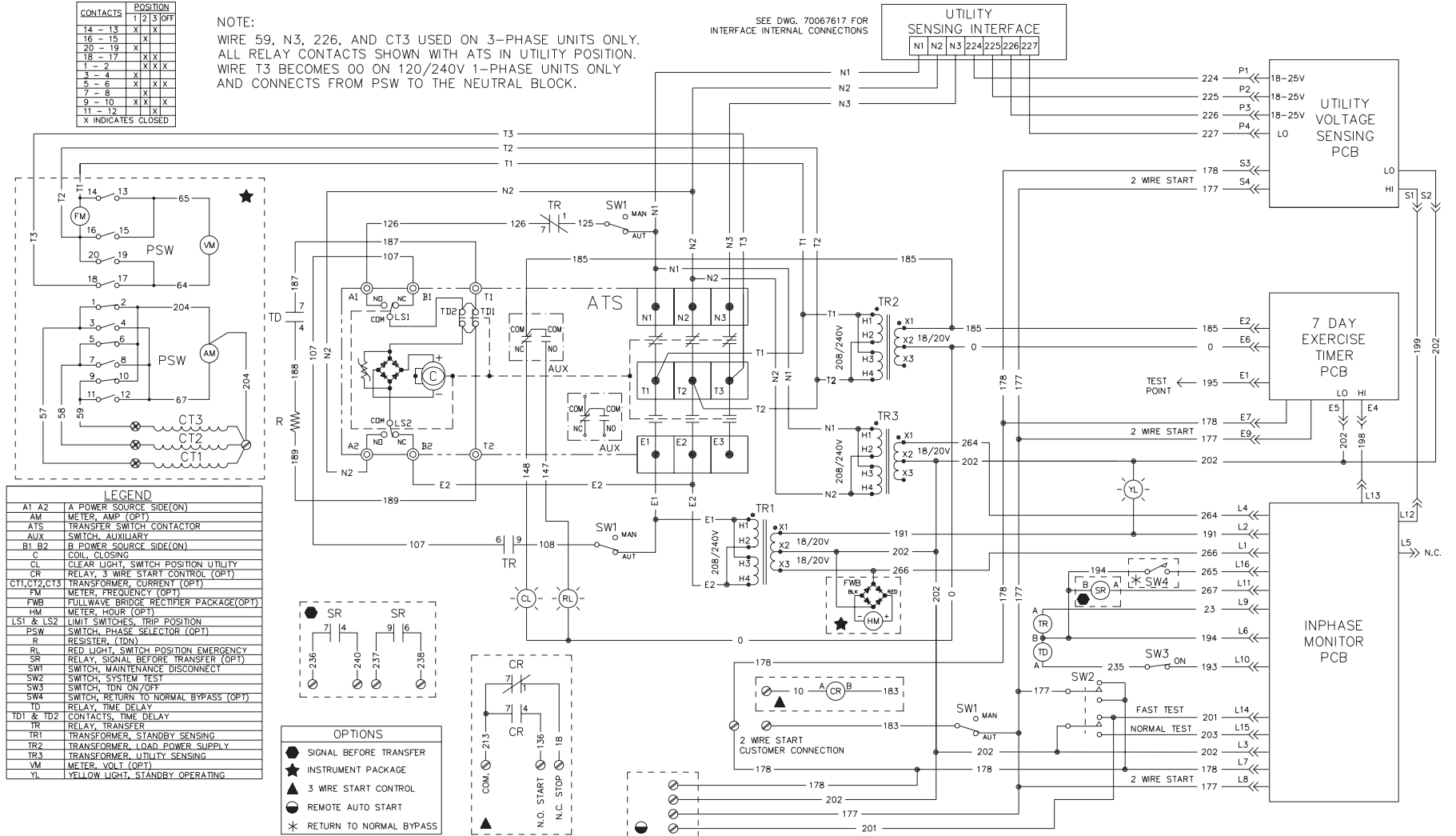


CONTACTS	POSITION		
	1	2	3 [OFF]
14 - 13	X	X	
16 - 15	X	X	
20 - 19	X	X	
18 - 17	X	X	
1 - 2	X	X	X
3 - 4	X	X	X
5 - 6	X	X	X
7 - 8	X	X	X
9 - 10	X	X	X
11 - 12	X	X	X

X INDICATES CLOSED

NOTE:  
 WIRE 59, N3, 226, AND CT3 USED ON 3-PHASE UNITS ONLY.  
 ALL RELAY CONTACTS SHOWN WITH ATS IN UTILITY POSITION.  
 WIRE T3 BECOMES 00 ON 120/240V 1-PHASE UNITS ONLY  
 AND CONNECTS FROM PSW TO THE NEUTRAL BLOCK.

SEE DWG. 70067617 FOR  
 INTERFACE INTERNAL CONNECTIONS

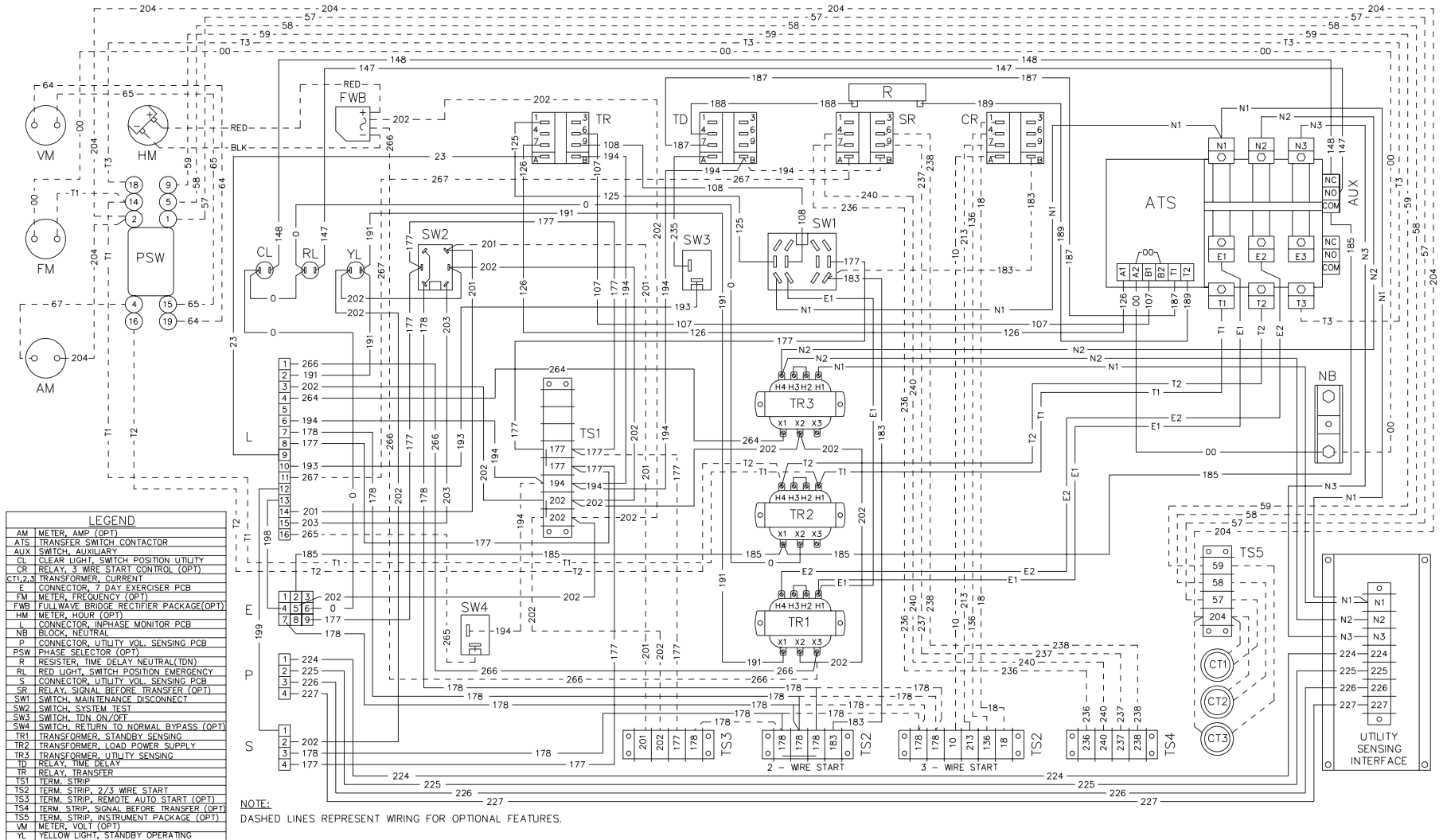


**LEGEND**

A1 A2	A POWER SOURCE SIDE(ON)
AM	METER, AMP (OPT)
ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH-AUXILIARY
B1 B2	B POWER SOURCE SIDE(ON)
C	COIL CLOSING
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL (OPT)
CT1,CT2,CT3	TRANSFORMER, CURRENT (OPT)
FM	METER, FREQUENCY (OPT)
FWB	FULL WAVE BRIDGE RECTIFIER PACKAGE(OPT)
HM	METER, HOUR (OPT)
LS1 & LS2	LIMIT SWITCHES, TRIP POSITION
PSW	SWITCH, PHASE SELECTOR (OPT)
R	RESISTOR, (10Ω)
RL	RELAY LIGHT, SWITCH POSITION EMERGENCY
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TD	RELAY, TIME DELAY
TD1 & TD2	CONTACTS, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

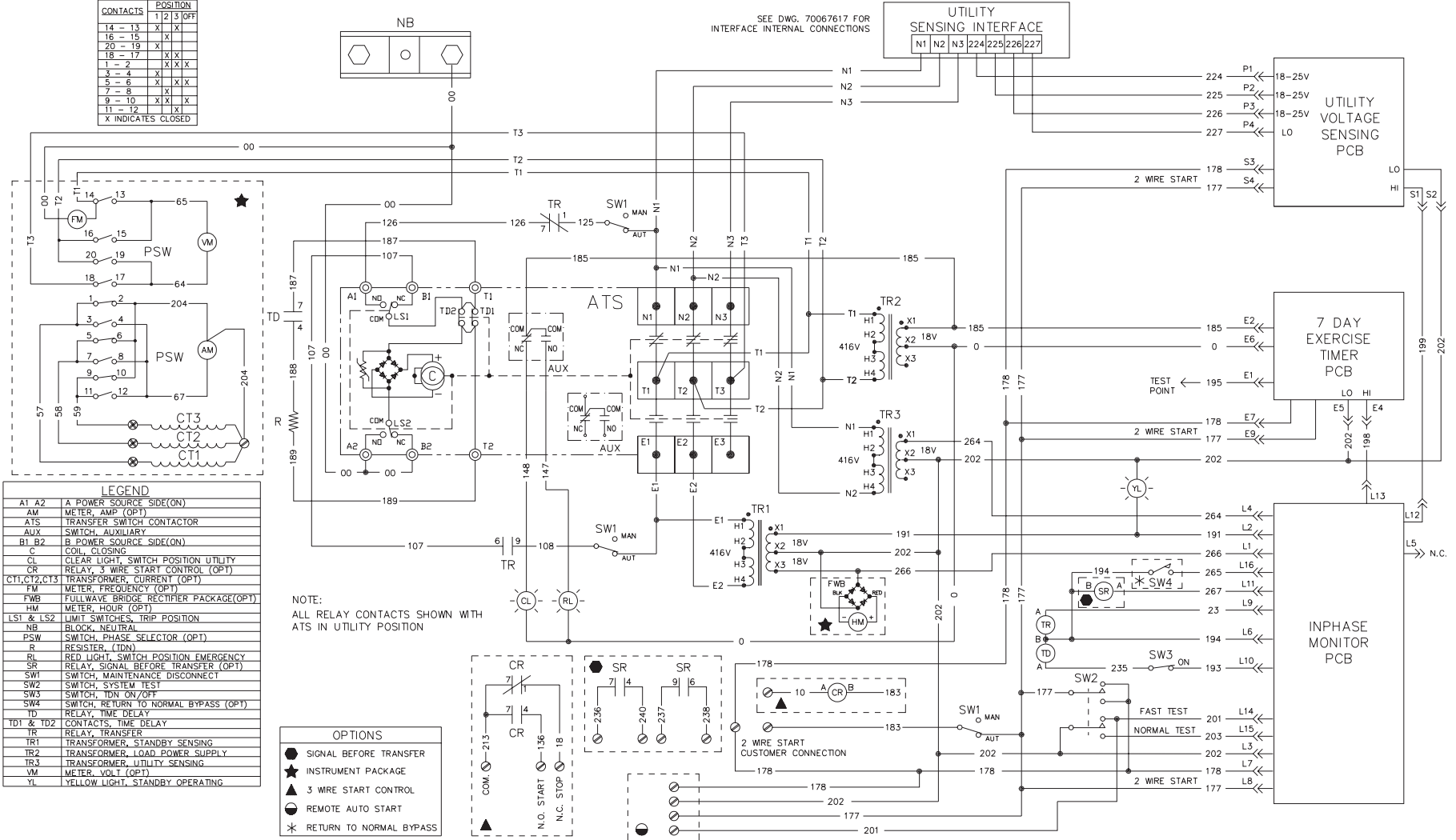
**OPTIONS**

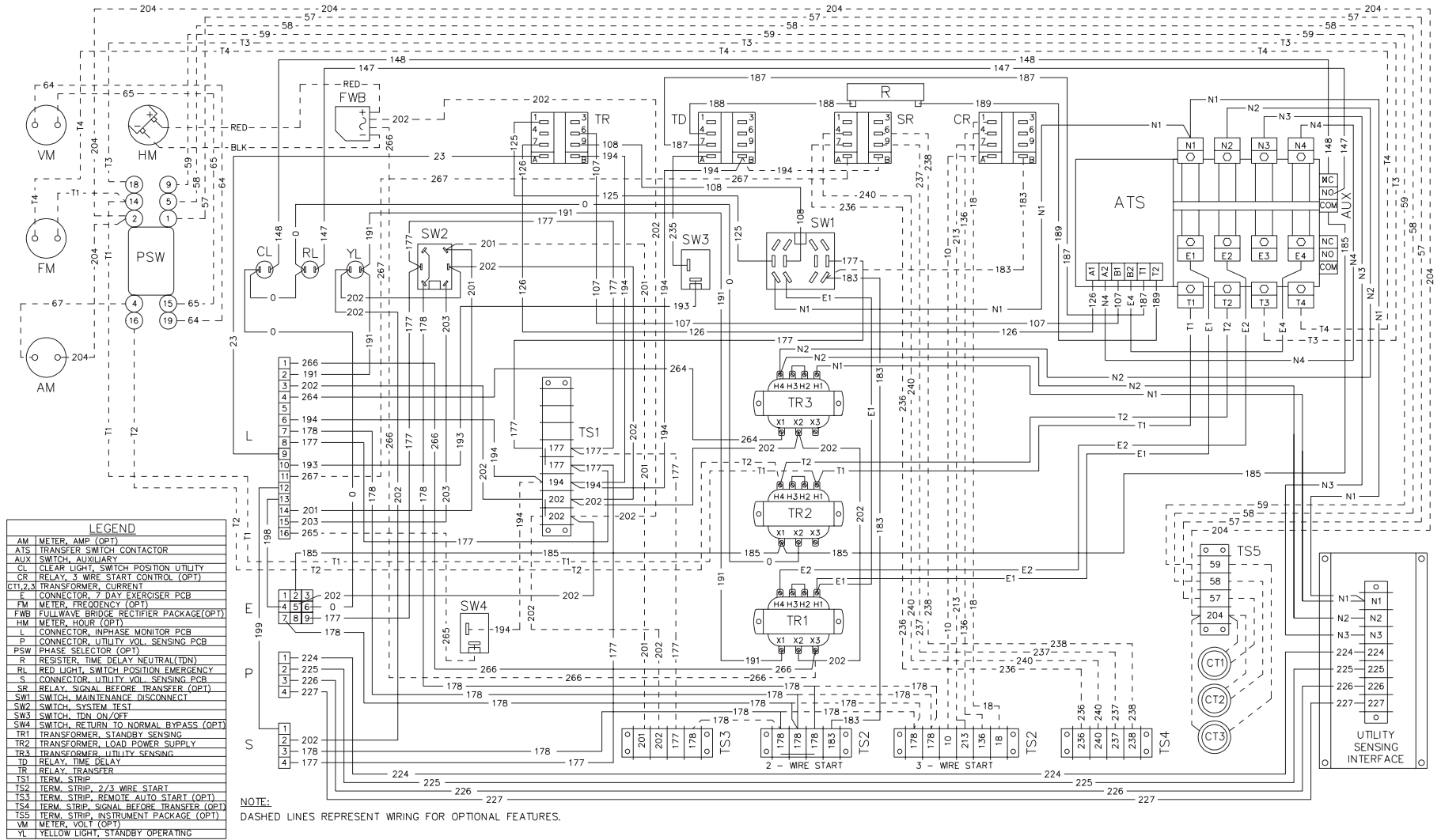
- SIGNAL BEFORE TRANSFER
- ★ INSTRUMENT PACKAGE
- ▲ 3 WIRE START CONTROL
- REMOTE AUTO START
- \* RETURN TO NORMAL BYPASS



CONTACTS	POSITION		
	1	2	3 OFF
14 - 13	X	X	
16 - 15	X		
20 - 19	X		
18 - 17	X	X	
1 - 2	X	X	X
3 - 4	X		
5 - 6	X	X	X
7 - 8	X		
9 - 10	X	X	X
11 - 12	X		

X INDICATES CLOSED





**LEGEND**

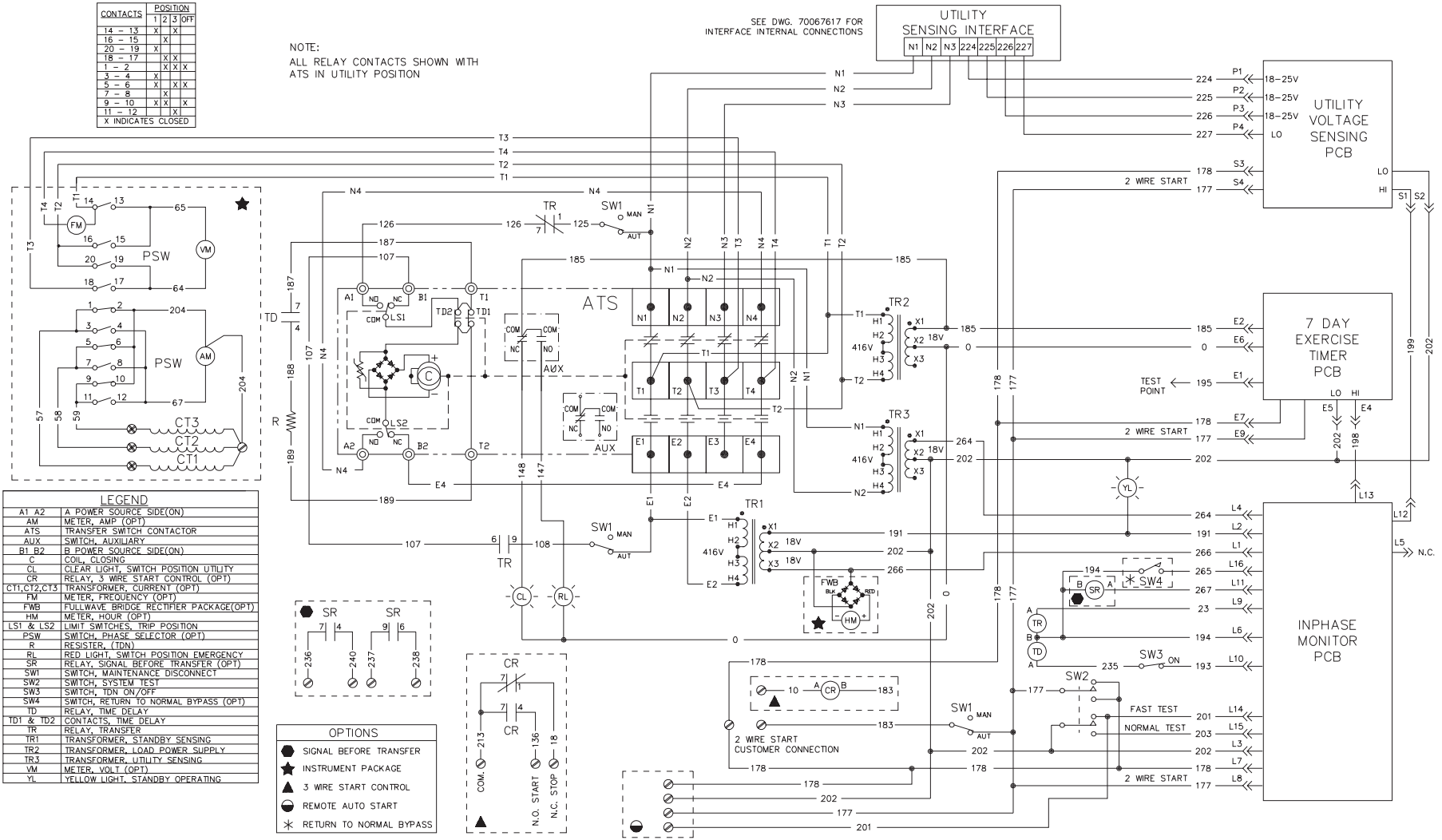
AM	METER, AMP (OPT)
ATS	TRANSFER SWITCH, CONTACTOR
AUX	SWITCH, AUXILIARY
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL (OPT)
CT1,2,3	TRANSFORMER, CURRENT
E	CONNECTOR, 7 DAY EXERCISER PCB
FM	METER, FREQUENCY (OPT)
FWB	FULLWAVE BRIDGE RECTIFIER PACKAGE(OPT)
HM	METER, HOUR (OPT)
I	CONNECTOR, INPHASE MONITOR PCB
P	CONNECTOR, UTILITY VOL. SENSING PCB
PSW	PHASE SELECTOR (OPT)
R	RESISTOR, TIME DELAY NEUTRAL(TDN)
RL	RED LIGHT, SWITCH POSITION EMERGENCY
S	CONNECTOR, UTILITY VOL. SENSING PCB
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TS1	TERM. STRIP
TS2	TERM. STRIP, 2/3 WIRE START
TS3	TERM. STRIP, REMOTE AUTO START (OPT)
TS4	TERM. STRIP, SIGNAL BEFORE TRANSFER (OPT)
TS5	TERM. STRIP, INSTRUMENT PACKAGE (OPT)
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

NOTE:  
DASHED LINES REPRESENT WIRING FOR OPTIONAL FEATURES.

CONTACTS	POSITION
	1 2 3 OFF
14 - 13	X X
16 - 15	X
20 - 19	X
18 - 17	X X
1 - 2	X X X
3 - 4	X
5 - 6	X X X
7 - 8	X
9 - 10	X X X
11 - 12	X
X INDICATES CLOSED	

NOTE:  
ALL RELAY CONTACTS SHOWN WITH  
ATS IN UTILITY POSITION

SEE DWG. 70067617 FOR  
INTERFACE INTERNAL CONNECTIONS

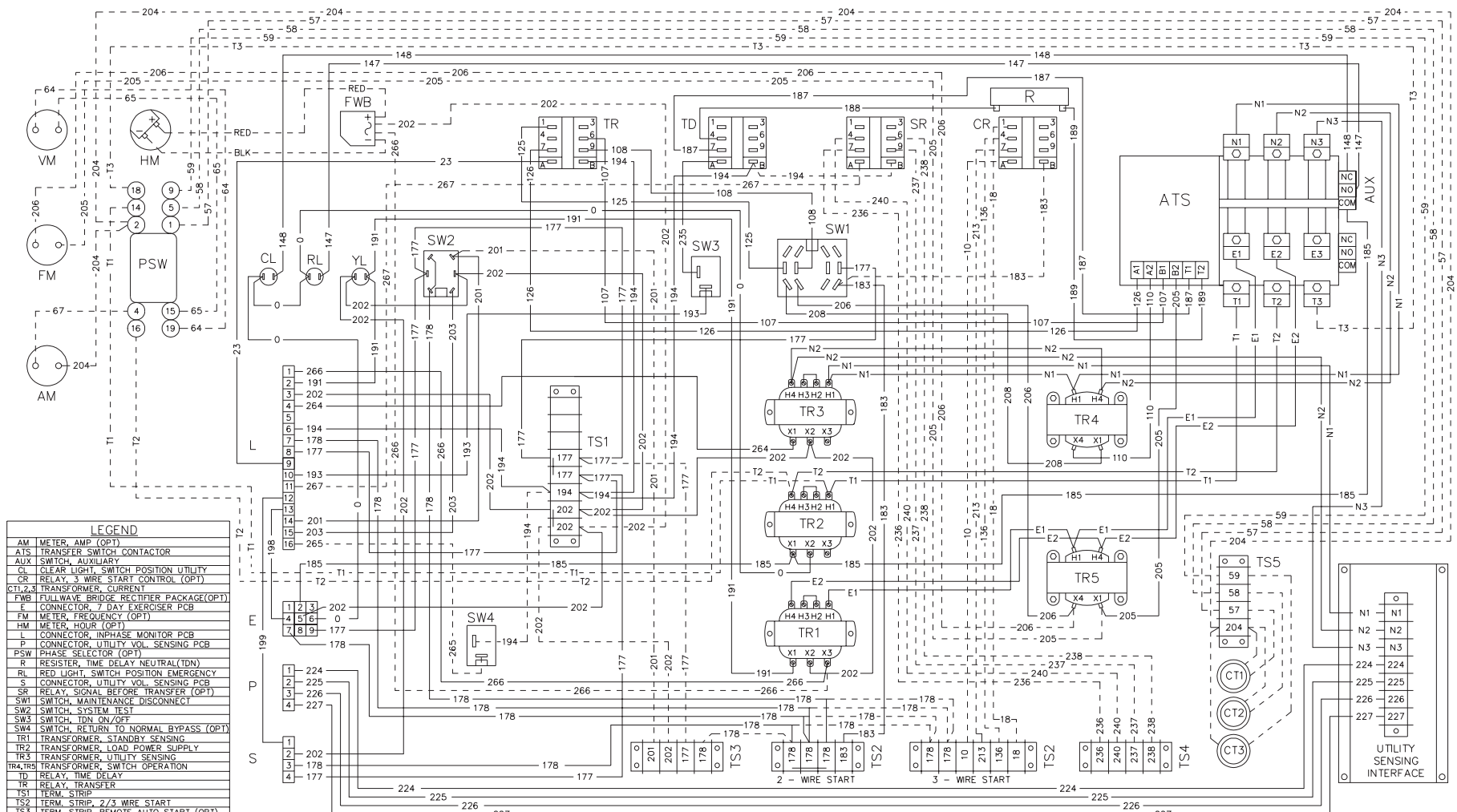


**LEGEND**

A1 A2	A POWER SOURCE SIDE(ON)
AM	METER, AMP (OPT)
ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY
B1 B2	B POWER SOURCE SIDE(ON)
C	COIL, CLOSING
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL (OPT)
CT1,CT2,CT3	TRANSFORMER, CURRENT (OPT)
FM	METER, FREQUENCY (OPT)
FMB	FULLWAVE BRIDGE RECTIFIER PACKAGE(OPT)
HM	METER, HOUR (OPT)
LS1 & LS2	LIMIT SWITCHES, TRIP POSITION
PSW	SWITCH, PHASE SELECTOR (OPT)
R	RESISTOR, (TDN)
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TD	RELAY, TIME DELAY
TD1 & TD2	CONTACTS, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

**OPTIONS**

- SIGNAL BEFORE TRANSFER
- ★ INSTRUMENT PACKAGE
- ▲ 3 WIRE START CONTROL
- REMOTE AUTO START
- \* RETURN TO NORMAL BYPASS



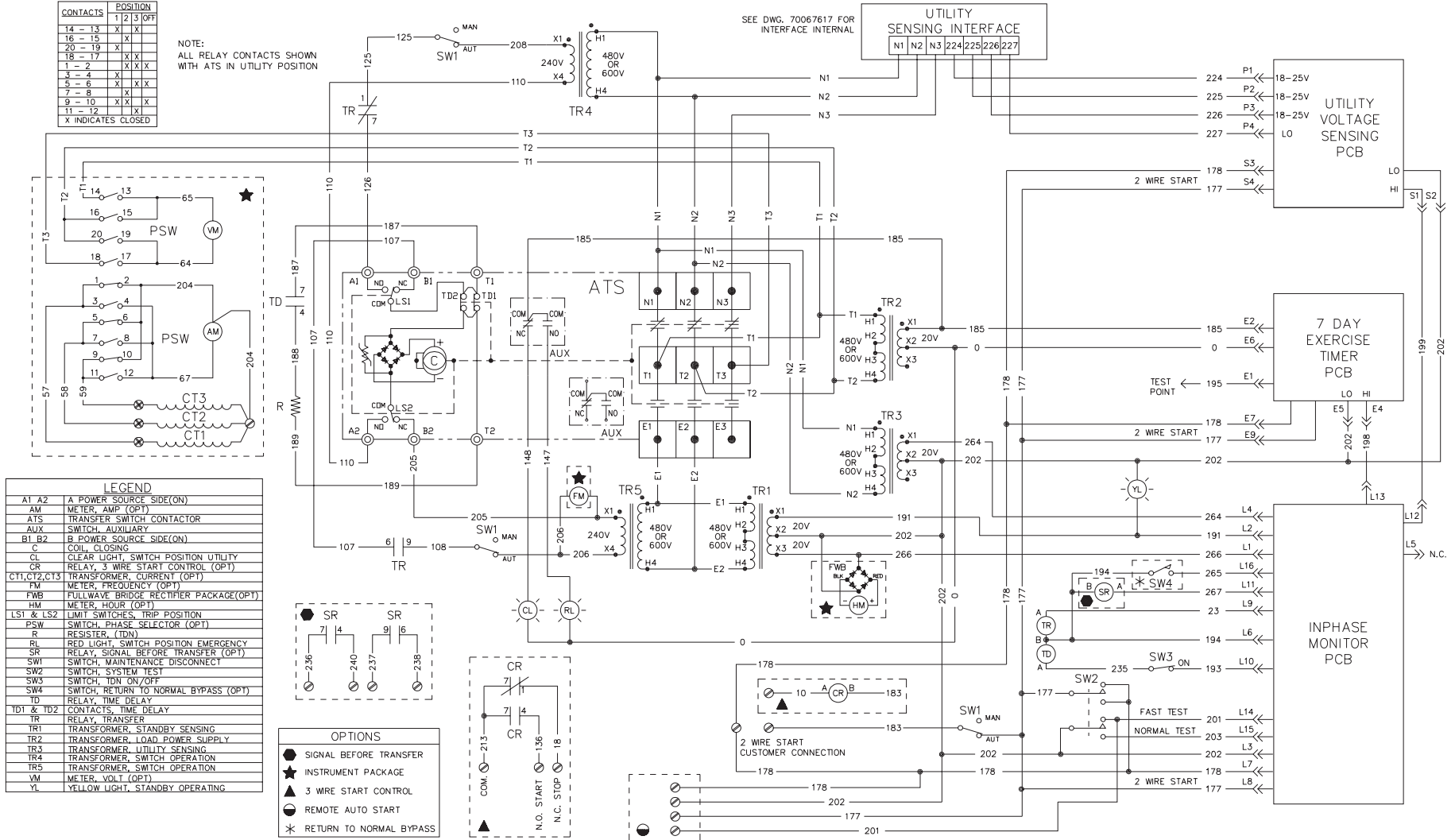
**LEGEND**

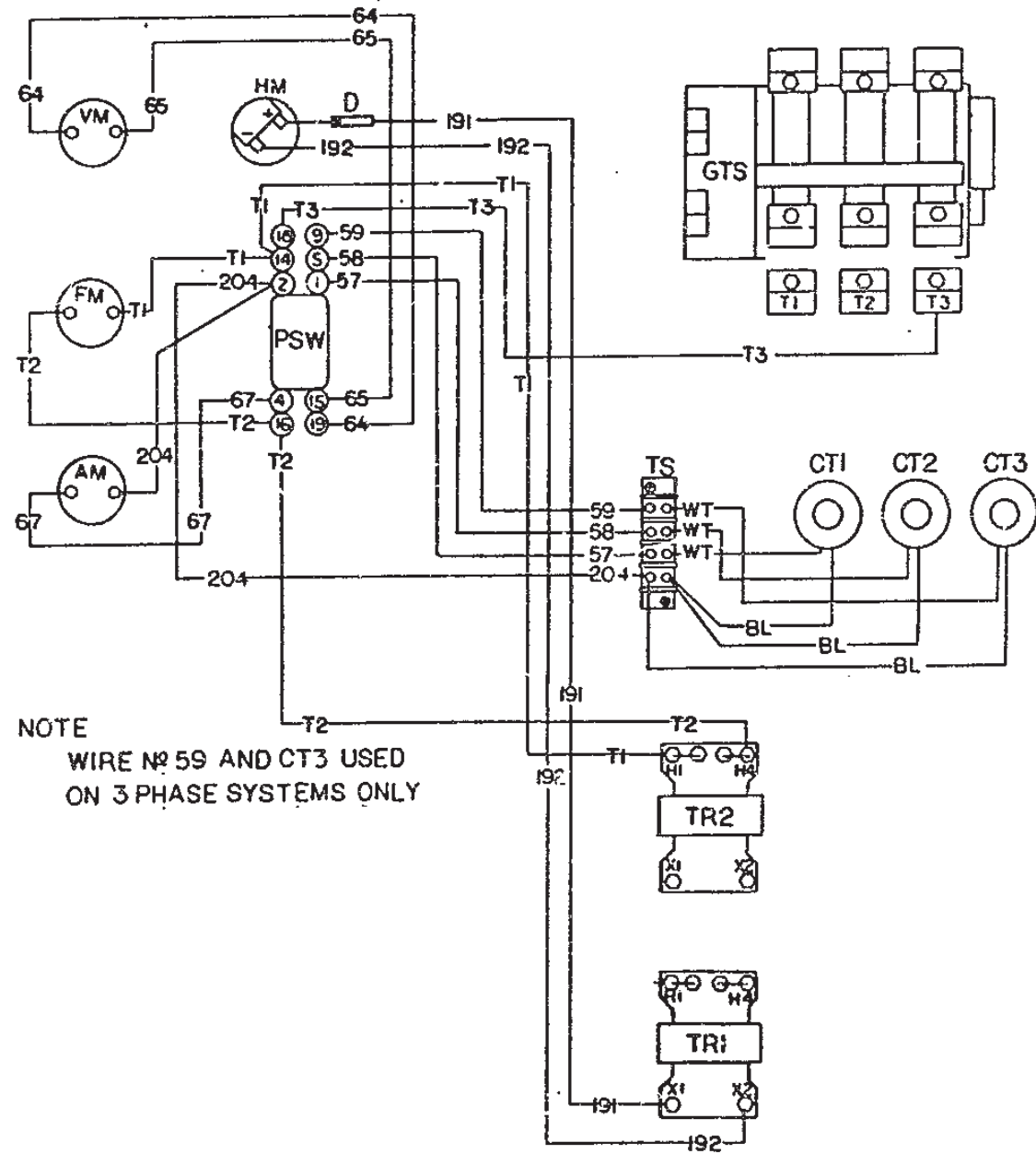
AM	METER, AMP (OPT)
ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL (OPT)
CT1,2,3	TRANSFORMER, CURRENT
FBI	FULLWAVE BRIDGE RECTIFIER PACKAGE(OPT)
E	CONNECTOR, 7 DAY EXERCISER PCB
FM	METER, FREQUENCY (OPT)
HM	METER, HOUR (OPT)
I	CONNECTOR, INPHASE MONITOR PCB
P	CONNECTOR, UTILITY VOL. SENSING PCB
PSW	PHASE SELECTOR (OPT)
R	RESISTOR, TIME DELAY NEUTRAL (TDN)
RL	RED LIGHT, SWITCH POSITION EMERGENCY
S	CONNECTOR, UTILITY VOL. SENSING PCB
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
TR4,TR5	TRANSFORMER, SWITCH OPERATION
TD	RELAY, TIME
TR	RELAY, TRANSFER
TS1	TERM. STRIP
TS2	TERM. STRIP, 2/3 WIRE START
TS3	TERM. STRIP, REMOTE AUTO START (OPT)
TS4	TERM. STRIP, SIGNAL BEFORE TRANSFER (OPT)
TS5	TERM. STRIP, INSTRUMENT PACKAGE (OPT)
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

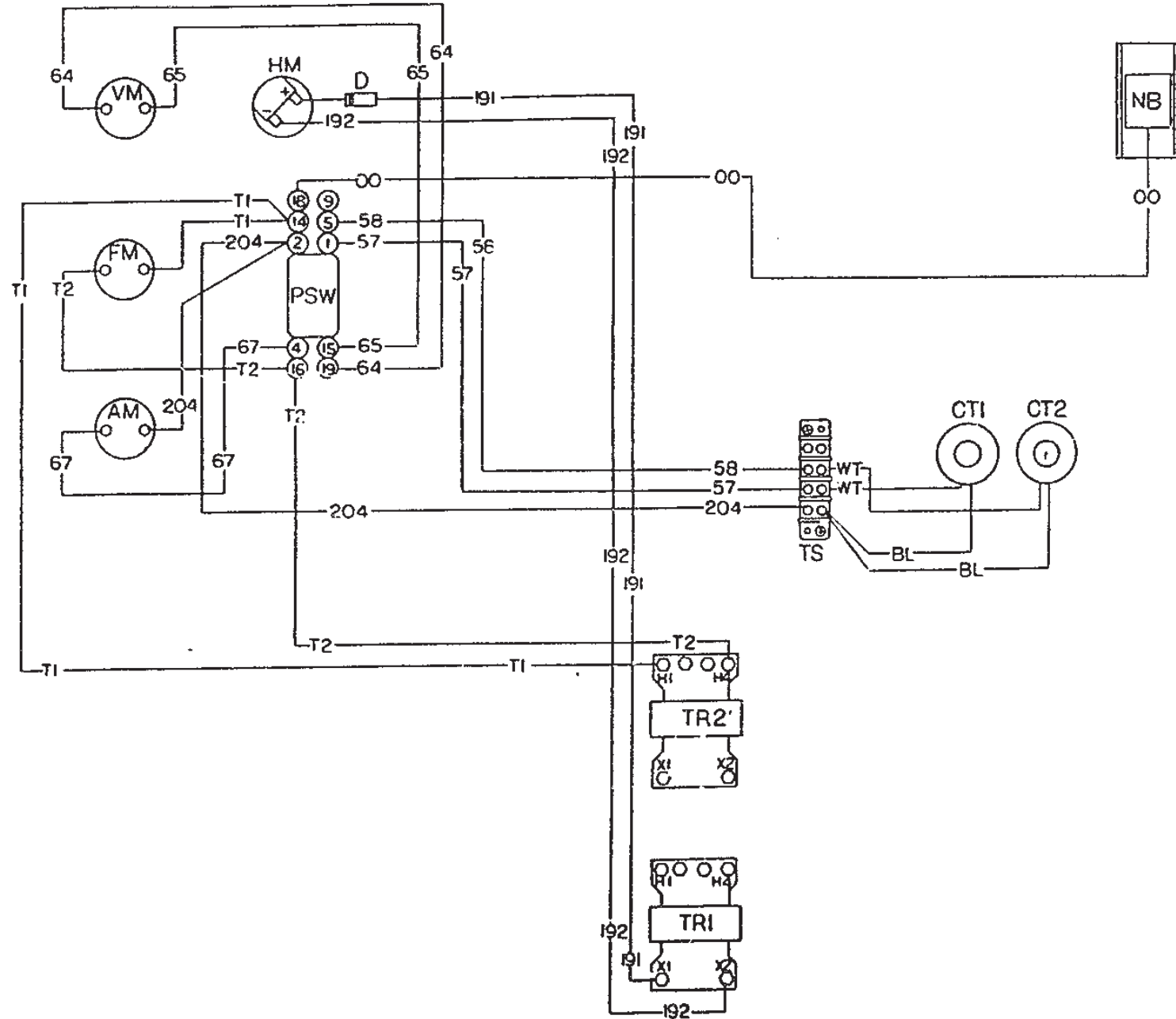
NOTE:  
DASHED LINES REPRESENT WIRING FOR OPTIONAL FEATURES.

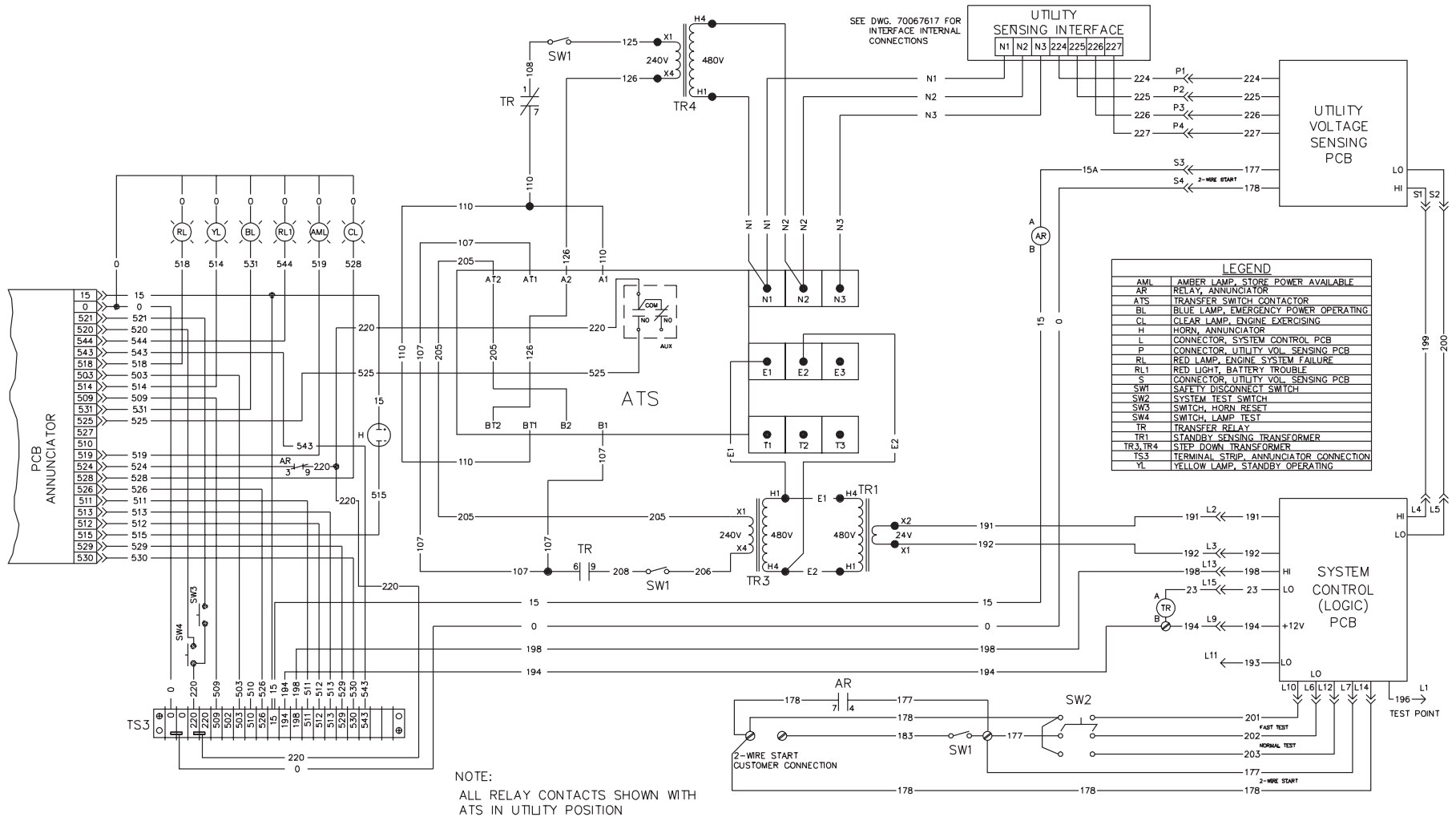
CONTACTS	POSITION
	1 2 3 OFF
14 - 13	X X
16 - 15	X X
20 - 19	X X
18 - 17	X X
1 - 2	X X X
3 - 4	X X
5 - 6	X X X
7 - 8	X X X
9 - 10	X X X
11 - 12	X X
X INDICATES CLOSED	

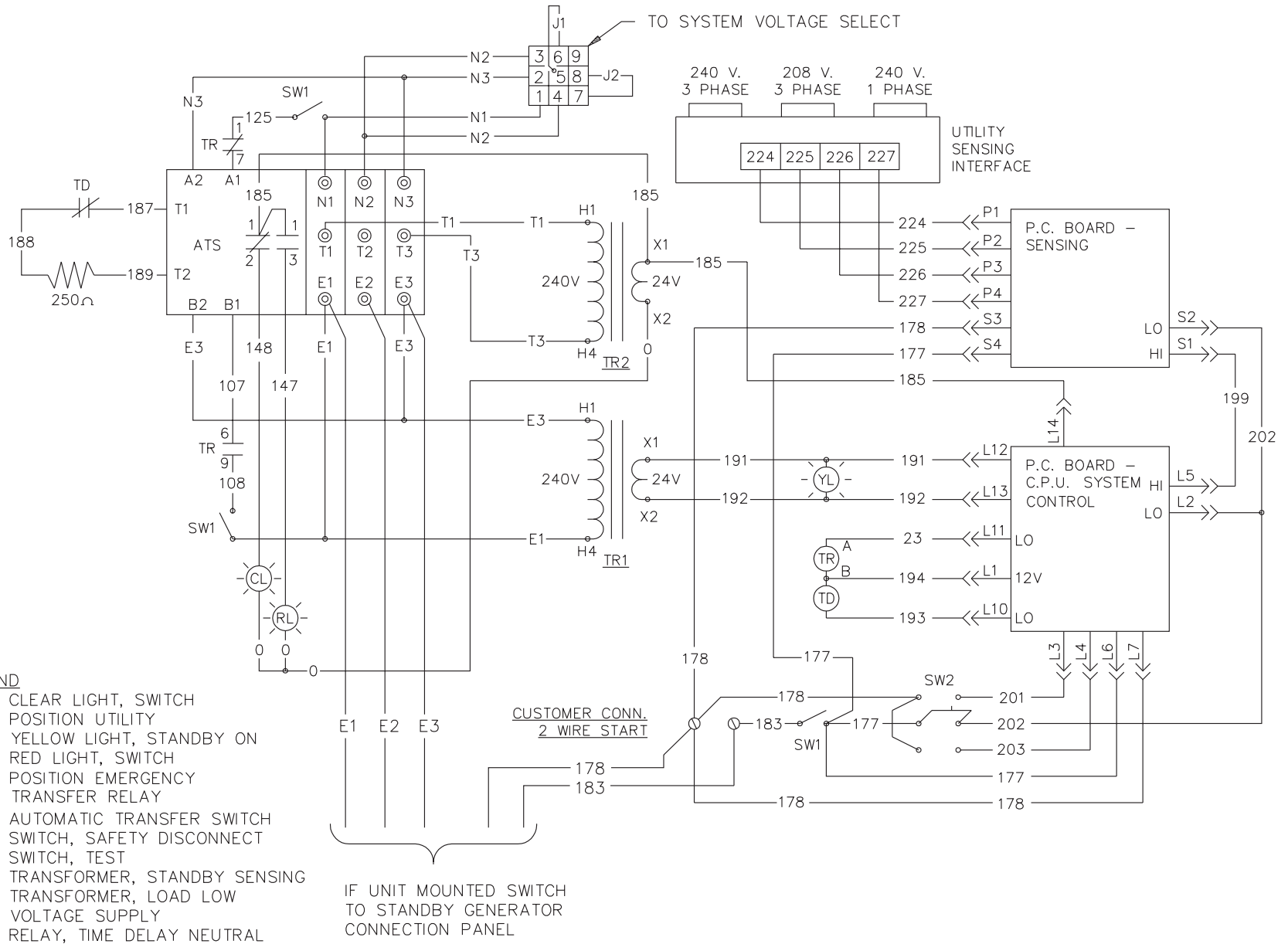
NOTE:  
ALL RELAY CONTACTS SHOWN  
WITH ATS IN UTILITY POSITION



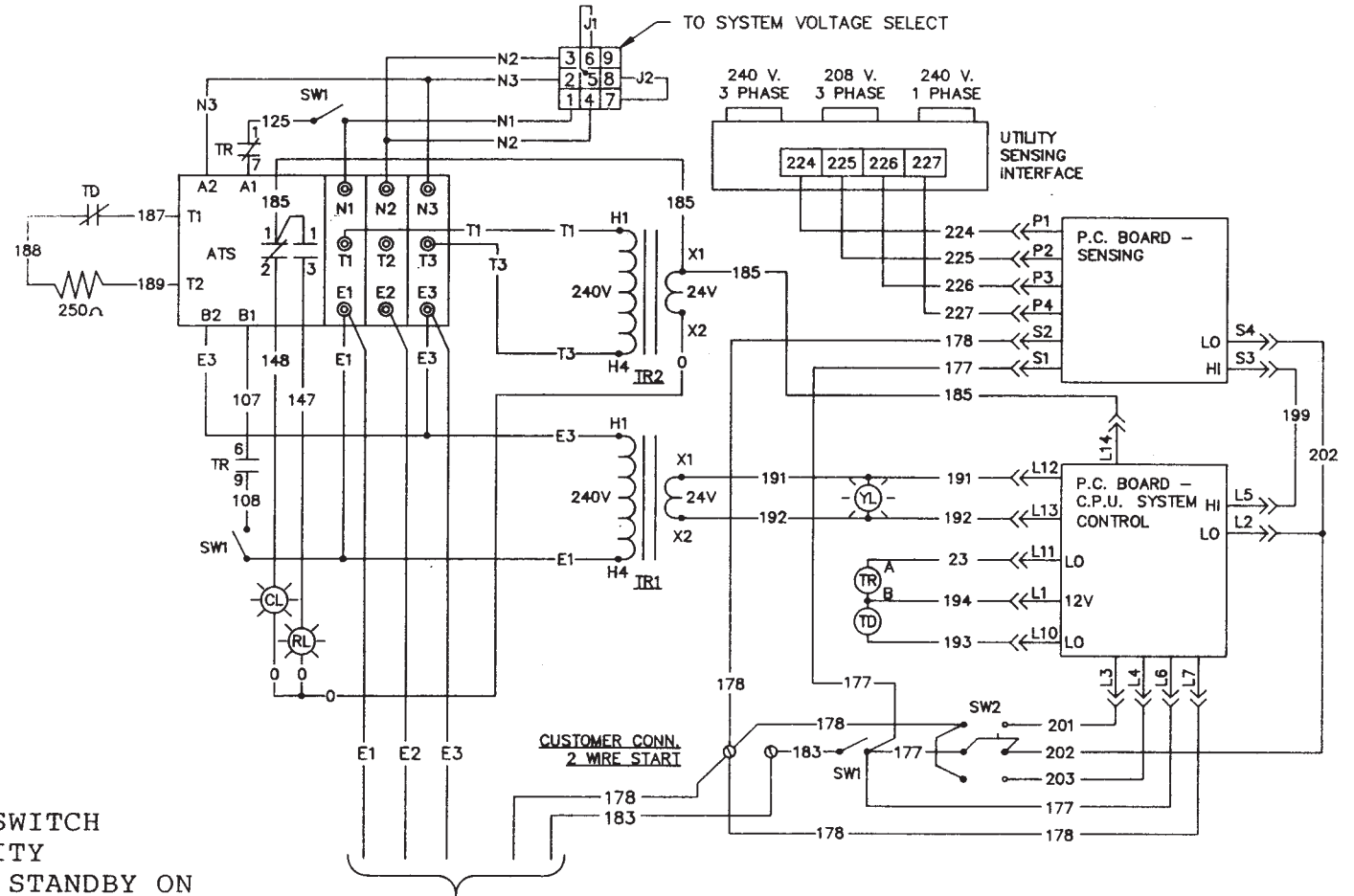








- LEGEND**
- CL - CLEAR LIGHT, SWITCH POSITION UTILITY
  - YL - YELLOW LIGHT, STANDBY ON
  - RL - RED LIGHT, SWITCH POSITION EMERGENCY
  - TR - TRANSFER RELAY
  - ATS - AUTOMATIC TRANSFER SWITCH
  - SW1 - SWITCH, SAFETY DISCONNECT
  - SW2 - SWITCH, TEST
  - TR1 - TRANSFORMER, STANDBY SENSING
  - TR2 - TRANSFORMER, LOAD LOW VOLTAGE SUPPLY
  - TD - RELAY, TIME DELAY NEUTRAL



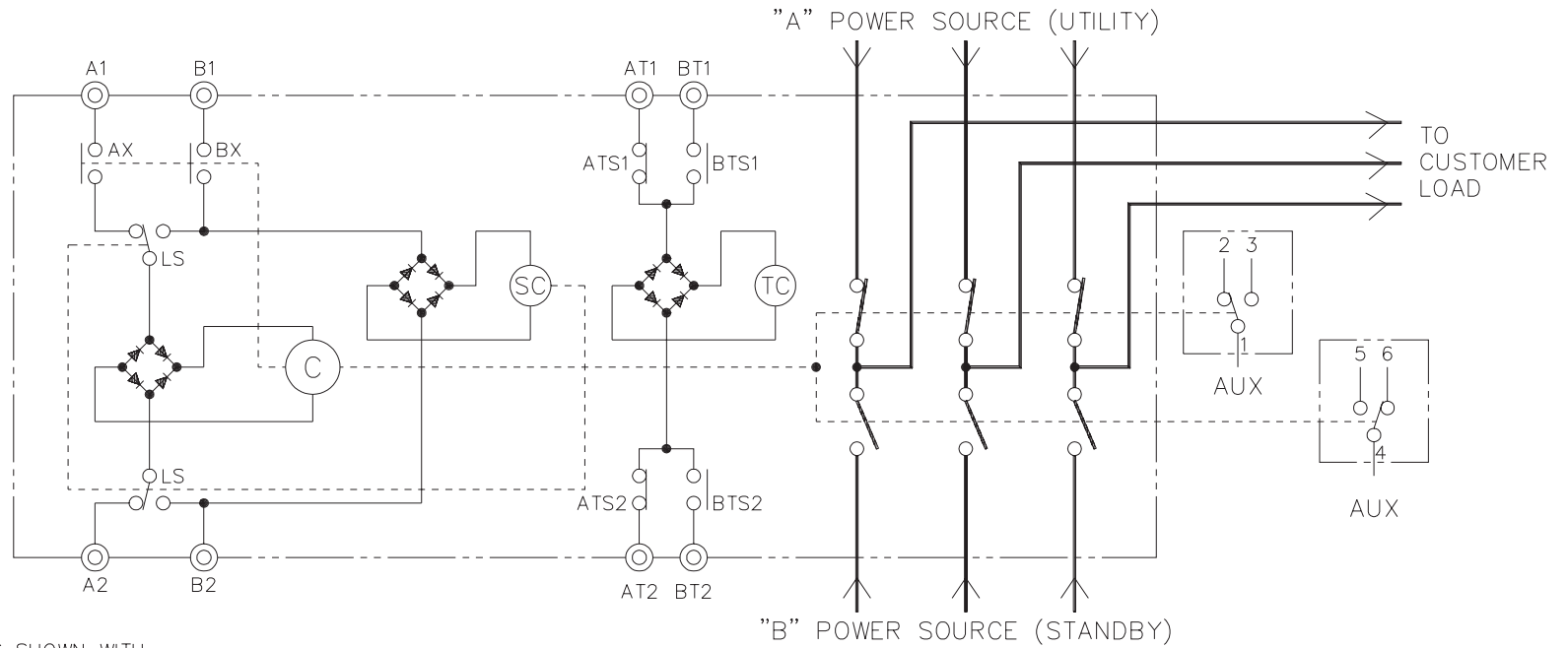
**LEGEND**

- CL - CLEAR LIGHT, SWITCH POSITION UTILITY
- YL - YELLOW LIGHT, STANDBY ON
- RL - RED LIGHT, SWITCH POSITION EMERGENCY
- TR - TRANSFER RELAY
- ATS - AUTOMATIC TRANSFER SWITCH
- SW1 - SWITCH, SAFETY DISCONNECT
- SW2 - SWITCH, TEST
- TR1 - TRANSFORMER, STANDBY SENSING
- TR2 - TRANSFORMER, LOAD LOW VOLTAGE SUPPLY
- TD - RELAY, TIME DELAY NEUTRAL

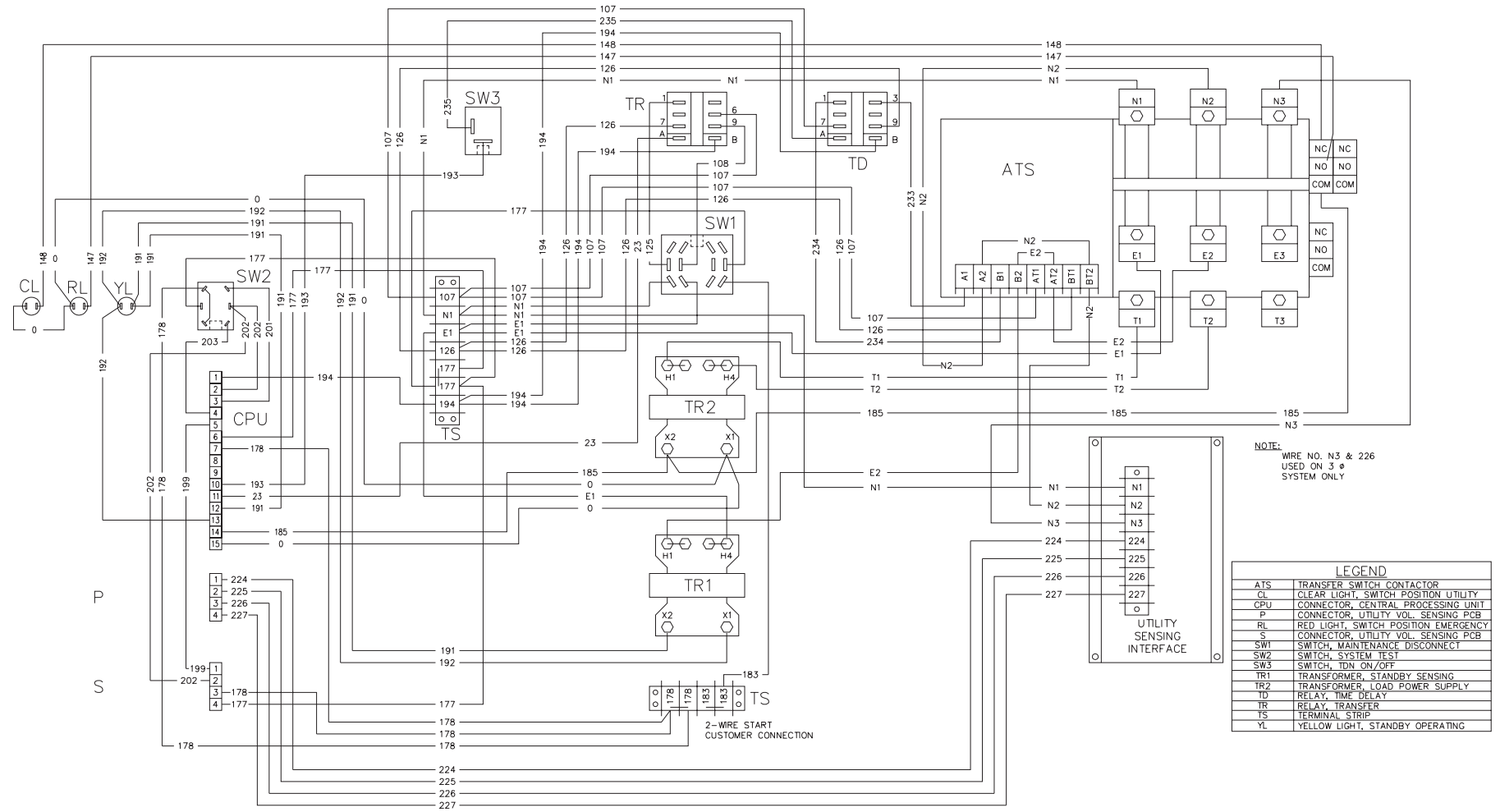
IF UNIT MOUNTED SWITCH TO STANDBY GENERATOR CONNECTION PANEL



- |                        |                                     |
|------------------------|-------------------------------------|
| C = Closing coil       | ATS1 ATS2 = Trip control switch     |
| LS = Selective switch  | BTS1 BTS2 = Trip control switch     |
| Ax Bx = Control switch | A1 A2 = A Power Source Side(ON)     |
| SC = Selective coil    | B1 B2 = B Power Source Side(ON)     |
| TC = Trip coil         | AT1 AT2 = A Power Source Side(Trip) |
| AUX = Auxiliary switch | BT1 BT2 = B Power Source Side(Trip) |



NOTE:  
ALL CONTACTS SHOWN WITH  
MAIN POWER CONTACTS CLOSED  
IN UTILITY POSITION

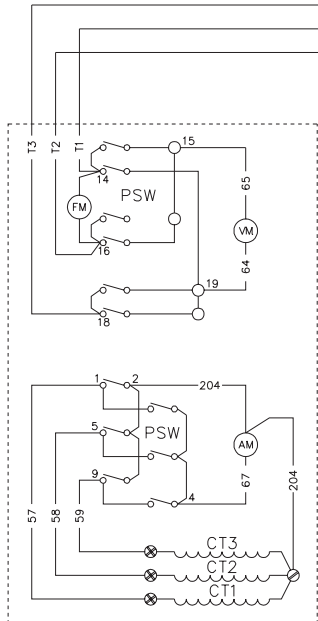


NOTE:  
WIRE N3,59,AND CT3 USED ON  
3 PHASE SYSTEM ONLY  
ALL RELAY CONTACTS SHOWN WITH  
GTS IN UTILITY POSITION

SEE DWG. 70067617 FOR  
INTERFACE INTERNAL CONNECTIONS

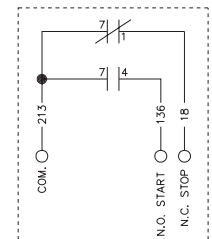
UTILITY (STANDARD)  
SENSING INTERFACE  
N1 N2 N3 224 225 226 227

☆ OPTIONAL INSTRUMENT PACKAGE

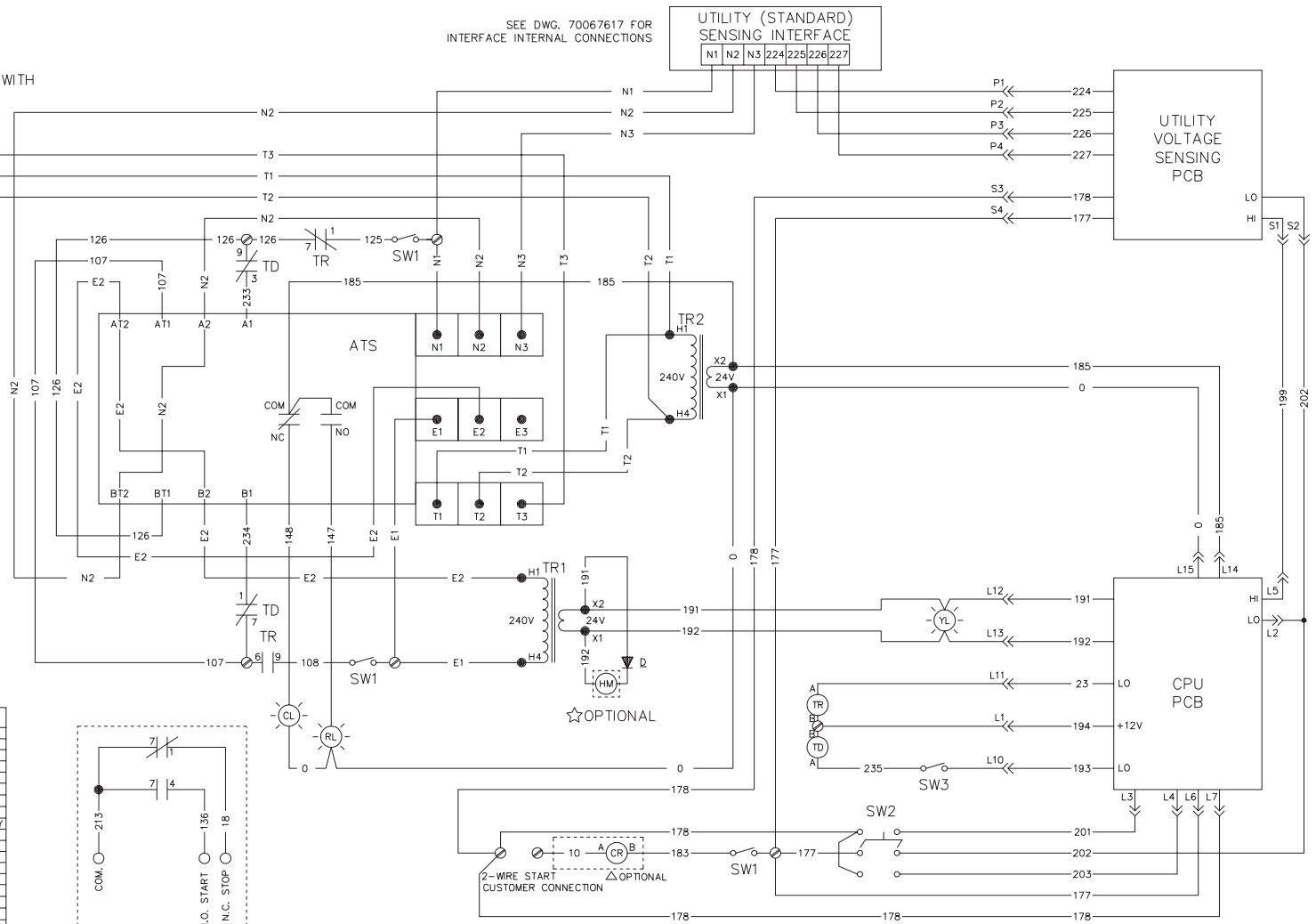


LEGEND

AM	METER, AMP
ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL
CT1,CT2,CT3	TRANSFORMER, CURRENT
FM	METER, FREQUENCY
HM	METER, HOUR
PSW	SWITCH, PHASE SELECTOR
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
VM	METER, VOLT
YL	YELLOW LIGHT, STANDBY OPERATING

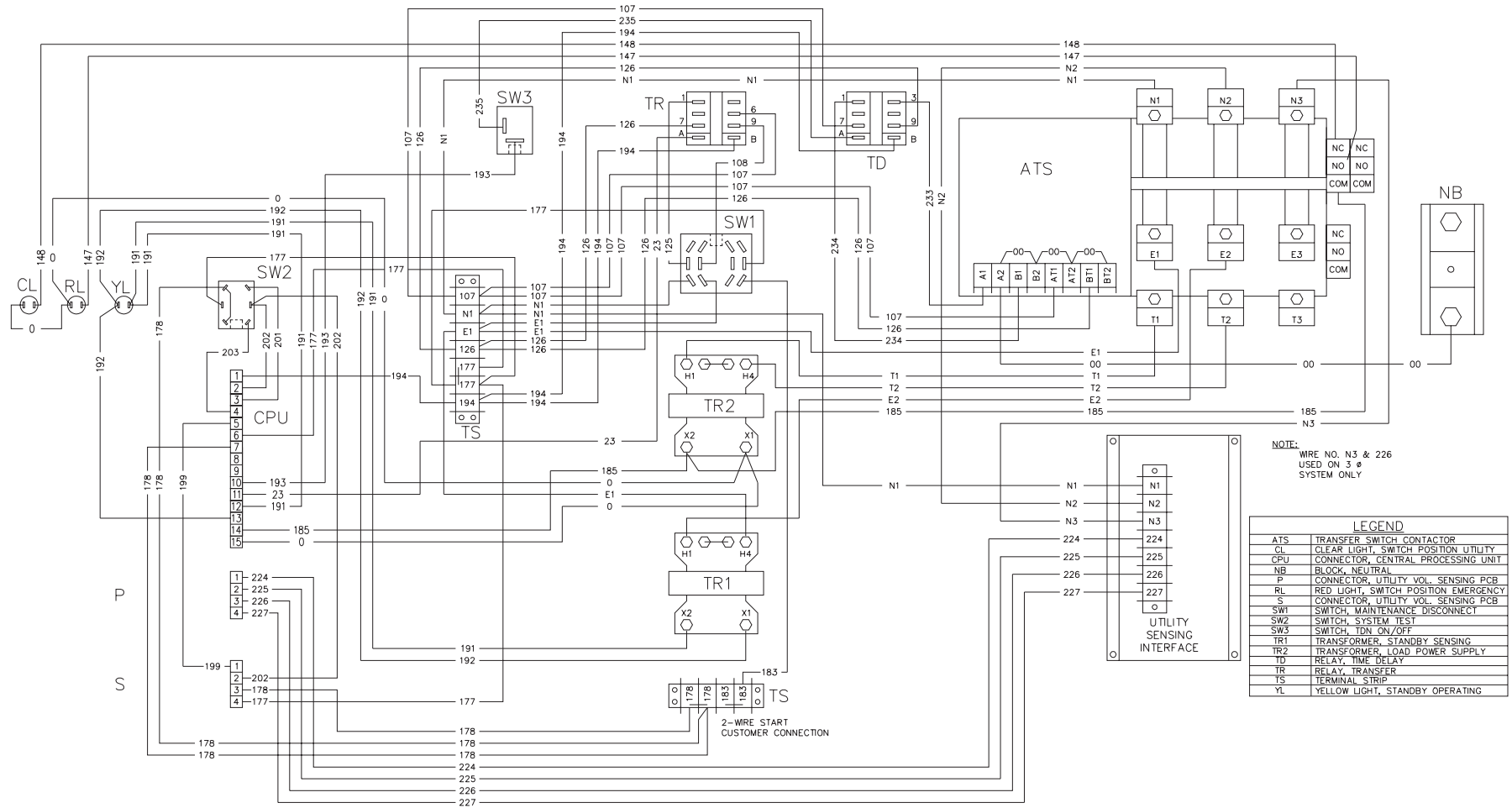


△ OPTION - 3 WIRE START



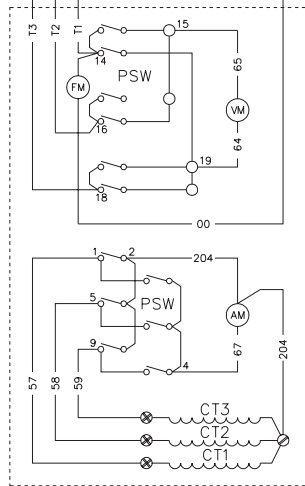
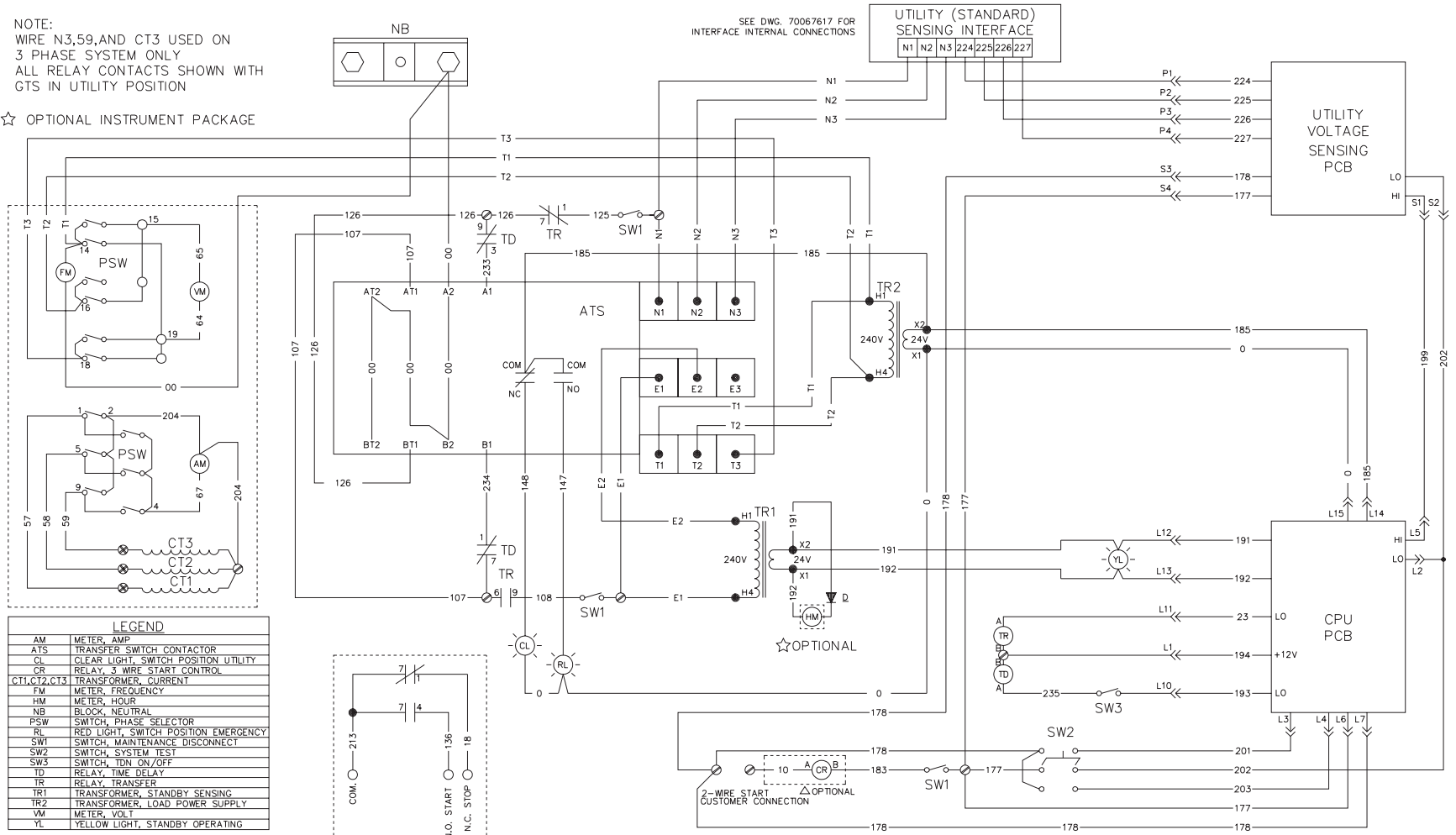
☆ OPTIONAL

2-WIRE START  
CUSTOMER CONNECTION



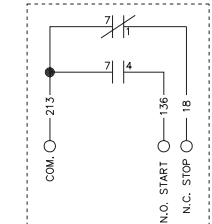
NOTE:  
WIRE N3,59,AND CT3 USED ON  
3 PHASE SYSTEM ONLY  
ALL RELAY CONTACTS SHOWN WITH  
GTS IN UTILITY POSITION

☆ OPTIONAL INSTRUMENT PACKAGE



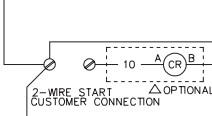
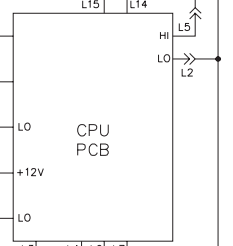
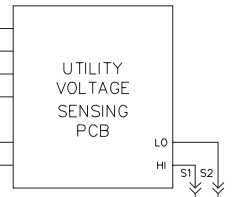
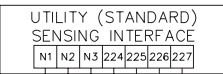
**LEGEND**

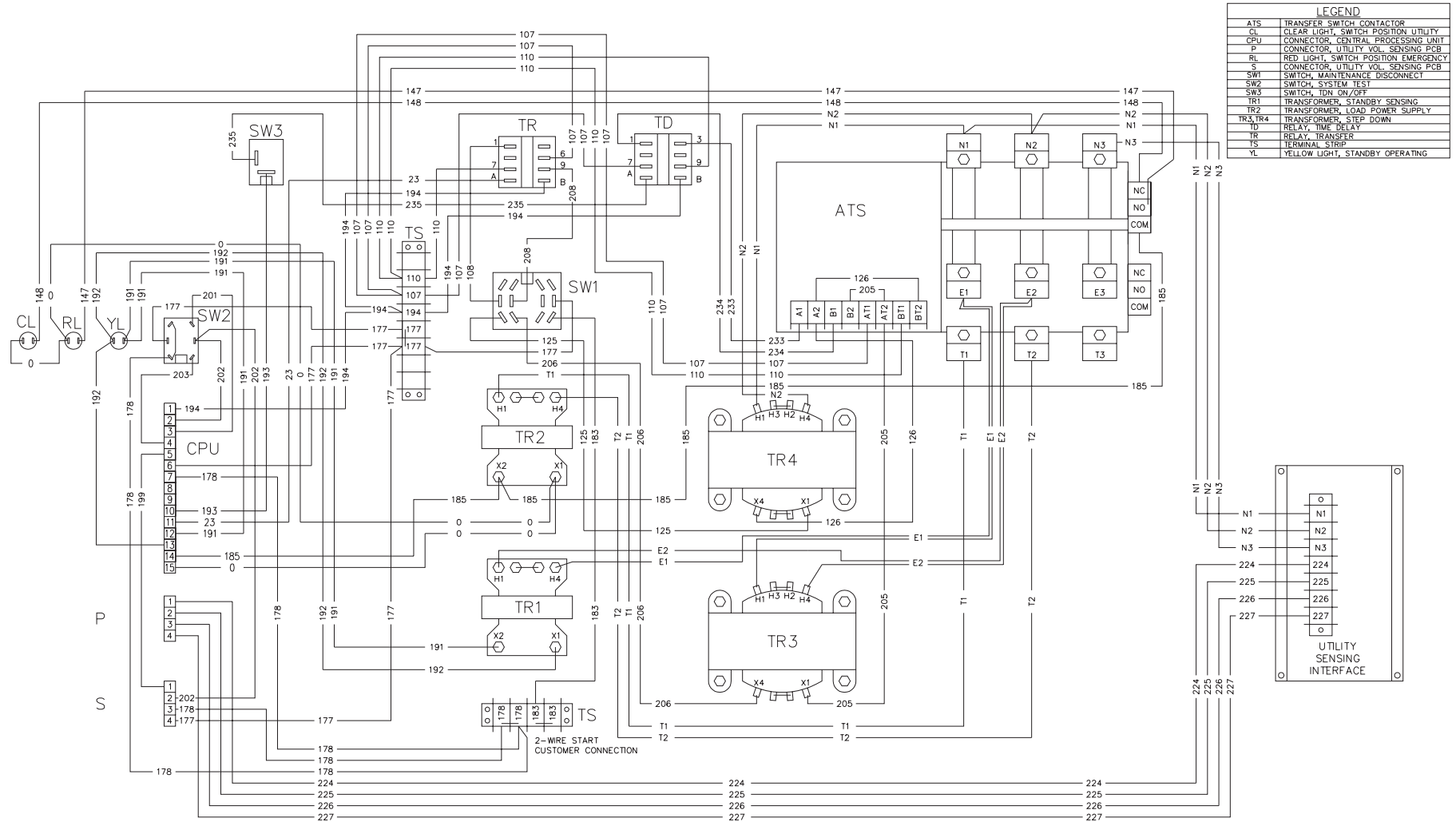
AM	METER, AMP
ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL
CT1,CT2,CT3	TRANSFORMER, CURRENT
FM	METER, FREQUENCY
HM	METER, HOUR
NB	BLOCK, NEUTRAL
PSW	SWITCH, PHASE SELECTOR
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
VM	METER, VOLT
YL	YELLOW LIGHT, STANDBY OPERATING



△ OPTION - 3 WIRE START

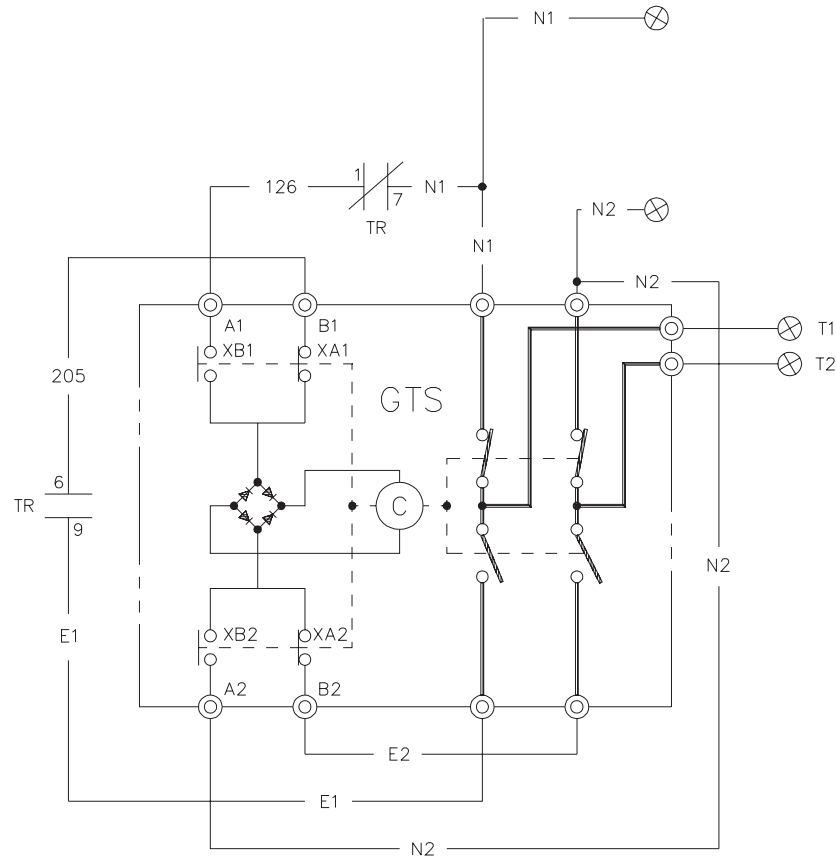
SEE DWG. 70067617 FOR  
INTERFACE INTERNAL CONNECTIONS



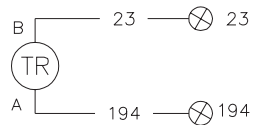




**SCHEMATIC DIAGRAM**

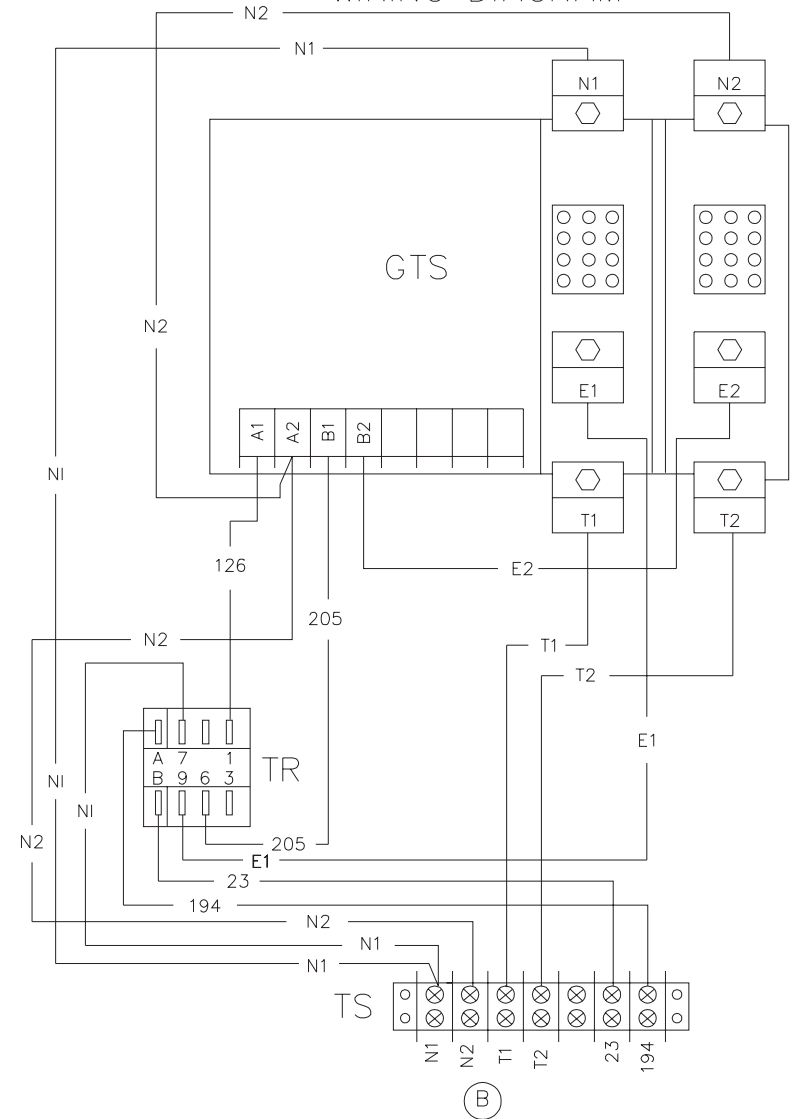


LEGEND	
XA1,XA2,XB1,XB2	- LIMIT SWITCHES, ACTUATOR
C	- CONTACTOR ACTUATING COIL
GTS	- TRANSFER SWITCH CONTACTOR
TR	- RELAY, TRANSFER
TS	- TERMINAL STRIP (CUSTOMER CONNECTION)

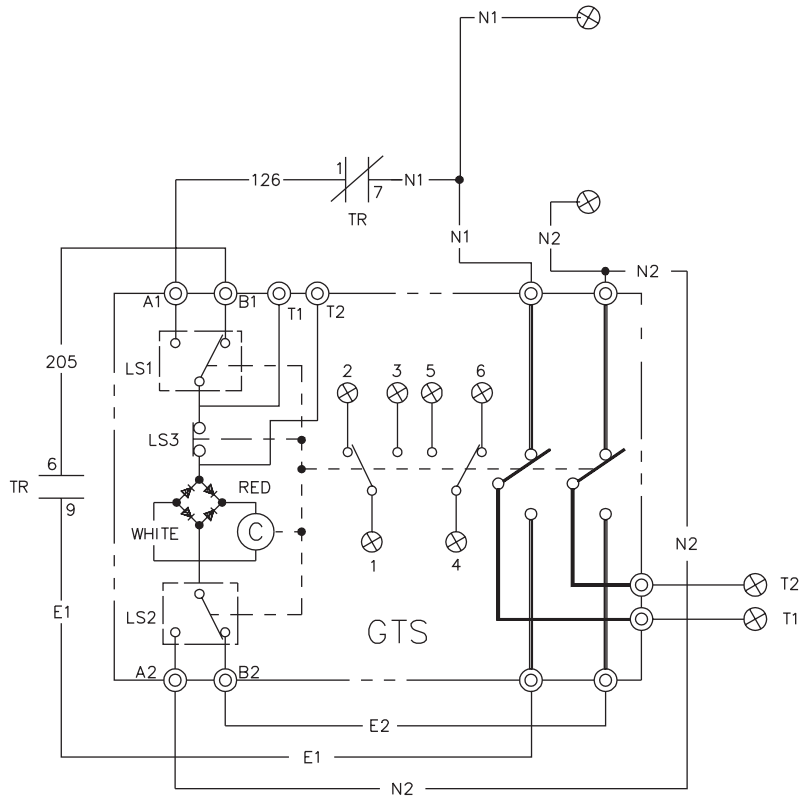


NOTE:  
ALL CONTACTS SHOWN WITH  
TRANSFER SWITCH IN UTILITY  
POSITION.

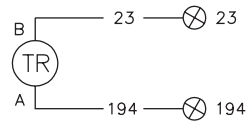
**WIRING DIAGRAM**



**SCHEMATIC DIAGRAM**

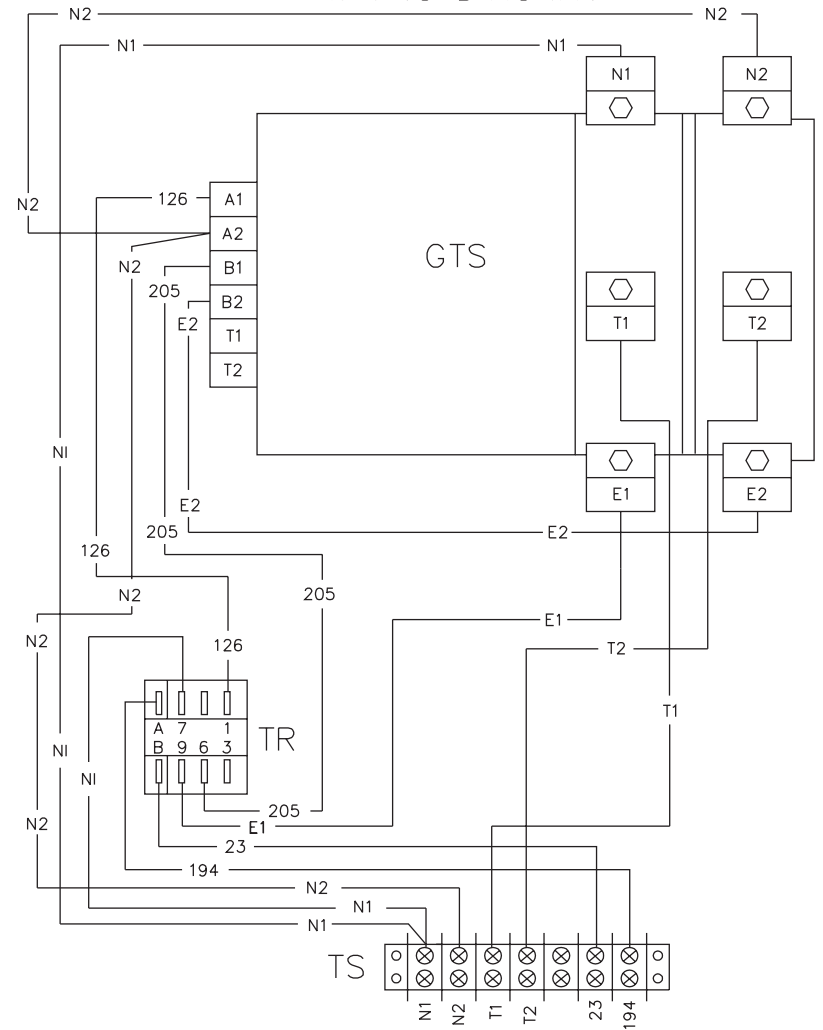


LEGEND	
C	- CONTACTOR ACTUATING COIL
GTS	- TRANSFER SWITCH CONTACTOR
LS1,LS2,LS3	- LIMIT SWITCHES, ACTUATOR
TR	- RELAY, TRANSFER
TS	- TERMINAL STRIP (CUSTOMER CONNECTION)

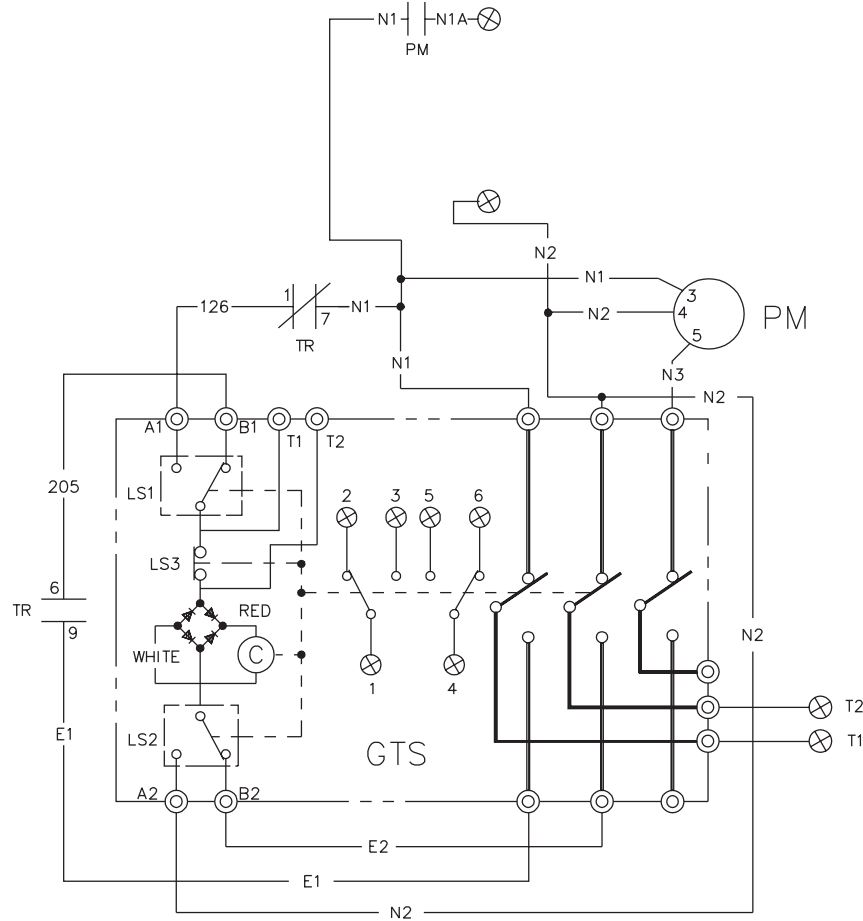


NOTE:  
ALL CONTACTS SHOWN WITH  
TRANSFER SWITCH IN UTILITY  
POSITION.

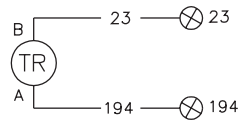
**WIRING DIAGRAM**



**SCHEMATIC DIAGRAM**

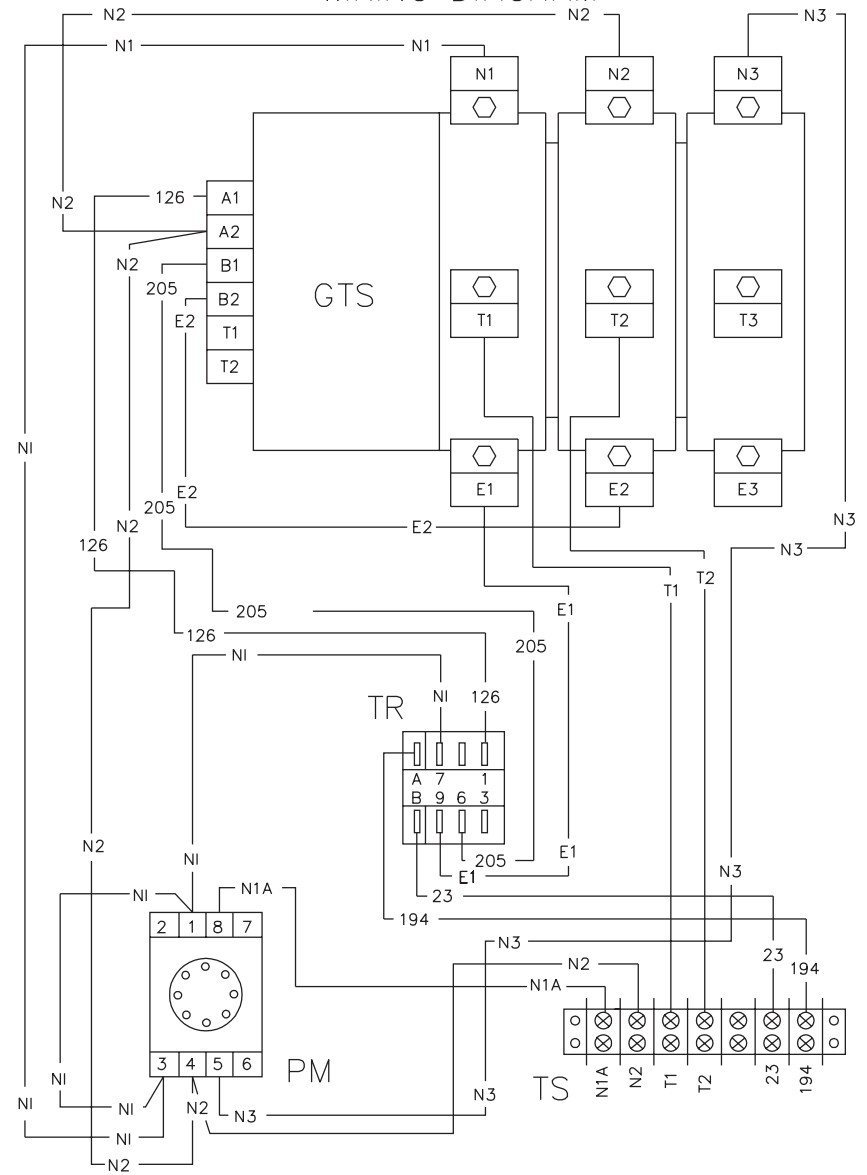


- LEGEND**
- C - CONTACTOR ACTUATING COIL
  - GTS - TRANSFER SWITCH CONTACTOR
  - LS1,LS2,LS3 - LIMIT SWITCHES, ACTUATOR
  - PM - POWER MONITOR, 3 PHASE UTILITY
  - TR - RELAY, TRANSFER
  - TS - TERMINAL STRIP (CUSTOMER CONNECTION)



NOTE:  
ALL CONTACTS SHOWN WITH  
TRANSFER SWITCH IN UTILITY  
POSITION.

**WIRING DIAGRAM**



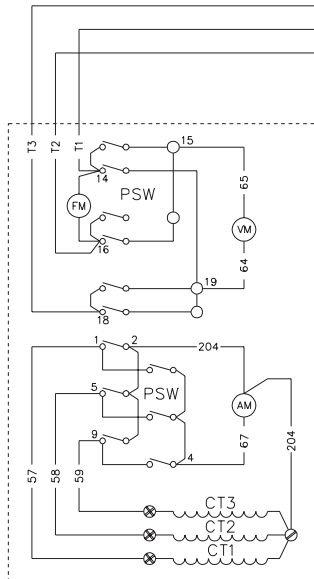


NOTE:  
 WIRE N3,59,AND CT3 USED ON  
 3 PHASE SYSTEM ONLY  
 ALL RELAY CONTACTS SHOWN WITH  
 ATS IN UTILITY POSITION

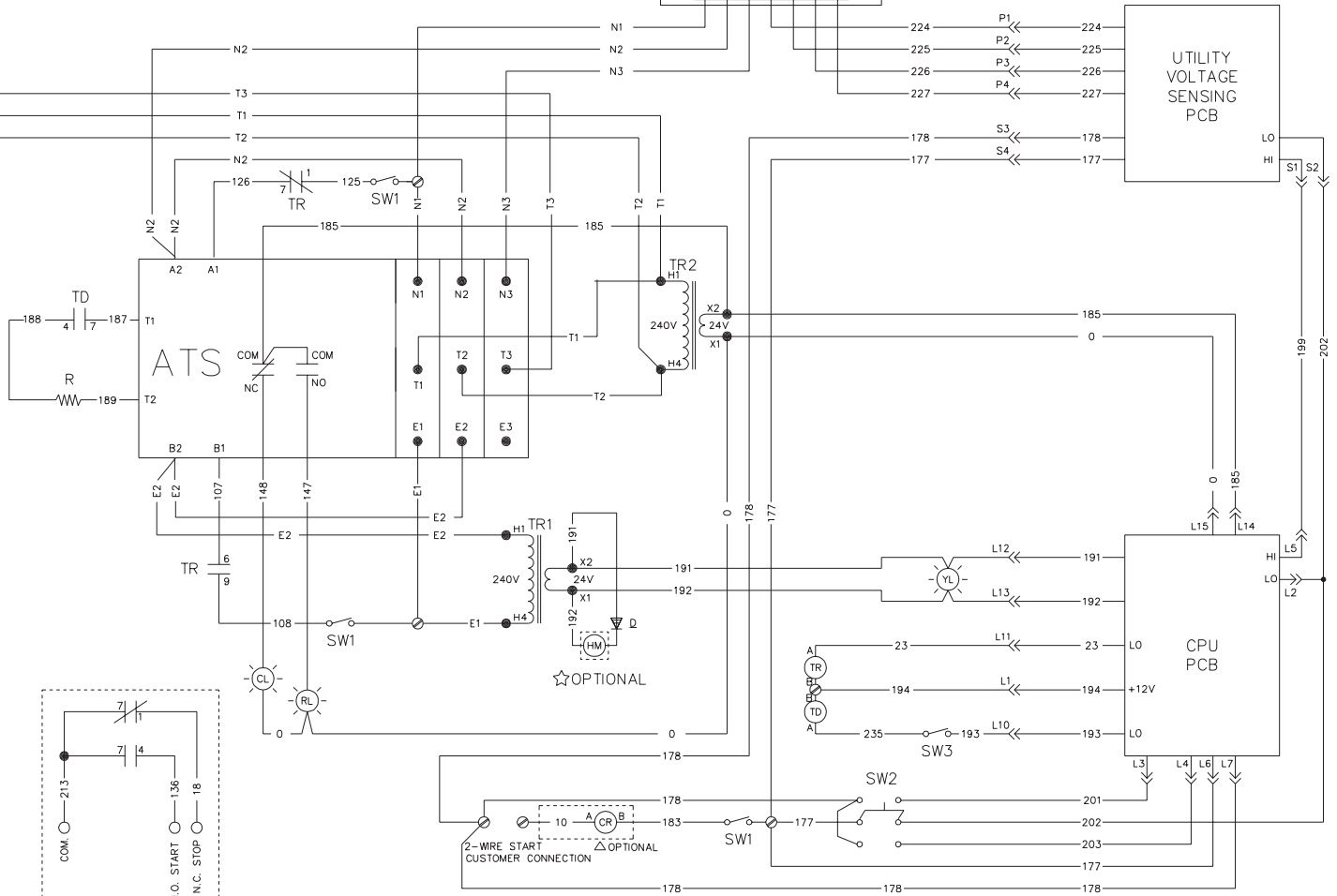
SEE DWG. 70067617 FOR  
 INTERFACE INTERNAL CONNECTIONS

UTILITY (STANDARD)  
 SENSING INTERFACE  
 N1 N2 N3 224 225 226 227

☆ OPTIONAL INSTRUMENT PACKAGE



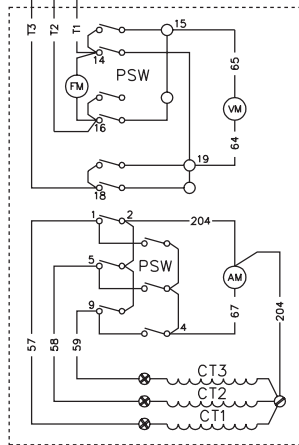
LEGEND	
AM	METER, AMP
ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL
CT1,CT2,CT3	TRANSFORMER, CURRENT
FM	METER, FREQUENCY
HM	METER, HOUR
PSW	SWITCH, PHASE SELECTOR
R	RESISTOR, TDN
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
VM	METER, VOLT
YL	YELLOW LIGHT, STANDBY OPERATING



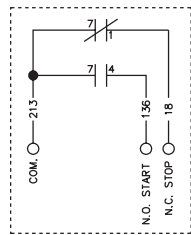
△ OPTION - 3 WIRE START

NOTE:  
WIRE N3,59,AND CT3 USED ON  
3 PHASE SYSTEM ONLY  
ALL RELAY CONTACTS SHOWN WITH  
ATS IN UTILITY POSITION

☆ OPTIONAL INSTRUMENT PACKAGE

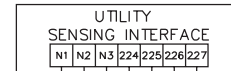


LEGEND	
AM	METER, AMP
ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL
CT1,CT2,CT3	TRANSFORMER, CURRENT
FM	METER, FREQUENCY
HM	METER, HOUR
PSW	SWITCH, PHASE SELECTOR
R	RESISTOR, TDN
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
VM	METER, VOLT
YL	YELLOW LIGHT, STANDBY OPERATING
E, L, P, S	CIRCUIT BOARD CONNECTORS

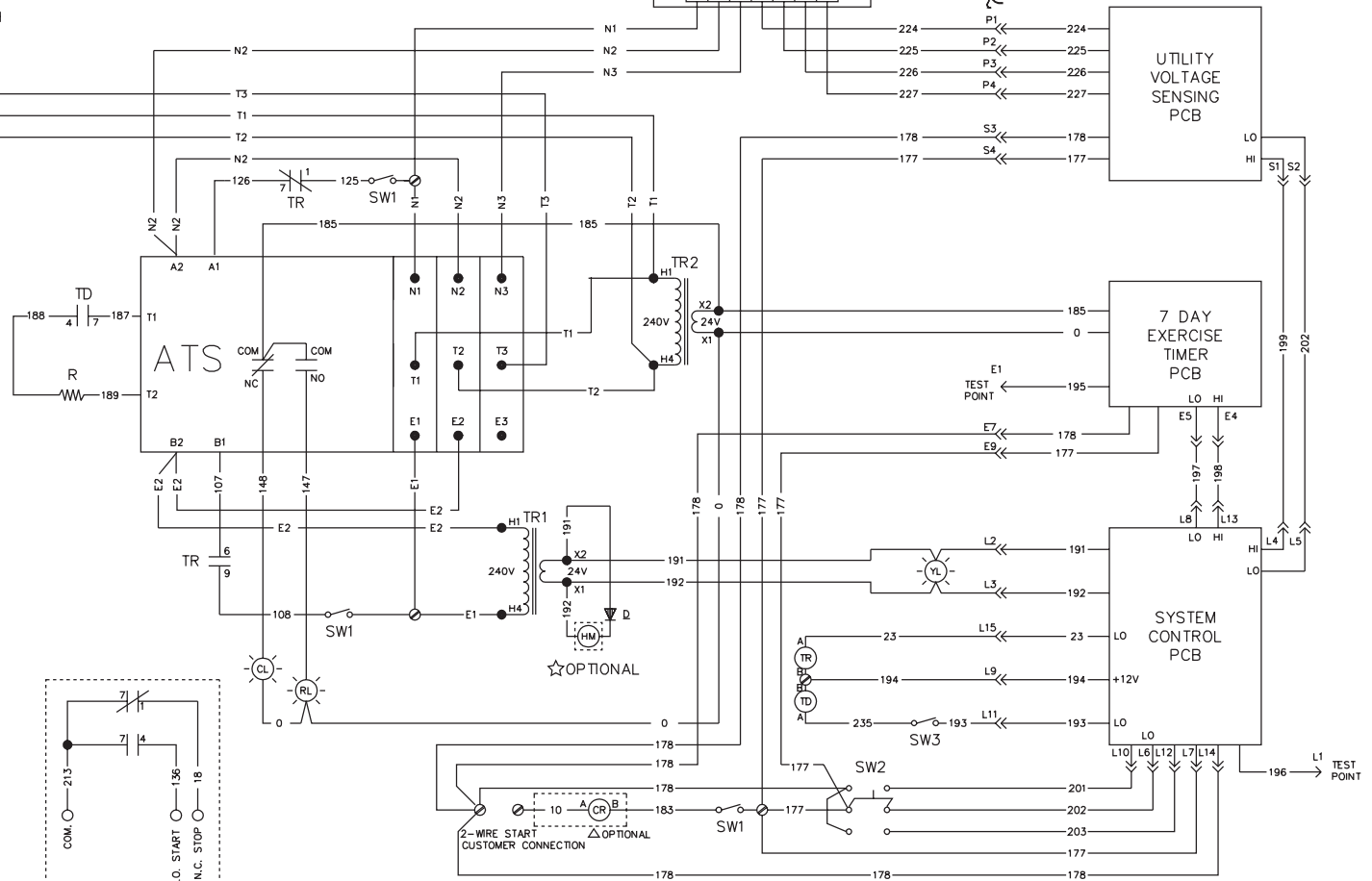


△ OPTION - 3 WIRE START

SEE DWG. 70067617 FOR  
INTERFACE INTERNAL CONNECTIONS



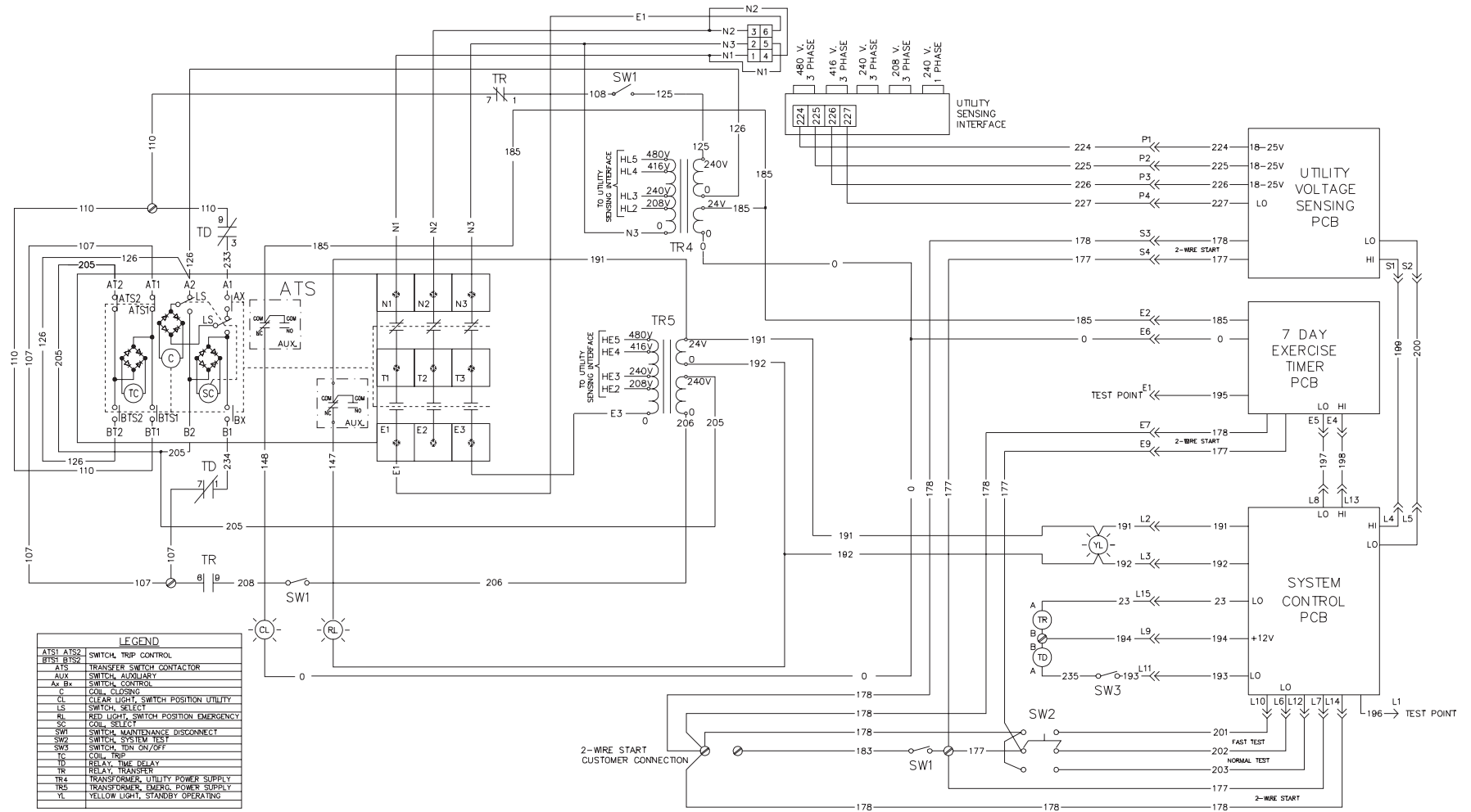
75018A



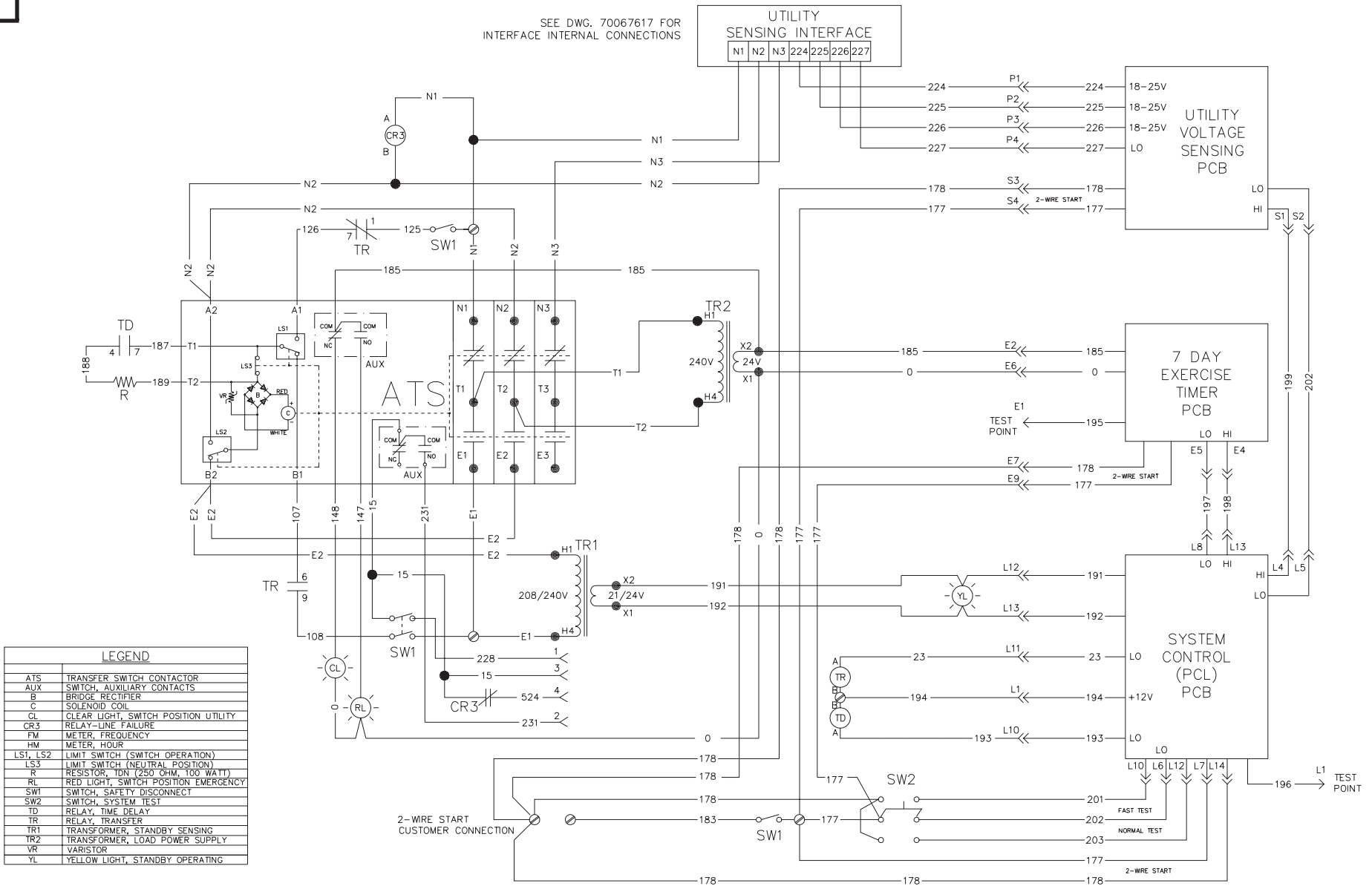
L1 TEST POINT





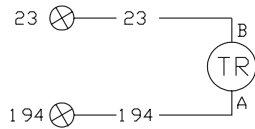
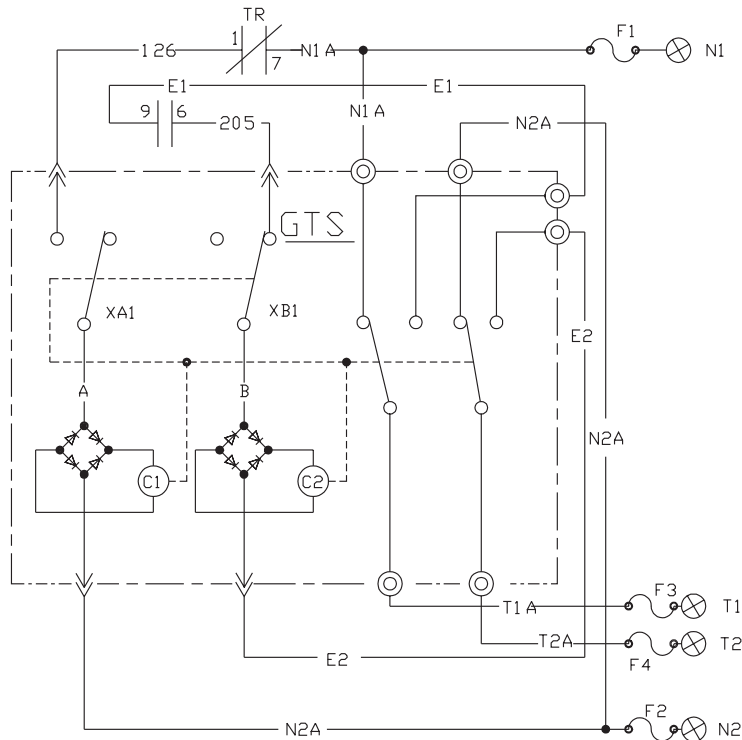


SEE DWG. 70067617 FOR  
INTERFACE INTERNAL CONNECTIONS



LEGEND	
ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY CONTACTS
B	BRIDGE RECTIFIER
C	SOLENOID COIL
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR3	RELAY-LINE FAILURE
FM	METER, FREQUENCY
HM	METER, HOUR
LS1, LS2	LIMIT SWITCH (SWITCH OPERATION)
LS3	LIMIT SWITCH (NEUTRAL POSITION)
R	RESISTOR, 10N (250 OHM, 100 WATT)
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SW1	SWITCH, SAFETY DISCONNECT
SW2	SWITCH, SYSTEM TEST
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
VR	VARIABLE
YL	YELLOW LIGHT, STANDBY OPERATING

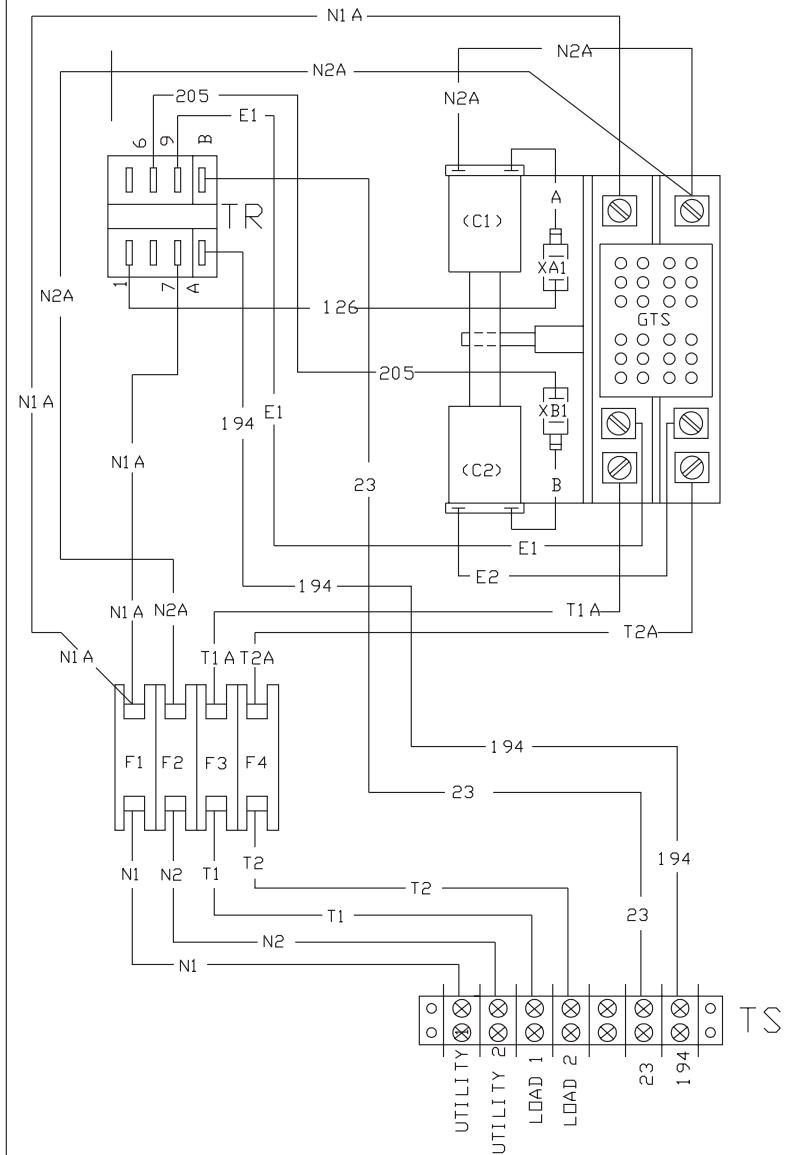
SCHEMATIC DIAGRAM

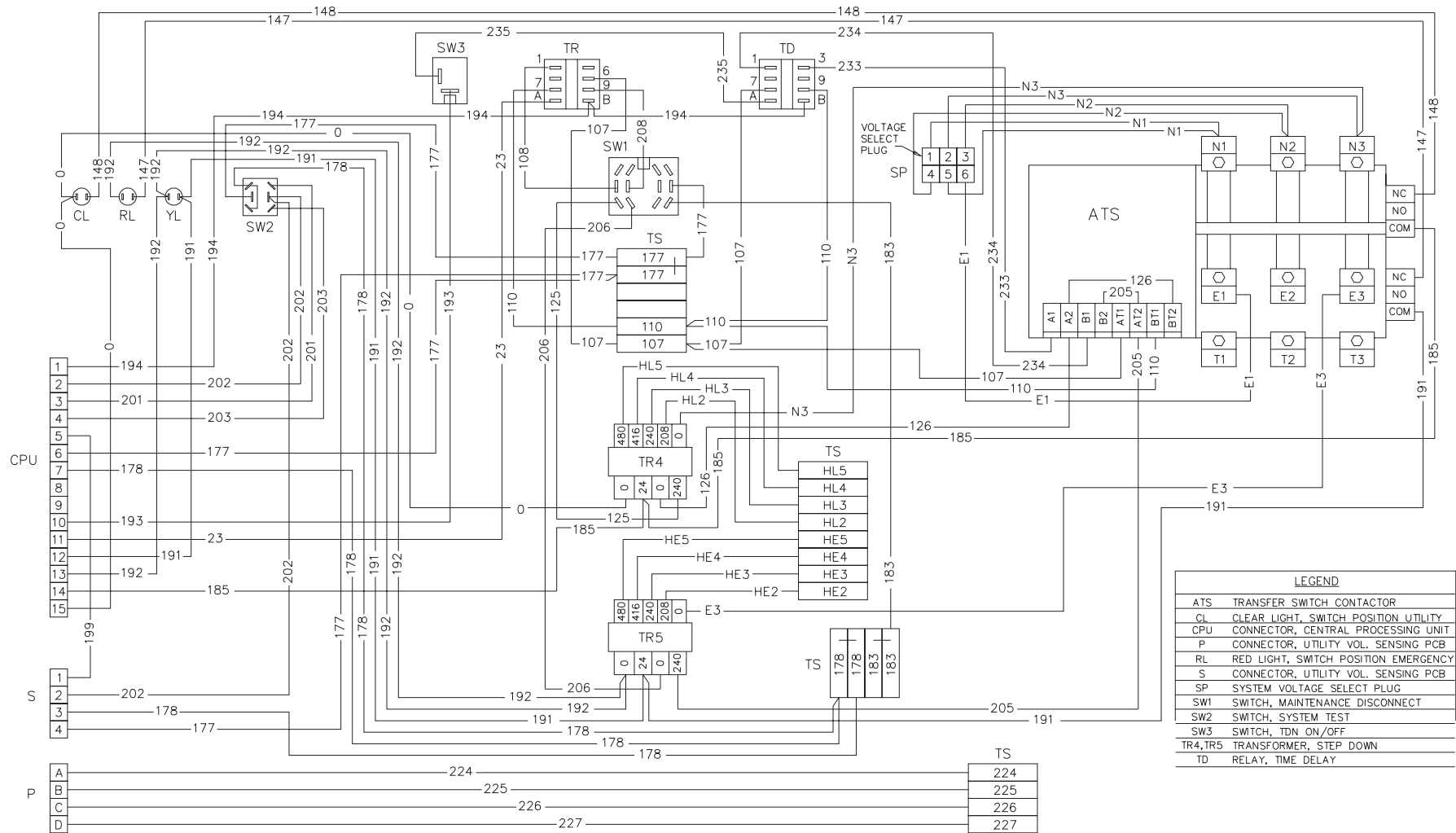


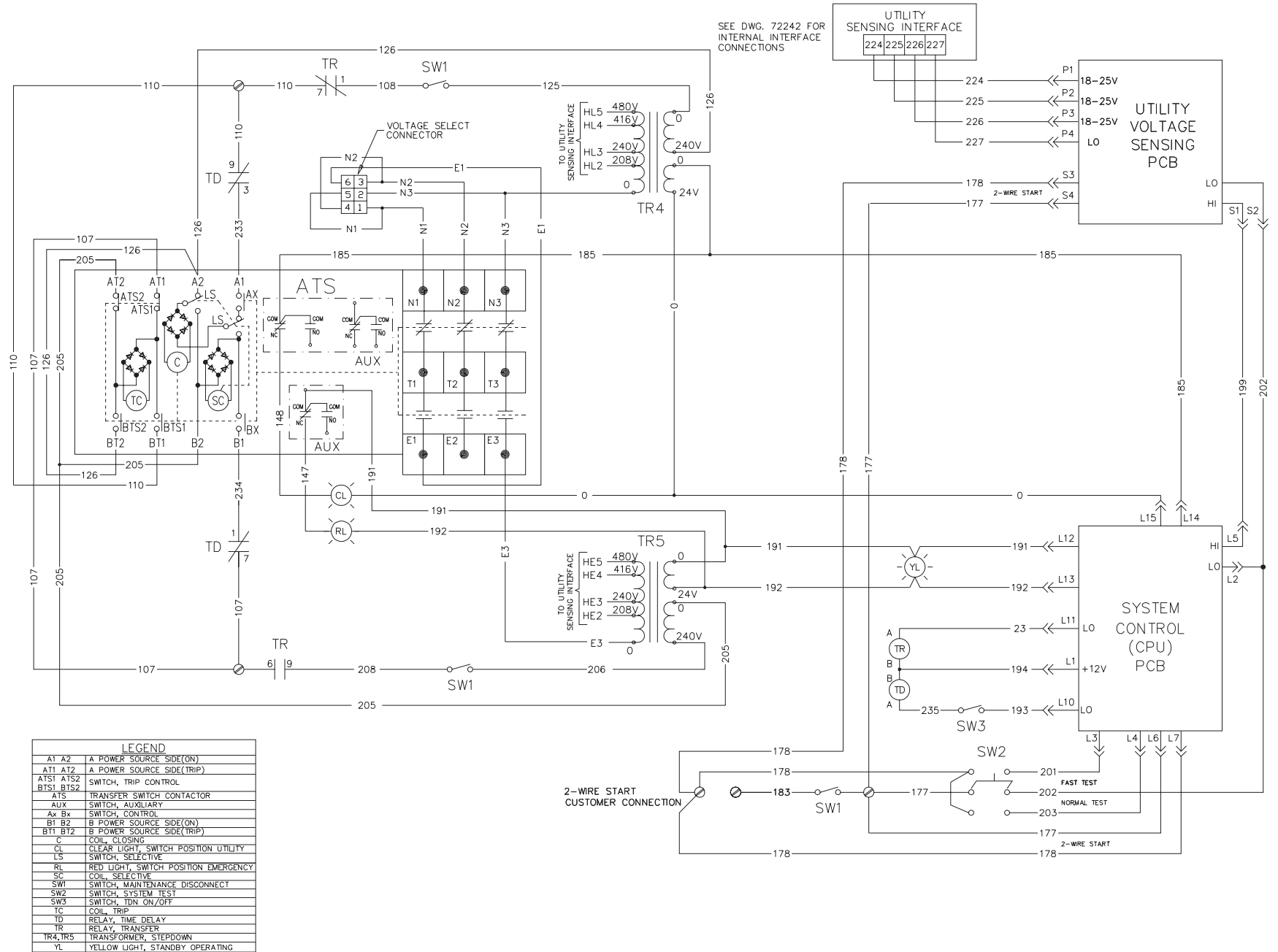
NOTE:  
ALL CONTACTS SHOWN WITH  
TRANSFER SWITCH IN UTILITY  
POSITION.

LEGEND	
C1 -	SOLENOID COIL (UTILITY CLOSING)
C2 -	SOLENOID COIL (STANDBY CLOSING)
GTS -	TRANSFER SWITCH CONTACTOR
TR -	RELAY, TRANSFER
TS -	TERMINAL STRIP (CUSTOMER CONNECTION)
XA1, XB1 -	LIMIT SWITCHES, ACTUATOR
F1, F2, F3, F4 -	FUSE, 2A SENSING

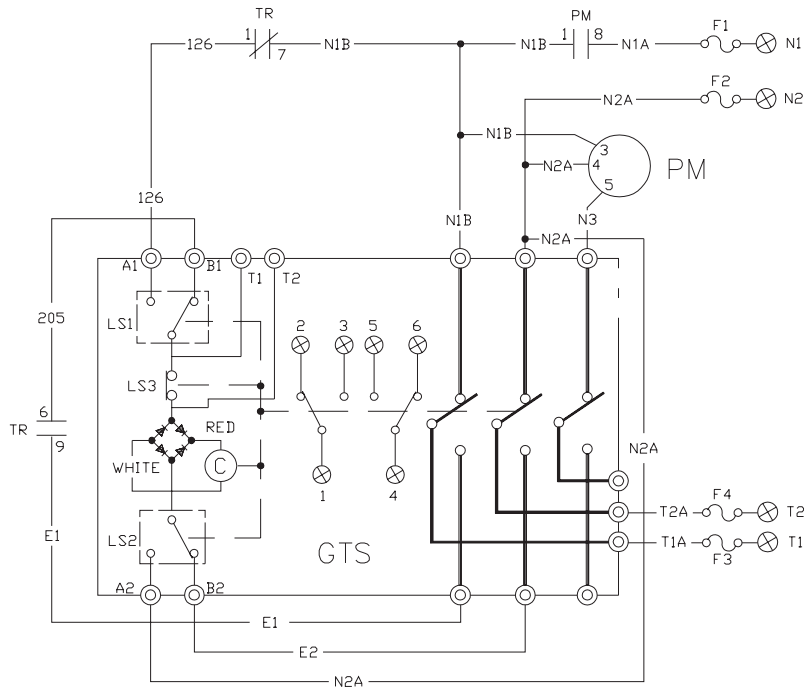
WIRING DIAGRAM





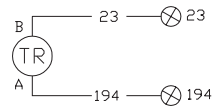


SCHEMATIC DIAGRAM



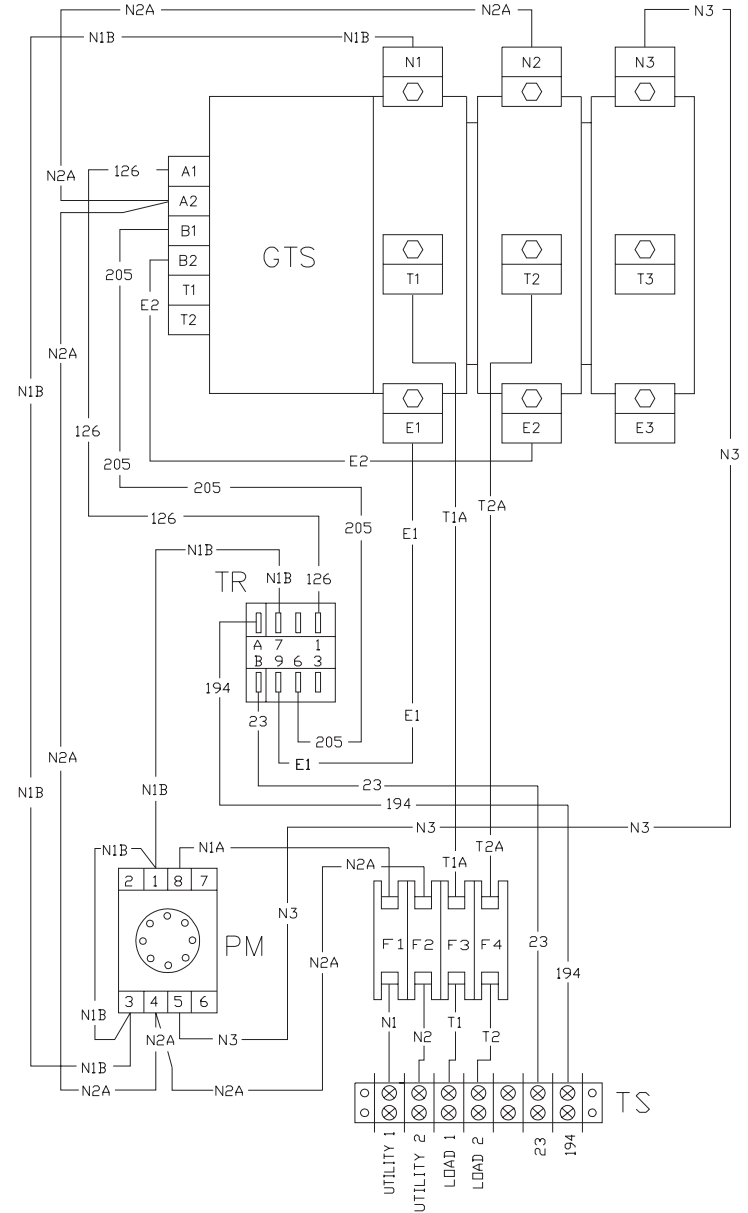
**LEGEND**

C - CONTACTOR ACTUATING COIL  
 GTS - TRANSFER SWITCH CONTACTOR  
 PM - POWER MONITOR, 3 PHASE UTILITY  
 TR - RELAY, TRANSFER  
 TS - TERMINAL STRIP (CUSTOMER CONNECTION)  
 LS1,LS2,LS3 - LIMIT SWITCHES, ACTUATOR  
 F1,F2,F3,F4 - FUSE 2A SENSING

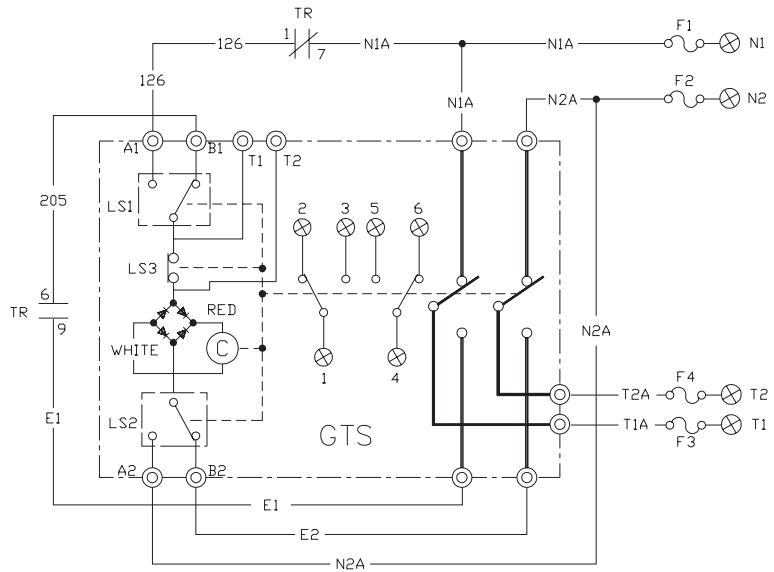


- NOTES:
- 1.) ALL CONTACTS SHOWN WITH TRANSFER SWITCH IN UTILITY POSITION.
  - 2.) FOR SINGLE PHASE OPERATION, ADD JUMPER WIRE FROM PM TERMINALS 1 TO 8.

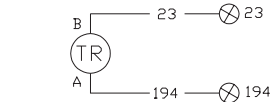
WIRING DIAGRAM



**SCHEMATIC DIAGRAM**

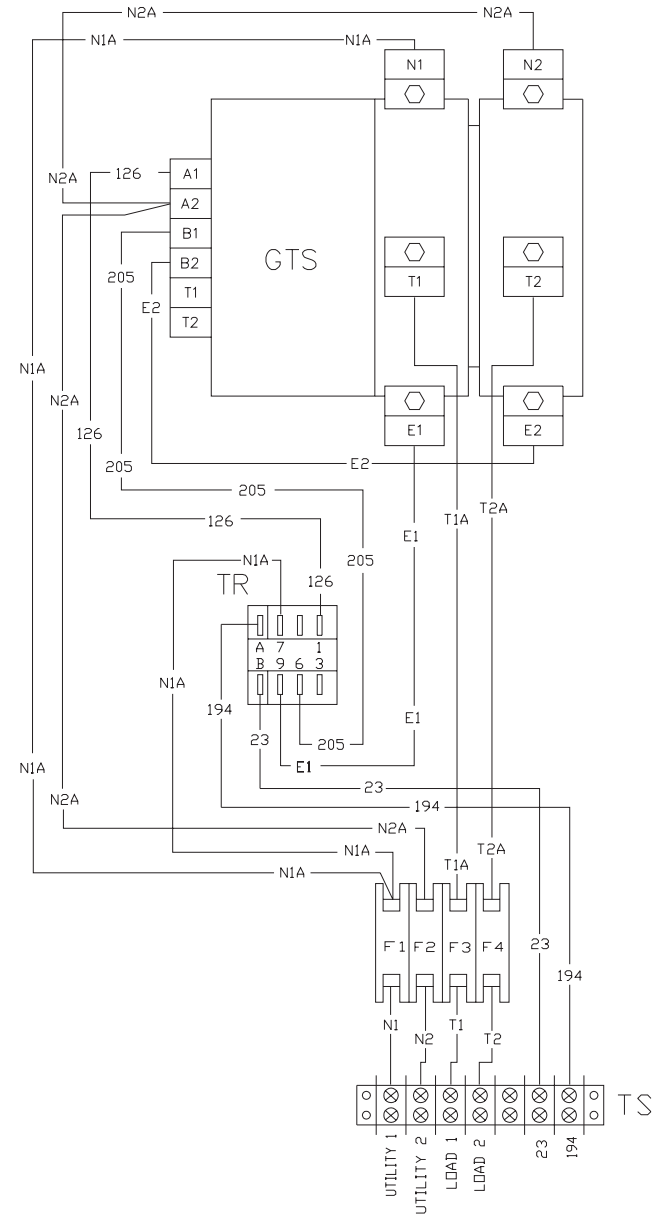


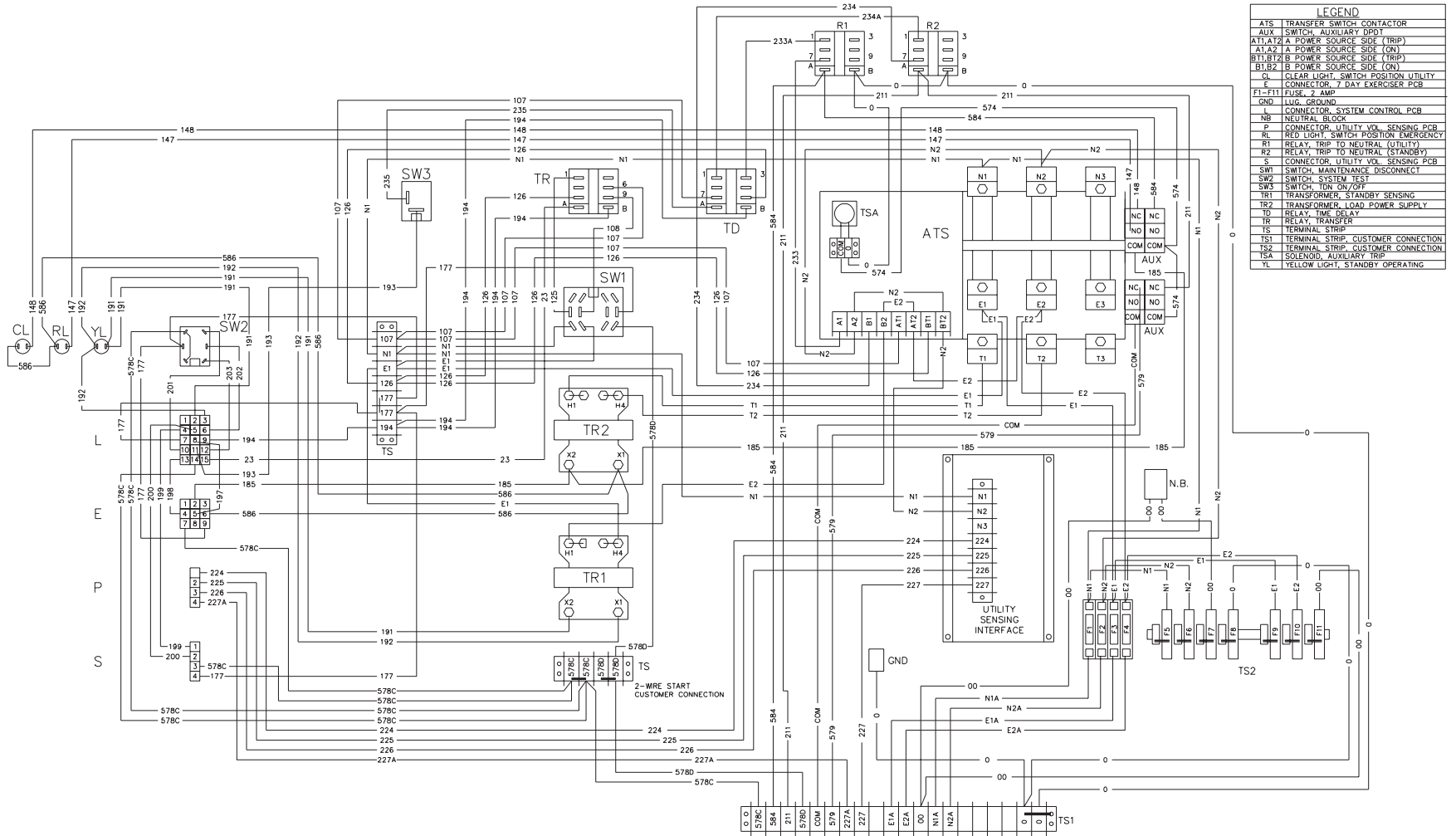
**LEGEND**  
 C - CONTACTOR ACTUATING COIL  
 GTS - TRANSFER SWITCH CONTACTOR  
 TR - RELAY, TRANSFER  
 TS - TERMINAL STRIP (CUSTOMER CONNECTION)  
 LS1,LS2,LS3 - LIMIT SWITCHES, ACTUATOR  
 F1,F2,F3,F4 - FUSE 2A SENSING



**NOTE:**  
 ALL CONTACTS SHOWN WITH  
 TRANSFER SWITCH IN UTILITY  
 POSITION.

**WIRING DIAGRAM**





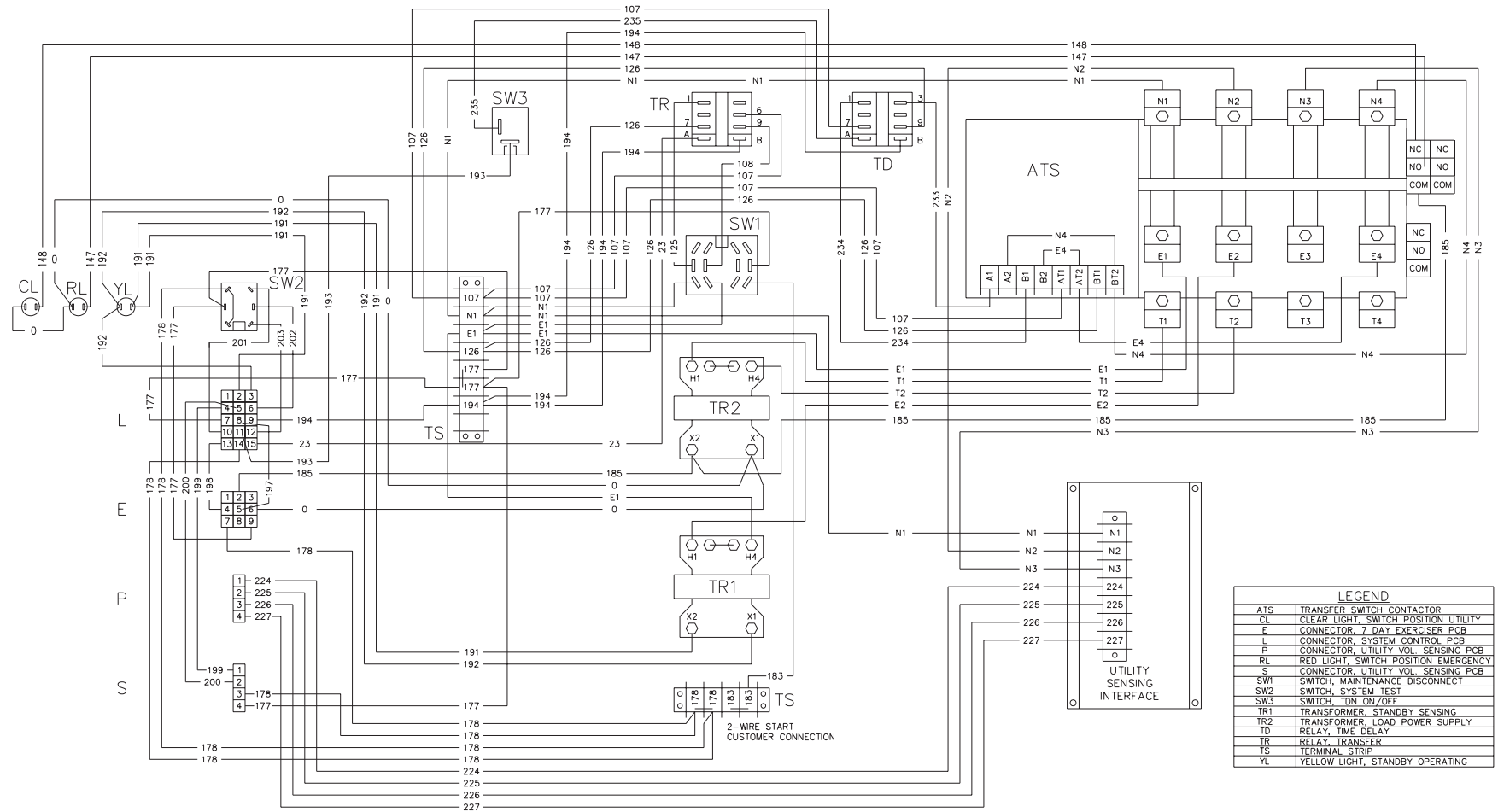
**LEGEND**

ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY DPDT
AT1A2	A POWER SOURCE SIDE (TRIP)
AT1A2A	A POWER SOURCE SIDE (ON)
BT1B2	B POWER SOURCE SIDE (TRIP)
BT1B2A	B POWER SOURCE SIDE (ON)
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
F1-F11	FUSE, 7 AMP EXERCISER PCB
GND	LUG, GROUND
CON	CONNECTOR, SYSTEM CONTROL PCB
NB	NEUTRAL BLOCK
P	CONNECTOR, UTILITY VOL. SENSING PCB
RL	RED LIGHT, SWITCH POSITION EMERGENCY
R1	RELAY, TRIP TO NEUTRAL (UTILITY)
R2	RELAY, TRIP TO NEUTRAL (STANDBY)
S	CONNECTOR, UTILITY VOL. SENSING PCB
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, ON/OFF
TS1	TERMINAL STRIP, CUSTOMER CONNECTION
TS2	TERMINAL STRIP, CUSTOMER CONNECTION
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR	RELAY, TRANSFER
TS	TERMINAL STRIP
TS1	TERMINAL STRIP, CUSTOMER CONNECTION
TS2	TERMINAL STRIP, CUSTOMER CONNECTION
TSA	SOLENOID, AUXILIARY TRIP
YL	YELLOW LIGHT, STANDBY OPERATING



LEGEND	
A1 A2	A POWER SOURCE SIDE(ON)
AT1 AT2	A POWER SOURCE SIDE(TRIP)
ATS1 ATS2	SWITCH, TRIP CONTROL
BTS1 BTS2	SWITCH, TRIP CONTROL
ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY
Ax Bx	SWITCH, CONTROL
B1 B2	B POWER SOURCE SIDE(ON)
BTS1 BTS2	B POWER SOURCE SIDE (TRIP)
C	COIL, CLOSING
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
E	CONNECTOR, 7 DAY EXERCISER PCB
F1-F4	FUSE, 2 AMP
F5-F11	FUSE, 2 AMP (W/IMMILLER)
L	CONNECTOR, SYSTEM CONTROL PCB
LS	SWITCH, SELECTIVE
NB	BLOCK, NEUTRAL

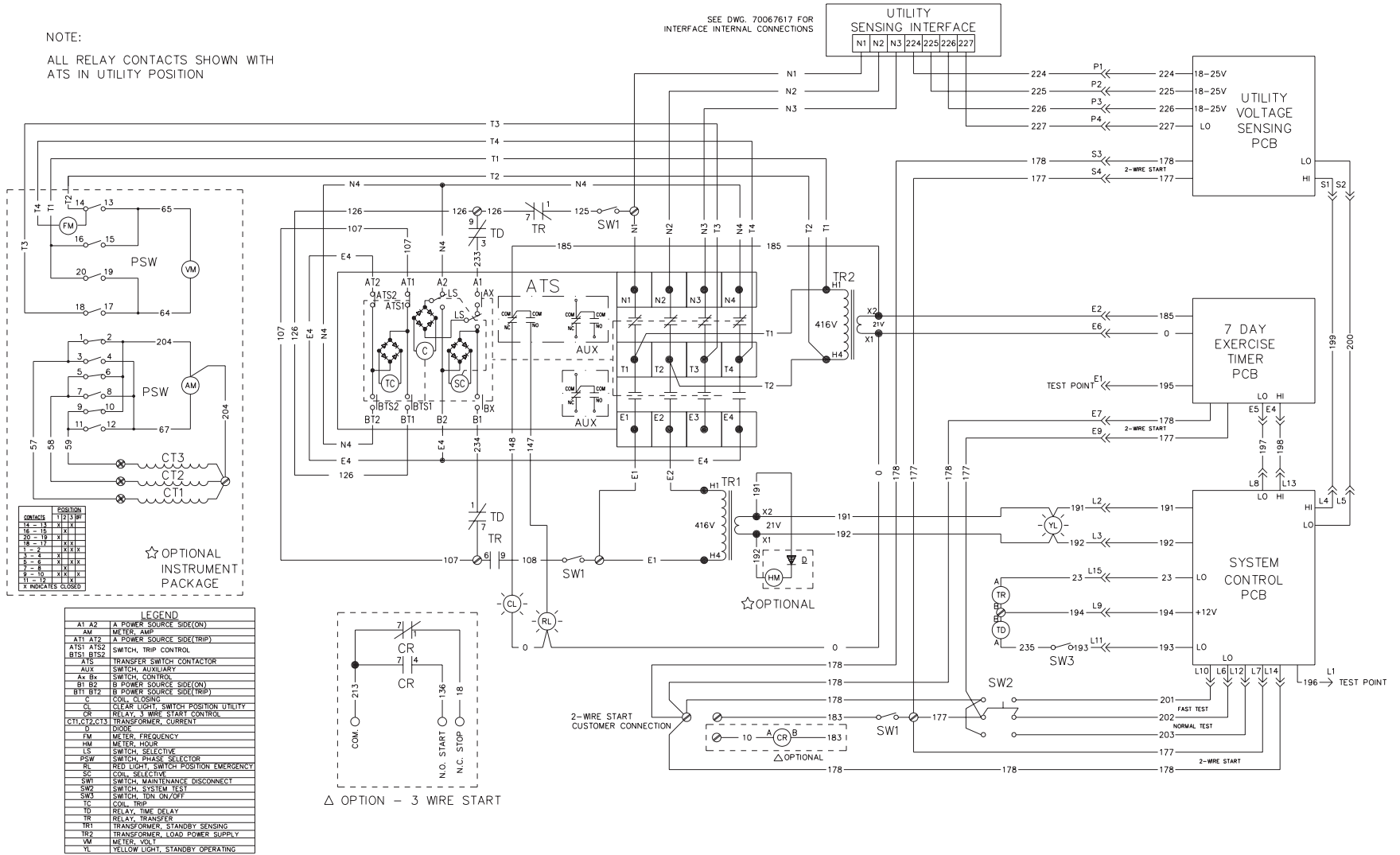
P	CONNECTOR, UTILITY VOL. SENSING PCB
RL	RED LIGHT, SWITCH POSITION EMERGENCY
R1	RELAY, TRIP TO NEUTRAL (UTILITY)
R2	RELAY, TRIP TO NEUTRAL (STANDBY)
S	CONNECTOR, UTILITY VOL. SENSING PCB
SC	COIL, SELECTIVE
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
TC	COIL, TRIP
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TS	TERMINAL STRIP
TSA	SOLENOID, AUXILIARY TRIP
YL	YELLOW LIGHT, STANDBY OPERATING

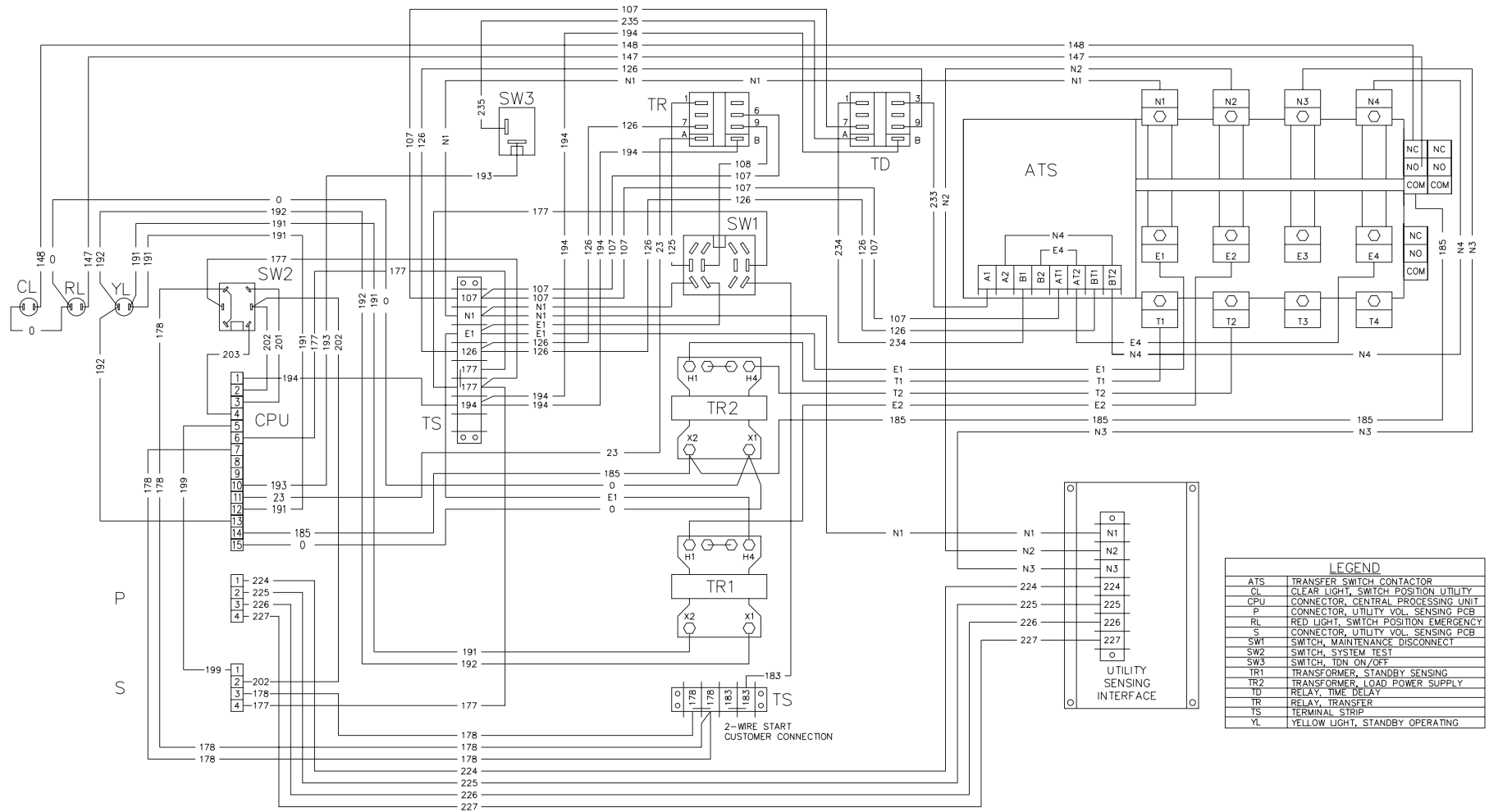


LEGEND	
ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
E	CONNECTOR, SYSTEM EXERCISER PCB
L	CONNECTOR, UTILITY VOL. SENSING PCB
P	RED LIGHT, SWITCH POSITION EMERGENCY
S	CONNECTOR, UTILITY VOL. SENSING PCB
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TS	TERMINAL STRIP
YL	YELLOW LIGHT, STANDBY OPERATING

NOTE:

ALL RELAY CONTACTS SHOWN WITH  
ATS IN UTILITY POSITION

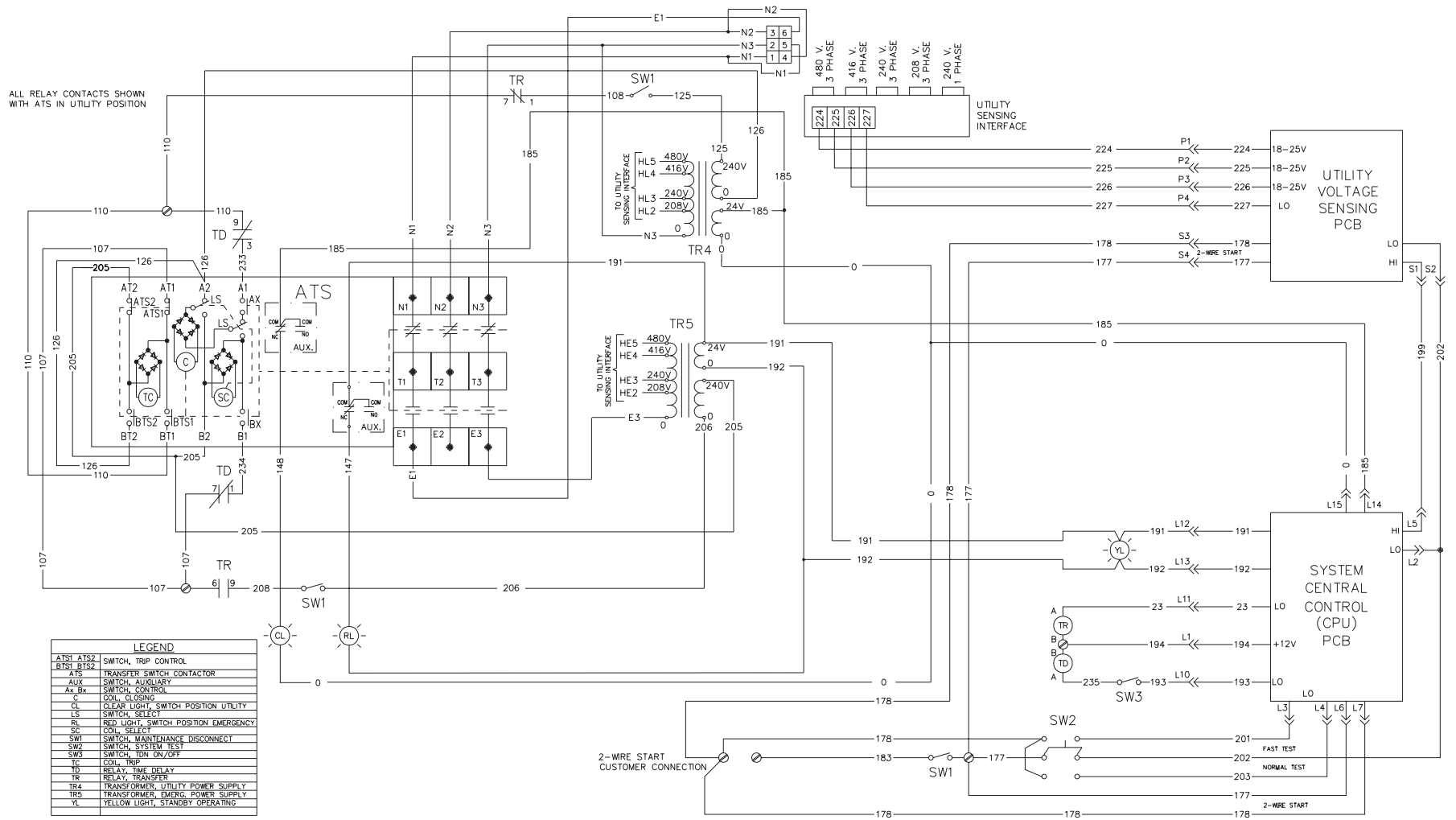


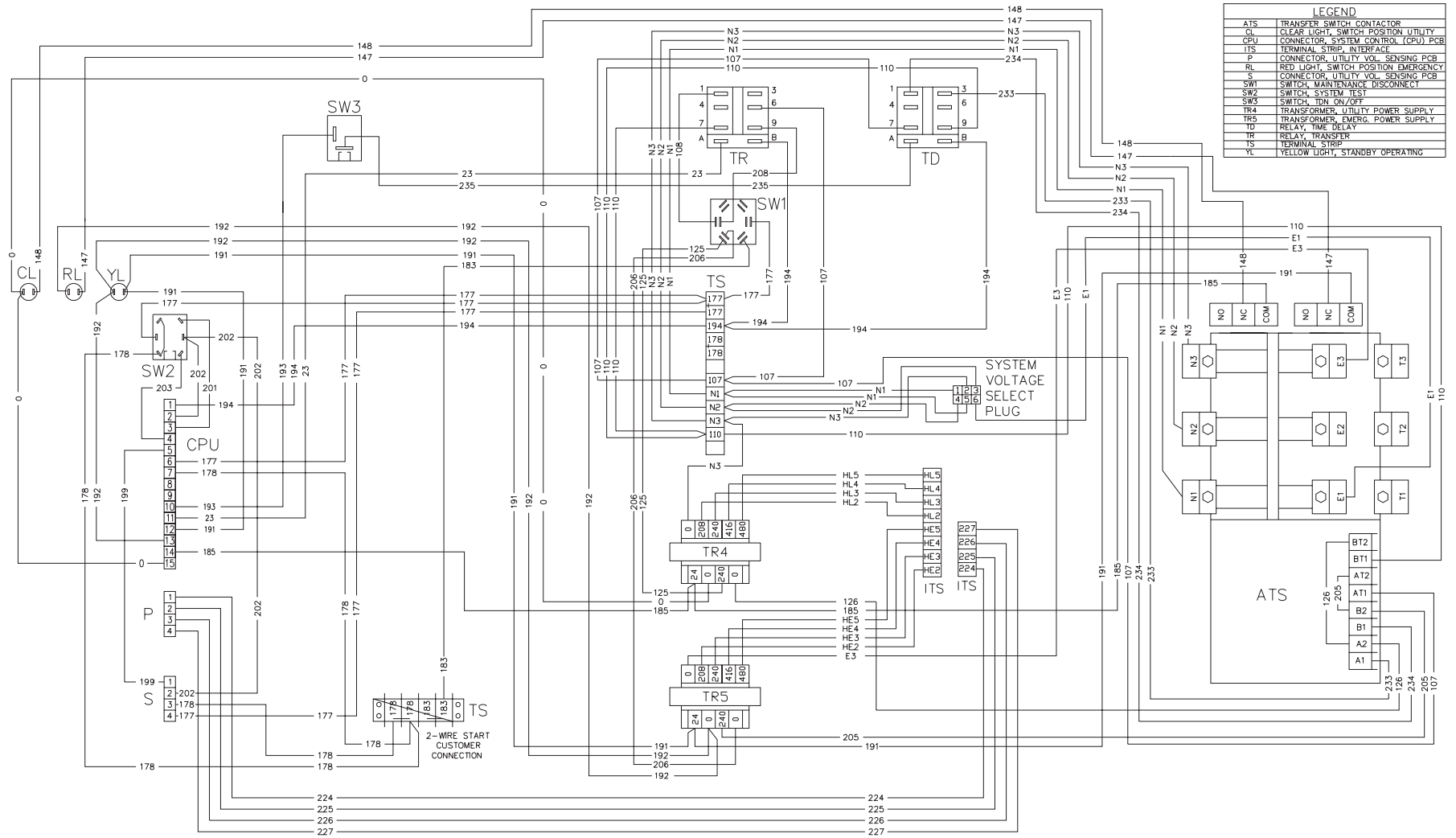


**LEGEND**

ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CPU	CONNECTOR, CENTRAL PROCESSING UNIT
P	CONNECTOR, UTILITY VOL. SENSING PCB
RL	RED LIGHT, SWITCH POSITION EMERGENCY
S	CONNECTOR, UTILITY VOL. SENSING PCB
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TS	TERMINAL STRIP
YL	YELLOW LIGHT, STANDBY OPERATING







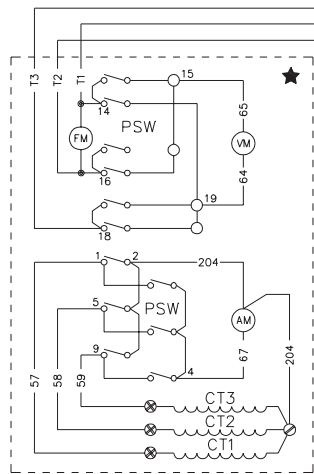
CONTACTS	POSITION
	1 2 3 OFF
14 - 13	X X
16 - 15	X
20 - 19	X
18 - 17	X X
1 - 2	X X X
3 - 4	X X
5 - 6	X X X
7 - 8	X X X
9 - 10	X X X
11 - 12	X

X INDICATES CLOSED

NOTE:  
WIRE N3,59, AND CT3 USED ON  
3 PHASE SYSTEM ONLY  
ALL RELAY CONTACTS SHOWN WITH  
ATS IN UTILITY POSITION

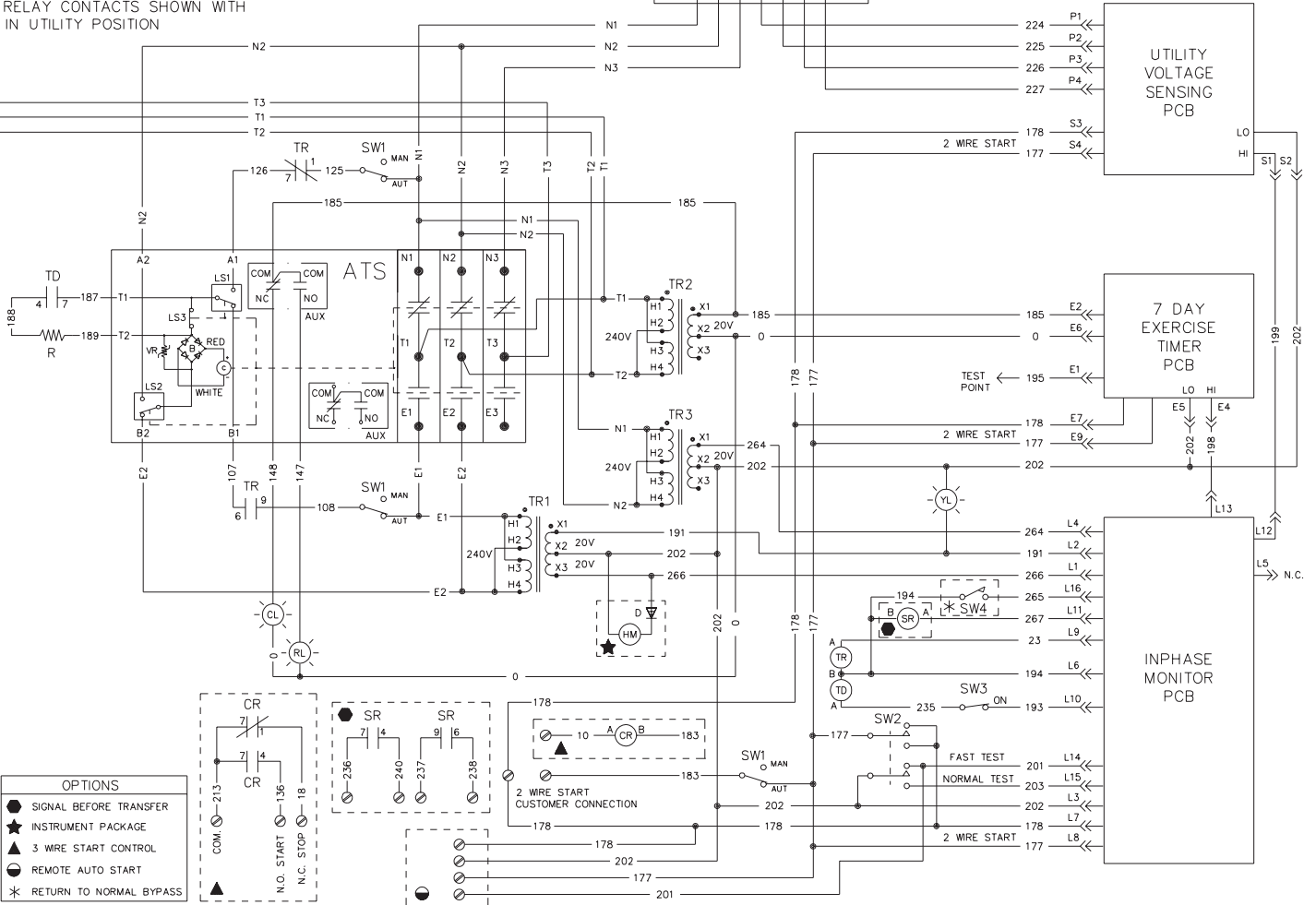
SEE DWG. 70067617 FOR  
INTERFACE INTERNAL CONNECTIONS

UTILITY SENSING INTERFACE					
N1	N2	N3	224	225	226
227					



LEGEND	
AM	METER, AMP (OPT)
ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL
CT1, CT2, CT3	TRANSFORMER, CURRENT
D	DIODE (OPT)
FM	METER, FREQUENCY (OPT)
HM	METER, HOUR (OPT)
PSW	SWITCH, PHASE SELECTOR (OPT)
R	RESISTOR, TDN
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING
E, P, S	CIRCUIT BOARD CONNECTORS

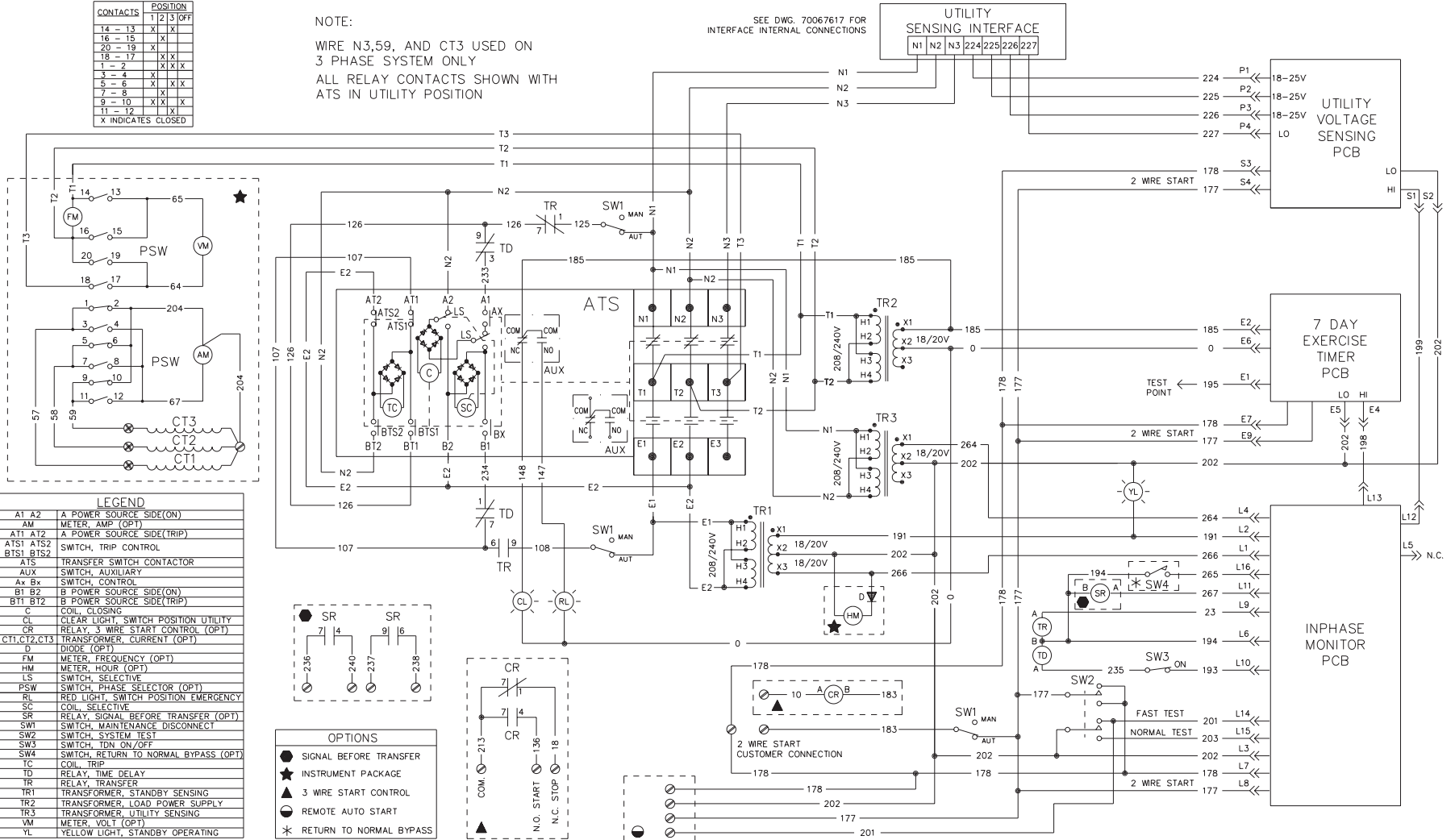
OPTIONS	
●	SIGNAL BEFORE TRANSFER
★	INSTRUMENT PACKAGE
▲	3 WIRE START CONTROL
○	REMOTE AUTO START
*	RETURN TO NORMAL BYPASS



CONTACTS	POSITION		
	1	2	3 OFF
14 - 13	X	X	X
16 - 15	X		
20 - 19	X		
18 - 17	X	X	
1 - 2	X	X	X
3 - 4	X		
5 - 6	X	X	X
7 - 8	X		
9 - 10	X	X	X
11 - 12	X		
X INDICATES CLOSED			

NOTE:  
 WIRE N3,59, AND CT3 USED ON  
 3 PHASE SYSTEM ONLY  
 ALL RELAY CONTACTS SHOWN WITH  
 ATS IN UTILITY POSITION

SEE DWG. 70067617 FOR  
 INTERFACE INTERNAL CONNECTIONS



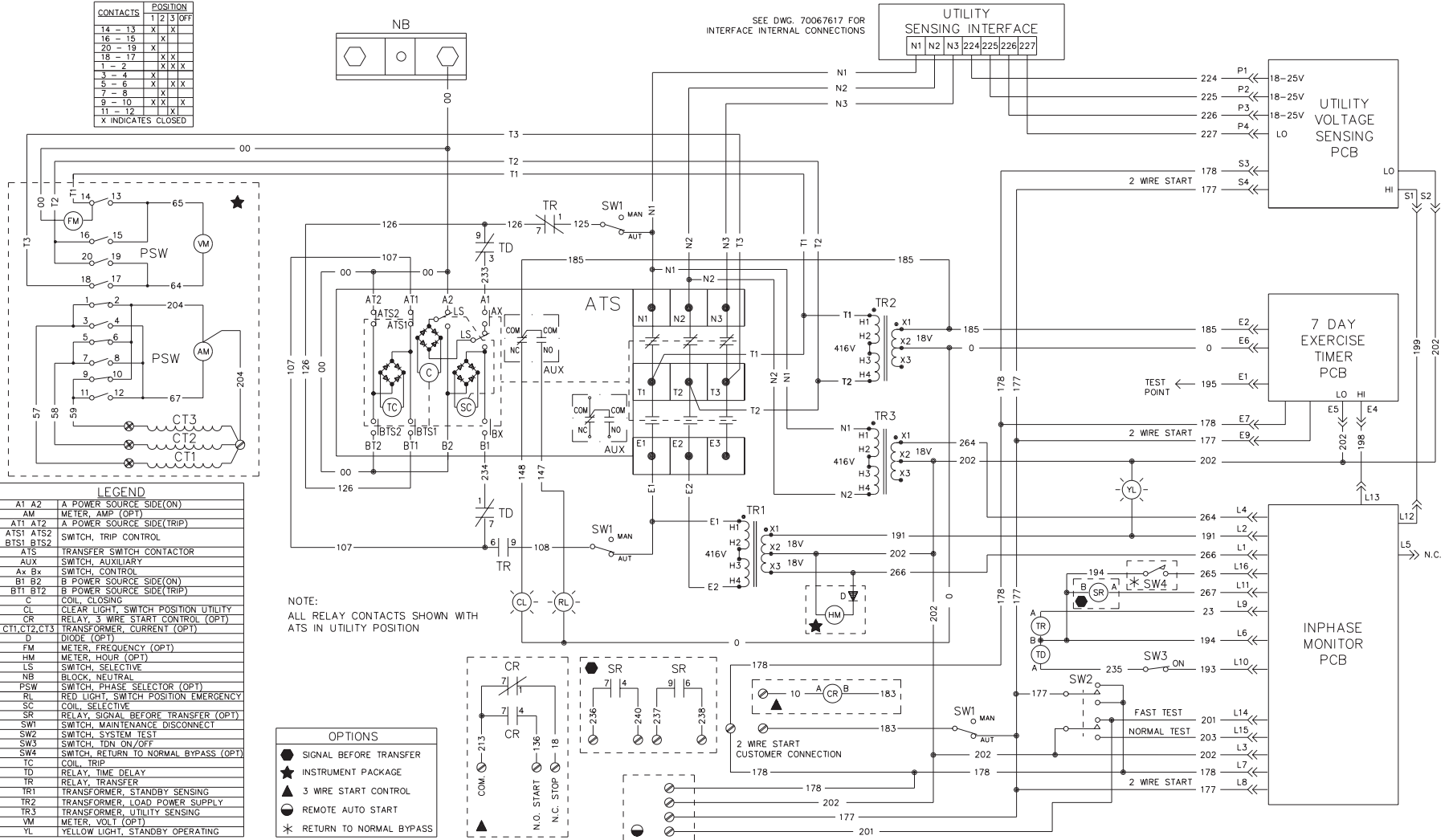
**LEGEND**

A1 A2	A POWER SOURCE SIDE(ON)
AM	METER, AMP (OPT)
AT1 AT2	A POWER SOURCE SIDE(TRIP)
ATS1 ATS2	SWITCH, TRIP CONTROL
BTS1 BTS2	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY
Ax Bx	SWITCH, CONTROL
B1 B2	B POWER SOURCE SIDE(ON)
BT1 BT2	B POWER SOURCE SIDE(TRIP)
C	COIL, CLOSING
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL (OPT)
CT1,CT2,CT3	TRANSFORMER, CURRENT (OPT)
D	DIODE (OPT)
FM	METER, FREQUENCY (OPT)
HM	METER, HOUR (OPT)
LS	SWITCH, SELECTIVE
PSW	SWITCH, PHASE SELECTOR (OPT)
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SC	COIL, SELECTIVE
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TOLT ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TC	COIL, TRIP
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

**OPTIONS**

- SIGNAL BEFORE TRANSFER
- ★ INSTRUMENT PACKAGE
- ▲ 3 WIRE START CONTROL
- REMOTE AUTO START
- \* RETURN TO NORMAL BYPASS

CONTACTS	POSITION	1	2	3	OFF
14 - 13	X	X			
16 - 15	X				
20 - 19	X				
18 - 17	X	X			
1 - 2	X	X	X		
3 - 4	X				
5 - 6	X	X	X		
7 - 8	X				
9 - 10	X	X	X		
11 - 12	X				
X	INDICATES CLOSED				



**LEGEND**

A1 A2	A POWER SOURCE SIDE(ON)
AM	METER, AMP (OPT)
AT1 AT2	A POWER SOURCE SIDE(TRIP)
ATS1 ATS2	SWITCH, TRIP CONTROL
BTS1 BTS2	SWITCH, TRIP CONTROL
ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY
Ax Bx	SWITCH, CONTROL
B1 B2	B POWER SOURCE SIDE(ON)
B11 B12	B POWER SOURCE SIDE(TRIP)
C	COIL, CLOSING
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL (OPT)
CT1,CT2,CT3	TRANSFORMER, CURRENT (OPT)
D	DIODE (OPT)
FM	METER, FREQUENCY (OPT)
HM	METER, HOUR (OPT)
LS	SWITCH, SELECTIVE
NB	BLOCK, NEUTRAL
PSW	SWITCH, PHASE SELECTOR (OPT)
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SC	COIL, SELECTIVE
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TC	COIL, TRIP
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

**OPTIONS**

- ★ SIGNAL BEFORE TRANSFER
- INSTRUMENT PACKAGE
- ▲ 3 WIRE START CONTROL
- REMOTE AUTO START
- \* RETURN TO NORMAL BYPASS

NOTE:  
ALL RELAY CONTACTS SHOWN WITH  
ATS IN UTILITY POSITION

SEE DWD, 70067617 FOR  
INTERFACE INTERNAL CONNECTIONS

**UTILITY SENSING INTERFACE**

N1	N2	N3	224	225	226	227
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**UTILITY VOLTAGE SENSING PCB**

P1	18-25V
P2	18-25V
P3	18-25V
P4	LO
S3	178
S4	177
LO	HI
S1	S2

**7 DAY EXERCISE TIMER PCB**

E2	185
E6	0
E1	195
E7	178
E9	177
E5	202
E4	198
LO	HI
L1	L2
L3	L4
L5	N.C.

**INPHASE MONITOR PCB**

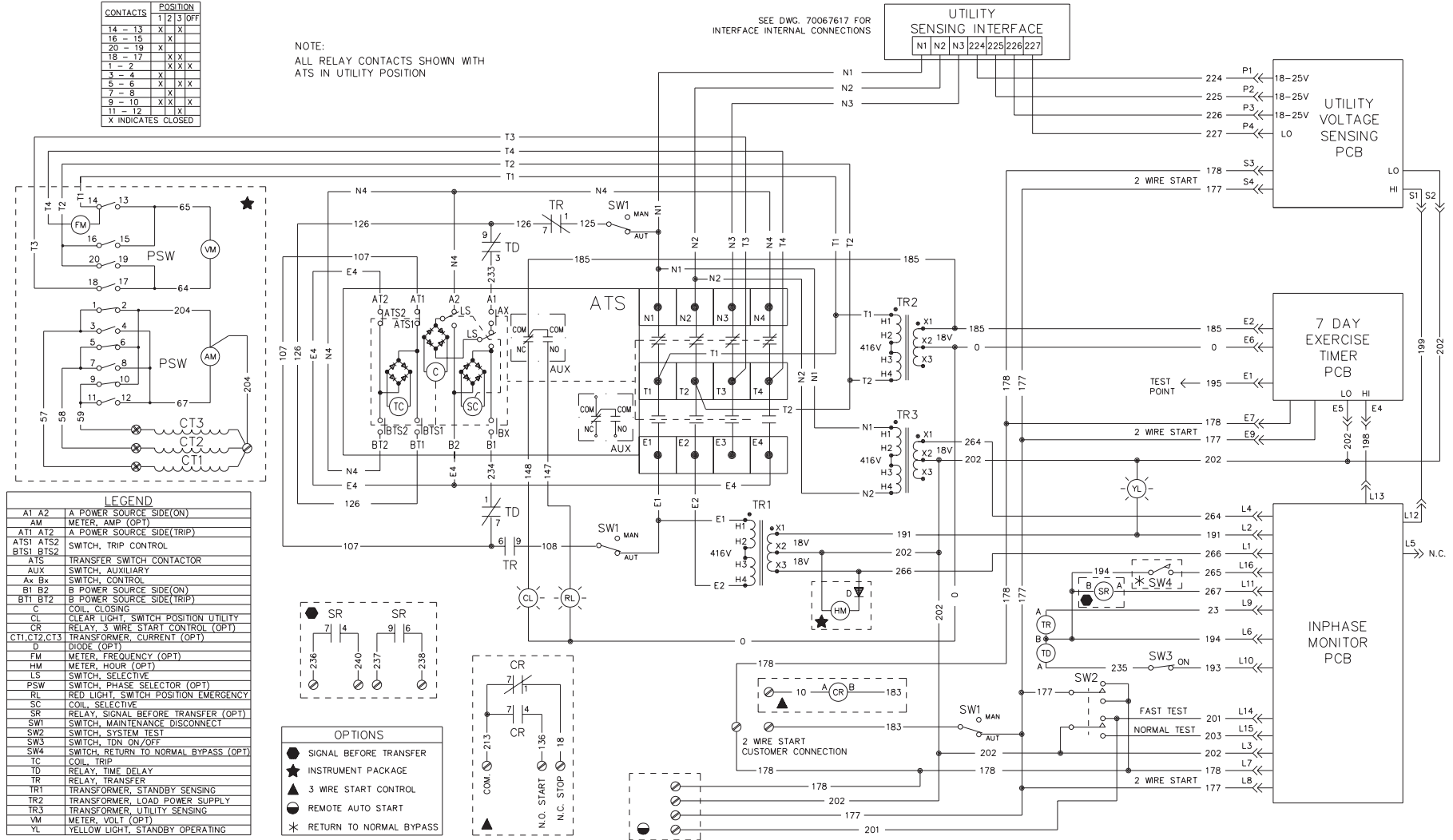
L4	264
L2	191
L1	266
L16	265
L11	267
L9	23
L6	194
L10	193
L14	201
L15	203
L3	202
L7	178
L8	177

CONTACTS	POSITION		
	1	2	3 OFF
14 - 13	X	X	
16 - 15	X		
20 - 19	X		
18 - 17	X	X	
1 - 2	X	X	X
4 - 4	X	X	X
5 - 6	X	X	X
7 - 8	X		
9 - 10	X	X	X
11 - 12	X		

X INDICATES CLOSED

NOTE:  
ALL RELAY CONTACTS SHOWN WITH  
ATS IN UTILITY POSITION

SEE DWG. 70067617 FOR  
INTERFACE INTERNAL CONNECTIONS



**LEGEND**

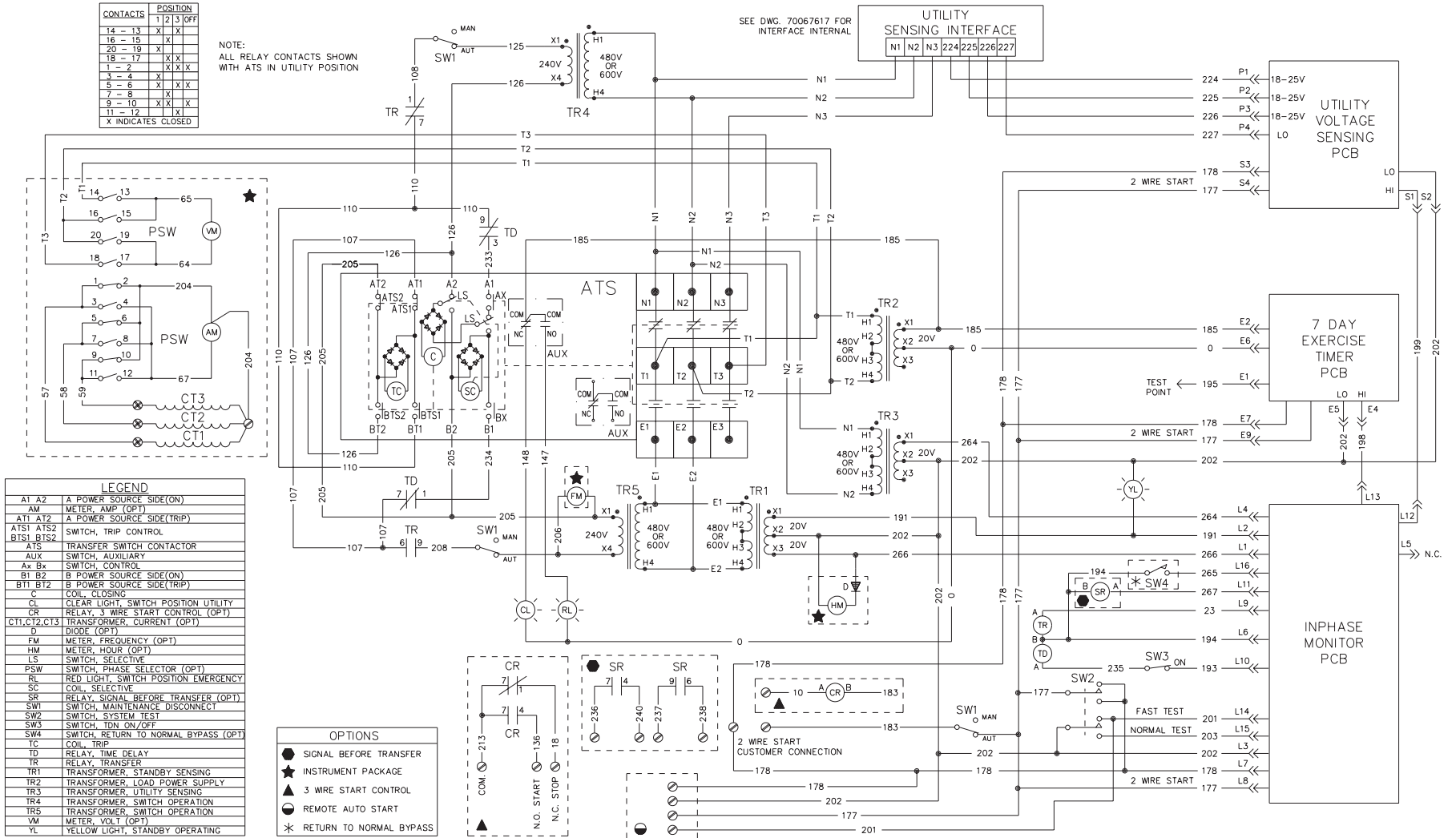
A1 A2	A POWER SOURCE SIDE(ON)
AM	METER, AMP (OPT)
AT1 AT2	A POWER SOURCE SIDE(TRIP)
ATS1 ATS2	SWITCH, TRIP CONTROL
BTS1 BTS2	TRANSFER SWITCH CONTROL
ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY
Ax Bx	SWITCH, CONTROL
B1 B2	B POWER SOURCE SIDE(ON)
BTS1 BTS2	B POWER SOURCE SIDE(TRIP)
C	COIL, CLOSING
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL (OPT)
CT1,CT2,CT3	TRANSFORMER, CURRENT (OPT)
D	DIODE (OPT)
FM	METER, FREQUENCY (OPT)
HM	METER, HOUR (OPT)
LS	SWITCH, SELECTIVE
PSW	SWITCH, PHASE SELECTOR (OPT)
RL	RED LIGHT, SWITCH POSITION EMERGENCY
SC	COIL, SELECTIVE
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TC	COIL, TRIP
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

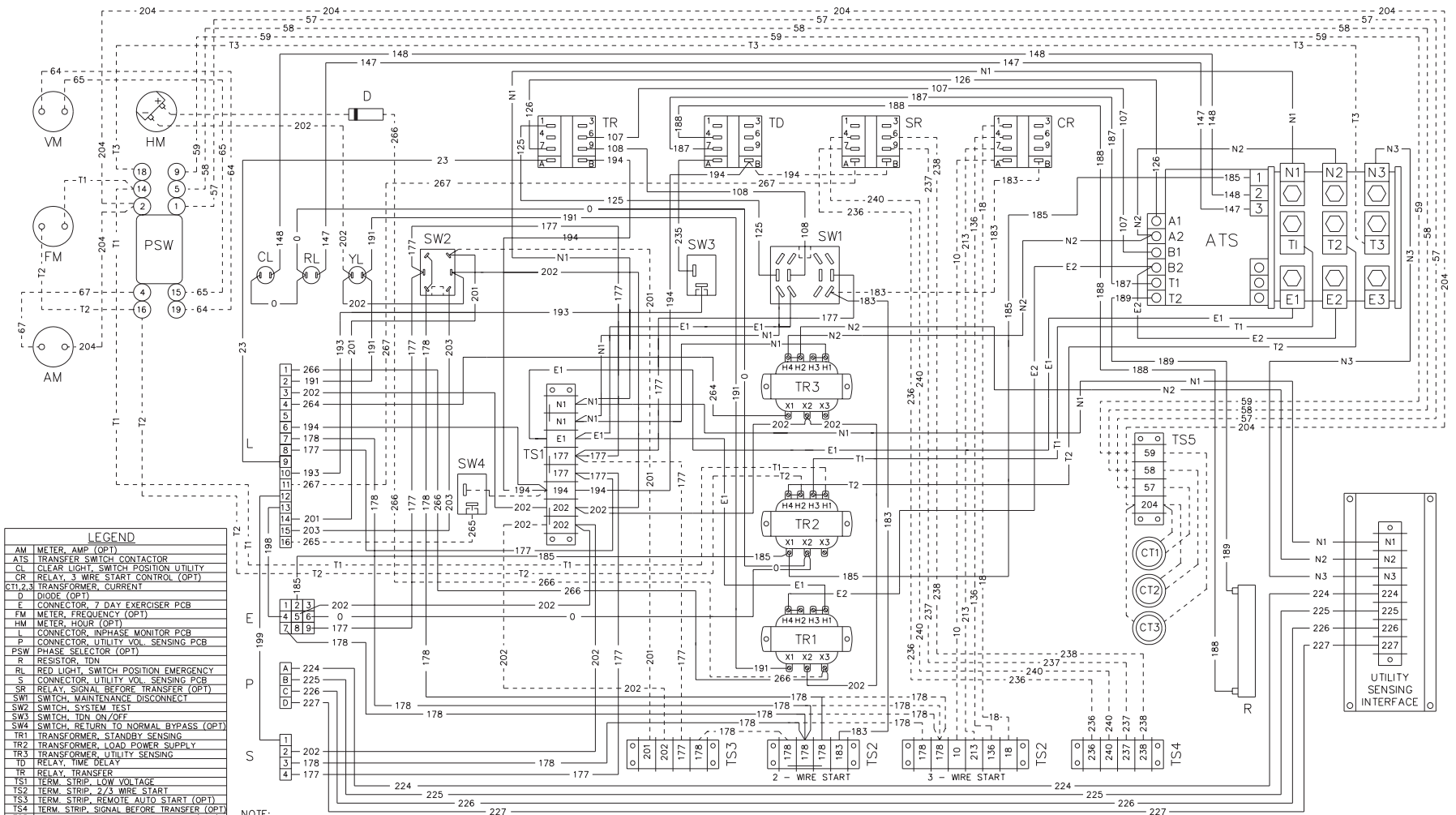
**OPTIONS**

- SIGNAL BEFORE TRANSFER
- ★ INSTRUMENT PACKAGE
- ▲ 3 WIRE START CONTROL
- REMOTE AUTO START
- \* RETURN TO NORMAL BYPASS

CONTACTS	POSITION
14 - 13	1 2 3 OFF
16 - 15	X X X
20 - 19	X X X
18 - 17	X X X
1 - 2	X X X
3 - 4	X X X
5 - 6	X X X
7 - 8	X X X
9 - 10	X X X
11 - 12	X X X
X INDICATES CLOSED	

NOTE: ALL RELAY CONTACTS SHOWN WITH ATS IN UTILITY POSITION



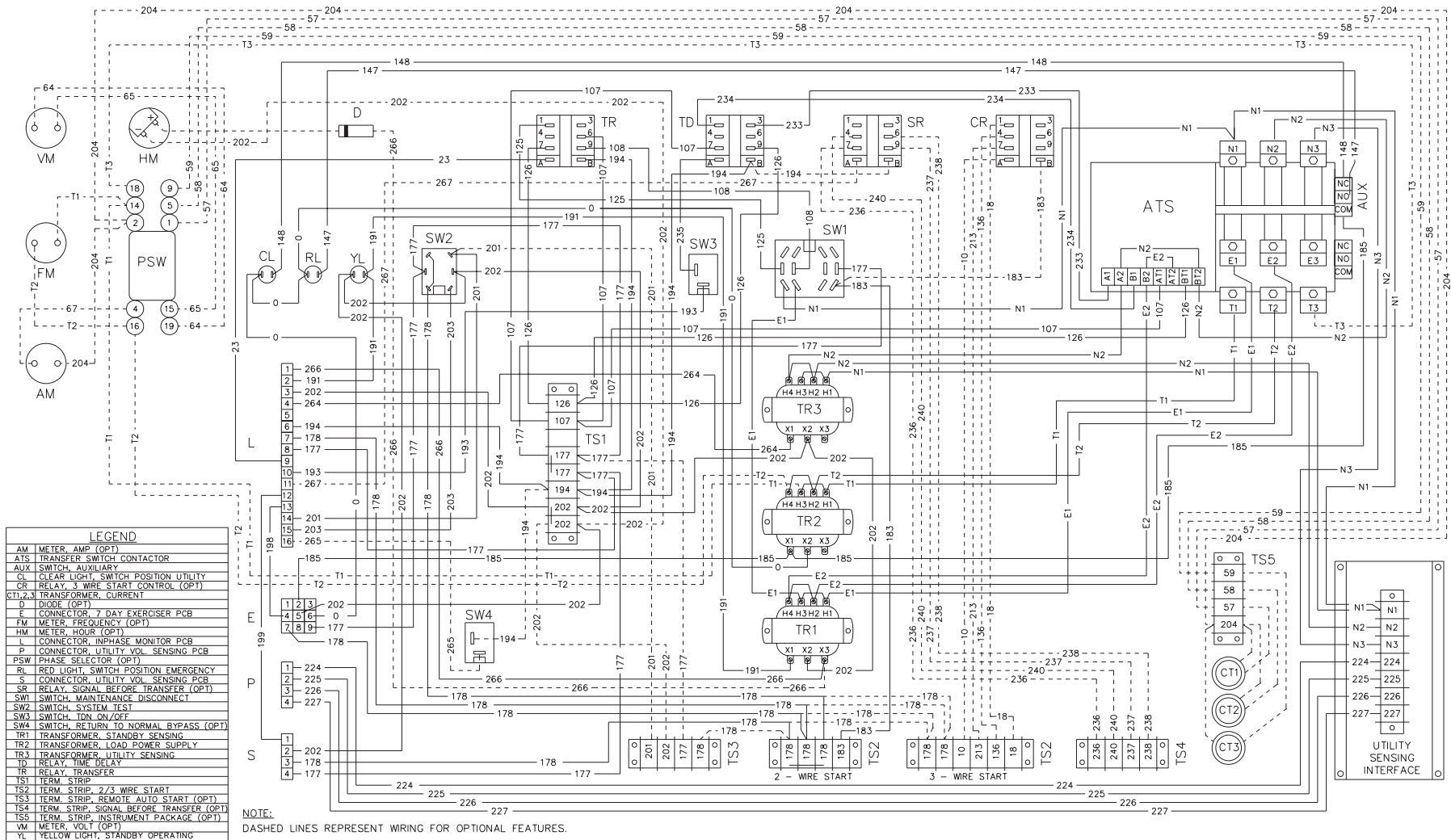


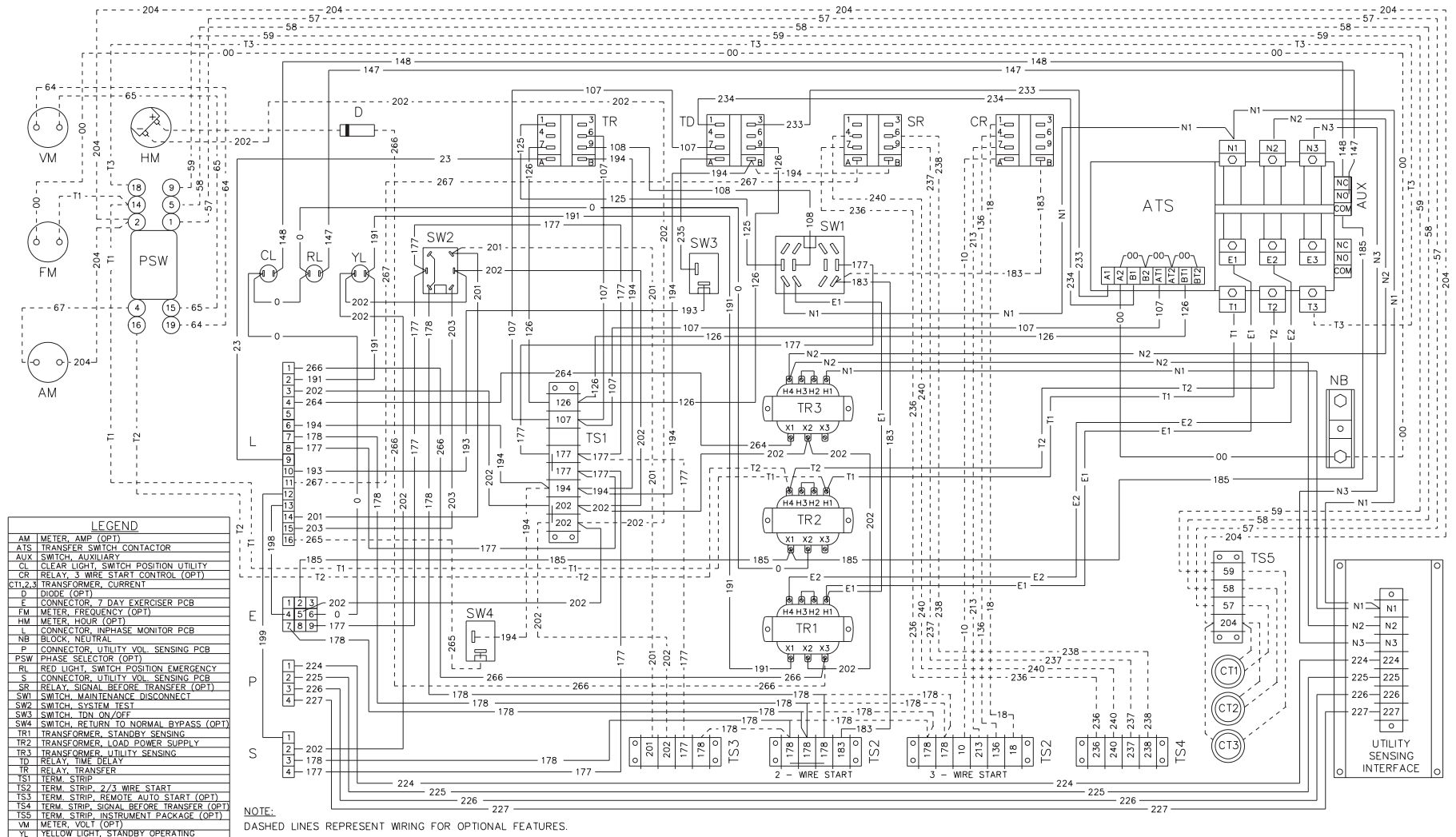
**LEGEND**

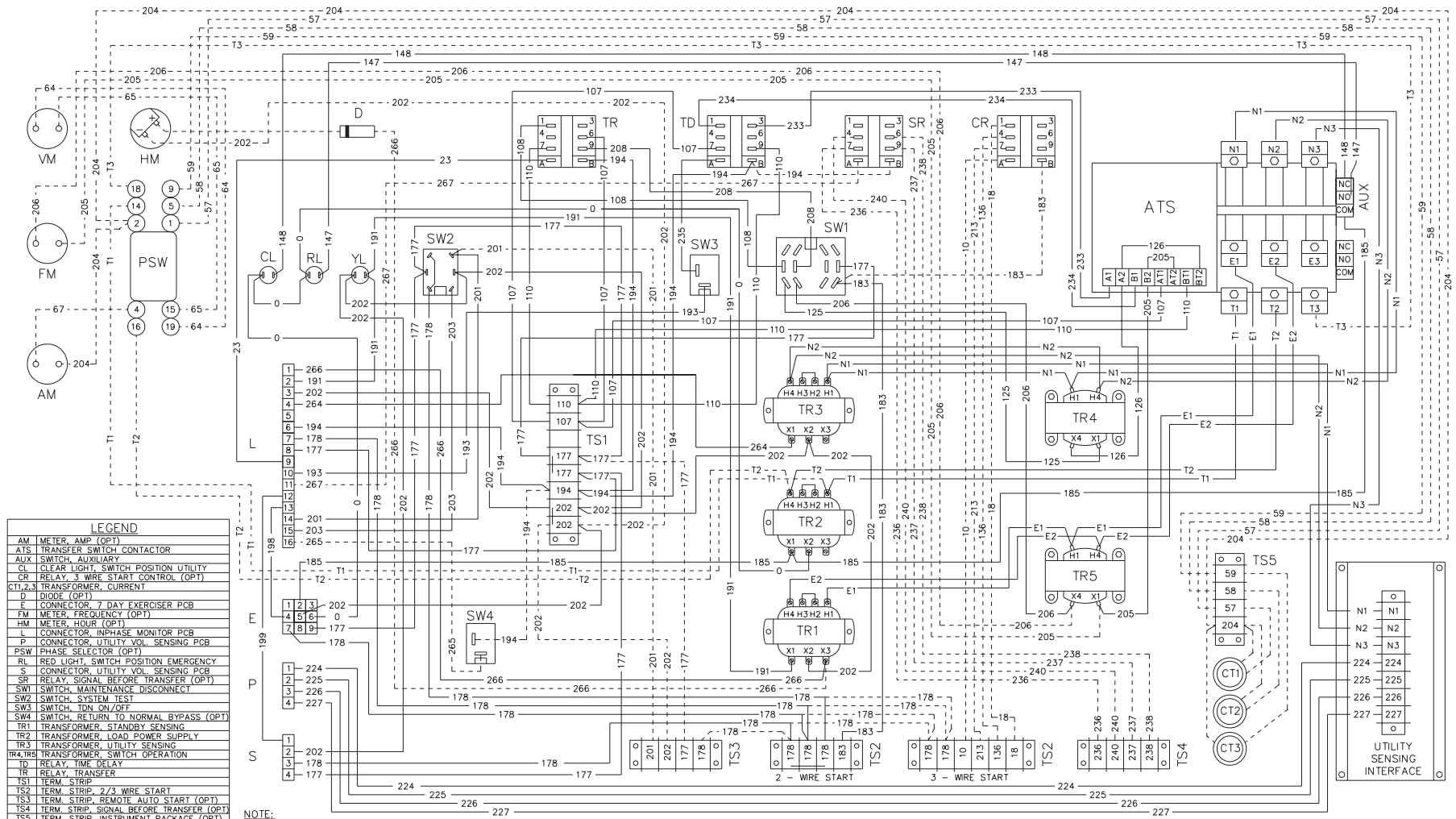
AM	METER, AMP (OPT)
ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CP	RELAY, 3 WIRE START CONTROL (OPT)
CT1, 2, 3	TRANSFORMER, CURRENT
D	DIODE (OPT)
E	CONNECTOR, 7 DAY EXERCISER PCB
FM	METER, FREQUENCY (OPT)
HM	METER, HOUR (OPT)
L	CONNECTOR, INPHASE MONITOR PCB
P	CONNECTOR, UTILITY VOL. SENSING PCB
PSW	PHASE SELECTOR (OPT)
R	RESISTOR, TDN
RL	RED LIGHT, SWITCH POSITION EMERGENCY
S	CONNECTOR, UTILITY VOL. SENSING PCB
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWICH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
TR	RELAY, TRANSFER
TS1	TERM. STRIP, LOW VOLTAGE
TS2	TERM. STRIP, 2/3 WIRE START
TS3	TERM. STRIP, REMOTE AUTO START (OPT)
TS4	TERM. STRIP, SIGNAL BEFORE TRANSFER (OPT)
TS5	TERM. STRIP, INSTRUMENT PACKAGE (OPT)
VM	METER, VOLT (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

NOTE:  
DASHED LINES REPRESENT WIRING FOR OPTIONAL FEATURES.

A C 4692 A REVISED 10/18/93  
UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE IN INCHES  
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED



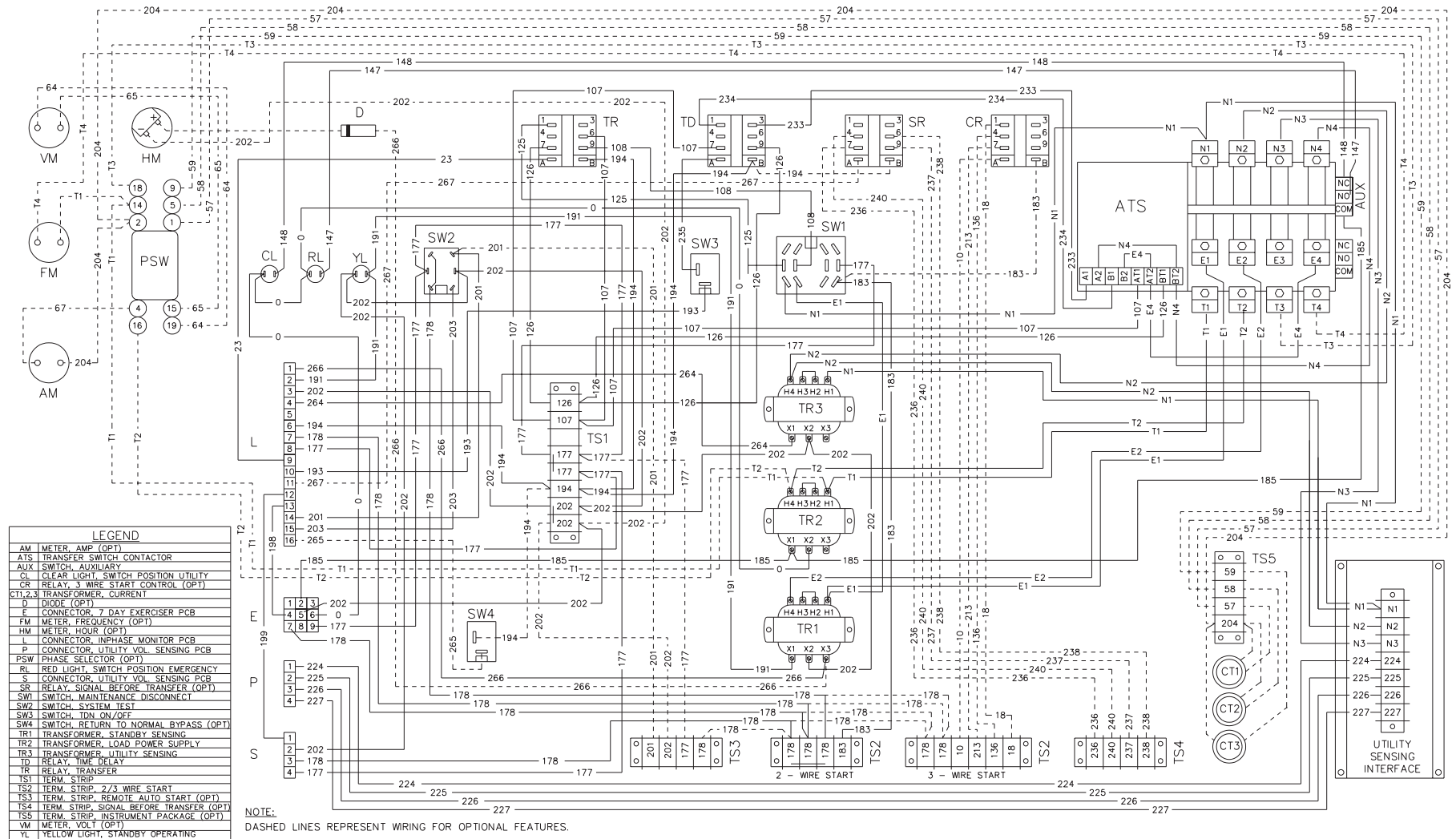


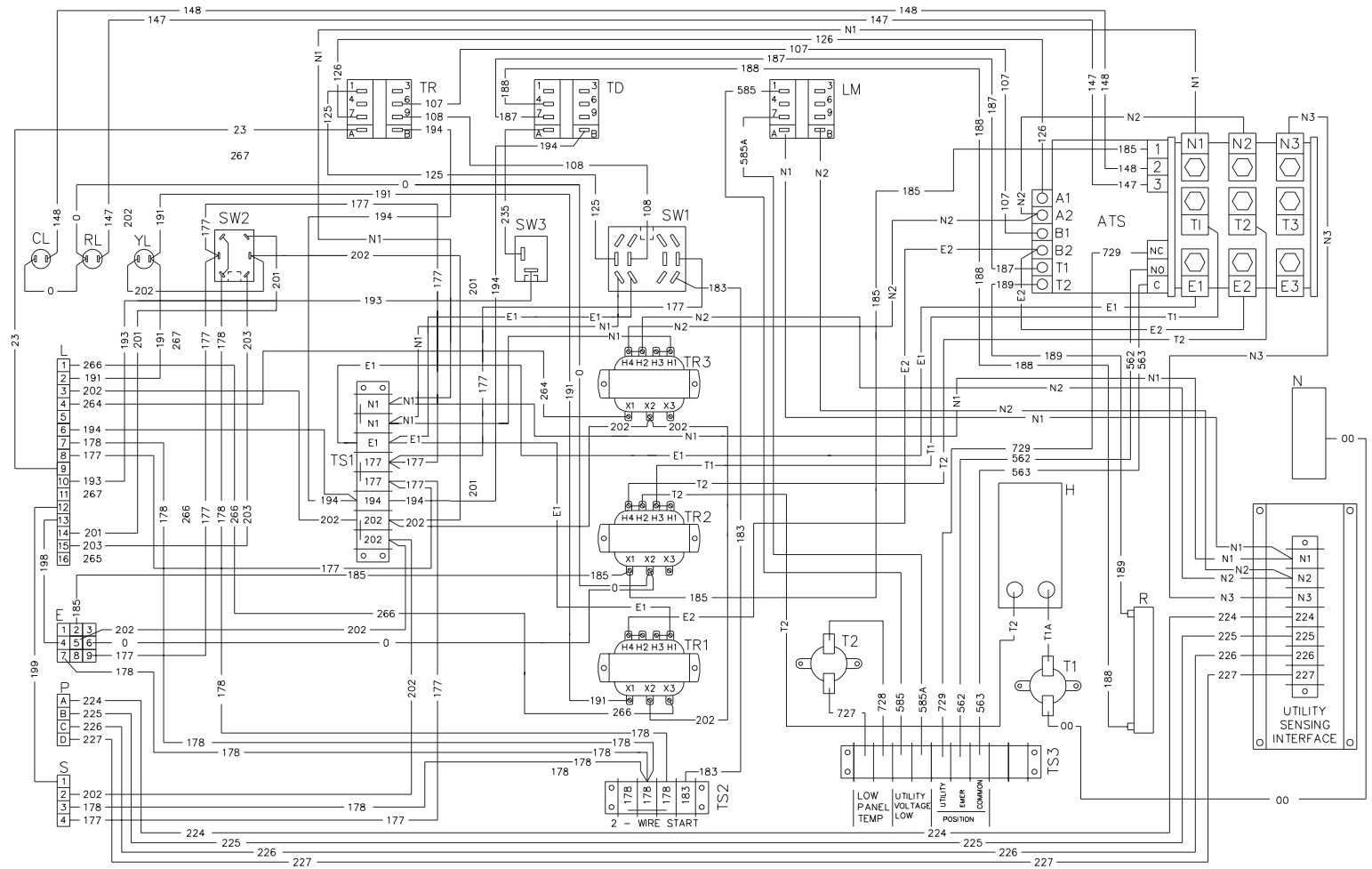


**LEGEND**

AM	METER, AMP (OPT)
ATS	TRANSFER SWITCH CONTACTOR
AUX	SWITCH, AUXILIARY
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
CR	RELAY, 3 WIRE START CONTROL (OPT)
CT1,2,3	TRANSFORMER, CURRENT
D	DIVIDE (OPT)
E	CONNECTOR, 7 DAY EXERCISER PCB
FM	METER, FREQUENCY (OPT)
HM	METER, HOUR (OPT)
HM	CONNECTOR, INPHASE MONITOR PCB
P	CONNECTOR, UTILITY VOL. SENSING PCB
PSW	PHASE SELECTOR (OPT)
RL	RED LIGHT, SWITCH POSITION EMERGENCY
S	CONNECTOR, UTILITY VOL. SENSING PCB
SR	RELAY, SIGNAL BEFORE TRANSFER (OPT)
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
SW4	SWITCH, RETURN TO NORMAL BYPASS (OPT)
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
TR4, TR5	TRANSFORMER, SWITCH OPERATION
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TS1	TERM. STRIP
TS2	TERM. STRIP, 2/3 WIRE START
TS3	TERM. STRIP, REMOTE AUTO START (OPT)
TS4	TERM. STRIP, SIGNAL BEFORE TRANSFER (OPT)
TS5	TERM. STRIP, INSTRUMENT PACKAGE (OPT)
VM	METER, VOL. (OPT)
YL	YELLOW LIGHT, STANDBY OPERATING

NOTE:  
DASHED LINES REPRESENT WIRING FOR OPTIONAL FEATURES.

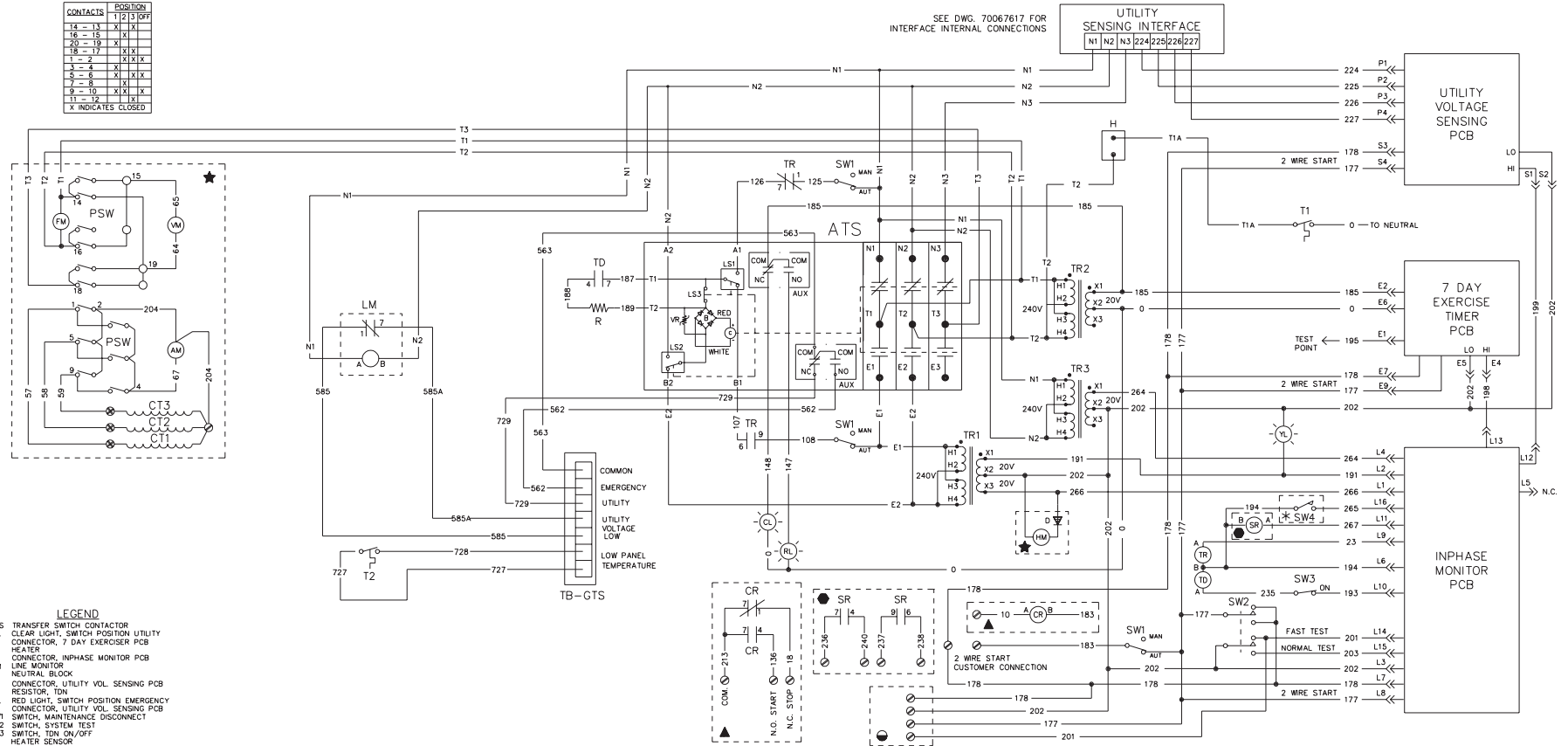




LEGEND	
ATS	TRANSFER SWITCH CONTACTOR
CL	CLEAR LIGHT, SWITCH POSITION UTILITY
F	CONNECTOR, 7 DAY EXERCISER PCB
H	HEATER
L	CONNECTOR, INPHASE MONITOR PCB
LM	LINE MONITOR
N	NEUTRAL BLOCK
P	CONNECTOR, UTILITY VOL. SENSING PCB
R	RESISTOR, TDN
RL	RED LIGHT, SWITCH POSITION EMERGENCY
S	CONNECTOR, UTILITY VOL. SENSING PCB
SW1	SWITCH, MAINTENANCE DISCONNECT
SW2	SWITCH, SYSTEM TEST
SW3	SWITCH, TDN ON/OFF
T1	HEATER SENSOR
T2	HEATER THERMOSTAT
TD	RELAY, TIME DELAY
TR	RELAY, TRANSFER
TR1	TRANSFORMER, STANDBY SENSING
TR2	TRANSFORMER, LOAD POWER SUPPLY
TR3	TRANSFORMER, UTILITY SENSING
TS1	TERM. STRIP, LOW VOLTAGE
TS2	TERM. STRIP, 2/3 WIRE START
TS3	TERM. STRIP, CUSTOMER CONNECTION
YL	YELLOW LIGHT, STANDBY OPERATING

CONTACTS	POSITION		
	1	2	3 OFF
14 - 15	X	X	
16 - 18	X	X	
20 - 19	X	X	
18 - 17	X	X	
1 - 2	X	X	X
3 - 4	X	X	
5 - 6	X	X	X
7 - 8	X	X	
9 - 10	X	X	X
11 - 12	X	X	

X INDICATES CLOSED

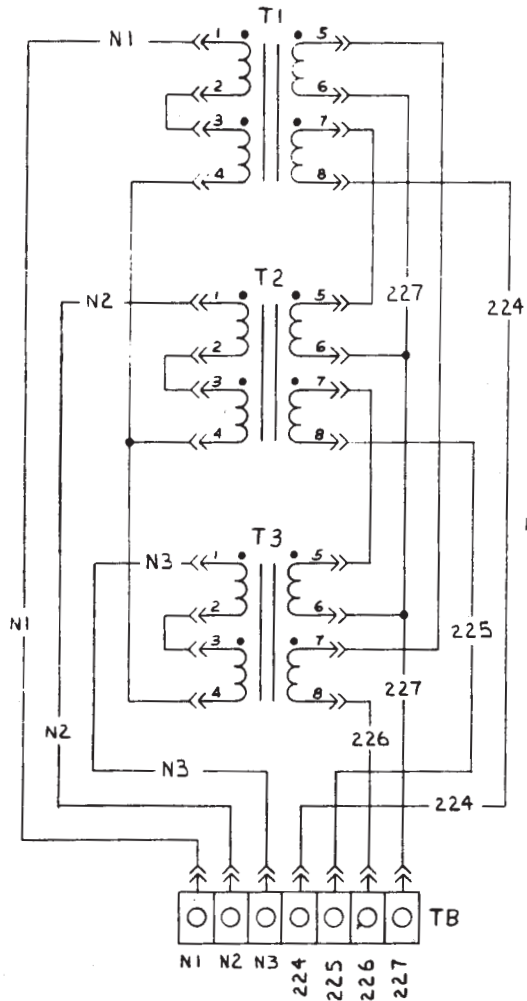


- LEGEND**
- ATS TRANSFER SWITCH CONTACTOR
  - CL CLEAR LIGHT, SWITCH POSITION UTILITY
  - C CONNECTOR, 7 DAY EXERCISER PCB
  - H HEATER
  - L CONNECTOR, INPHASE MONITOR PCB
  - LM LINE MONITOR
  - N NEUTRAL BLOCK
  - P CONNECTOR, UTILITY VOL. SENSING PCB
  - R RESISTOR, TDV
  - RL RED LIGHT, SWITCH POSITION EMERGENCY
  - S CONNECTOR, UTILITY VOL. SENSING PCB
  - SW1 SWITCH, MAINTENANCE DISCONNECT
  - SW2 SWITCH, SYSTEM TEST
  - SW3 SWITCH, TDN ON/OFF
  - T1 HEATER SENSOR
  - T2 HEATER THERMOSTAT
  - TD RELAY, TIME DELAY
  - TR RELAY, TRANSFER
  - TR1 TRANSFORMER, STANDBY SENSING
  - TR2 TRANSFORMER, LOAD POWER SUPPLY
  - TR3 TRANSFORMER, UTILITY SENSING
  - TS1 TERM. STRIP, LOW VOLTAGE
  - TS2 TERM. STRIP, 2/3 WIRE START
  - TS3 TERM. STRIP, CUSTOMER CONNECTION
  - YL YELLOW LIGHT, STANDBY OPERATING

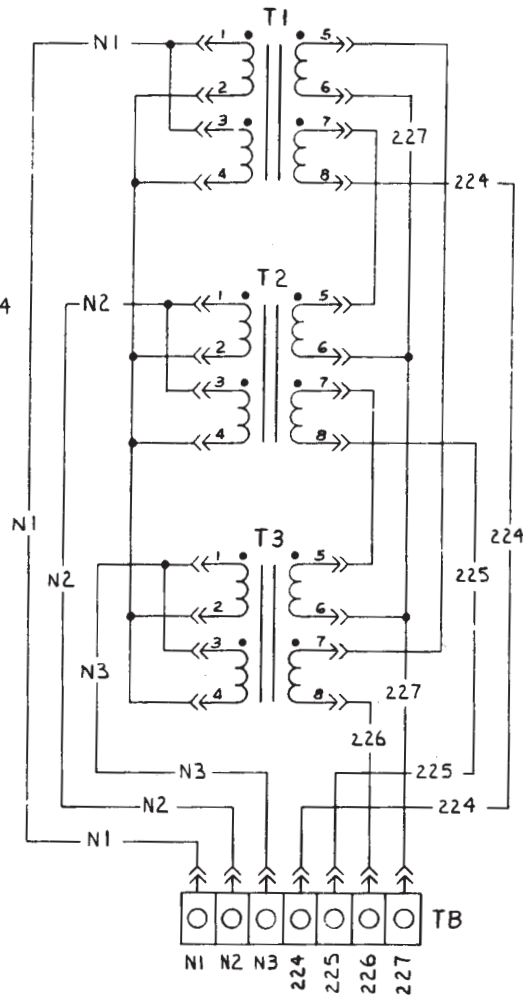
- OPTIONS**
- SIGNAL BEFORE TRANSFER
  - ★ INSTRUMENT PACKAGE
  - ▲ 3 WIRE START CONTROL
  - REMOTE AUTO START
  - \* RETURN TO NORMAL BYPASS

**NOTE:**  
 WIRE N3,59, AND CT3 USED ON  
 3 PHASE SYSTEM ONLY  
 ALL RELAY CONTACTS SHOWN WITH  
 ATS IN UTILITY POSITION

**A**  
for  
416/480/600 VOLT  
THREE PHASE  
OPERATION



**B**  
for  
208/240 VOLT  
THREE PHASE  
OPERATION



**C**  
for  
240 VOLT  
SINGLE PHASE  
OPERATION

