

CONTROL SCHEMATIC SYMBOL AND DEVICE ABBREVIATION KEY

PUSH BUTTON
N.O.
PB

PUSH BUTTON
P.B.

MUSHROOM HEAD
PUSH BUTTON N.O.
PB

MUSHROOM HEAD
PUSH BUTTON N.C.
PB

MAINTAINED
SELECTOR SWITCH N.O.
SS

MAINTAINED
SELECTOR SWITCH N.C.
SS

RETURN-FROM-LEFT
SELECTOR SWITCH
SS

RETURN-FROM-RIGHT
SELECTOR SWITCH
SS

LT
PILOT LIGHT
RED

LT
PUSH-TO-TEST
PILOT LIGHT RED

LT
MASTER TEST
PILOT LIGHT RED

FU
FUSE

CIRCUIT BREAKER
CB

DISCONNECT SWITCH
DS?

FUSED
DISCONNECT SWITCH
DS?

SELECTOR SWITCHES:
THE "OX" OR "XD" NOTATION IN THE LOWER RIGHT CORNER DENOTES THE STATE AND NUMBER OF POSITIONS OF THE SWITCH. EACH CHARACTER DENOTES A POSITION OF THE SWITCH. AN "O" DENOTES OPEN STATE AND AN "X" DENOTES CLOSED STATE IN THE RESPECTIVE POSITION. THE SAME NOTATION WILL APPEAR ON ALL ADDITIONAL CONTACTS OF THE SWITCH.

INDICATING LIGHT
COLOR
DESIGNATIONS
A = AMBER
B = BLUE
C = CLEAR
G = GREEN
R = RED
W = WHITE
Y = YELLOW

AMPERAGE RATINGS OF FUSES AND CIRCUIT BREAKERS DENOTED AS NUMERICAL VALUE SUFFIXED BY "A", E.G. "10A"

TRANSFORMER
H1 H2
X1 X2

ENCLOSURE LIGHT
LT

SOLENOID
SOL

ALARM HORN
AH

LIMIT SWITCH
LS

PRESSURE SWITCH
PS

TEMPERATURE SWITCH
TAS

FLOAT SWITCH
FLT

FLOW SWITCH
FS

PROXIMITY SWITCH
PRS

TOGGLE SWITCH
TG

3-PHASE
MOTOR
MOT

MOTOR OVERLOAD
OL

1-PHASE
MOTOR
MOT

RELAY COIL
CR

LATCHING
RELAY COIL
LR

UNLATCHING
RELAY COIL
LR

ON-DELAY TIMER
TD

OFF-DELAY TIMER
TD

MOTOR
STARTER COIL
M

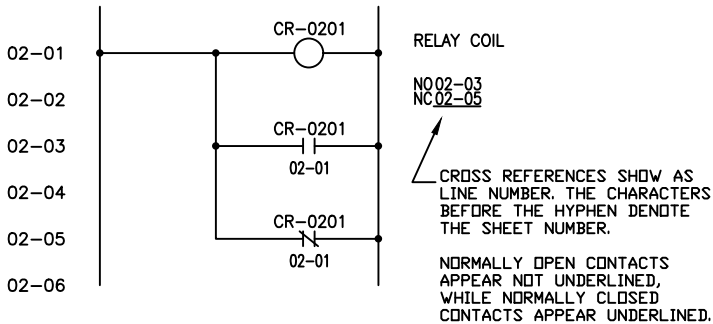
RELAY CONTACT
N.O.
CR

"??-??" REPRESENTS
CROSS-REFERENCE TO LOCATION OF
PARENT COIL, E.G. "03-00" FOR SHEET
THREE, LINE ZERO

RELAY CONTACT
N.C.
CR

RELAY COILS:
REFERENCES TO CORRESPONDING
RELAY CONTACTS APPEAR NEXT TO
THE COIL SYMBOL (NORMALLY OPEN
CONTACTS AFTER "NO" AND NORMALLY
CLOSED CONTACTS AFTER "NC").



CROSS REFERENCING EXAMPLE



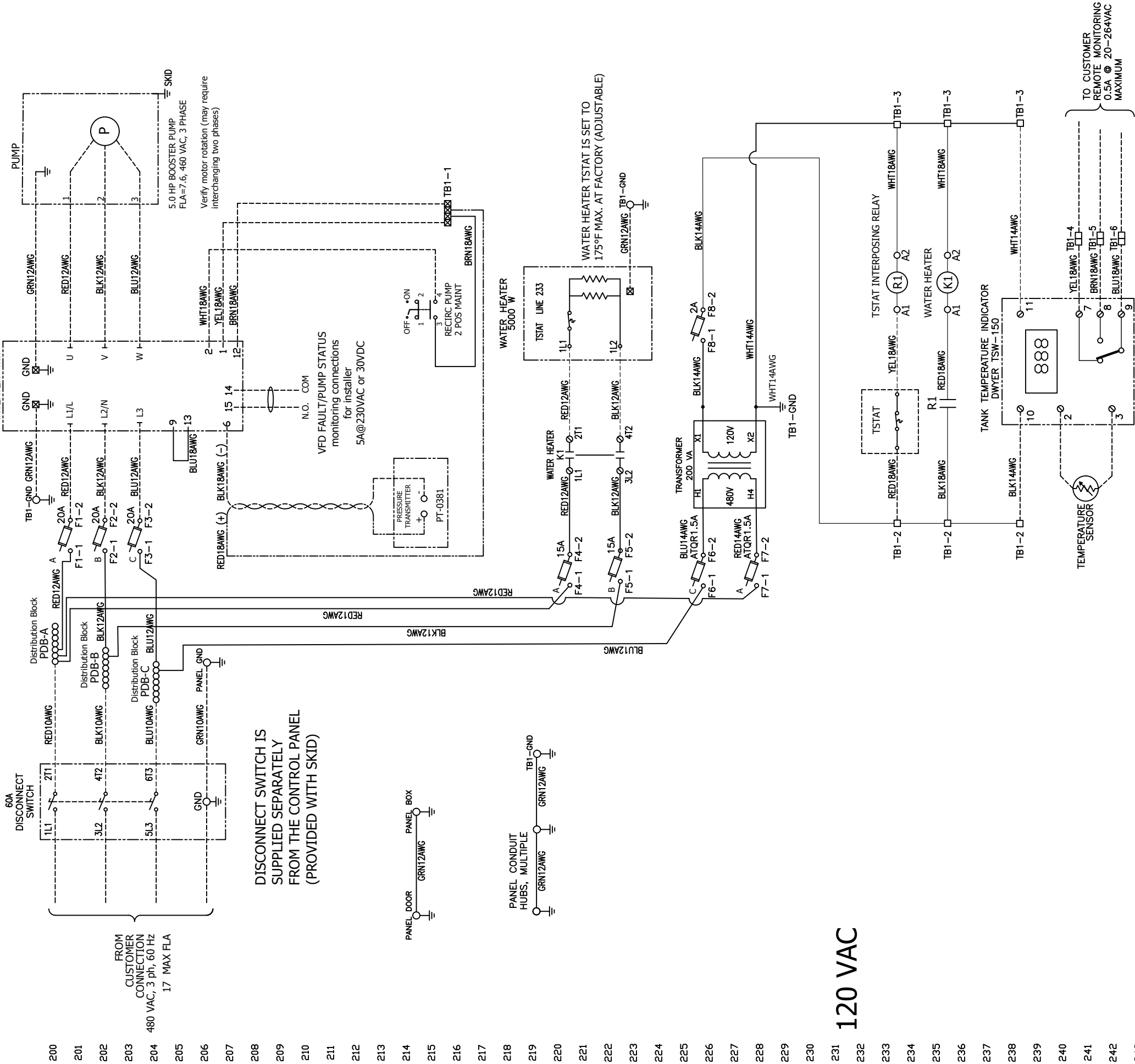
DESIGN NOTES AND CONSIDERATIONS

-ALL WIRING SHALL BE SIZED IN ACCORDANCE WITH NEC REGULATIONS.

WIRE LEGEND	
DESC	STYLE
PANEL WIRING	_____
FIELD/CONDUIT WIRING	-----

1/04/24	A	RELEASED FOR PRODUCTION	23-05-037	NE
DATE	REV	DESCRIPTION	ECN	ENGINEER
REVISION HISTORY				
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TOLERANCES UNLESS OTHERWISE SPECIFIED			DRAWN BY: NE	
FRACTIONS ± 1/32 3 PLACE ± .020 2 PLACE ± .03 1 PLACE ± .1 ANGLES < ± 3°		ALL THREADS TO BE CLASS 2 ALL FINISH NUMBERS ARE RMS DO NOT SCALE DRAWING		DATE: 1/04/24
				SCALE: .
				REF.: .
				FIRST ON: .
MATERIAL:				
NAME: DWG. - ELECT, NTS1 480V, 5 KW HEATER VFD + 5HP PUMP + 119 GAL TANK				
DWG. NUMBER: S83-474				SHEET 1 OF 3

480 VAC



NOTES:

1. Tapid Water Skid System: General area classification, used only in non-hazardous locations.
2. Installer to provide a minimum circuit protection of 25 amps for the incoming power.
3. The control panel enclosure has an environmental rating of UL Type 4. All conduit hubs and fittings that are installed in this panel are to be rated for Type 4 or better to maintain the enclosure's environmental rating.
4. OPERATING PRINCIPLE:
IF A PRESSURE OF AT LEAST 30 PSI IS MAINTAINED AT THE SKID, THEN ALL SHOWERS IN THE LOOP WILL BE AT LEAST 30 PSI AND CAN DELIVER THE DESIRED WATER FLOW RATE AND PATTERN.

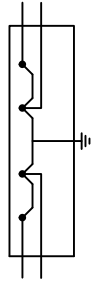
When all showers are closed:

WHEN THE SYSTEM PRESSURE IS ABOVE PRESSURE TRANSMITTER SET POINT (30 PSI), VFD WILL DECREASE THE PUMP SPEED TO MAINTAIN A CONSTANT RECIRCULATION RATE OF APPROXIMATELY 10 GPM.

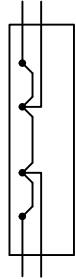
When any shower is open:

AN ACTIVATED SHOWER WILL CAUSE THE WATER PRESSURE TO DROP BELOW THE PRESSURE TRANSMITTER'S SET POINT (30 PSI) AND THE VFD WILL INCREASE THE SPEED OF THE PUMP TO ACHIEVE THE SET POINT.

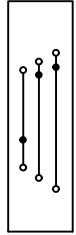
5. If additional pressure is needed because of elevation changes or other causes, the pressure transmitter set point can be adjusted at the installation site if necessary. Refer to manufacturer's instructions.



GROUNDING
TERMINAL BLOCK



TB1 "QUATTRO"
TERMINAL BLOCK



TB1 "TRIPLE"
TERMINAL BLOCK

TITLE: ELECTRICAL SCHEMATIC			
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DWG NUMBER:	S83-474		SHEET 2 OF 3