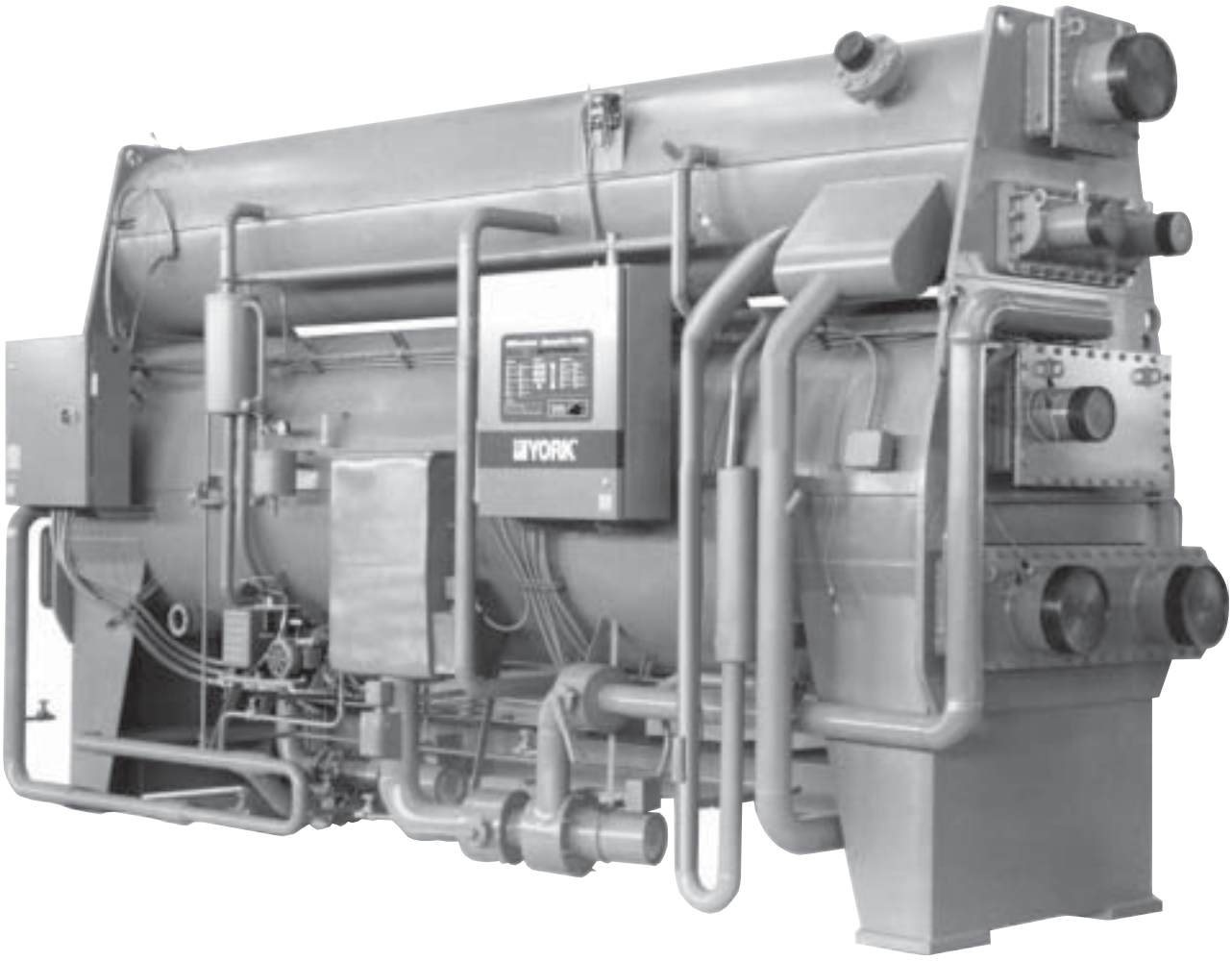
YORK®	ISOFLOW ABSORPTION CHILLERS	
WIRING DIAGRAM	Supersedes: 155.16-W3 (895)	Form 155.16-W3 (502)

CE

MODELS

STEAM
YIA-ST-1A1 THRU YIA-ST-14F3

HOT WATER
YIA-HW-1A1THRU YIA-HW-14F3



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NOTE: New page arrangement

TABLE OF CONTENTS FOR DIAGRAMS

IMPORTANT!

READ BEFORE PROCEEDING!

GENERAL SAFETY GUIDELINES

This equipment is a relatively complicated apparatus. During installation, operation, maintenance or service, individuals may be exposed to certain components or conditions including, but not limited to: refrigerants, oils, materials under pressure, rotating components, and both high and low voltage. Each of these items has the potential, if mis-used or handled improperly, to cause bodily injury or death. It is the obligation and responsibility of operating / service personnel to identify and recognize these inherent hazards, protect themselves, and proceed safely in completing their tasks. Failure to comply with any of these requirements could result in serious damage to the equipment and the property in which it is situated, as well as severe personal injury or death to themselves and people at the site.

This document is intended for use by owner-authorized operating/service personnel. It is expected that this individual possesses independent training that will enable them to perform their assigned tasks properly and safely. It is essential that, prior to performing any task on this equipment, this individual shall have read and understood this document and any referenced materials. This individual shall also be familiar with and comply with all applicable governmental standards and regulations pertaining to the task in question.

SAFETY SYMBOLS

The following symbols are used in this document to alert the reader to areas of potential hazard:

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION identifies a hazard which could lead to damage to the machine, damage to other equipment and/or environmental pollution. Usually an instruction will be given, together with a brief explanation.

NOTE is used to highlight additional information which may be helpful to you.

CHANGEABILITY OF THIS DOCUMENT

In complying with YORK's policy for continuous product improvement, the information contained in this document is subject to change without notice. While YORK makes no commitment to update or provide current information automatically to the manual owner, that information, if applicable, can be obtained by contacting the nearest YORK Applied Systems Service office.

It is the responsibility of operating/service personnel to verify the applicability of these documents to the equipment in question. If there is any question in the mind of operating/service personnel as to the applicability of these documents, then prior to working on the equipment, they should verify with the owner whether the equipment has been modified and if current literature is available.

ISN ISOFLOW CONTROL CENTER ELEMENTARY DIAGRAM

LEGEND

IF	REFRIGERANT LEVEL FLOAT SWITCH
3F	REFRIGERANT PUMP CUT-OUT FLOAT SWITCH
IM	3 PHASE SOLUTION PUMP STARTER (MOUNTED IN POWER PANEL)
2M	3 PHASE REFRIGERANT PUMP MOTOR STARTER (MOUNTED IN POWER PANEL)
3M	3 PHASE PURGE PUMP MOTOR STARTER (MOUNTED IN POWER PANEL)
IR	STEAM/HOT WATER SHUTOFF SOLENOID VALVE CONTROL RELAY
2R	FIRST STAGE GENERATOR HIGH TEMP. CUT-OUT RELAY
3R	RELAY
2SOL	STABILIZER REFRIGERANT SOLENOID
3SOL	REFRIGERANT LEVEL SOLENOID
4SOL	STEAM/HOT WATER SHUTOFF SOLENOID
6SOL	STEAM CONDENSATE DRAIN VALVE SOLENOID (STEAM ONLY)
ISS	DPDT 3 POSITION ROCKER SWITCH
IT	CLASS 2 POWER SUPPLY TRANSFORMER
CHFLS	CHILLED WATER FLOW SWITCH CUT-OUT (BY YORK/WIRING BY OTHERS)
FU	FUSE
HT	STEAM OR HOT WATER SUPPLY TEMPERATURE
HTI	HIGH TEMPERATURE CUTOUT SWITCH
HPI	GENERATOR HIGH PRESSURE CUT-OUT SWITCH
HP2	STEAM SUPPLY PRESSURE TRANSDUCER
LRT	LOW REFRIGERANT TEMPERATURE CUT-OUT SWITCH
LWT	LOW WATER TEMPERATURE CUT-OUT (PROVIDED BY RTI)
MOV	METAL OXIDE VARISTOR
OL	MOTOR OVERLOAD
PTI,PT2-PT4	PRESSURE TRANSDUCER
RTI-RT9	RESISTANCE TEMPERATURE SENSING ELEMENT
UPS	UNINTERRUPTABLE POWER SUPPLY
[SUPR]	TRANSIENT SUPPRESSOR
TBI,TB3,TB6	TERMINAL BLOCK, FACTORY WIRING - △
TB2,TB4,TB5	TERMINAL BLOCK, FIELD CONNECTION - □
TB7	TERMINAL BLOCK, FIELD CONNECTION, STEAM VALVE ACTUATOR - ▣
⬡	TERMINAL BLOCK LOCATED IN POWER PANEL
— — — — —	FIELD WIRING
————	FACTORY WIRING
- - - - - - - - -	CIRCUIT BOARD OR ENCLOSURE BOUNDARY
→	JACK (JI,J2,...)
⟩—	JACK (PI,P2,...)
◎	WIRE ENTRANCE HOLE IN CONTROL PANEL
—— — ——	OPTION (WHEN SUPPLIED) BY YORK.
— — — —	MECHANICAL LINKAGE
⬭—	SHIELDED CABLE
⊘	METAL OXIDE VARISTOR (MOV)
MTH1, MTH2	MOTOR WINDING THERMOSTAT
FCV	FLOW CONTROL VALVE

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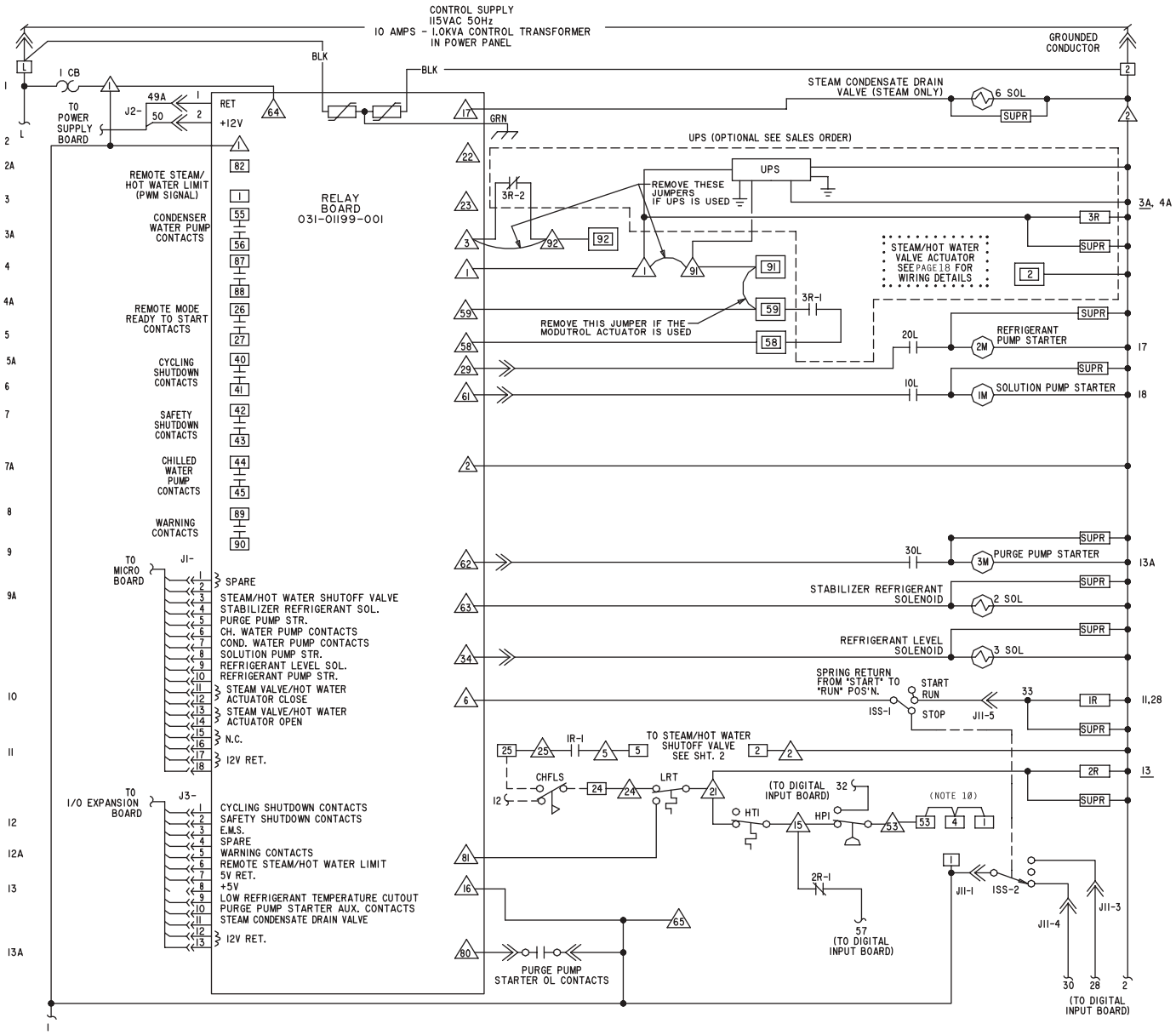
NOTES:

1. This wiring diagram describes the standard electronic control scheme. Refer to the power panel wiring diagram for additional information. For details of standard modifications, refer to product Form 155.16-PA1.
2. Field wiring to be in accordance with the National Electrical Code as well as all other applicable codes and specifications.
3. Numbers along the left side of diagram are line identification numbers. The numbers along the right side indicate the line number location of relay contacts. An underlined contact location signifies a normally closed contact.
4. Main control panel Class 1 field wiring terminal connection points are indicated by numbers within a rectangle, i.e. [15]. Main control panel factory wiring terminals connection points are indicated by numbers within a triangle, i.e. △2▽. Component terminal markings are indicated by numbers within a circle, i.e. (C1). Numbers adjacent to circuit lines are the circuit identification numbers.
5. To cycle unit on and off automatically with contacts other than those shown, install a cycling device between terminals [1] & [13] (See note 7). If a cycling device is installed, jumper must be removed between terminals [1] & [13] .
6. To stop unit and not permit it to start again, install a stop device between terminals [1] & [8] (See note 7). A remote start-stop switch may be connected to terminals [1] , [7] & [8] (See note 7). Remote start-stop switch is operative only in the “REMOTE” operating mode.
7. Device contact rating to be 5 millliamperes at 115 volts A.C.
8. Contact rating is 5 amps resistive at 120 volts A.C. or 240 volts A.C.
9. Maximum allowable current draw is 1 amp holding, 10 amps inrush for 115VAC field-supplied steam shutoff valve.
10. The factory supplied jumper between [4] & [53] must be removed when safety devices are used.
11. Contact rating is 5 amps resistive at 250 volts A.C. & 30 volts D.C., 2 amp inductive (0.4 PF) at 250 volts A.C. & 30 volts D.C.
12. Each 115VAC field-connected inductive load: i.e., relay coil, motor starter coil, etc. shall have a transient suppressor wired in parallel with its coil, physically located at the coil. Spare transient suppressors and control circuit fuse are supplied in a bag attached to the fuseholder.

ISN ISOFLOW CONTROL CENTER
ELEMENTARY DIAGRAM



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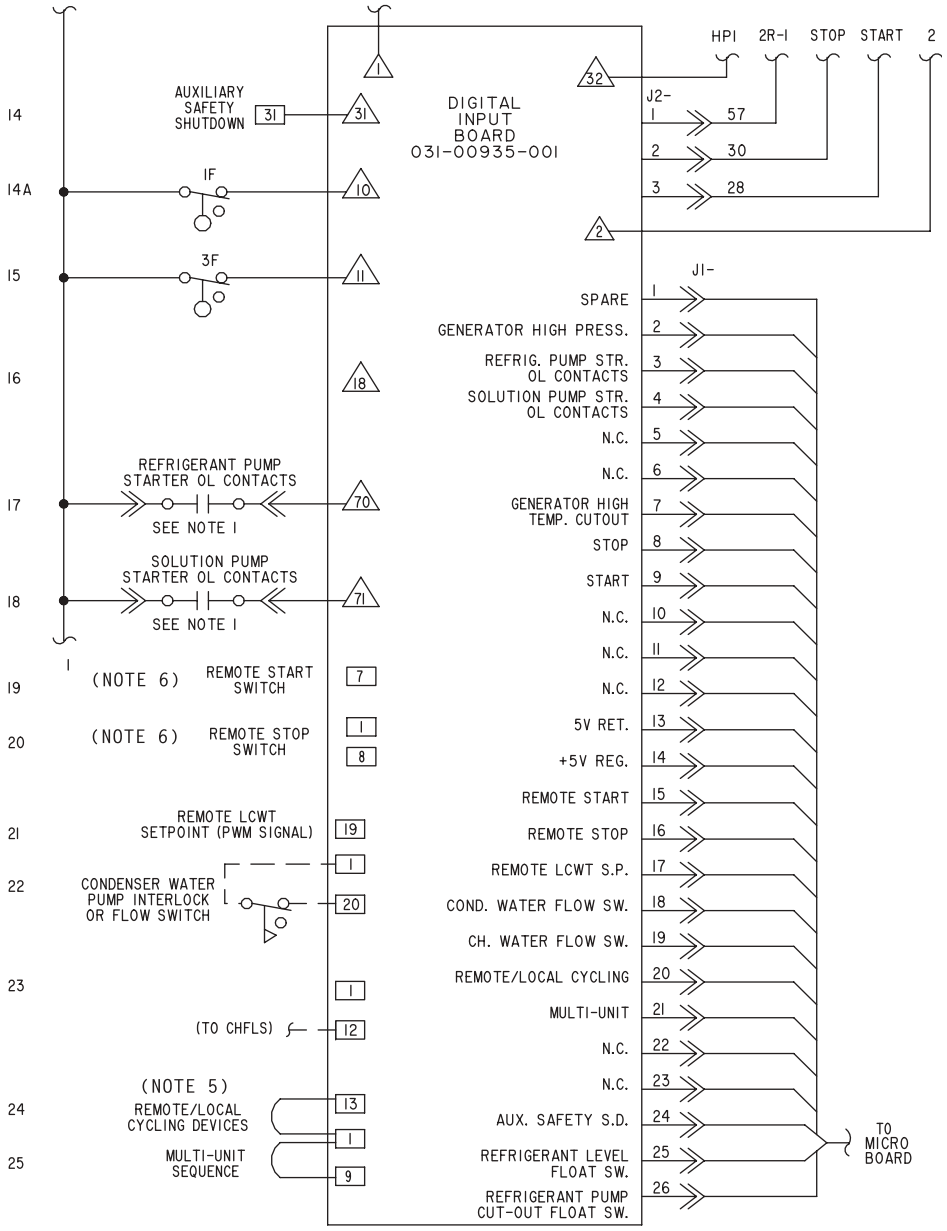
ISN ISOFLOW CONTROL CENTER
ELEMENTARY DIAGRAM (CONT'D)



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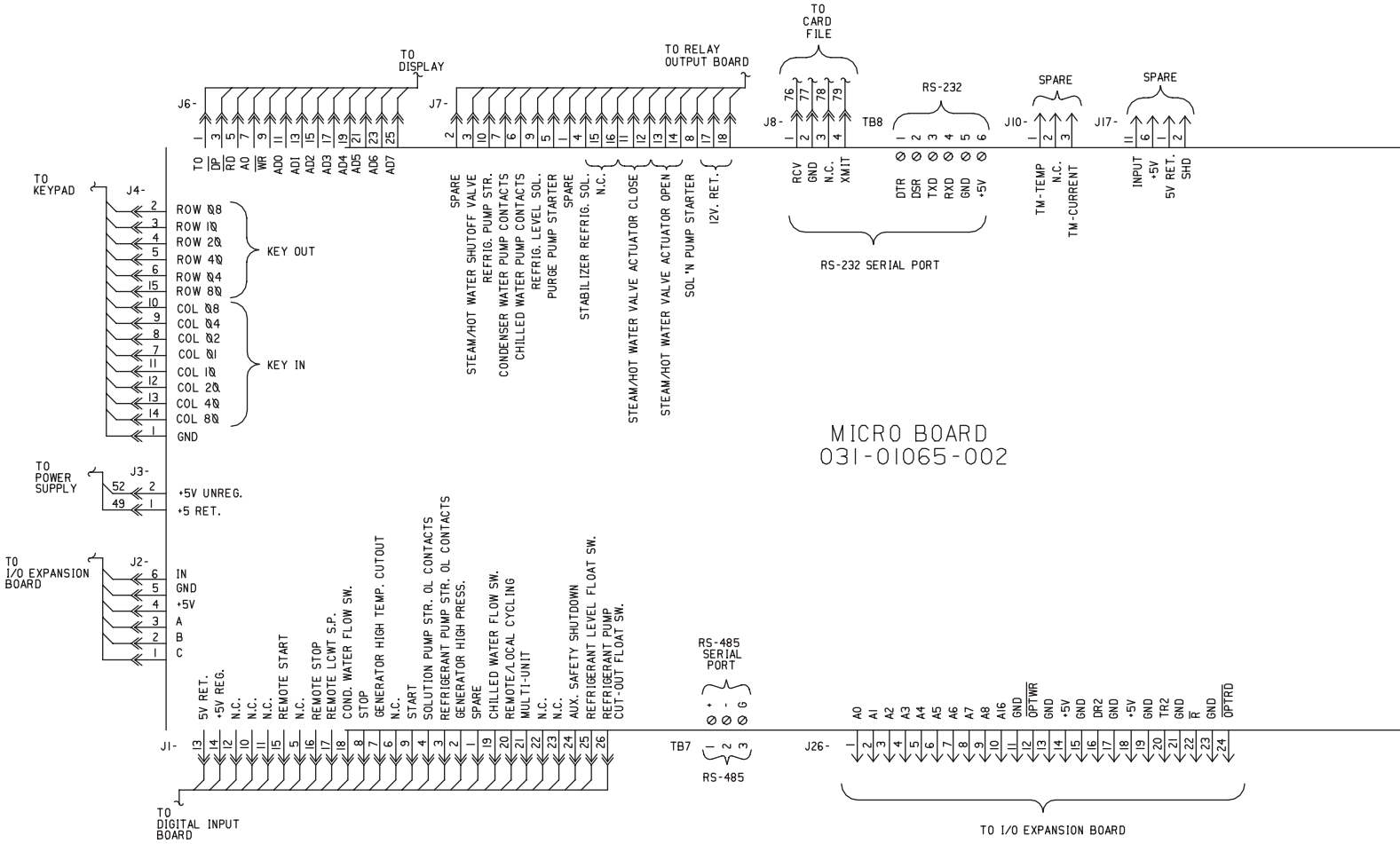
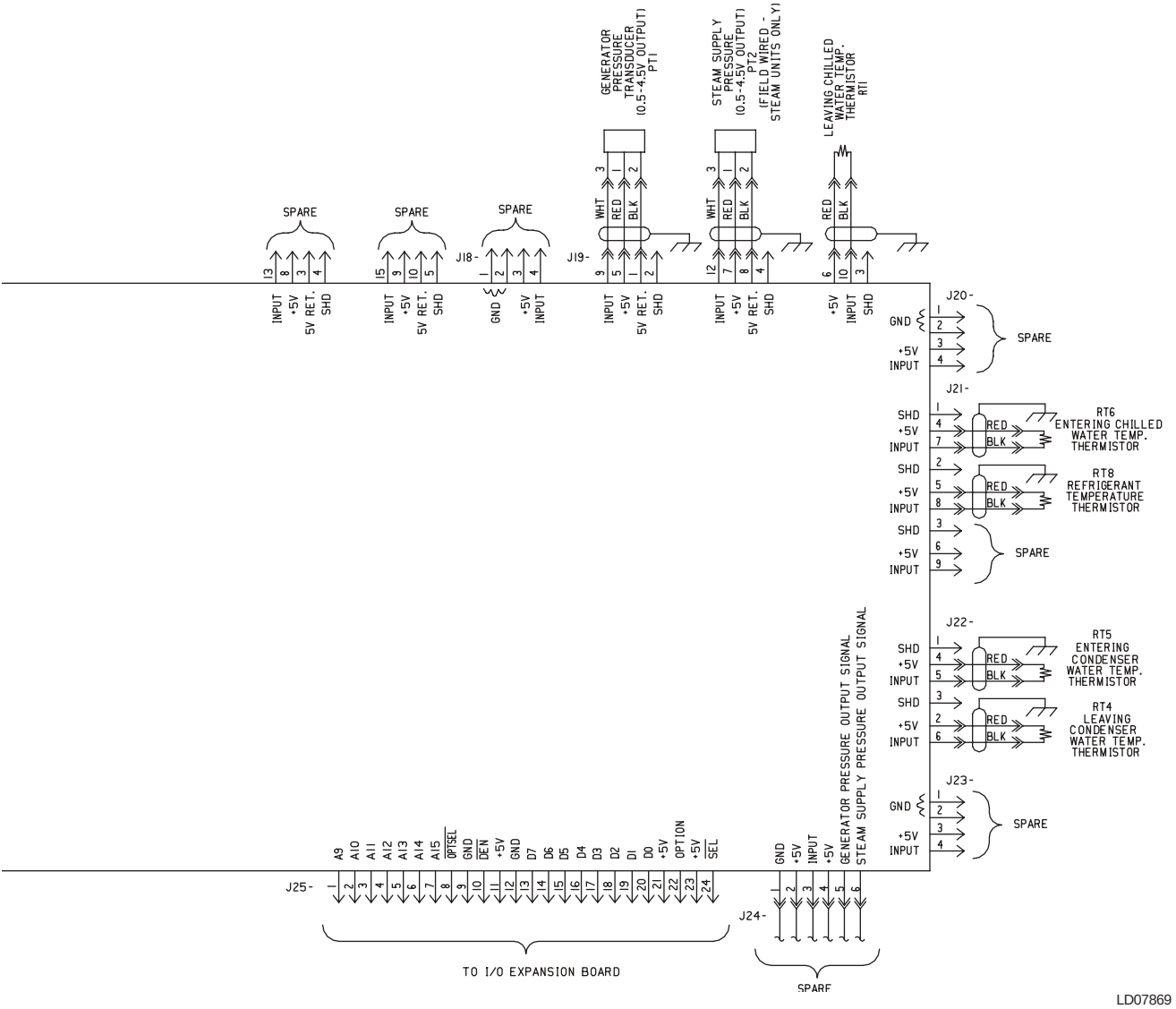
ISN ISOFLOW CONTROL CENTER
ELEMENTARY DIAGRAM (CONT'D)




GENERATOR PRESSURE TRANSDUCER (0.5-4.5V OUTPUT) PT1
STEAM SUPPLY PRESSURE (0.5-4.5V OUTPUT) PT2 (FIELD WIRED - STEAM UNITS ONLY)
LEAVING CHILLED WATER TEMP. THERMISTOR RT1
SPARE
J18-
J19-
J20-
J21-
J22-
J23-
J24-
J25-
RT6 ENTERING CHILLED WATER TEMP. THERMISTOR
RT8 REFRIGERANT TEMPERATURE THERMISTOR
RT5 ENTERING CONDENSER WATER TEMP. THERMISTOR
RT4 LEAVING CONDENSER WATER TEMP. THERMISTOR
GENERATOR PRESSURE OUTPUT SIGNAL
STEAM SUPPLY PRESSURE OUTPUT SIGNAL
TO I/O EXPANSION BOARD
SPARE

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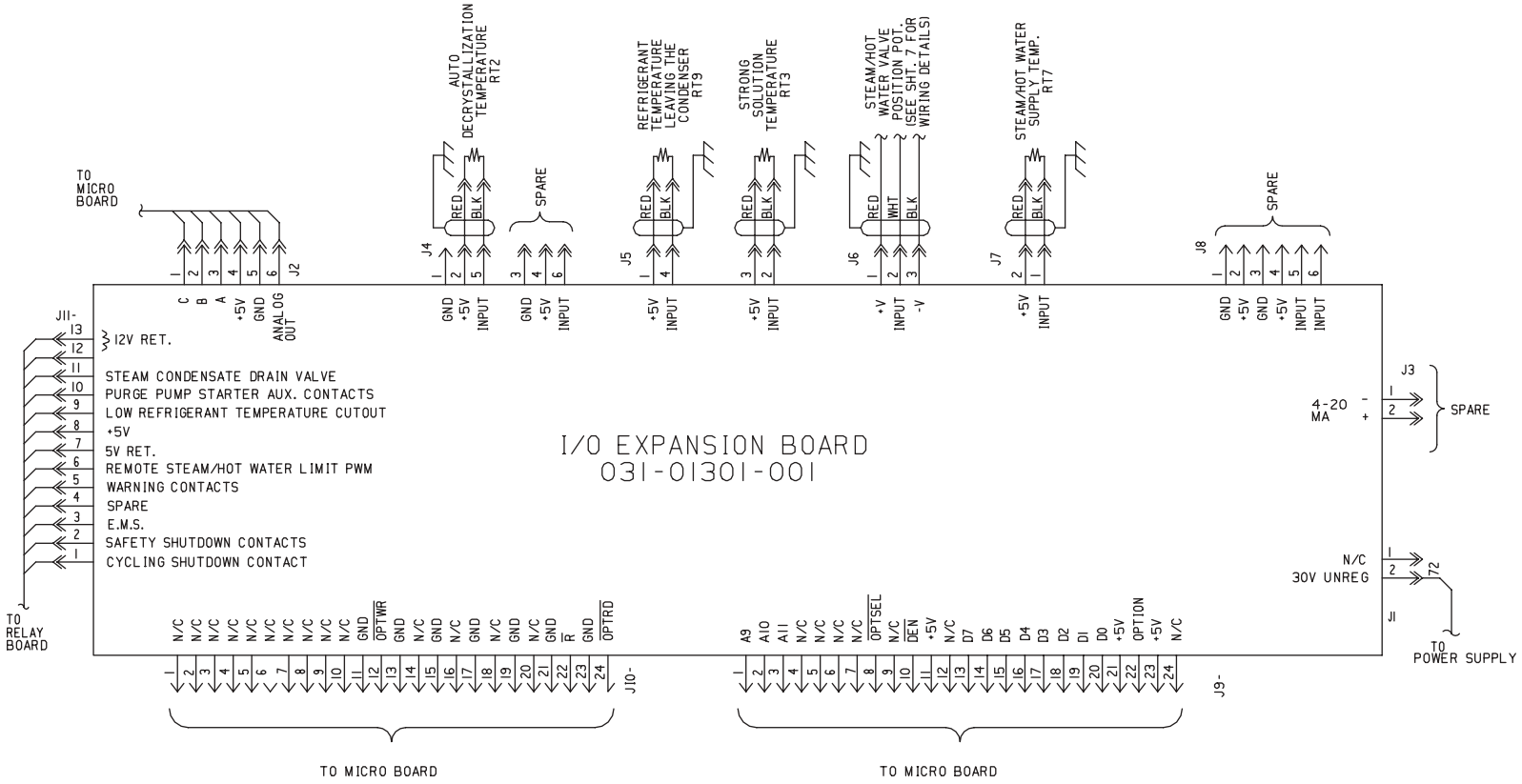
ISN ISOFLOW CONTROL CENTER
ELEMENTARY DIAGRAM (CONT'D)



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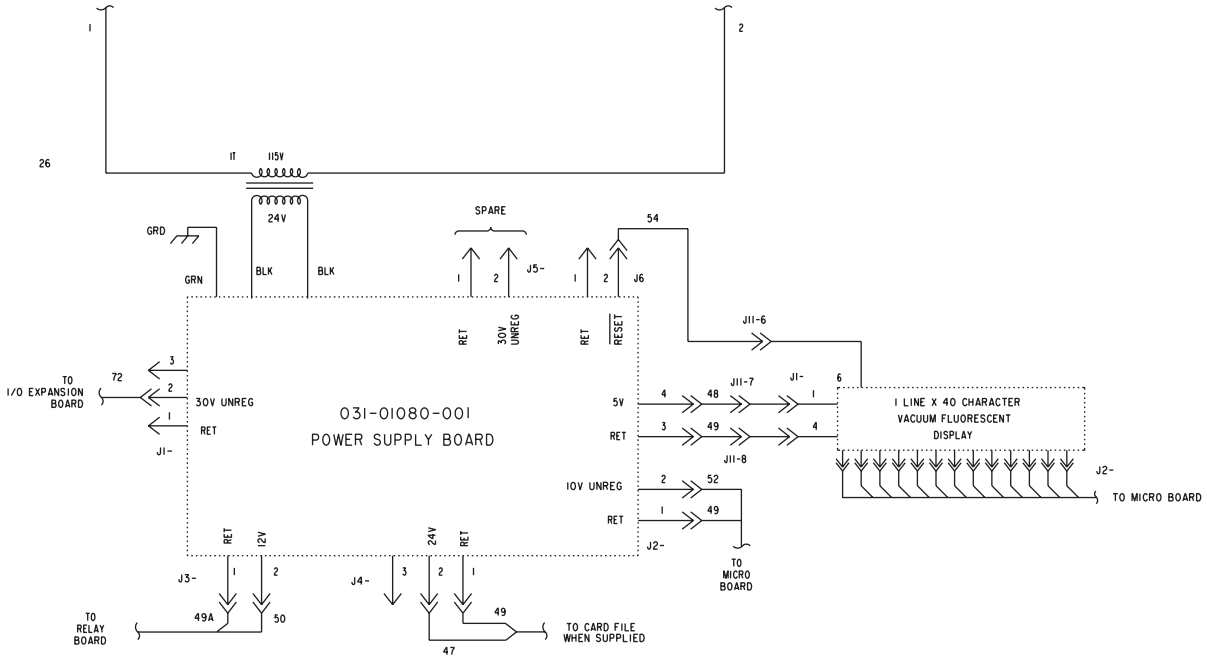
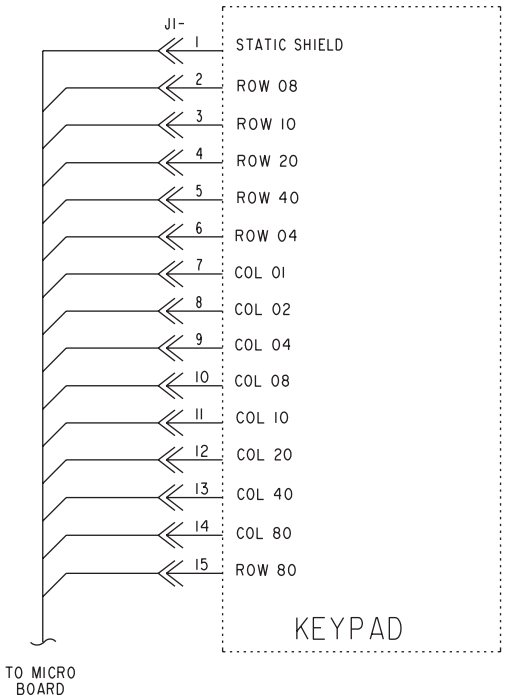
ISN ISOFLOW CONTROL CENTER
ELEMENTARY DIAGRAM (CONT'D)





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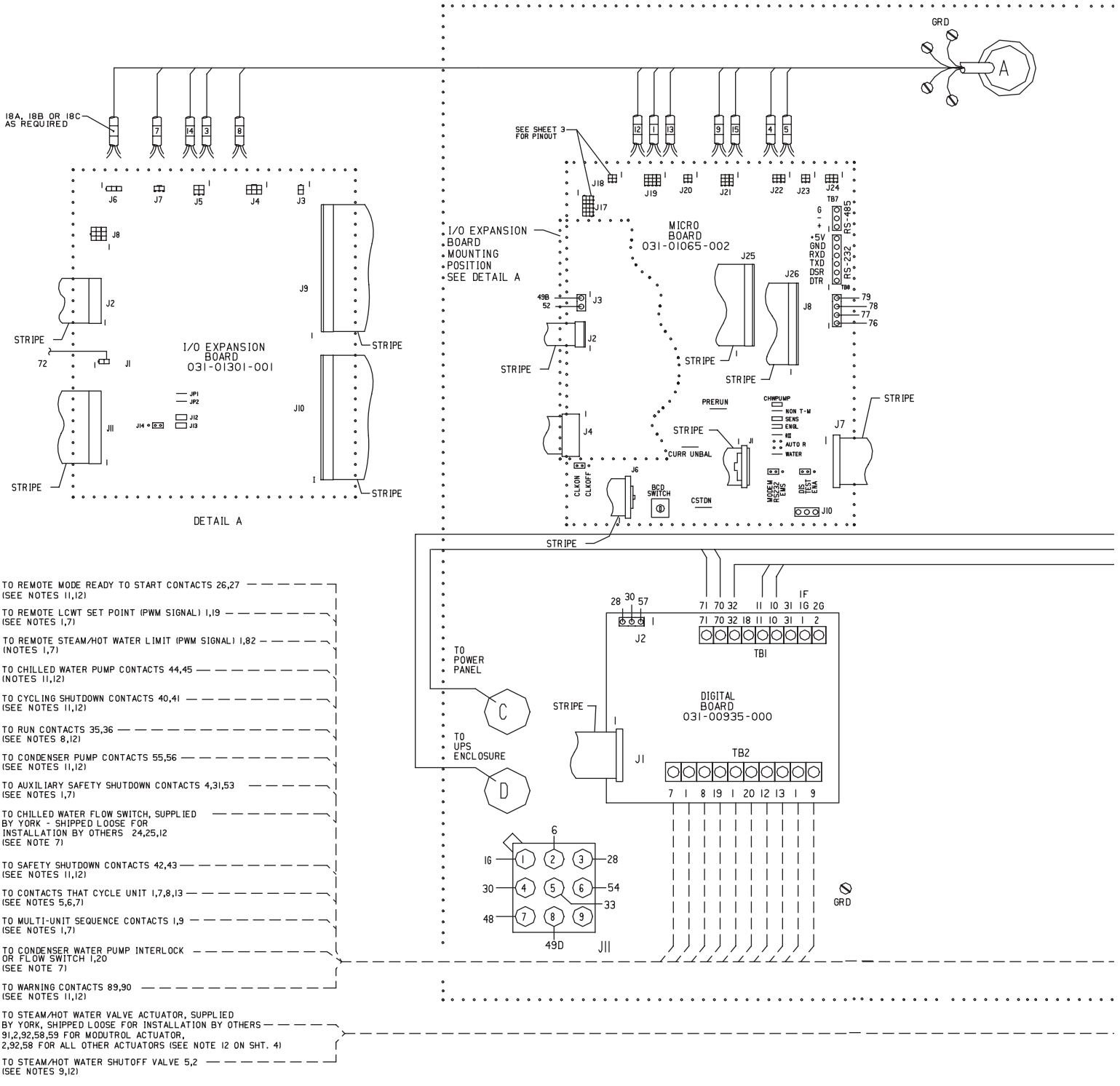
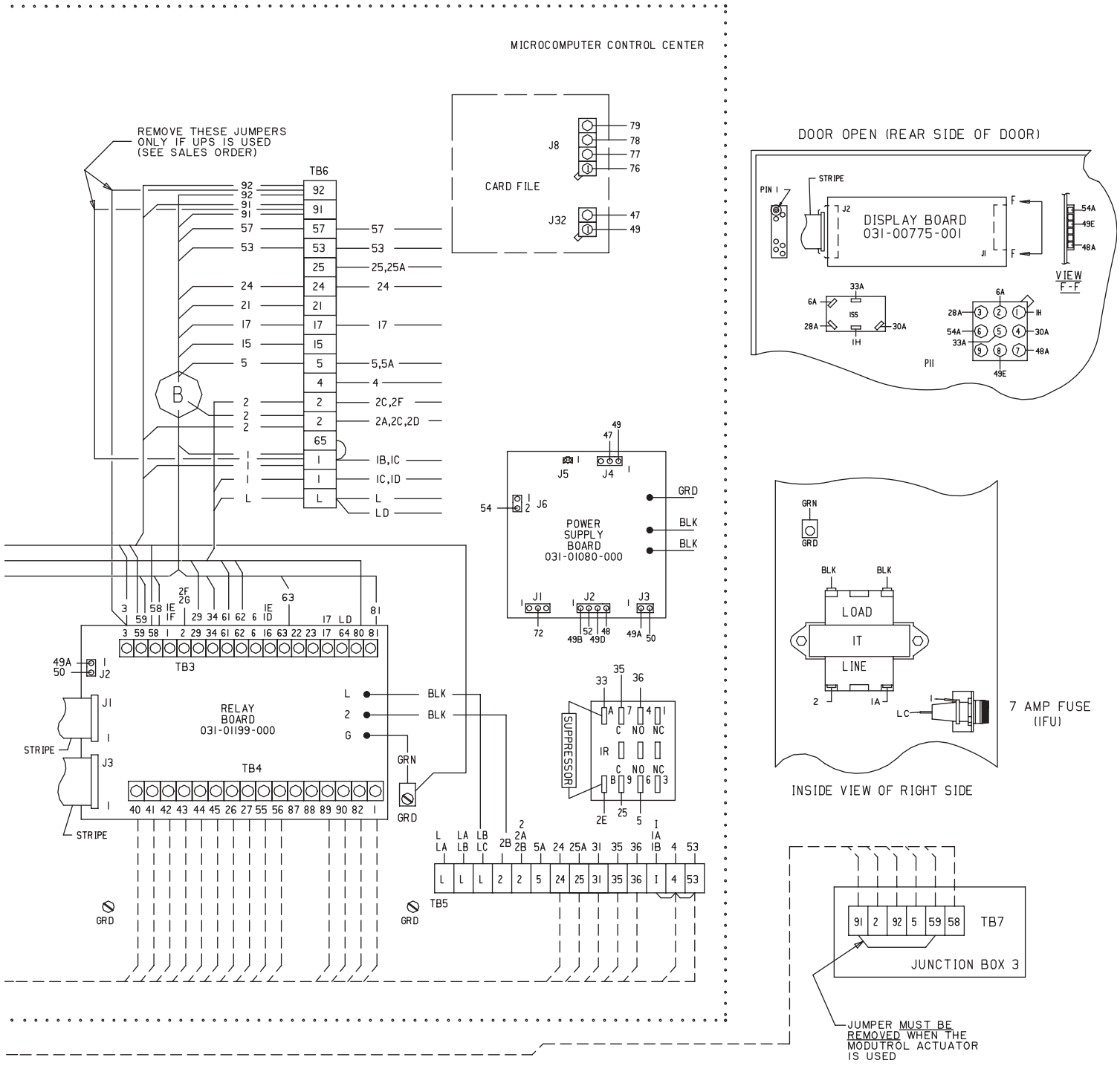
ISN ISOFLOW CONTROL CENTER CONNECTION DIAGRAM




MICROCOMPUTER CONTROL CENTER
REMOVE THESE JUMPERS ONLY IF UPS IS USED (SEE SALES ORDER)
TB6
CARD FILE
J8
J32
DOOR OPEN (REAR SIDE OF DOOR)
DISPLAY BOARD 031-00775-001
STRIPE
VIEW F-F
POWER SUPPLY BOARD 031-01080-000
RELAY BOARD 031-01199-000
TB3
TB4
TB5
TB7
JUNCTION BOX 3
LOAD
LINE
7 AMP FUSE (IFU)
INSIDE VIEW OF RIGHT SIDE
SUPPRESSOR
JUMPER MUST BE REMOVED WHEN THE MODUTROL ACTUATOR IS USED
LD07871

PRESSURE-TEMPERATURE CHART

APPLICATION		DEVICE	UNITS	OPERATING POINT			
				ON RISE (INCREASING)		ON FALL (DECREASING)	
STEAM FIRED UNITS	HOT WATER UNITS						
X	X	HP1	mm Hg Abs.	Cut-Out 710		Cut-In 40	
X	X	PT1	mm Hg Abs.	Cut-Out 775.7	HP Warning Forced Unload to 30% FCV	HP Warning Reset Unit Allowed to Load	Reset 770.5
X	X	HT1	Deg. F / Deg. C	Cut-Out 330 / 165.6		Cut-In (Manual Reset) 326 / 163.3	
X	X	LRT	Deg. F / Deg. C	Cut-In 37 / 2.7* 37 / 2.7**	LRT Override Allow Loading 36 / 2.2*	LRT override Inhibit Loading 35.5 / 1.9*	Cut-Out 33 / 0.6* 33 / 0.6**
X	X	LWT	Deg. F / Deg. C	2.0 / 1.1 Above the Chilled Water Temp. Setpoint		2.0 / 1.1 Below the Chilled Water Temp. Setpoint: When the Setpoint is Raised, LWT = the Previous Valve for 30 min.	
X		PT2	PSIA / Kpa	Cut-Out 29.0 / 199.9	PT2 Steam Supply Warning 26.0 / 179.3	PT2 Steam Supply Reset 25.5 / 175.8	Cut-In 28.9 / 199.3
	X (Std. Temp. Generator)	HT+	Deg. F / Deg. C	Cut-Out 255 / 124	Hot Water Supply Warning 250 / 121.1	Hot Water Supply Reset 249.5 / 120.8	Cut-In 254 / 123.3
	X++ (Hi-Temp. Generator)	HT+	Deg. F / Deg. C	Cut-Out 270 / 132.2	Hot Water Supply Warning 266 / 130	Hot Water Supply Reset 265.5 / 129.7	Cut-In 269 / 131.7
X (Std. Temp. Generator)		HT+	Deg. F / Deg. C	Cut-Out 290 / 143.3	Steam Supply Warning 285 / 140.6	Steam Supply Reset 284 / 140	Cut-In 289 / 142.8
X++ (Hi-Temp. Generator)		HT+	Deg. F / Deg. C	Cut-Out 340 / 171.1	Steam Supply Warning 337 / 169.4	Steam Supply Reset 336 / 168.9	Cut-In 339 / 170.1

NOTES:

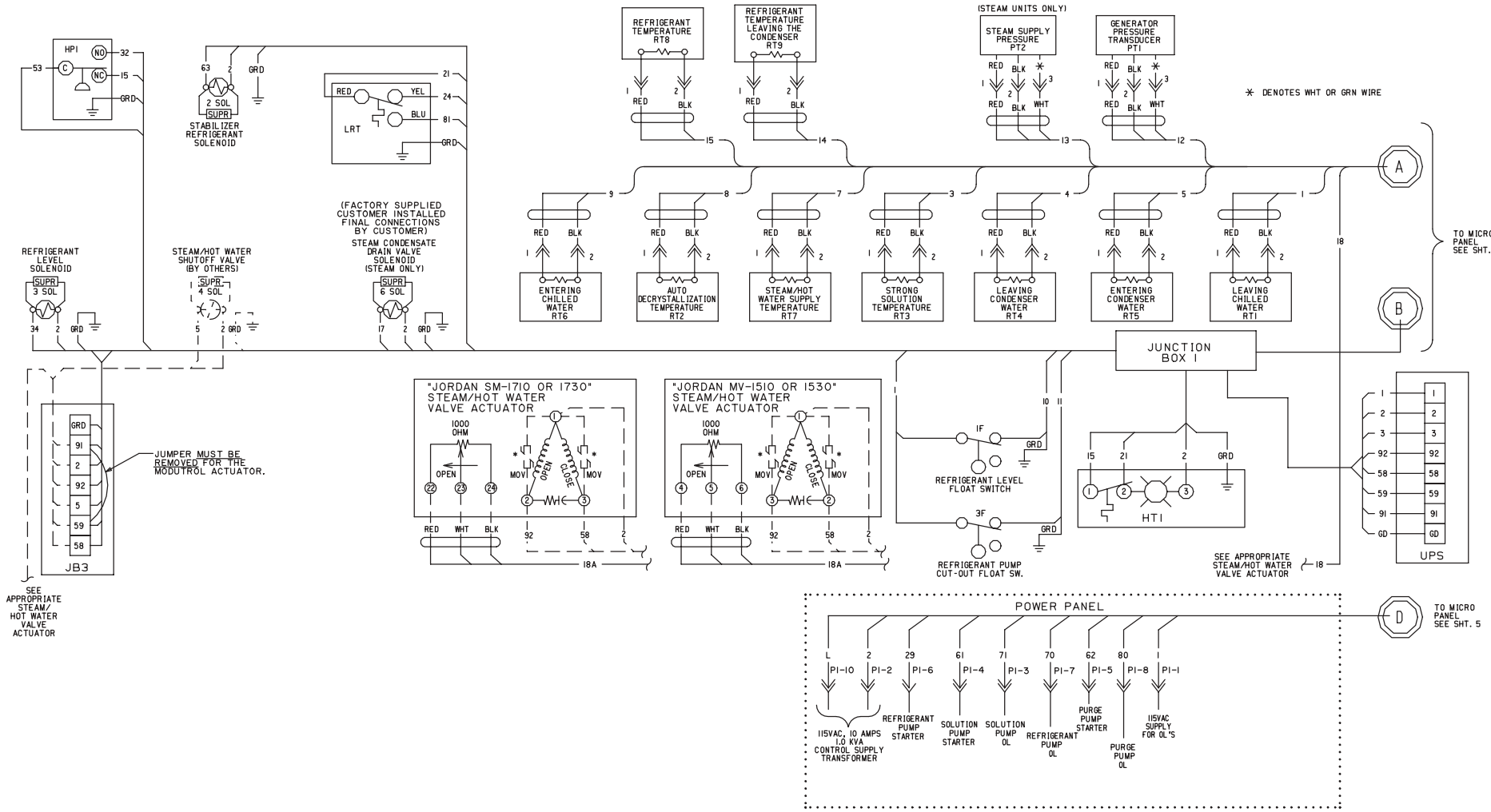
* Function provided by refrigerant temperature sensor (RT8)

** Function provided by refrigerant temperature switch (LRT)

\+ Function provided by steam or hot water supply temperature sensor (RT7)

++ Microboard jumper JP5 must be cut to activate higher settings.

ISN ISOFLOW CONTROL CENTER
CONNECTION DIAGRAM



* MOV'S ARE PROVIDED IN BAG SUPPLIED INSIDE MICRO PANEL. INSTALL AS SHOWN.

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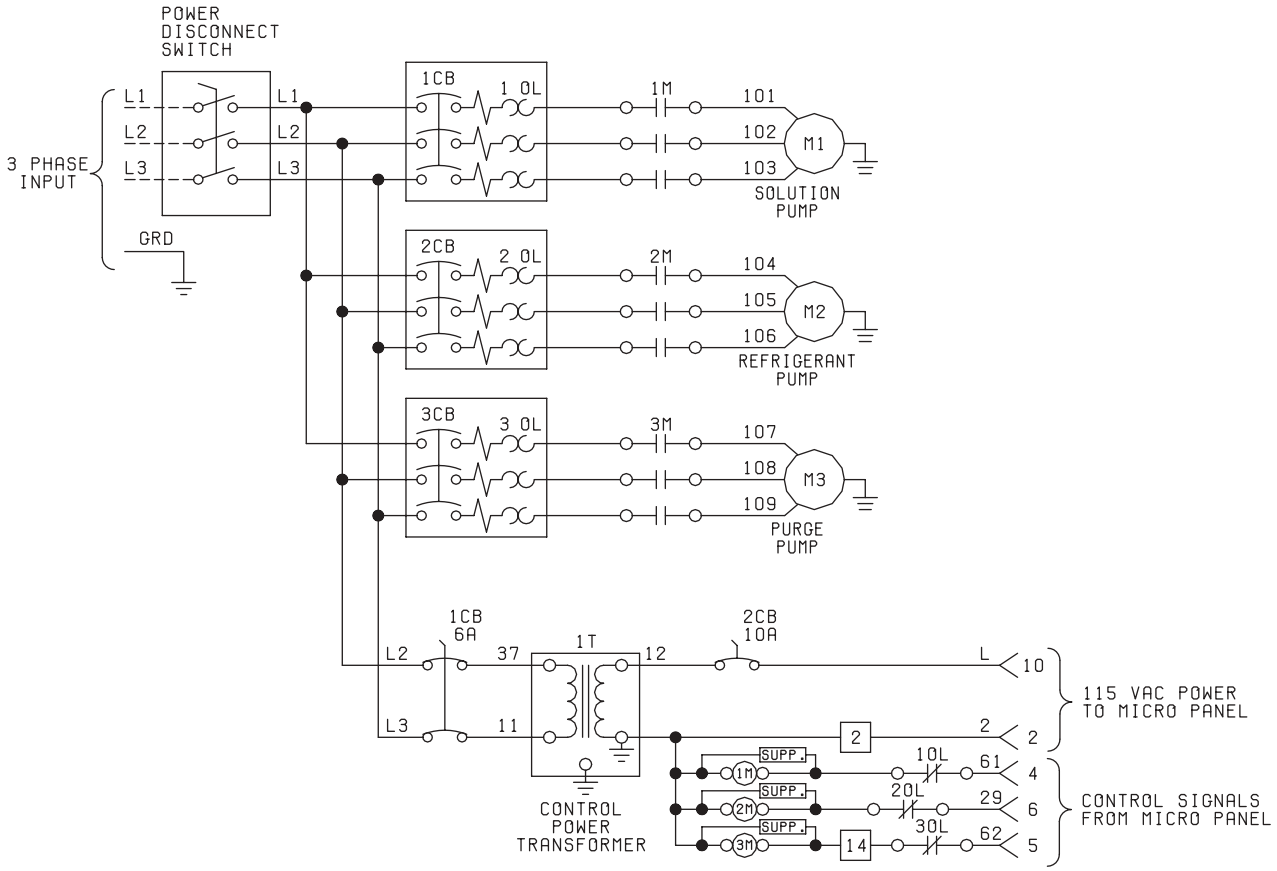
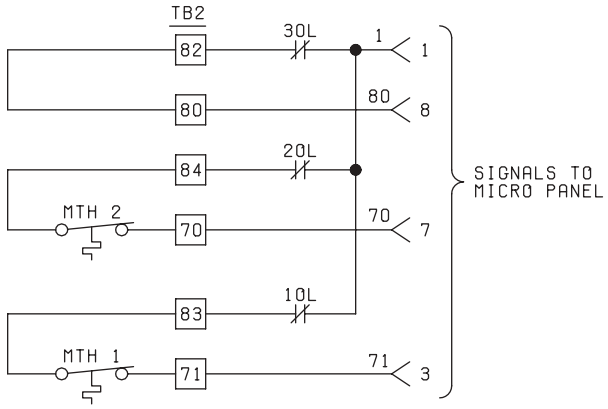
POWER PANEL
ELEMENTARY DIAGRAM





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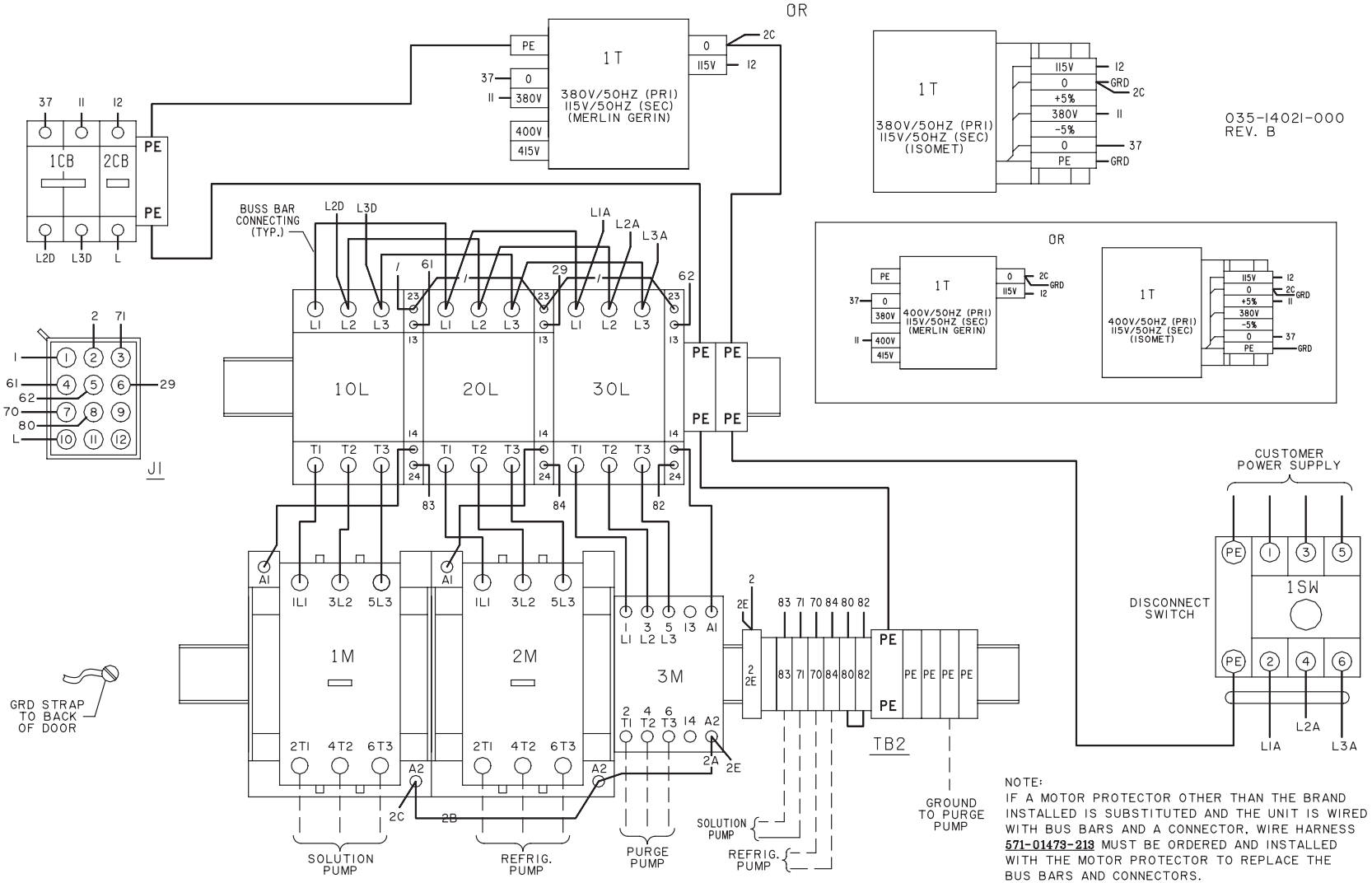
POWER PANEL
CONNECTION DIAGRAM



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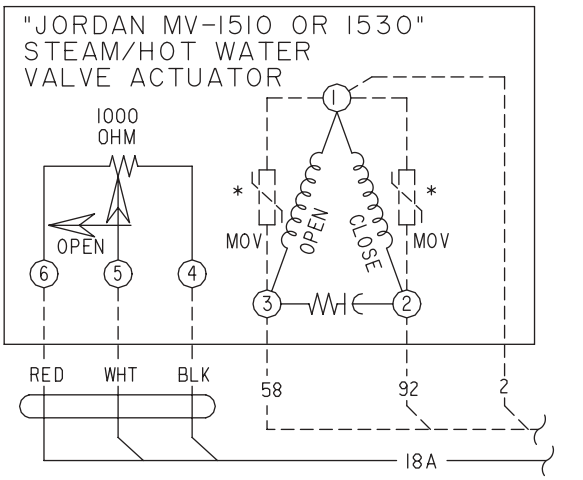
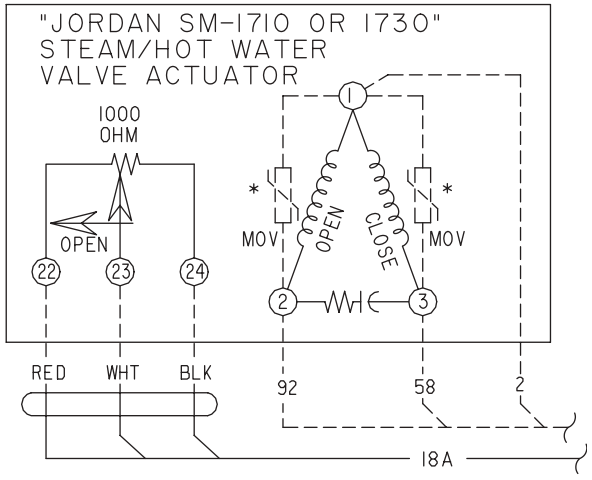
STEAM / HOT WATER VALVE ACTUATORS





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* MOV'S ARE PROVIDED IN BAG SUPPLIED INSIDE MICRO PANEL. INSTALL AS SHOWN.

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www.york.com

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