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Schematic/Electrical Parts

MWS26

Barrier Washer-Extractor

MilTouch Controls

Read the **separate safety manual** before installing, operating, or servicing

PELLERIN MILNOR CORPORATION POST OFFICE BOX 400, KENNER, LOUISIANA 70063-0400, U.S.A.

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COMPONENT PARTS LIST

W7MWSPL#24496A

COMPONENT NUMBER	FUNCTION OF THIS COMPONENT	WHERE TO FIND THIS COMPONENT	MILNOR P/N	DESCRIPTION	LOCATION
	>>CONTROL BOX LAYOUTS				
001	CONTROL BOARDS	W7MWSTG1			CONTROL PNL
BA	**>>PRINTED CIRCUIT BOARDS**				
BPBS	ARM9 PROCESSOR + DISPLAY	W7MWSBD	08BHMX6AT	ASSY:IMX6 PROC+5.7 DSP-TESTED	SOIL SIDE CONTR
BPCNT	CONTROLLER .I/O BOARD	W7MWSBD	08BJT120BT	BD:SER BD: TIPPO MILTOUCH-I/O+FLOWMETE	CONTROL BOX
CB	**>>CIRCUIT BREAKERS**				
CB1	CIRCUIT BREAKER-DRIVE MOTOR	W7MWSPWR	09FC032CAA	IEC MINI CIR.BREAK 32A 480V3P	CONTROL BOX
CB2	CIRCUIT BREAKER-240V PRIMARY	W7MWSPWR	09FC004CA2	IEC MINI CIR.BREAK 2P 4A 480V3P C CURVE	CONTROL BOX
CB3	CIRCUIT BREAKER-240V SECONDARY	W7MWSPWR	09FC004CA2	IEC MINI CIR.BREAK 2P 4A 480V3P C CURVE	CONTROL BOX
CB4	CIRCUIT BREAKER-24V SECONDARY	W7MWSPWR	09FC004CA1	IEC MINI CIR.BREAK 4A 480V1P D CURVE	CONTROL BOX
CR	**>>RELAY-PILOT OR CONTROL**				
CRCWT	RELAY-COLD WATER	W7MWSEV	09C024D24	RELAY 4PDT DIFGLD 14PIN 24VAC	CONTROL BOX
CRHWT	RELAY-HOT WATER	W7MWSEV	09C024D24	RELAY 4PDT DIFGLD 14PIN 24VAC	CONTROL BOX
VESTM	RELAY-STEAM VALVE	W7MWSEV	09C024D24	RELAY 4PDT DIFGLD 14PIN 24VAC	CONTROL BOX
CRCSC	RELAY-CLEAN AND SOIL SIDE CLOSED	W7MWSIA	09C024D24	RELAY 4PDT DIFGLD 14PIN 24VAC	CONTROL BOX
CS	**>>CONTACTOR-MOTOR STARTER**				
CSP	CONTACTOR-INVERTER POWER	W7MWSPWR	09MC08D324A	23A 3P MCS CONT NR 24V60HZ ONLY AC1 = 3	CONTROL BOX
CSEH	CONTACTOR-ELECTRIC HEAT	W7MWSPWR			CONTROL BOX
EB	**>>BUZZER OR AUDIBLE SIGNAL**				
EBRD	BUZZER-LOAD CLEAN AND SOILSIDE	W7MWSCM	09H013A	TONE BUZZER 9-15VAC/DC	CLEAN SWPNL
EL	**>>LIGHT-PILOT OR INDICATOR**				
ELRD	LIGHT-LOAD SOIL SIDE	W7MWSCM	09J060A37	LAMP 1/2" AMB 125V IDI 1050QC3	SOIL SIDE SWPL
ELGN	LIGHT-WASH IN PROGRESS	W7MWSCM	09J060A37	LAMP 1/2" AMB 125V IDI 1050QC3	SWITCH PANEL
ELGBW	LIGHT END OF WASHING	W7MWSCM	09J060A37	LAMP 1/2" AMB 125V IDI 1050QC3	CLEAN SWPNL
ELGRP	LIGHT-DRUM PEPOSITION CLEAN SIDE	W7MWSCM	09J060G37	LAMP 1/2" GRN 125V IDI 1052QC3	CLN SIDE SWPL
ELGRP	LIGHT-CLEAN DOOR UNLOCKED	W7MWSCM	09J060A37	LAMP 1/2" AMB 125V IDI 1050QC3	CLEAN SWPNL
EMS	**>> EMERGENCY STOP SWITCHES**				
EMSCS	SWITCH-EMERGENCY STOP CLEAN SIDE	W7MWSPWR	09N508	SW ASSY EMER STOP VERSION 3	CLN SIDE SWPL
EMSSS	SWITCH-EMERGENCY STOP SOIL SIDE	W7MWSPWR	09N508	SW ASSY EMER STOP VERSION 3	SOIL SIDE SWPNL
ES	**>>POWER SUPPLY-ELECTRONIC**				
ESECC	POWER SUPPLY-230V TO 24VDC	W7MWSBD	08PSS2403	POWER SUPPLY DIN RAIL 120/240VAC TO 24V	LOW VOLT BOX
EPS2	POWER SUPPLY-230V TO +12VDC	W7MWSBD	08PSS2402	POWER SUPPLY DIN RAIL 120/240VAC TO 12V	LOW VOLT BOX
ET	**>>OVERLOAD-MOTORS**				

COMPONENT PARTS LIST

W7MWSPL#24496A

COMPONENT NUMBER	FUNCTION OF THIS COMPONENT	WHERE TO FIND THIS COMPONENT	MILNOR P/N	DESCRIPTION	LOCATION
ETM	DRIVE OVERLOAD	W7MWSPWR	09FTW020T	OVERLOAD/DISCONNECT ADJ 16 - 20A	CONTROL BOX
EX	**>>TRANSFORMERS**				
EX240	TRANSFORMER-208/240>120VAC	W7MWSPWR	09UB25AU71	AUTOXFMR 208V/230V 250VA UL/CSA	CONTROL BOX
EX24	TRANSFORMER-208/240>24VAC	W7MWSPWR	09U027AB24	XFMR 120-240,110-220/24V 150VA	CONTROL BOX
FILTER	**>>FILTER**				
FILTER	FILTER-EMC/EMI	W7MWSBD	09AFACH32C	EMC/EMI FILTER WITH HIGH ATTENUATION 25	CONTROL BOX
MT	**>>FAN**				
MTVS	FAN-INVERTER COOLING	W7MWSVP	13AF100A71	FAN 92CFM230V60	HIGH VOLT BX
MT	**>>MOTORS**				
MTD	MOTOR-DRIVE	W7MWSPWR	39G816AAT	6HP 4P 240/380/480 50/6	DRIVE BASE
MV	**>>MOTOR POWER INVERTERS**				
MVDBR	RESISTOR-DYNAMIC BRAKE	W7MWSPWR	09MV040RES	RESIST 40 OHM 225WATT	CONTROL BOX
MVINVS	INVERTER-DRIVE	W7MWSPWR	09MWB02574	V1000 INVERTER 25AMP 230V	MACHINE LEG
MVM	REACTOR-IN LINE INVERTER	W7MWSPWR	09MX300A74	REACTOR 25/30HP 230V 80A	MACHINE LEG
SH	**>>SWITCH-HAND OPERATED**				
SHEF	SWITCH-END OF FORMULA	W7MWSIA	09N401IGPBA	LLUMINATED PUSH BUTTON OPR GN+NC/NO WITH LED 24VDC	CLEAN SWPNL
SHDC	SWITCH-REPOSITION DRUM ON CLEAN SIDE	W7MWSIA	09N401IGPBA	LLUMINATED PUSH BUTTON OPR GN+NC/NO WITH LED 24VDC	CLEAN SWPNL
SM	**>>SWITCH-MECHANICALLY OPERATED**				
SMCD	CLEAN DOOR	W7MWSIA	09RPS12AAS	REACTOR 25/30HP 230V 80A	
SMSD	SOIL DOOR	W7MWSIA	09RPS12AAS	REACTOR 25/30HP 230V 80A	
SP	**>>SWITCH-PRESSURE OPERATED**				
SPA	PRESSURE SW-AIR	W6W5SZI1	09N082A	PRESSW NASON CLOSE @ 62 LB.	AIR INLET
TP	TEMPERATURE PROBE	W7MWSBD	30R0043P	TEMP PROBE:THERMISTOR 30K OHMS	DRAIN SUMP
PX	**>>SWITCH-PROX**				
PXCS	PROX SWITCH- CLEAN SIDE SPOTTED	W7MWSIA	09RPS12AAS	PROXSW QD CONN 12M NO-AC SHLD MICROFAST	CLEAN SIDE DOOR
PXSS	PROX SWITCH- SOIL SIDE SPOTTED	W7MWSIA	09RPS12AAS	PROXSW QD CONN 12M NO-AC SHLD MICROFAST	SOIL SIDE DOOR
ST	**>>SWITCH-PRESSURE OPERATED**				
STDB	TERMOSTAT BRAKING RESISTORS	W7MWSPWR	30RA175T	TERM0STAT 0PENS AT 175 DEGREES	CONTROL BOX
VE	**>>VALVE-ELECTRIC OPERATED**				

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PELLERIN MILNOR CORPORATION
LIMITED STANDARD WARRANTY

We warrant to the original purchaser that MILNOR machines including electronic hardware/software (hereafter referred to as "equipment"), will be free from defects in material and workmanship for a period of one year from the date of shipment (unless the time period is specifically extended for certain parts pursuant to a specific MILNOR published extended warranty) from our factory with no operating hour limitation. This warranty is contingent upon the equipment being installed, operated and serviced as specified in the operating manual supplied with the equipment, and operated under normal conditions by competent operators.

Providing we receive written notification of a warranted defect within 30 days of its discovery, we will—at our option—repair or replace the defective part or parts, EX Factory (labor and freight specifically NOT included). We retain the right to require inspection of the parts claimed defective in our factory prior to repairing or replacing same. We will not be responsible, or in any way liable, for unauthorized repairs or service to our equipment, and this warranty shall be void if the equipment is tampered with, modified, or abused, used for purposes not intended in the design and construction of the machine, or is repaired or altered in any way without MILNOR's written consent.

Parts damaged by exposure to weather, to aggressive water, or to chemical attack are not covered by this warranty. For parts which require routine replacement due to normal wear—such as gaskets, contact points, brake and clutch linings, belts, hoses, and similar parts—the warranty time period is 90 days.

We reserve the right to make changes in the design and/or construction of our equipment (including purchased components) without obligation to change any equipment previously supplied.

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BMP720097/19036

How to order repair parts

Repair parts may be ordered either from the authorized dealer who sold you this machine, or directly from the MILNOR factory. In most cases, your dealer will have these parts in stock.

When ordering parts, please be sure to give us the following information:

1. Model and serial number of the machine for which the parts are required
2. Part number
3. Name of the part
4. Quantity needed
5. Method of shipment desired
6. In correspondence regarding motors or electrical controls, please include all nameplate data, including wiring diagram number and the make or manufacturer of the motor or controls.

All parts will be shipped C.O.D. transportation charges collect only.

Please read this manual

It is strongly recommended that you read the installation and operating manual before attempting to install or operate your machine. We suggest that this manual be kept in your business office so that it will not become lost.

PELLERIN MILNOR CORPORATION
P.O. BOX 400, KENNER, LA., 70063-0400, U.S.A.
FAX: Administration 504/468-9307, Engineering 504/469-1849, Service 504/469-9777

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HOW TO USE MILNOR® ELECTRICAL SCHEMATICS

Milnor® electrical schematic manuals contain a ***table of contents/component list,*** **a set of s*chematic drawings, and a signal routing table.*** These documents are cross referenced and must be used together.

The ***table of contents/components list shows,*** for every component on every schematic in the manual, the *component item number*(explained in detail below), statement of function, parent schematic number, part number, description and electric box location.

The ***schematic drawings*** use symbols for each electro-mechanical component, and indicate the function of each. Integrated circuits are not shown, but the function of each microprocessor input and output is stated. Certain electrical components not pertinent to circuit logic, such as wire connectors, are not represented on the schematic but are shown in the signal routing table. **Most machines (manuals) require several schematics to describe the complete control system *including all available options.* However, this means that there are usually some schematics that do not apply to a specific machine.** Each schematic is devoted to circuits with common functions (e.g., microprocessor inputs, motor contactors). Schematics appear in the manual in alphanumeric order.

The ***signal routing table*** assists in determining wire routing. It identifies each group of conductors in a control system connected with zero resistance. Groups are identified by a two or three character wire number. Each wire belonging to such a group of conductors has that group's wire number printed along the wire insulation. Although there are some exceptions, generally each group of conductors within the entire electrical system for a machine family has its own unique wire number. The signal routing table for the manual lists each wire alphanumerically by wire number and each component/pin number to which *the wire is attached,* including those not shown on the schematics (e.g., wire connectors). Milnor® document MSTS0202BE "HOW TO USE THE SIGNAL ROUTING TABLE" provides more information.

Component Prefix Classifications and Descriptions

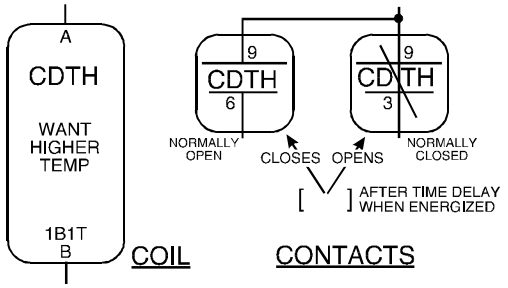
The ***component item numbers*** consist of up to six characters and appear as part of a component's symbol on the schematic. The first two characters indicate the general class of component and the remaining characters are a mnemonic for the function. For example, "CD" is the code for all time delay relays and "SR" stands for safety reset. Thus, CDSR is a time delay relay that serves as a safety reset.

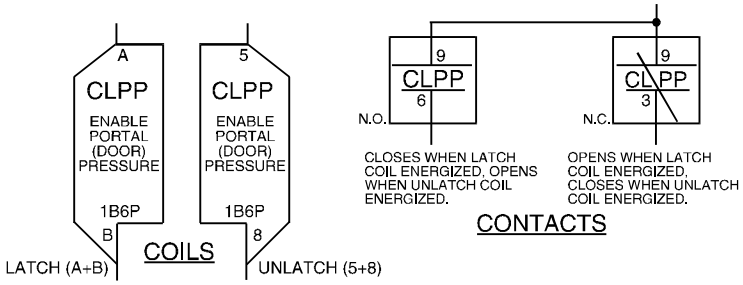
The following are descriptions of the electrical components used in Milnor® machines. Descriptions are in alphabetical order of the component class code (two character prefix).

BA=Printed Circuit Board Insulating substrate on which a thin pattern of copper conductors has been formed to connect discrete electronic components also mounted on the board.

CB=Circuit Breaker Automatic switch that opens an electric circuit in abnormal current conditions (e.g., an overload).

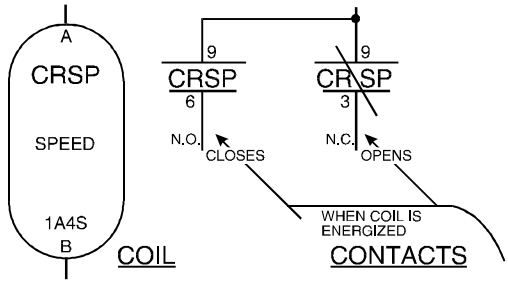
CD=Control, Time Delay Relay A relay whose contacts switch only after a fixed or adjustable delay, once voltage has been applied to its coil. The contacts switch back to normal (de-energized state) immediately when the voltage is removed.

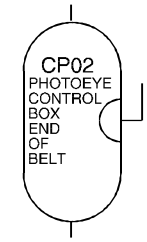




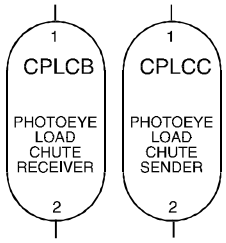
CL=Control, Latch Relay A relay which latches in an energized or set position when operated by one coil (the *latch/set coil*). The relay stays latched, even though coil voltage is removed. The relay releases or unlatches when voltage is applied to a second coil, (the *unlatch/reset coil*).

CR=Control, Relay A relay whose contacts switch immediately when voltage is applied to its coil and revert to normal when the voltage is removed.





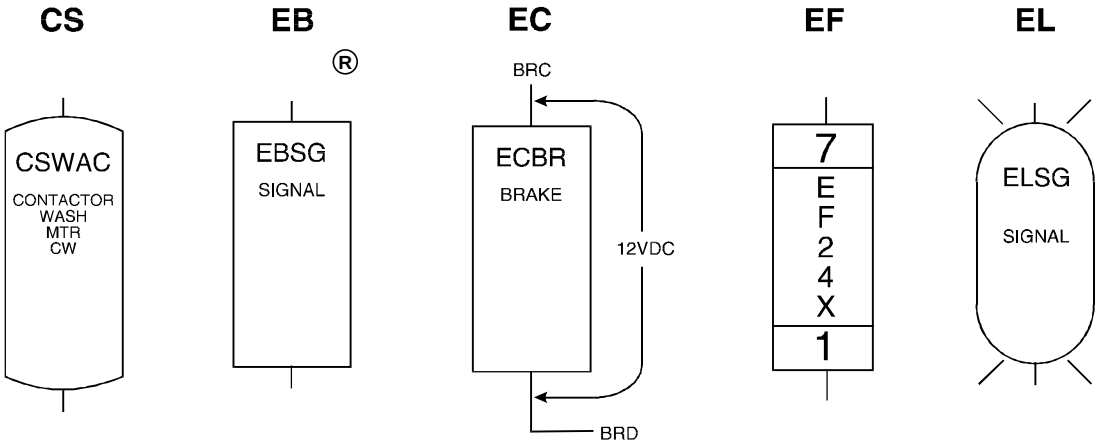
Example of One Assembly



Example of Two Separate Assemblies

CP=Control, Photo-Eyes Photo-eyes sense the presence of an object without direct physical contact. Photo-eyes consist of a *transmitter, receiver, and output module.* These components may be housed in one assembly with the transmitter bouncing light off of a reflector to the receiver, or these components can be housed in *two separate assemblies* with the transmitter pointed directly at the receiver.

The photo-eye can be set to turn on its output either when the light beam becomes blocked (dark operate) or when it becomes unblocked (light operate).



CS=Control, Contactor/Motor Starter A relay capable of handling heavier electrical loads, usually a motor.

EB=Electric Buzzer An audible signaling device.

EC=Electric Clutch A clutch consists of a coil and a rotor. The rotor has two separate rotating plates. These plates are free to rotate independent of each other until the coil is energized. Once energized the two plates turn as one.

ED=Electronic Display A visual presentation of data, such as an LCD (liquid crystal display), LED (light emitting diode) display, or VFD (vacuum florescent display).

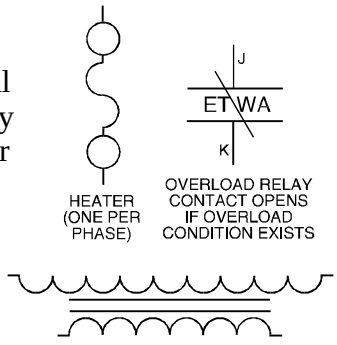
EF=Electric Fuse A fuse is an over-current safety device with a circuit opening fusible member which is heated and severed by the passage of over-current through it.

EL=Electric Light Indicator lights may be either incandescent or fluorescent.

EM=Electro Magnet Solenoid A device consisting of a core surrounded by a wire coil through which an electric current is passed. While current is flowing, iron is attracted to the core (e.g., a pinch tube drain valve solenoid).

ES=Electronic Power Supply A device that converts AC (altemating current) to filtered and regulated DC (direct current). The input voltage to the power supply is usually 120 or 240 VAC . The output is +5, +12, and -12 VDC.

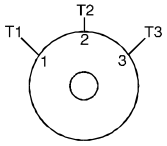
ET=Thermal Overload A safety device designed to protect a motor. A thermal overload consists of an overload block, heaters, and an auxiliary contact. The auxiliary contact is normally installed in a safety (three-wire) circuit that stops power to the motor contactor coil when a motor overload occurs.



EX=Electrical Transformer A device that transfers electrical energy from one isolated circuit to another, often raising or lowering the voltage in the process.

KB=Keyboard Device similar to a typewriter for making entries to a computer.

MN=Electronic Monitor (CRT) A cathode ray tube used for visual presentation of data.



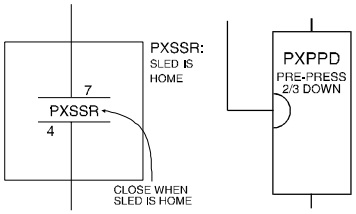
MR=Motors Electro-mechanical device that converts electrical energy into mechanical energy.

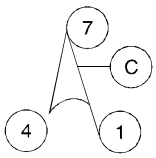
MV=Motor (Variable Speed) Inverter To vary the speed of an AC motor, the volts to frequency ratio must be kept constant. The motor will overheat if this ratio is not maintained.

The motor variable speed inverter converts three phase AC to DC. The inverter then uses this DC voltage to generate AC at the proper voltage and frequency for the commanded speed.

NOTE: Switch symbols used in the schematics and described below always depict the switch in its unactuated state.

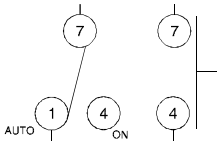
PX=Proximity Switch A device which reacts to the proximity of an target without physical contact or connection. The actuator or target causes a change in the inductance of the proximity switch which causes the switch to operate. Proximity switches can be two-wire (AC) or three-wire (DC) devices.

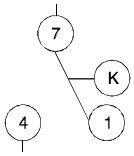




SC=Switch, Cam Operated A switch in which the electrical contacts are opened and/or closed by the mechanical action of a cam(s). Applications include 35-50 pound timer operated machines, autospot, timer reversing motor assembly, and some balancing systems.

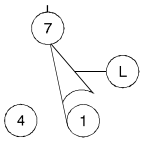
SH=Switch, Hand Operated A switch that is manually operated (e.g., *Start button, Master switch,* etc.).



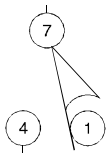


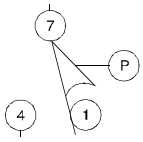
SK=Switch, Key Lock A switch that requires a key to operate . This prevents unauthorized personnel from gaining access to certain functions (e.g., the *Program Menu*).

SL=Switch, Level Operated A switch connected to a float that causes the switch to open and close as the level changes.



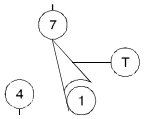
SM=Switch, Mechanically Operated A switch that is mechanically operated by a part of or the motion of the machine (e.g., door closed switch, tilt limit switches, etc.)





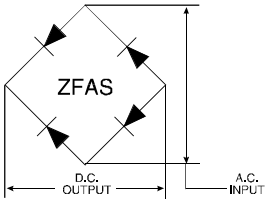
SP=Switch, Pressure Operated A switch consisting of a diaphragm that pushes against a switch actuator.

ST=Switch, Temperature Operated A switch that is actuated at a preset temperature (e.g., dryer safety probes) or has adjustable set points (e.g., Motometers or Combistats).



TB=Terminal Board A strip or block for attaching or terminating wires.

VE=Valve, Electric Operated A valve operated by an electric coil to control the flow of fluid. The fluid can be air, water or hydraulics.

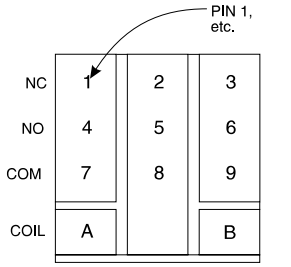


ZF=Rectifier A solid state device that converts alternating current to direct current.

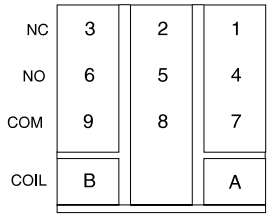
WC=Wiring Connector A coupling device for joining two cables or connecting a cable to an electronic circuit or piece of equipment. Connectors are male or female, according to whether they plug into or receive the mating connector.

Component Terminal Numbering

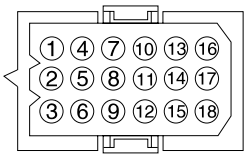
NOTE: Numbers shown usually appear on the component.



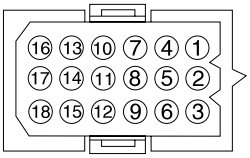
11 PIN PLUG IN RELAY
(PIN END VIEW)



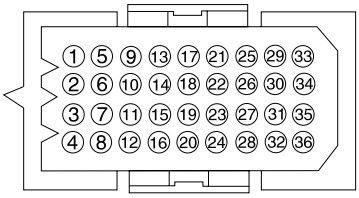
11 PIN RELAY BASE
("PLUG- IN" SIDE)



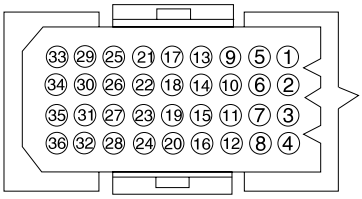
18 PIN (R)



18 PIN (P)

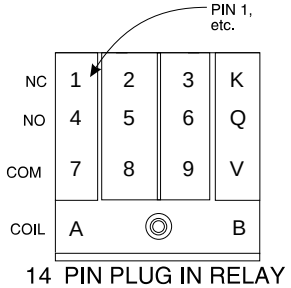


36 PIN (R)

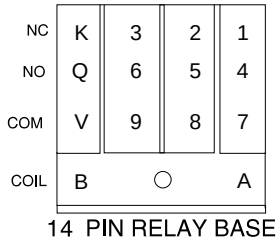


36 PIN (P)

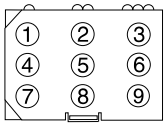
AMP CONNECTOR PIN LOCATIONS
(Viewed from mating side of connector)



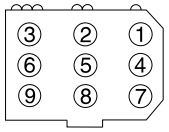
14 PIN PLUG IN RELAY
(PIN END VIEW)



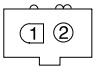
14 PIN RELAY BASE
("PLUG- IN" SIDE)



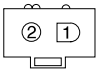
9 PIN (R)



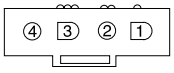
9 PIN (P)



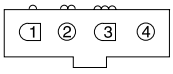
2 PIN (R)



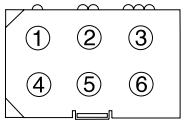
2 PIN (P)



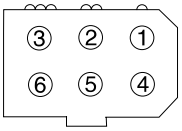
4 PIN (P)



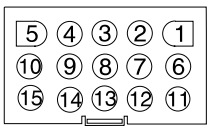
4 PIN (R)



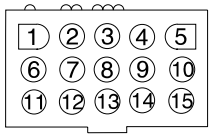
6 PIN (R)



6 PIN (P)

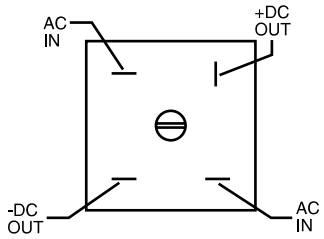


15 PIN (P)

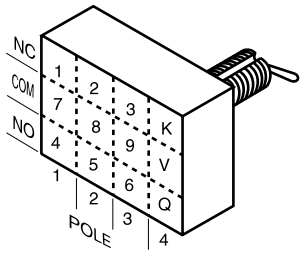


15 PIN (R)

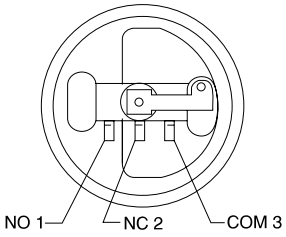
MOLEX CONNECTOR PIN LOCATIONS
(Viewed from mating side of connector)



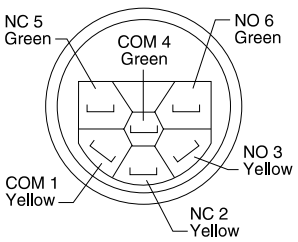
BRIDGE RECTIFIER



TOGGLE SWITCH

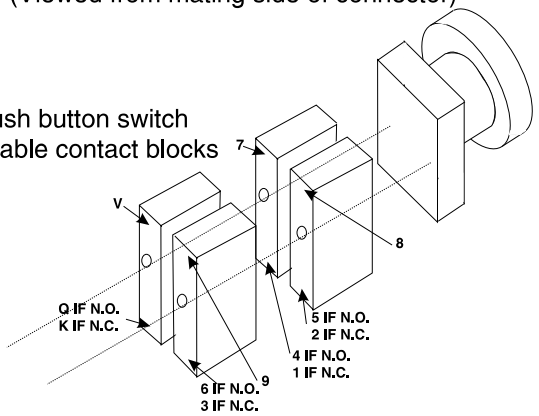


PRESSURE SWITCH



TEMPERATURE CONTROLLER
(Stork Combistat)

Rotary or push button switch
with replaceable contact blocks



Features of Milnor® Electrical Schematics

Document W6DRYGS+A shown on the next page, is part of an actual schematic for the Milnor® Gas Dryer. For the purposes of this instruction, the schematic is shown gray and explanations of the items on the schematic are shown black.

The item numbers below correspond to the circled item numbers shown on the drawing.

① The first six characters of the *drawing number (W6DRYG)* indicate that this is a *wiring diagram (W)*, identify the *generation of controls (6)*, and identify the *type of machine (DRYG*=Gas Dryer). These characters appear in the drawing number of every schematic in the set.

The characters following the first six are unique to each drawing. The two characters identified as the *page number* are an abbreviation for the function performed by the depicted circuitry (S+=three-wire circuit) and establish the order in which the schematic occurs in the manual (schematics are arranged in alpha-numeric order in the manual).

Whenever circuitry changes are significant enough to warrant publishing a new schematic drawing, the new drawing number will be the same as the old except for the major revision letter (*A* in the example).

② Included in the drawing title are the class of control system, the title of this circuit, and the circuit voltage.

③ Line numbers are provided along the bottom edge of the drawing. These permit service personnel in the field and at the Milnor® factory to quickly relate circuit locations when discussing troubleshooting over the phone. Page and line numbers are referenced on the drawing as explained in items five and six below.

④ General functions of the circuit or portions thereof are stated across the top edge of the drawing.

⑤ Relay contacts show the page and line number on which the relay coil may be found. This is the type of cross referencing most frequently used in troubleshooting.

⑥ Relay coils show the page and line number on which its associated contacts are located.

⑦ Relay contacts and relay coils show the physical location of the relay if mounted on a tray..

⑧ The designation *MTA* applies to electronic circuit board connections. Typically, a control system will contain several different types of circuit boards and one or more boards of each type. A numerical suffix identifies the board type and a numerical prefix identifies which one of several boards of a given type is being depicted. For example, the designation *1MTA5* identifies this as the first I/O board (8 output, 16 input board) in the control system. As shown on the drawing, a pin number follows the board number, separated by a dash. Thus, *1MTA5-9* is pin 9 on this board. The numerical designations for board types vary from one control system to another. Some of the board types commonly encountered on the Mark II washer-extractor control and their designations are as follows:

MTA1-MTA6 = 8 output, 16 input (8/16) boards.

MTA11-MTA16 = 16 output boards

MTA30-MTA40 = processor boards

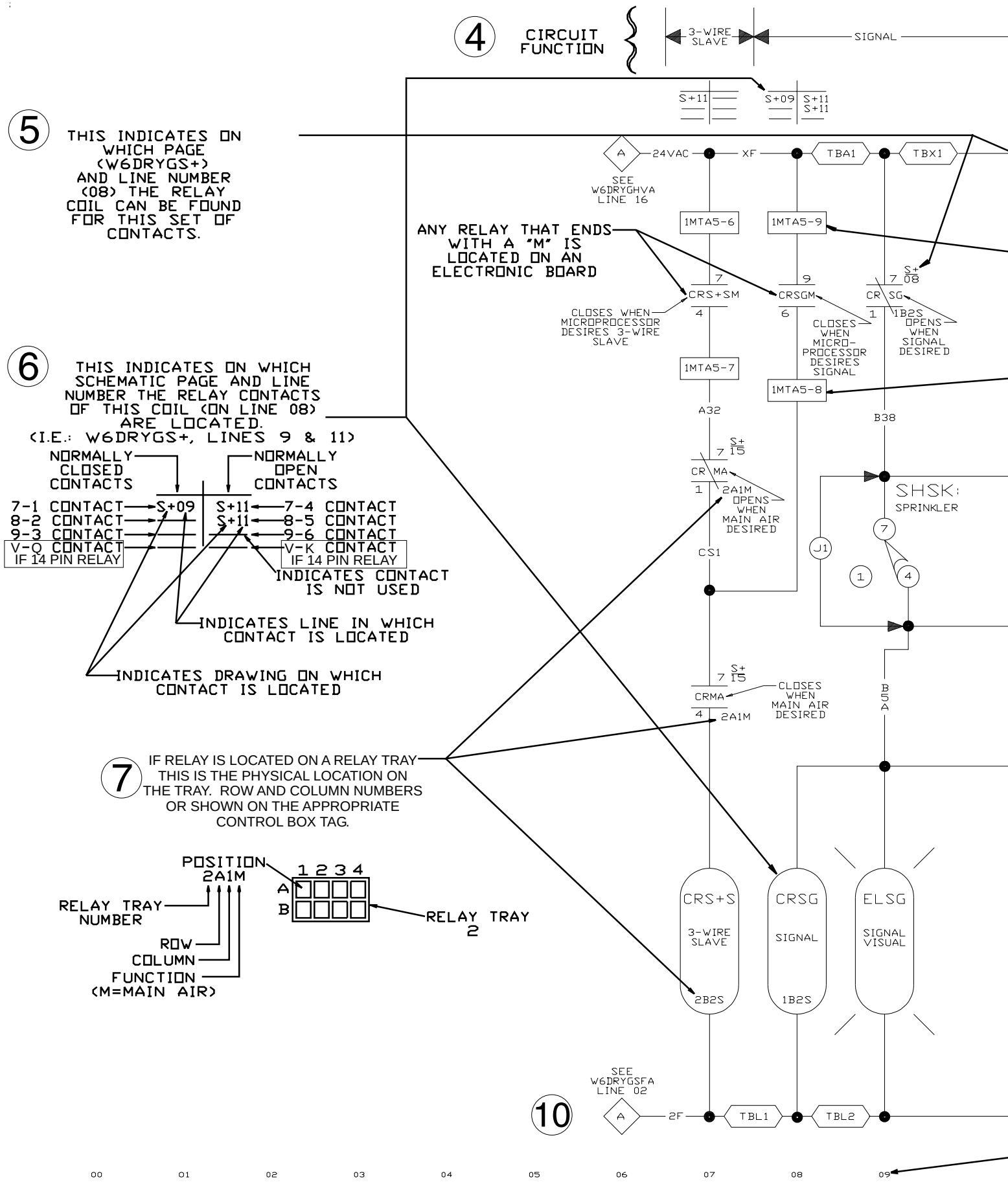
MTA41-MTA43 = digital to analog (D/A) boards

MTA51-MTA56 = analog to digital (A/D) boards

The complete listing of the boards utilized in a given control system can be found in the component list for that system.

⑨ The wire numbers, as described in the explanation of the signal routing table at the beginning of this section, are shown at appropriate locations on the schematic drawing.

⑩ Where diamond symbols appear at the end of a conductor, these are match points for continuing the schematic on another drawing. The page and line number that continues the circuit is printed adjacent to the diamond symbol. Where more than one match point appears on the referenced page, match diamonds containing corresponding letters.


4
CIRCUIT FUNCTION
3-WIRE SLAVE
SIGNAL
5
THIS INDICATES ON WHICH PAGE (W6DRYGS+) AND LINE NUMBER (08) THE RELAY COIL CAN BE FOUND FOR THIS SET OF CONTACTS.
S+11
S+09
S+11
S+11
A
24VAC
XF
TBA1
TBX1
SEE W6DRYGHVA LINE 16
1MTA5-6
1MTA5-9
ANY RELAY THAT ENDS WITH A "M" IS LOCATED ON AN ELECTRONIC BOARD
7
CRS+SM
4
CLOSES WHEN MICROPROCESSOR DESIRES 3-WIRE SLAVE
9
CRSGM
6
CLOSES WHEN MICRO-PROCESSOR DESIRES SIGNAL
7
S+ 08
CR SG
1
1B2S
OPENS WHEN SIGNAL DESIRED
1MTA5-7
1MTA5-8
6
THIS INDICATES ON WHICH SCHEMATIC PAGE AND LINE NUMBER THE RELAY CONTACTS OF THIS COIL (ON LINE 08) ARE LOCATED.
(I.E.: W6DRYGS+, LINES 9 & 11)
NORMALLY CLOSED CONTACTS
NORMALLY OPEN CONTACTS
7-1 CONTACT
8-2 CONTACT
9-3 CONTACT
V-Q CONTACT
IF 14 PIN RELAY
S+09
S+11
S+11
7-4 CONTACT
8-5 CONTACT
9-6 CONTACT
V-K CONTACT
IF 14 PIN RELAY
INDICATES CONTACT IS NOT USED
INDICATES LINE IN WHICH CONTACT IS LOCATED
INDICATES DRAWING ON WHICH CONTACT IS LOCATED
A32
B38
7
S+ 15
CR MA
1
2A1M
OPENS WHEN MAIN AIR DESIRED
CS1
SHSK
SPRINKLER
J1
7
1
4
7
S+ 15
CRMA
4
2A1M
CLOSES WHEN MAIN AIR DESIRED
B5A
7
IF RELAY IS LOCATED ON A RELAY TRAY THIS IS THE PHYSICAL LOCATION ON THE TRAY. ROW AND COLUMN NUMBERS OR SHOWN ON THE APPROPRIATE CONTROL BOX TAG.
POSITION 2A1M
1 2 3 4
A
B
RELAY TRAY NUMBER
RELAY TRAY 2
ROW
COLUMN
FUNCTION (M=MAIN AIR)
CRS+S
3-WIRE SLAVE
2B2S
CRSG
SIGNAL
1B2S
ELSG
SIGNAL VISUAL
SEE W6DRYGSFA LINE 02
10
A
2F
TBL1
TBL2
00
01
02
03
04
05
06
07
08
09

HOW TO READ MILNOR ELECTRICAL SCHEMATICS

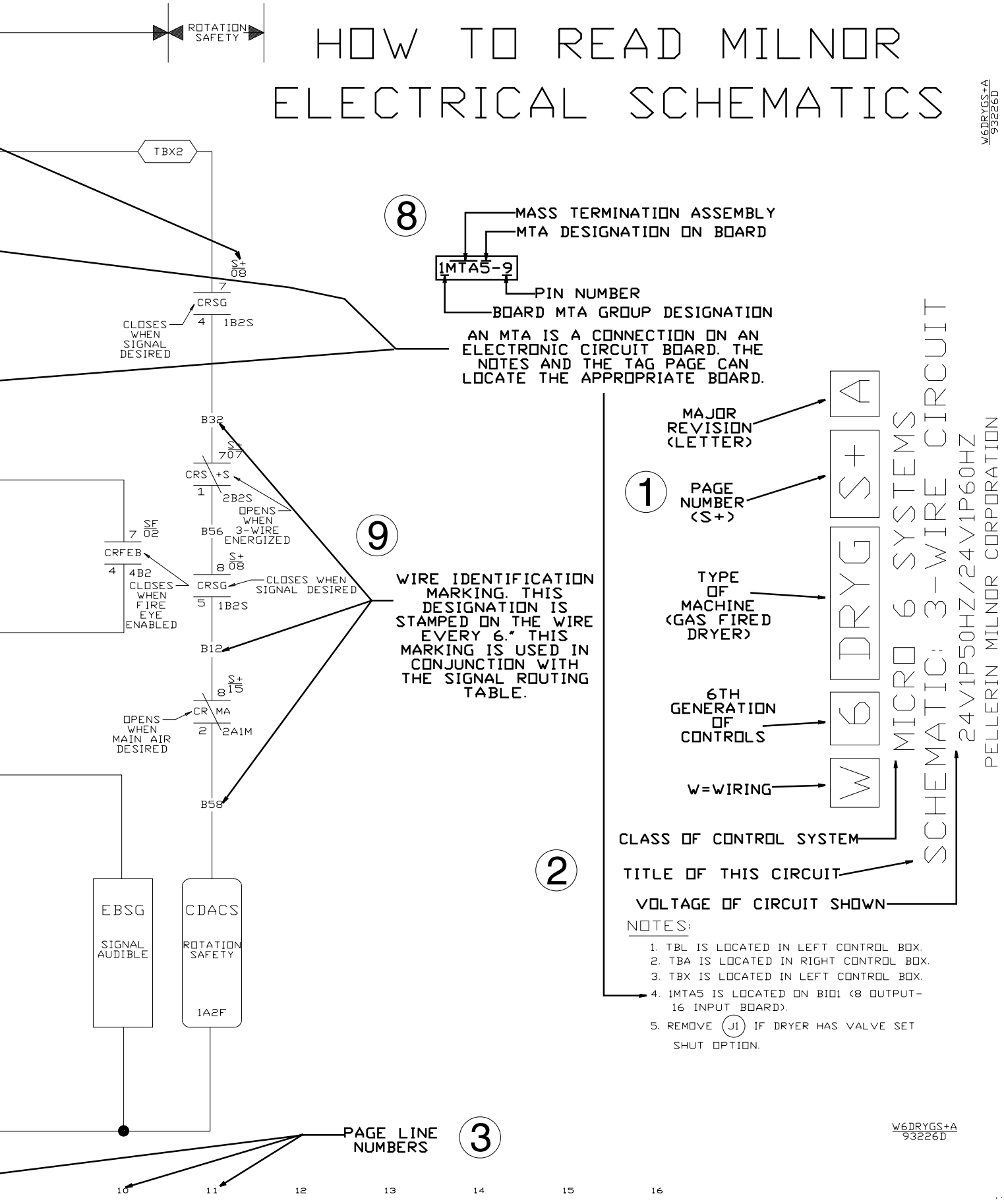
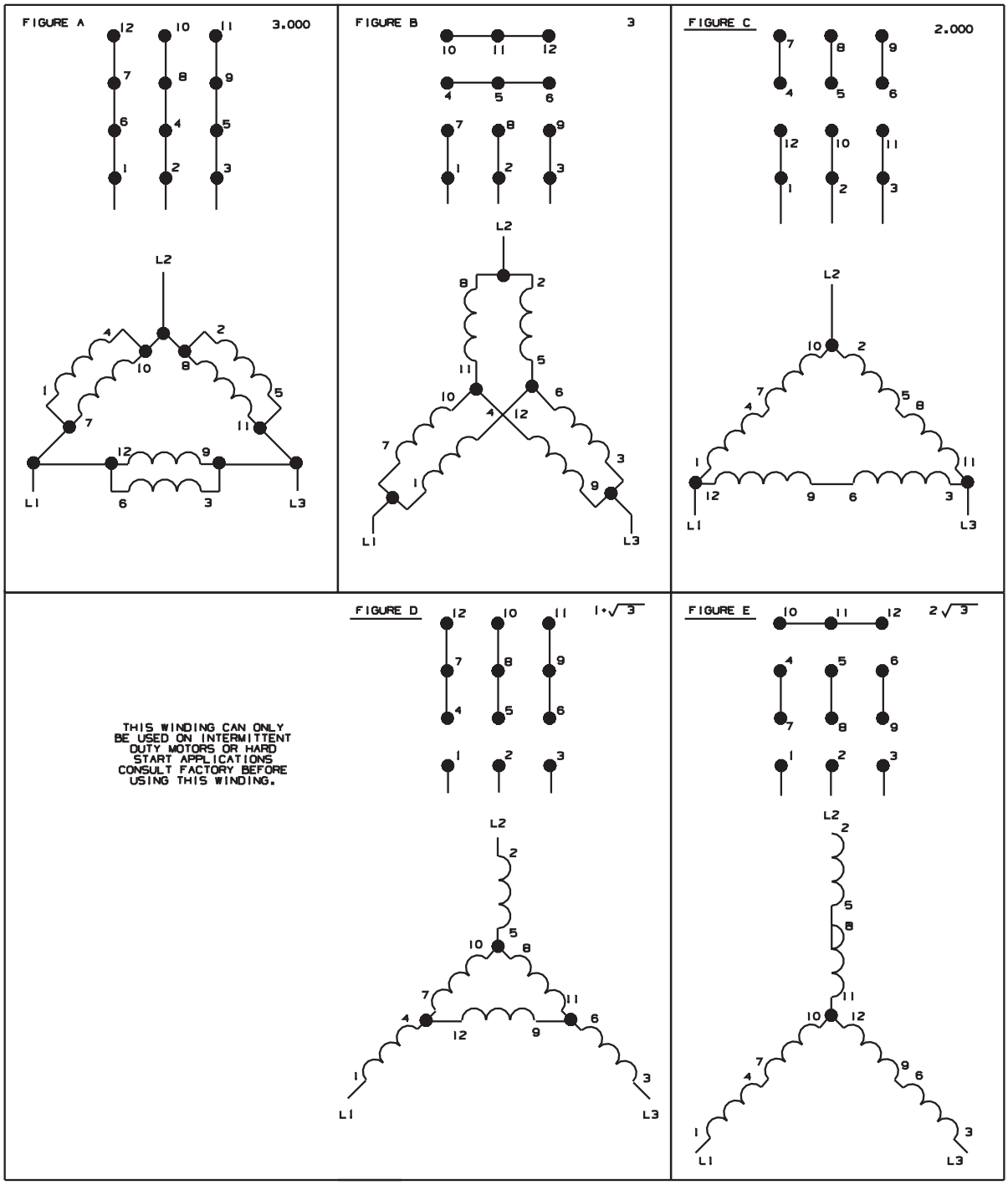


FIGURE	ELECTRICAL VALUES	SUFFIXES									
		B		H		M		T		U	
		50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ
A	1.000	208	230			200	220	220	240	200-220	208-240
B	$\sqrt{3}$				208	346	380	380		346-380	380
C	2.000	416	460	220	240	400	440	440	480	400-440	440-480
D	$1+\sqrt{3}$						600				600
E	$2\sqrt{3}$			380							



06 07 08 09 10 11 12 13 14 15 16 17

BMP850029

MOTOR CONNECTION DIAGRAMS

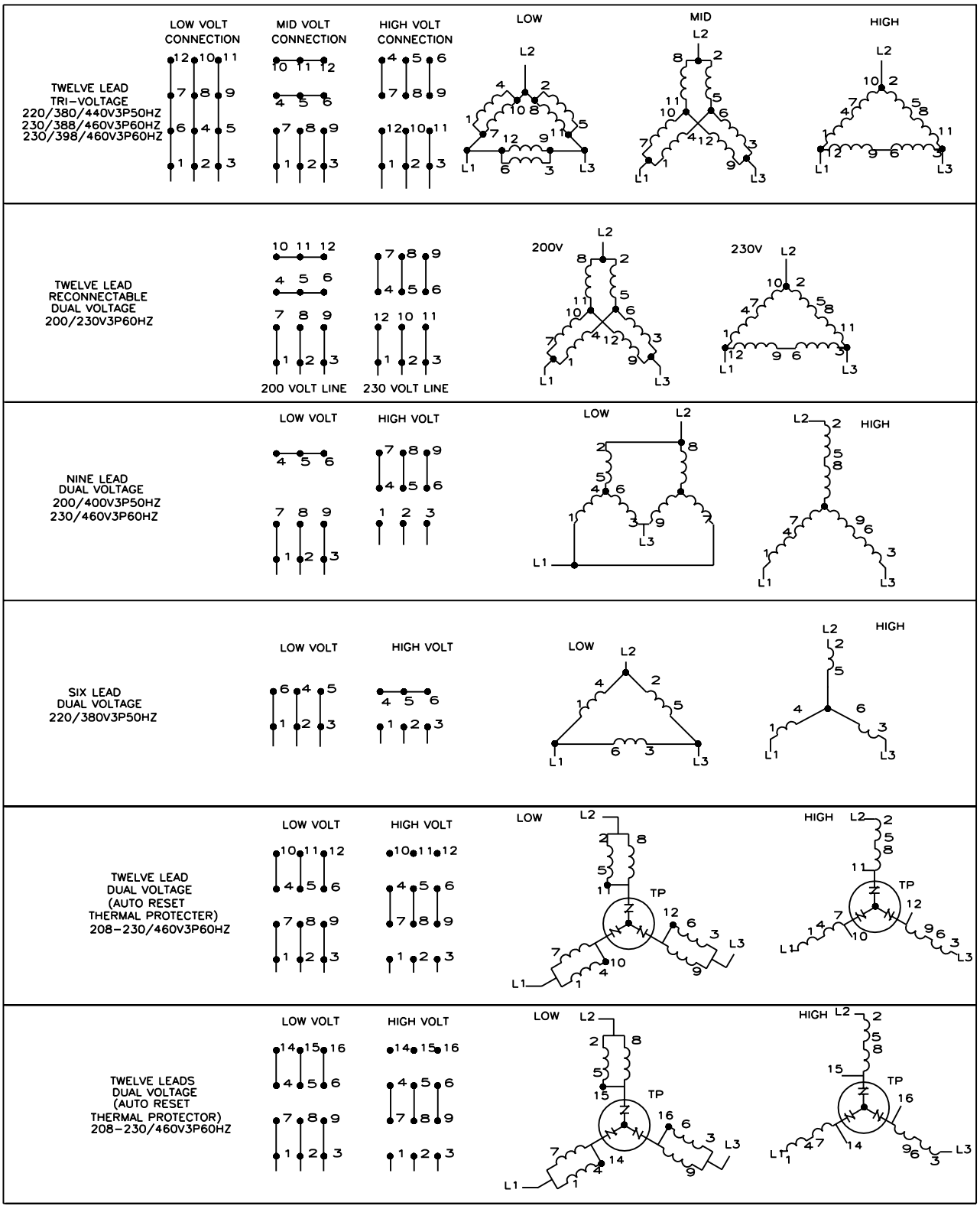
THREE PHASE SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS

(ONLY FOR MOTOR SUFFIXES LISTED)

PELLERIN MILNOR CORPORATION

BMP850029
993628

BMP850029
993628

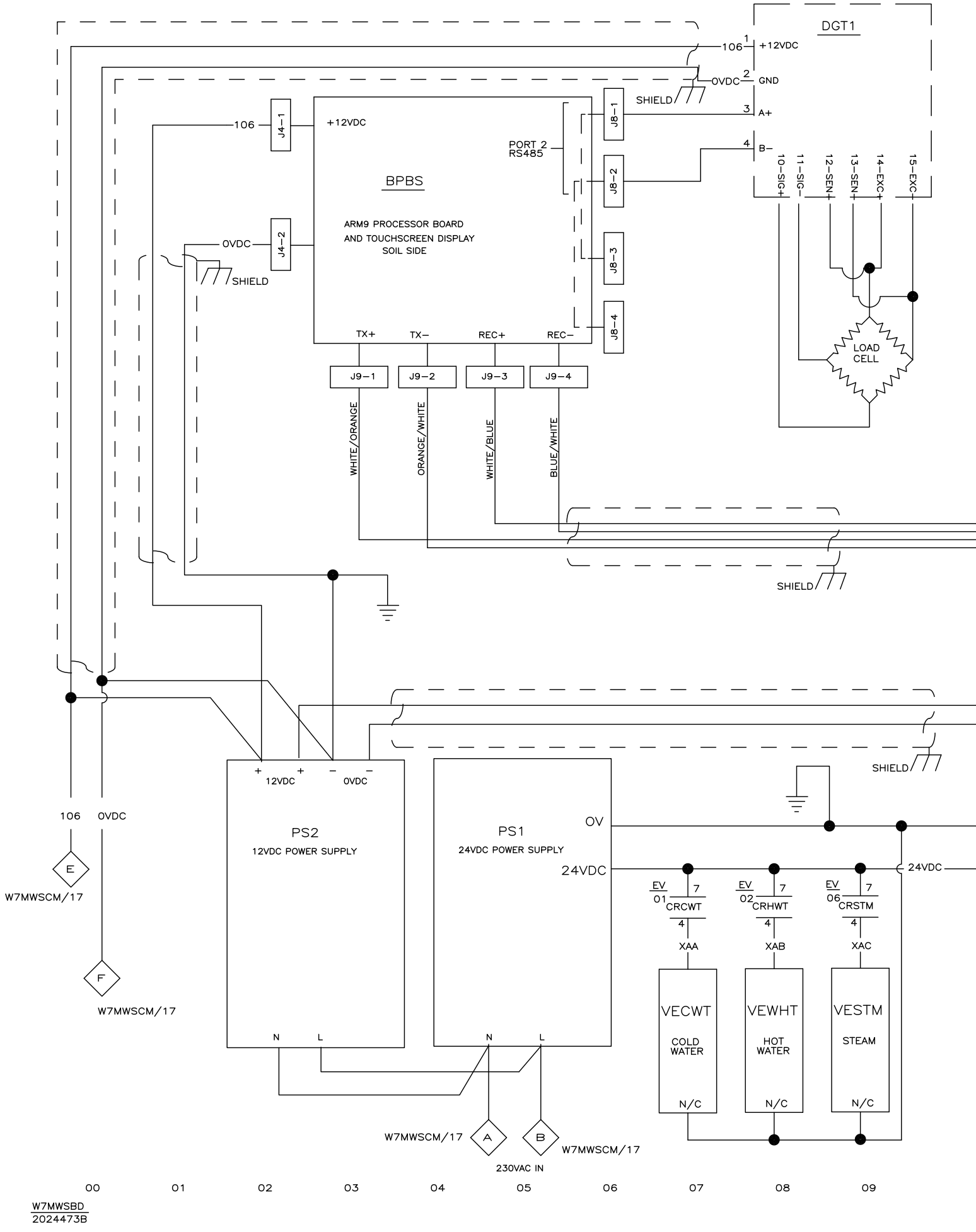


W80008

THREE PHASE
MOTOR CONNECTION DIAGRAMS
SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS

PELLERIN MILNOR CORPORATION

W80008
2001253A

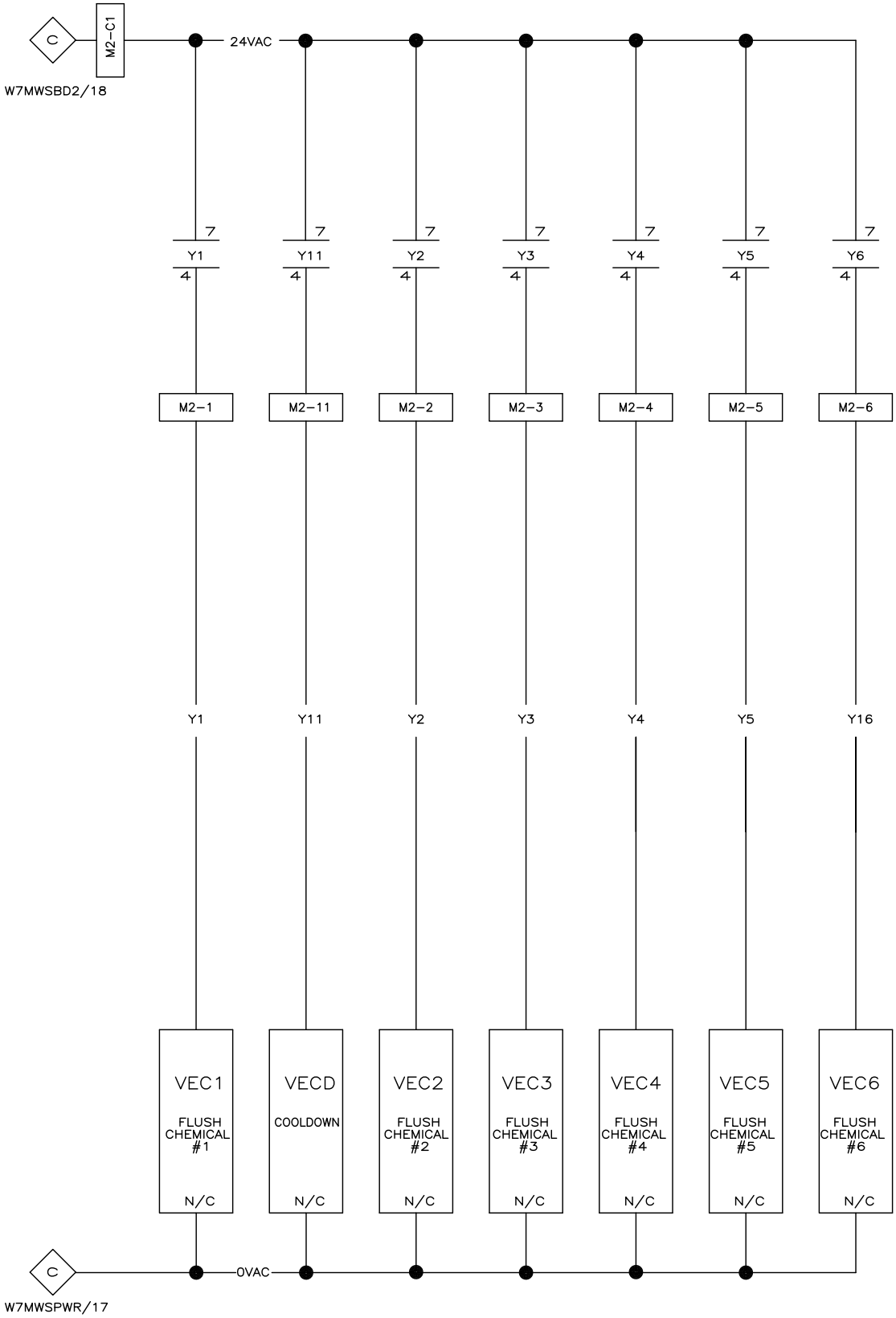

DGT1
106
+12VDC
1
0VDC
GND
2
SHIELD
A+
3
B–
4
10–SIG+
11–SIG–
12–SEN+
13–SEN+
14–EXC+
15–EXC–
LOAD CELL
106
J4–1
+12VDC
PORT 2
RS485
BPBS
ARM9 PROCESSOR BOARD
AND TOUCHSCREEN DISPLAY
SOIL SIDE
J8–1
J8–2
J8–3
J8–4
0VDC
J4–2
SHIELD
TX+
TX–
REC+
REC–
J9–1
J9–2
J9–3
J9–4
WHITE/ORANGE
ORANGE/WHITE
WHITE/BLUE
BLUE/WHITE
SHIELD
SHIELD
+
12VDC
+
–
0VDC
–
106
0VDC
PS2
12VDC POWER SUPPLY
PS1
24VDC POWER SUPPLY
0V
24VDC
24VDC
E
W7MWSCM/17
F
W7MWSCM/17
EV
01
7
CRCWT
4
XAA
EV
02
7
CRHWT
4
XAB
EV
06
7
CRSTM
4
XAC
VECWT
COLD
WATER
N/C
VEWHT
HOT
WATER
N/C
VESTM
STEAM
N/C
N
L
N
L
W7MWSCM/17
A
B
W7MWSCM/17
230VAC IN
00
01
02
03
04
05
06
07
08
09
W7MWSBD
2024473B

W7MWSBD

MILTOUCH™ CONTROLS

SCHEMATIC: BOARD WIRING

PELLERIN MILNOR CORPORATION



00 01 02 03 04 05 06 07 08 09

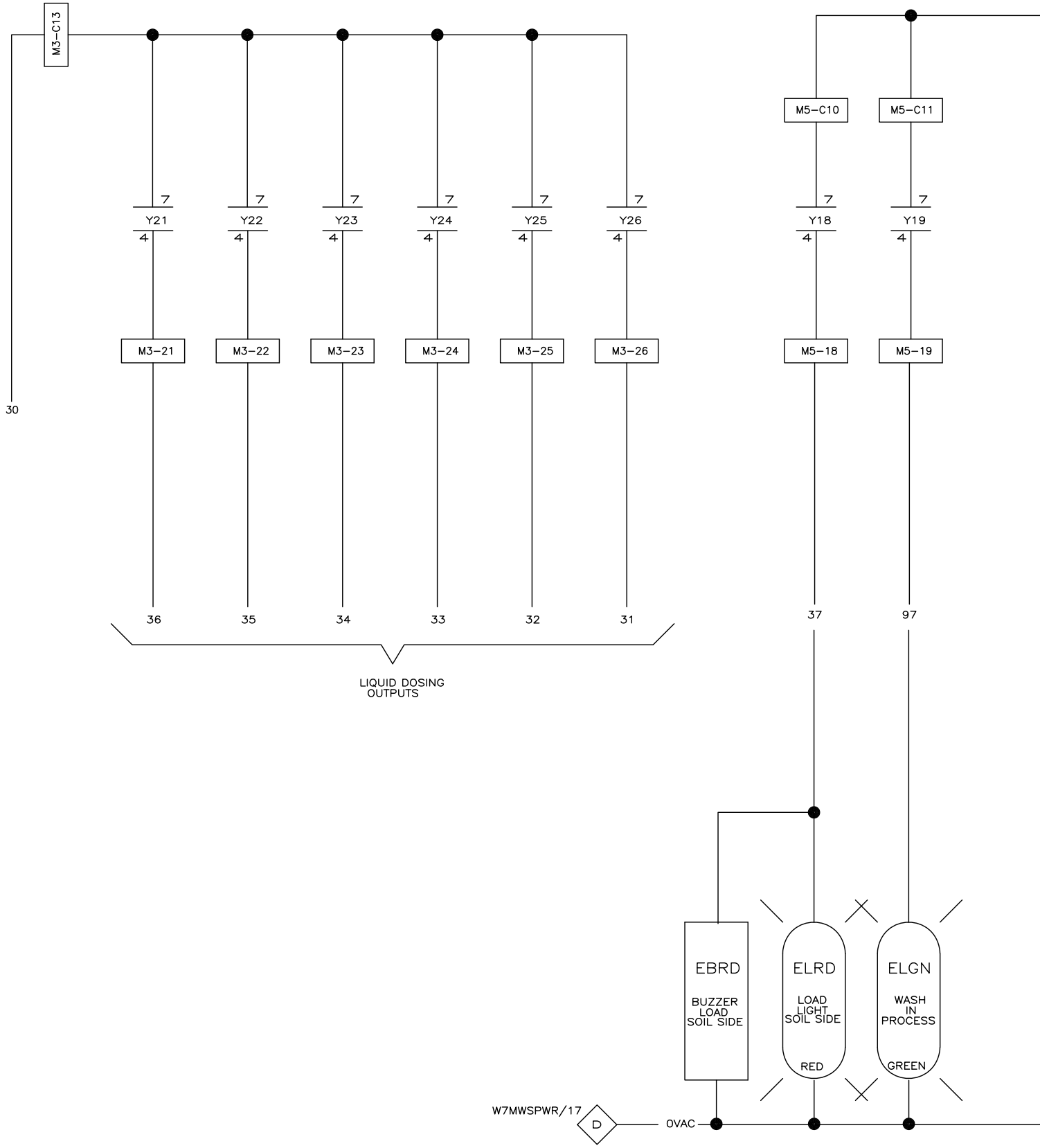
W7MWSCF
2024496B

W7MWSCF

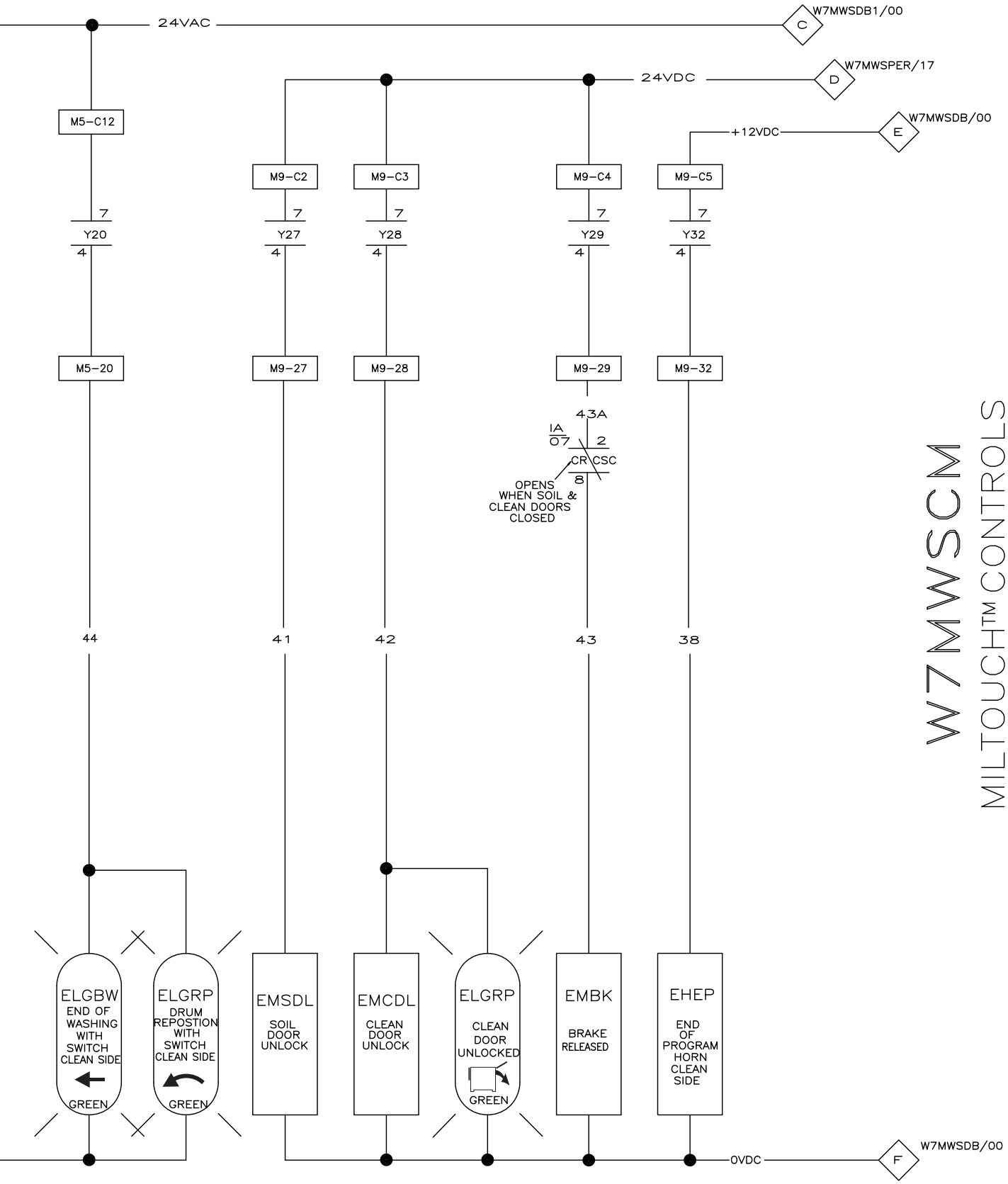
MILTOUCH™ CONTROLS
SCHEMATIC: FLUSHING SUPPLIES

PELLERIN MILNOR CORPORATION

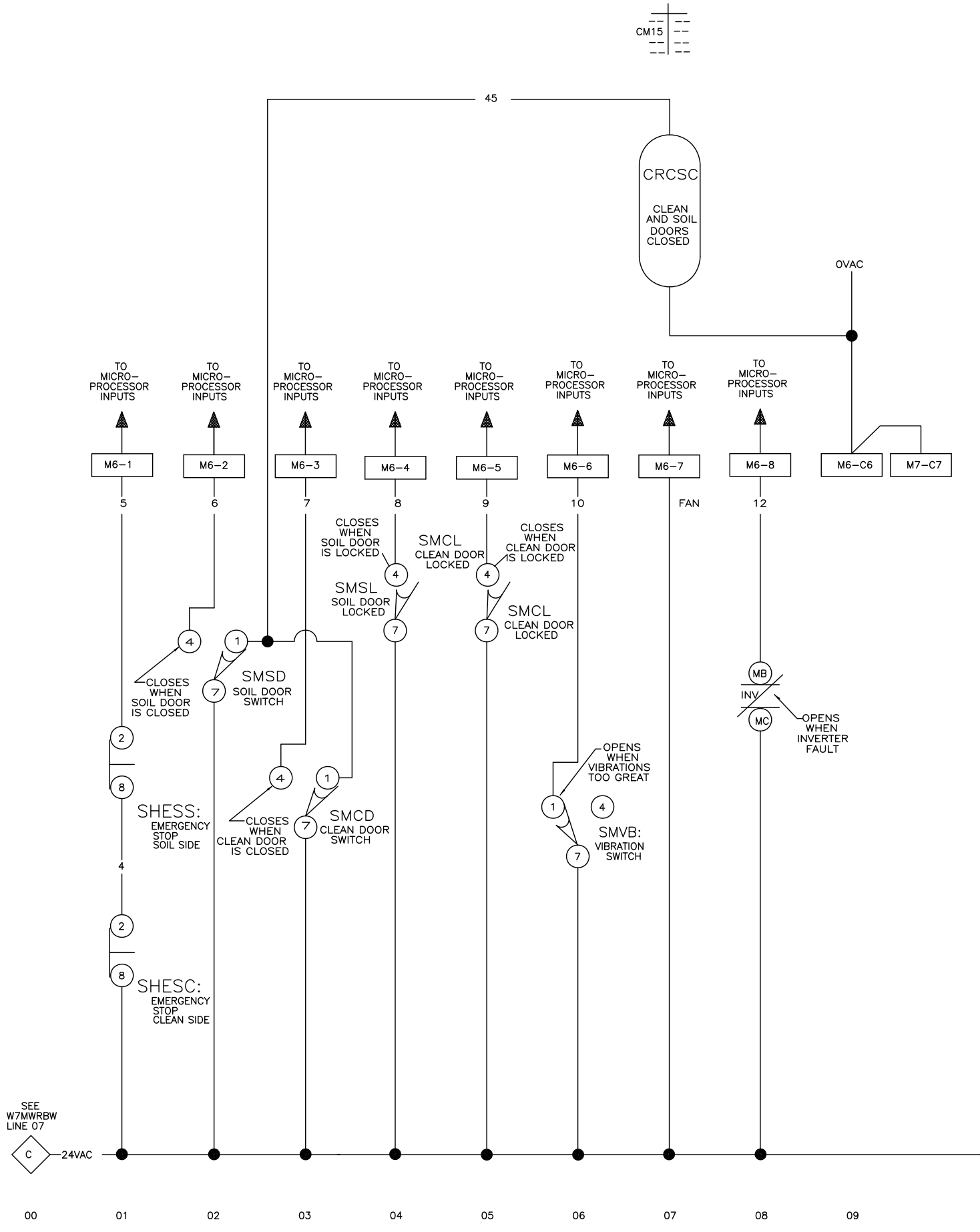
W7MWSCF
2024496B



W7MWSCM
2024496B

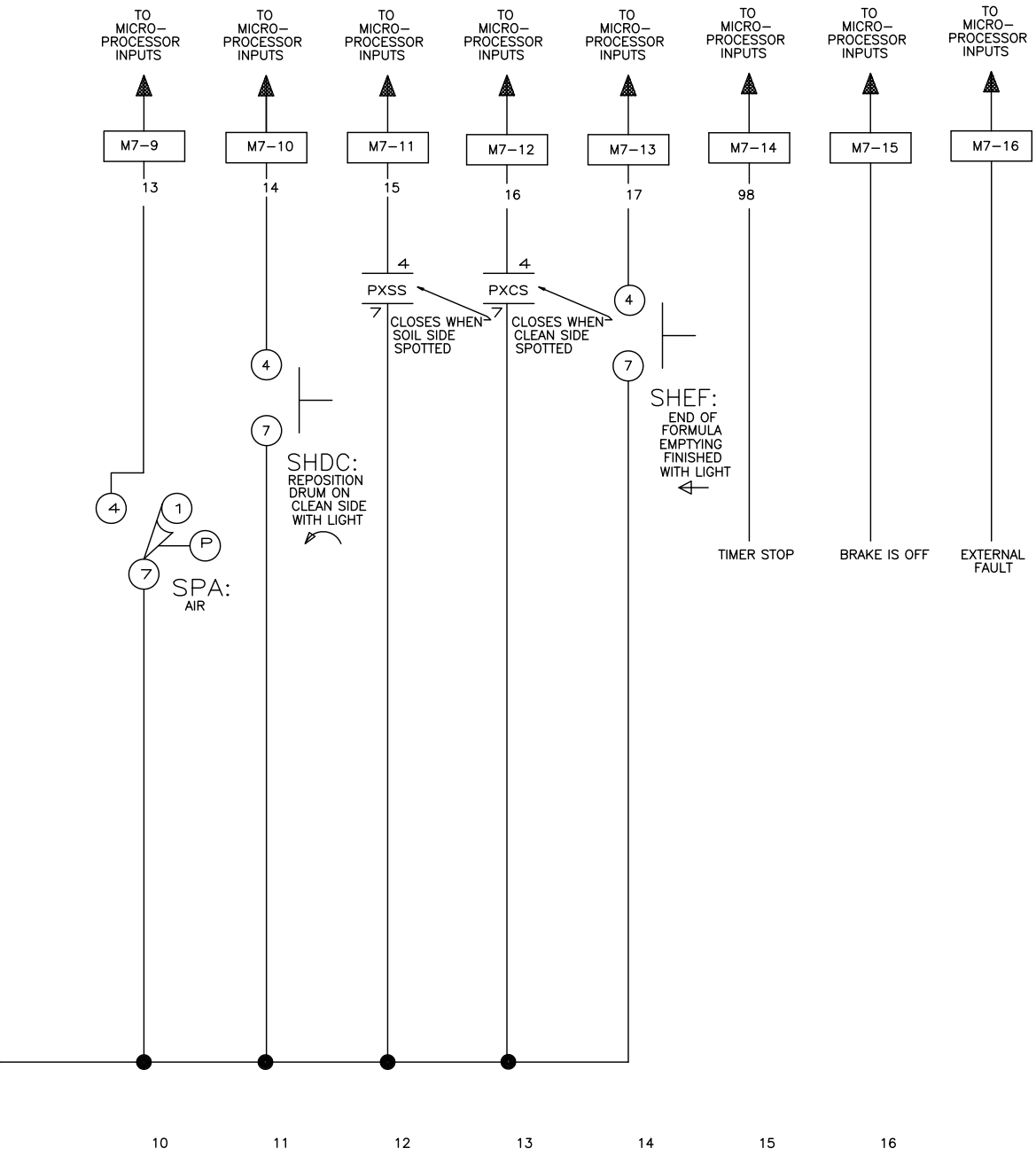


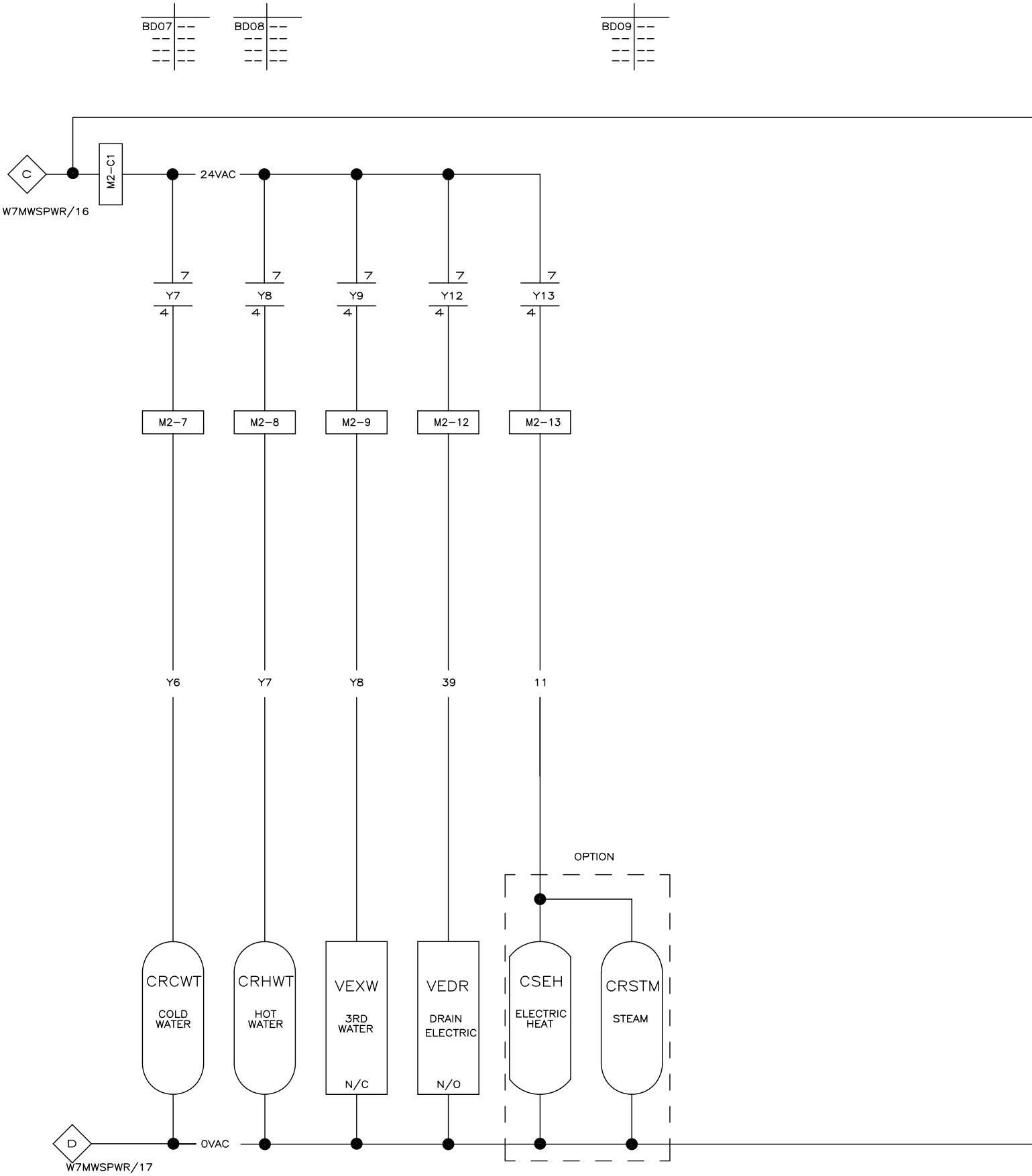
W7MWSCM
MILTOUCH™ CONTROLS
SCHEMATIC: OUTPUTS
PELLERIN MILNOR CORPORATION



W7MWSIA
2024496B

W7MWSIA
MILTOUCH™ CONTROLS
SCHEMATIC: MICROPROCESSOR INPUTS
PELLERIN MILNOR CORPORATION

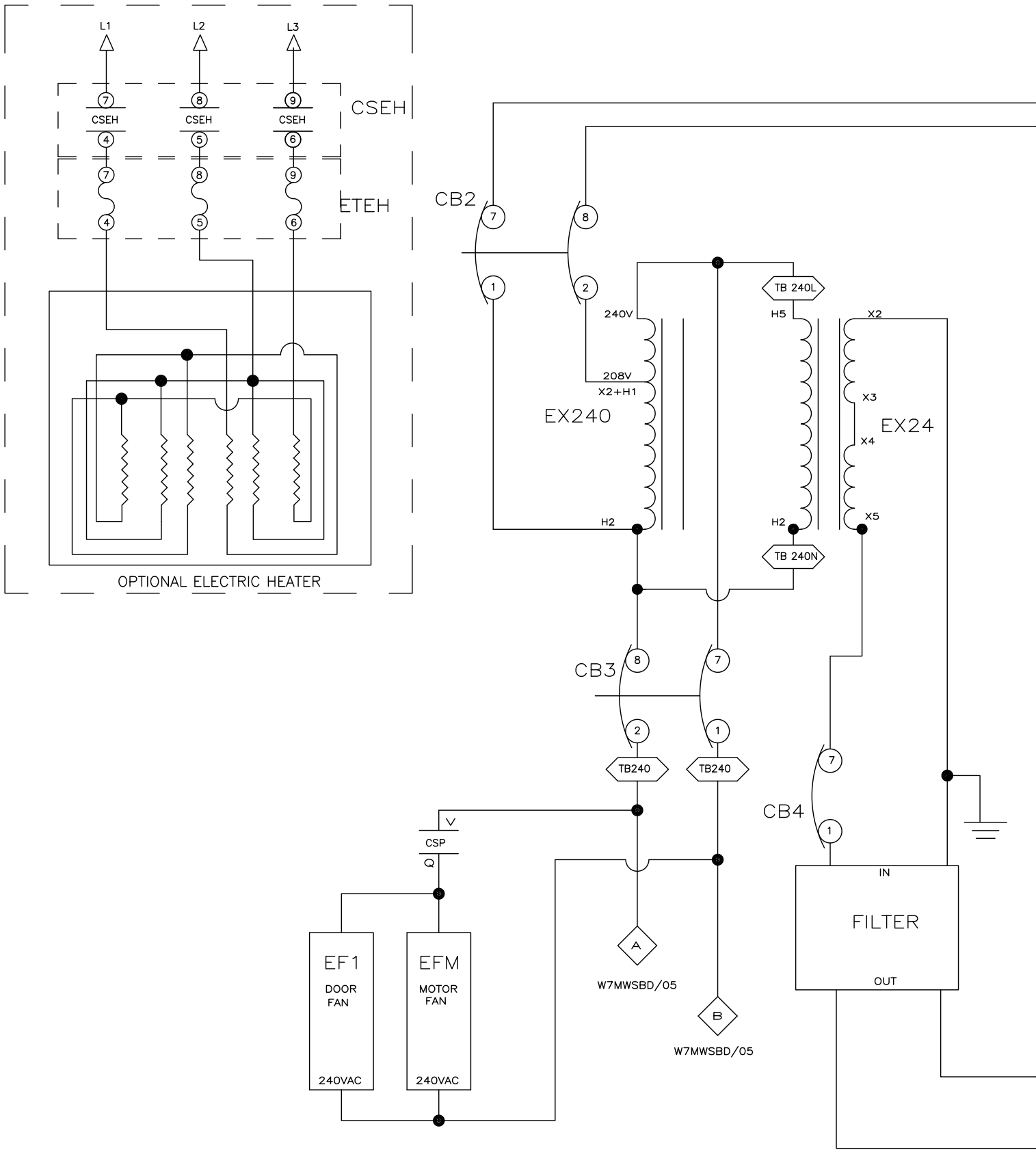




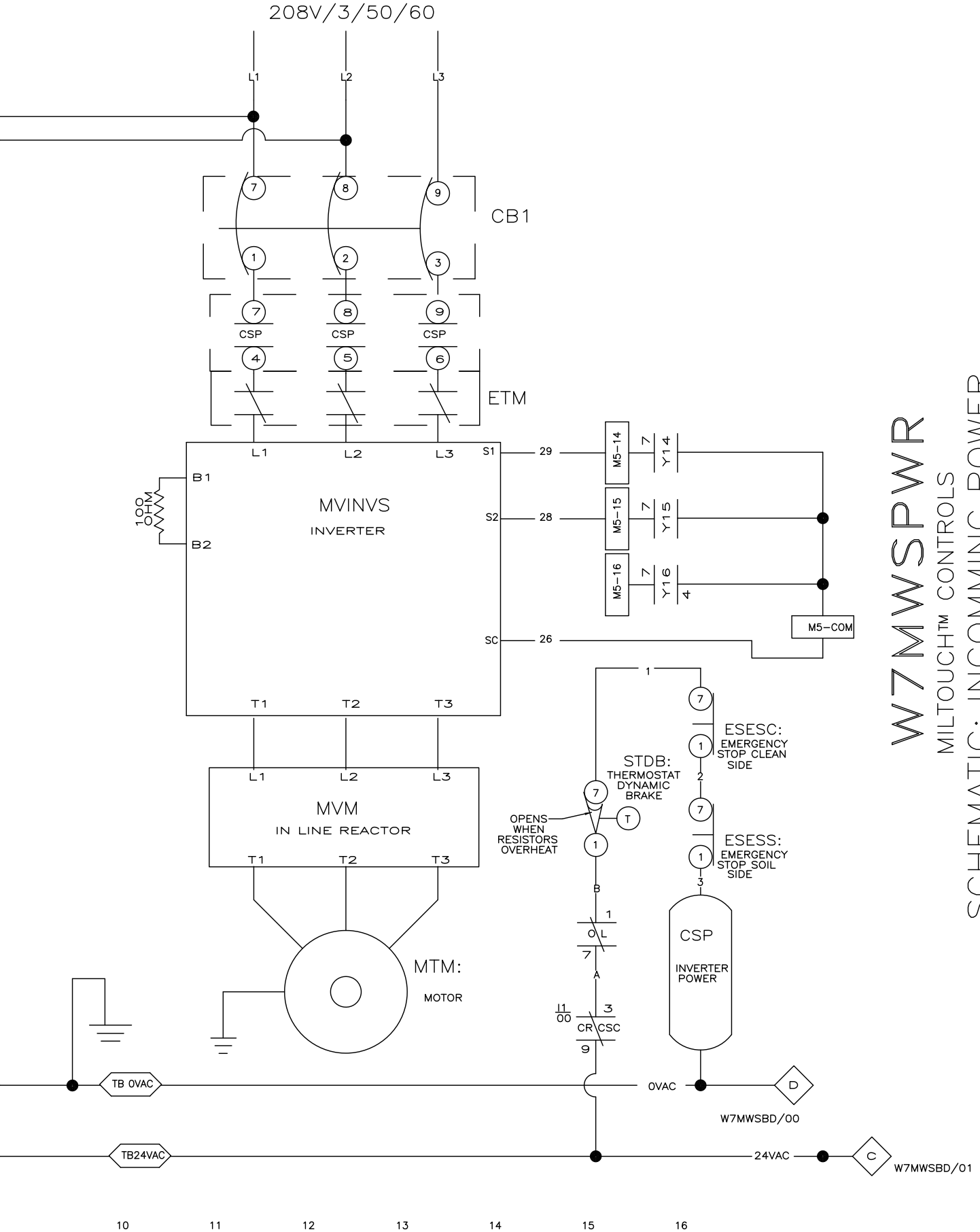
W7MWSEV
2024496B

W7MWSEV
MILTOUCH™ CONTROLS
SCHEMATIC: ELECTRIC VALVES
PELLERIN MILNOR CORPORATION

10 11 12 13 14 15



W7MWSPWR
2025073B



W7MWSPWR

MILTOUCH™ CONTROLS

SCHEMATIC: INCOMMING POWER

PELLERIN MILNOR CORPORATION