

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

⚠ DANGER ⚠ 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.

VOLTAGE HAZARD
Turn off all voltage sources before removing or replacing fuses. Electrical shock or flash will cause severe injury or death.

FLASH HAZARD
Turn off all voltage sources before removing or replacing fuses. Electrical shock or flash will cause severe injury or death.

CAUTION
Control Shipped Wired for 460 VAC
Unless otherwise specified - See Note 2.

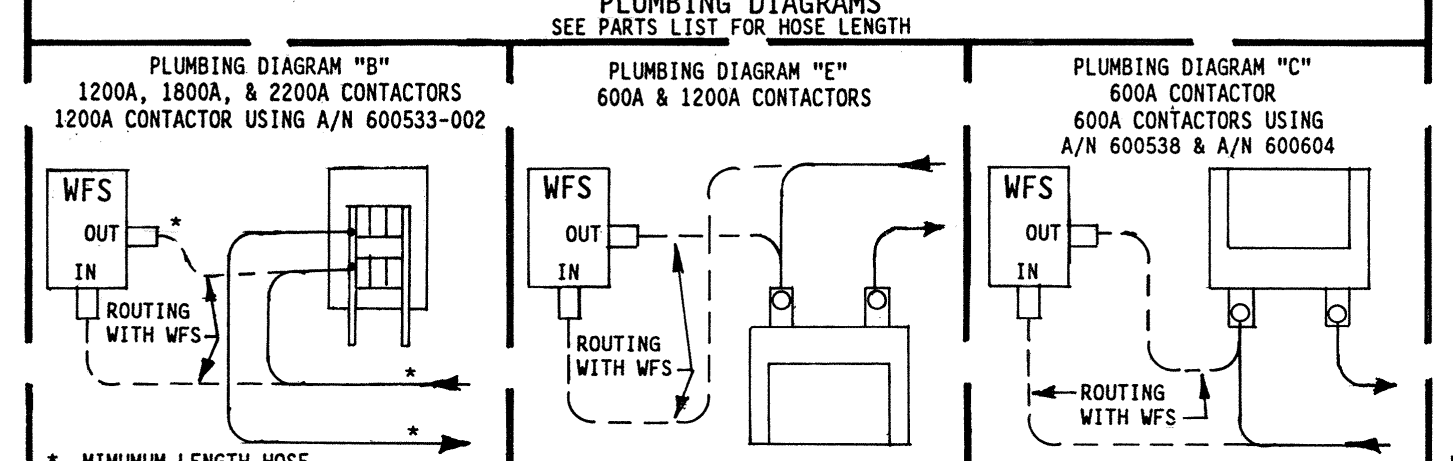
421210-034 A

PARTS LIST - CONTROL SECTION			
QTY.	DESIG.	PART NO.	DESCRIPTION
1	0	600528	Assem., Dial Plate, w/Sw. Assem., EN1000/RDH, Consisting of: Assem., Switch, Sequence Control & Display Board
1	PCB1	600541	Assem., Switch, Keylock, Momentary, SPST
1	SM1	540251	Panel, Display Window, Red Filter, EN1000/RDH
1	1	565003	Hot Plug, 3/4" Diam., Black
1	PS4-T3-TS3	322508-001	Assem., Harness, Power Supply/Valve Trans./Term Strip Bd.
1	PWR.LT.	305001	Lamp, Neon, Red, 230V
1	W.D.LT.	305002	Lamp, Neon, Clear, 230V
1	J2-J3	323236	Assem., Harness, Ctrl'l Bd. to Term. Bd.
1	J3	323235-025	Assem., Harness, Power, EN1000/w/24 VDC Power Supply
1	J4-RDE	323269-005	Assem., Harness, Control Board J4 to RDE Jack.

PARTS LIST - CONTACTOR SECTION

QTY.	DESIG.	PART NO.	DESCRIPTION
1	TS1	335067	Terminal Strip, 10 Pin, (Part of J3 Harness)
1	TS6	335077	Terminal Strip, 2 Pin, (Part of 1800/2200A Cont. Assem's.)
1	TS7	310001	Transformer, Control, (Part of J3 Harness)
1	TS8	310002	Transformer, Sense, (Part of J3 Harness)
1	T2	311002	Transformer, Valve, 150VA
1	T3	311017	Transformer, Valve, 150VA, 575V
2	R70, R71	225016	Resistor, Power, Surge, 500 Ohm, 10W
1	R74	600048	Assem., Resistor, Power, 2000 Ohm, 10W, (For 575V)
1	F1	308010	Fuseholder, 1 Pole, Mini, 600V
1	307024	307024	Fuse, Control, 1/4A, FNO-R-1/4 or KLD-R-1/4
1	307022	307022	Fuse, 1 Amp, 510W Blow, 2AG, (Part of 410319)
2	F6, 7 (PCB2)	325024	Assem., Contactor, SCR, Water, 1800A, 460/575V, w/LS
2	F7, 8 (TS3)	325149	Assem., Wire, Valve Transformer, 22 Ga., Black
1	600510	600510	Assem., Contactor, Thyristor, Air, 300A, 460/575V, w/LS
1	600610	600610	Assem., Contactor, Thyristor, Water, 600A, 460/575V
1	600598	600598	Assem., Contactor, Thyristor, Water, 1200A, 460/575V
1	600599	600599	Assem., Contactor, SCR, Water, 1800A, 460/575V, w/LS
1	600533-003	600533-003	Assem., Contactor, SCR, Water, 2200A, 460/575V, w/LS
1	341040	341040	Standoff, Insulator, 600/1200A Thyristor Contactor, L1
1	325174	325174	Assem., Wire, Contactor-L1 to Lug L1, 600/1200A Thyristor Cont.
1	346004	346004	Lug, Screw, 1/4 Bolt to 2/0 Wire, 600A Thyristor Contactor, H1
1	346011	346011	Lug, Screw, 1/4 Bolt to 2/0 Wire, 600A Thyristor Contactor, L1
1	346002	346002	Lug, Screw, 5/16 Bolt to 250 NCM (4/0) Wire, 1200A Cont. L1 & H1
1	PS4	318029	Power Supply, 120-240AC:24 VDC, .65A
1	PCB2	346004	Lug, Screw, Chassis GND, 2/0 Wire
1	PCB2 (PCB2)	410319-011	Assem., PCB, Terminal Strip Board, w/DC Valve Outputs
1	510236	510236	Plate, Mounting, Terminal Strip Board
1	525035	525035	Bracket, Mounting, 300A Thyristor Contactor
1	525136	525136	Bracket, Mounting, 1800/2200A Contactors
1	TS1	300020	Switch, Temperature Limit, (N.C.), (Part of 300A Contactor & 1800/2200A Contactor Assem.'s)
1	900045	900045	Hose, 3/8" I.D.
4	566010	566010	Hose Clamp, 3/8" Hose
4	600179	600179	Assem., Water Fitting, 3/8" Hose
2	WFS	600297	Assem., Water Flow Switch, 3/8" Hose
1	550014	550014	Vault Closing Door Mechanism, "D/T/LS/LF" Cabinet
1	510247	510247	Cabinet, Control, Style "D/T", w/CB
1	510248	510248	Door, Cabinet, Control, Style "D/T"
1	510249-005	510249-005	Cabinet, Control, Style "D/T", w/CB, Modified for 300A Cont.
1	510257	510257	Cabinet, Control, Style "LS/LF", w/CB
1	510258	510258	Door, Cabinet, Control, Style "LS/LF"
1	700189	700189	Circuit Breaker, Pole, V, (See Note 12)
1	700202	700202	Logic Diagram, EN1000 Control
1	700120	700120	Manual, RDH Options
1	421183	421183	Wiring Diagram, EN1000-Series/RDH, "D/T/LS/LF" Cabinet
1	421210-034	421210-034	Wiring Diagram, EN1000-Series/RDH, "D/T/LS/LF" Cabinet

- NOTES:**
- It is recommended that control wiring (i.e.: initiation, pressure switch, etc.) be physically separated from the high voltage wiring (115 volts or higher).
 - For 460 VAC Operation - Use Jumper #1 on T3 & TS1. As shipped unless otherwise specified. For 230 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 115 VAC or 380 VAC Operation - CONSULT FACTORY.
 - 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.
 - For DUAL COUNT/DUAL CURRENT (Dual Weld/Dual Heat) or TRIPLE COUNT/TRIPLE CURRENT (Triple Weld/Triple Heat) or External Schedule Selection, SEE MANUAL.
 - EN1000-SERIES "D/T/LS/LF" Cabinet: 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.
 - When external valve power is supplied to the control, remove and insulate leads TS3-VL1 & TS3-VL2 on the Terminal Strip Board (PCB2). From T3-X1 & T3-X2). Connect external AC power supply (24-240 VAC) to TS1-VL1 & TS1-V2/SV4/VL2. CAUTION: Do not overtighten TS3.
 - 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. CAUTION: Do not overtighten T33.
 - WARNING: Use of Jumper "B" bypasses control relay contacts to allow a process output without an initiation. See MANUAL.
 - Connect TS1-L2/CTH4 to L2/H2 side of Welding Transformer Primary. (Factory wired on controls supplied with Circuit Isolation Device).
 - 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.
 - When TLS and WFS are used together, add WFS P/N 600297 & Terminal Strip TS8 P/N 335017. Wire as shown below. Jumper not required between TS1-TLS1/AUX1 & TS1-GND. WFS will open with flows less than .75 GPM.
 - To convert the 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 the closing of cabinet door. When mounting Control Panel on side of cabinet, use clamp to secure J3 harness wires. CAUTION: When changing the position of the Control Panel, be sure harness wires do NOT interfere with the closing of the cabinet door. Wires may pinch in between door & cabinet and cause damage to wiring.
 - This control is used in conjunction with a Remote Data Entry (RDE) control cabinet. J4-RDE Cable Assembly is interconnected to the Remote Data Entry control. Refer to Wiring Diagram #421274 for interconnection of EN1000/RDH-Series, "D/T/LS/LF" Cabinet control to the Remote Data Entry control cabinet.



CAUTION
WATER HOSE BURST HAZARD
Cooling water must be flowing when power is on. Water hose can burst and damage controls. Do not over-tighten or cover this tag.

NO CIRCUIT CALIBRATION OR ADJUSTMENT EVER REQUIRED.

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

△ Optional, See Note 12.
* Substitution or addition of parts when 575V control is specified.
Supplied when optional Shunt Trip (ST), 115V is specified.
+ Optional Water Flow Switch Assembly & TS8. An additional Thirty-Six inches (36") of hose, P/N 900045 and two (2) hose clamps, P/N 566010 are to be supplied. See Note 9.
X For all contactors in "D/T" cabinet supply 3/8" of hose. For all contactors in "LS/LF" cabinet supply 60" of hose.

See Wiring Diagram #421274 for interconnection wiring from EN1000-Series/RDH, "D/T/LS/LF" Cabinet to EN1000 Single Contactor Remote Data Entry Control.

MANUFACTURING INSTRUCTIONS:
See Drawings #515112, #515114, #600552, & #600591 for Mechanical Assembly Instructions of EN1000 "LS/LF" Cabinet.
See Drawing #440190-001 for Mechanical Layout of "LS/LF" Cabinet Rear Panel.
See Drawing #440093 for Crating Instructions of "LS/LF" Cabinet.
See Drawing #600562 for Mechanical Layout/Assem. of EN1000 "D/T" Cabinet.
See Drawing #440366 for Inner Pack & Use Carton 3650016 for "D/T" Cabinet Packing Instructions.
See Drawing #440437 for Circuit Breaker to L1 Contactor Cable connections.
See Drawing #600526 for Layout/Assem. of Front Panel.

ORIGINAL RELEASE			
REV	AUTH	DESCRIPTION	DATE

ENTRON CONTROLS INC

SCALE	DATE	DRAWN BY	CHK'D BY	APPROVED BY

TOLERANCE UNLESS SPECIFIED		REVISED	
ANGLES:	± 1/2°	REV	DATE
DECIMALS:	± .010	A	
FRACTIONS:	± 1/64	DATE	7/14/11 DCS
WIRING DIAGRAM, EN1000-SERIES/RDH/SP, "D/T/LS/LF" CABINET			
SP - 24 VOLT POWER SUPPLY			
NEXT ASSM./USED QTY	DRAWING NUMBER	REV	
	421210-034	A	