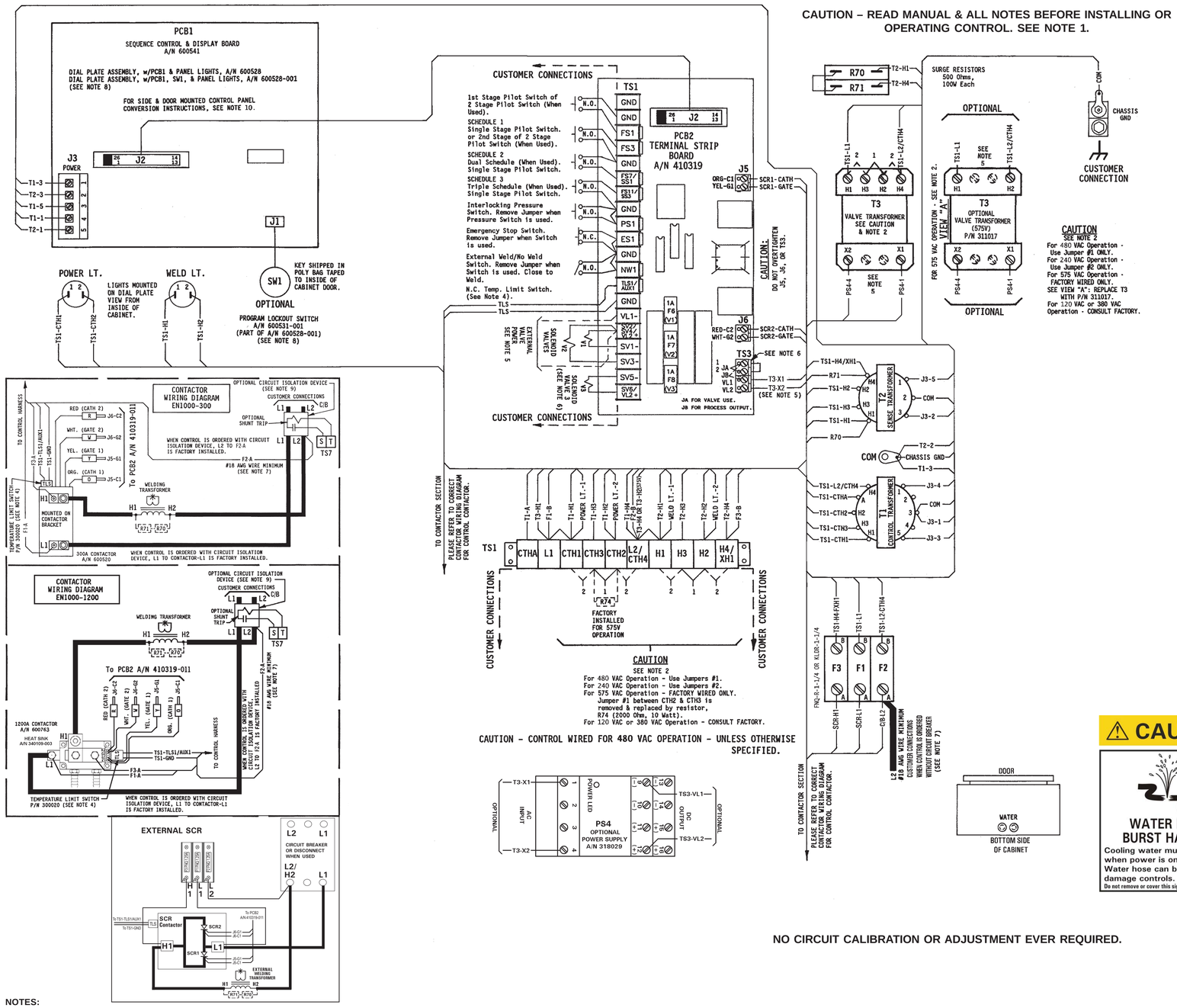

CAUTION – READ MANUAL & ALL NOTES BEFORE INSTALLING OR OPERATING CONTROL. SEE NOTE 1.

DANGER

HAZARDOUS VOLTAGE
FROM ONE OR MORE SOURCES
Turn off all voltage sources before touching any components.
Electrical shock or flash will cause severe injury or death.
Do not remove or cover this sign 460142R

DANGER

VOLTAGE HAZARD **FLASH HAZARD**
Turn off all voltage sources before removing or replacing fuse.
Electrical shock or flash will cause severe injury or death.
Do not remove or cover this sign 460143R

CAUTION
Control Shipped Wired for 480 VAC unless otherwise specified – See Note 2.

DANGER

HAZARDOUS VOLTAGE
Electrical shock will cause severe injury or death.
PE Connect this terminal directly to earth ground.
Do not remove or cover this sign. 460144C

CAUTION

WATER HOSE BURST HAZARD
Cooling water must be flowing when power is on.
Water hose can burst and damage controls.
Do not remove or cover this sign. 460145R

NO CIRCUIT CALIBRATION OR ADJUSTMENT EVER REQUIRED.

PARTS LIST -- CONTROL SECTION **421498-001 orig**

QTY	DESIG.	PART NO.	DESCRIPTION
1		600528	Assem., Dial Plate w/Sw. Assem., EN1000, Consisting of:
@		600528-001	Assem., Dial Plate w/Sw. Assem. & Keylock, EN1000, Consisting of:
1	PCB1	600541	Assem., Switch, Sequence Control & Display Board
@	SW1	600531-001	Assem., Switch, Keylock, Momentary, SPST
1		600734	Assem., Dial Plate, EN1000
1		565003	Hole Plug, 3/4" Diam., Black
1	POWER LT.	305001	Lamp, Neon, Red, 240V
1	WELD LT.	305002	Lamp, Neon, Clear, 240V
1	J2-J2	322560	Assem., Harness, Control Board to Terminal Strip Board
1	J3	322558	Assem., Harness, Power, EN1000

PARTS LIST -- CONTACTOR SECTION

EN1000-1200 QTY	EN1000-300 QTY	DESIG.	PART NO.	DESCRIPTION
1	1	TS1	335067	Terminal Strip, 10 Pin (Part of J3 Harness)
#	#	TS7	335044	Terminal Strip, 2 Pin
1	1	T1	310001	Transformer, Control (Part of J3 Harness)
1	1	T2	310002	Transformer, Sense (Part of J3 Harness)
1	1	T3	311002	Transformer, Valve, 150VA
*	*	T3	311017	Transformer, Valve, 150VA, 575V
2	2	R70, 71	225016	Resistor, Power, Surge, 500 Ohm, 100W
*	*	R74	600048	Assem., Resistor, Power, 2000 Ohm, 10W (for 575V)
3	3	F1, 2, 3	308010	Fuseholder, 1 Pole, Mini, 600V
3	3	F1, 2, 3	307025	Fuse, Control, 1-1/4A, FNQ-R-1-1/4 or KLDR-1-1/4
3	3	F6, 7, 8 (PCB2)	307022	Fuse, 1 Amp, Slow Blow, 2AG (Part of 410319)
1	1	(R70, 71)	325024	Assem., Wire, Surge Resistor, 18 Ga., Black
	1		600520	Assem., Contactor, Thyristor, Air, 300A, 480/575V, w/TLS
1			600763	Assem., Contactor, Thyristor, Water, 1200A, 480/575V
1			340109-003	Assem., Heat Sink, Straight 3/8" Hose Barbs, 1-1/2" Ctrs.
1	1	PS4	318029	Power Supply, 24 VDC
1	1		346004	Lug, Screw, Chassis GND, 2/0 Wire
1	1	PCB2	410319-011	Assem., PCB, Terminal Strip Board, with DC Outputs
1	1	TLS	300020	Switch, Temperature Limit, (N.C.)
1	1		550075	Hoffman, Padlocking Handle
1	1		510300	Cabinet, Control, Style "C", w/CB
1	1		510298	Door, Cabinet, Control, Style "C"
1	1		510301	Rear Panel, Cabinet, Control, Style "C"
Δ	Δ	C/B		Circuit Breaker, Pole, Amp, V (see Note 9)
Δ	Δ		309069-007	Thru Door Operator, Circuit Breaker
1	1		700189	App. Note, DC Valve Outputs
1	1		700120	Manual, EN1000
1	1		421183	Logic Diagram, EN1000 Control
1	1		421498-001	Wiring Diagram, EN1000-Series, "C" Cabinet, w/DC Outputs

@ Optional Keylock when specified by customer. See Note 8. Pack Key in Poly Bag 900148 & attach to Door w/Yellow Tape 900118.
# Supplied when optional Shunt Trip (ST), 120V is specified.
* Substitution or addition of parts when 575V control is specified.
Δ Optional, see Note 9.

For Optional Water Flow Switch, see Manual 700149 and A/N 600632.

MANUFACTURING INSTRUCTIONS:
See Drawing 600747 for Enclosure Assembly Instructions
See Drawing 600749 for Layout/Assembly Instructions

NOTES:

1. It is recommended that control wiring (i.e.: initiation, pressure switch, etc.) be physically separated from high voltage wiring (120 volts or higher).

2. For 480 VAC Operation – Use Jumper #1 on T3 & TS1. As shipped unless otherwise specified.
   For 240 VAC Operation – Use Jumper #2 on T3 & TS1.
   For 575 VAC Operation – FACTORY WIRED ONLY. SEE VIEW "A".
   Replace T3 with P/N 311017. Wire per View "A". Use Jumper #1 between H2 & H3 on TS1.
   Use Resistor R74 (2000 Ohm, 10 Watt) in place of Jumper #1 between CTH2 & CTH3 on TS1.
   For 120 VAC or 380 VAC Operation – CONSULT FACTORY.

3. **For Single Stage Pilot Operation** – Connect pilot switch to TS1-FS3 & TS1-GND.
   No jumpers required across TS1-FS1 & TS1-GND.

   For Two Stage Pilot Operation – Connect 1st stage pilot switch to TS1-FS1 & TS1-GND.
   Connect 2nd stage pilot switch to TS1-FS3 & TS1-GND.

4. ENTRON supplies Temperature Limit Switch (TLS) P/N 300020 and provides connections to TS1-TLS1/AUX1 & TS1-GND. Jumper not required between TS1-TLS1/AUX1 & TS1-GND.
   NOTE: TLS SCR will open at temperatures greater than or equal to 150° F.

5. When external valve power is supplied to control, remove and insulate leads TS3-VL1 & TS3-VL2 on Terminal Strip Board (PCB2) from PS4-9 & PS4-12. Connect external DC power supply (5-60 VDC) to TS1-VL1 & TS1-SV2/SV4/VL2.
   CAUTION: Do not overtighten TS3.

6. VALVE 3 OUTPUT USAGE:
   TS1-SV5 & TS1-SV6 (Valve 3) can be used for either a Valve output or a Process output.
   When TS1-SV5 & TS1-SV6 is used as a Valve output, use Jumper "A" on TS3.
   When TS1-SV5 & TS1-SV6 is used as a Process output, use Jumper "B" on TS3.

   WARNING: Use of Jumper "B" bypasses control relay contacts to allow a Process output without an initiation. SEE MANUAL.

7. Connect F2-A to L2/H2 side of Welding Transformer Primary. (Factory wired on controls supplied with Circuit Isolation Device).

8. When Optional Program Lockout is specified by customer, Dial Plate A/N 600528-001 replaces A/N 600528. Add Switch P/N 600531-001 & remove Hole Plug P/N 565003.

9. When Optional Circuit Isolation Device is required, list P/N and size of Circuit Isolation Device, and note appropriate Cabinet A/N.

10. To convert Control Panel from side mounted cabinet control to door mounted or door mounted cabinet control to side mounted:
    Remove Cover Plate and Control Panel Dial Plate Assembly. Position spiral wrap around all harness wiring to prevent interference of wiring with closing of cabinet door. When mounting Control Panel on side of cabinet, use clamp to secure J3 harness wires.
    CAUTION: When changing position of Control Panel, be sure harness wires do NOT interfere with closing of cabinet door. Wires may pinch in between door & cabinet and cause damage to wiring.

NOTICE

FOR SERVICE ON THIS CONTROL
Contact Your Machine Dealer Or ENTRON CONTROLS LLC. DIRECTLY: (864) 416-0190
601 HIGH TECH COURT
GREER, SC 29650
FAX# (864) 416-0195
46010301

REV	AUTH	DESCRIPTION	DRAWN BY DATE	CHK'D BY DATE
—	—	ORIGINAL RELEASE		

460004

ENTRON

SCALE	DATE	DRAWN BY	CHK'D BY	APPROVED BY
	6/12/12	DCS		

TOLERANCE UNLESS SPECIFIED
ANGLES: ± 1/2°
DECIMALS: ± .010
FRACTIONS ± 1/64

REVISED	
REV LTR	APPROVED BY
DATE	

WIRING DIAGRAM, EN1000, "C" CABINET, WITH DC VALVE OUTPUTS

NEXT ASSM/USED ON	DRAWING NUMBER	REV
	421498-001	orig

ENTRON 470046 12 22 x 34