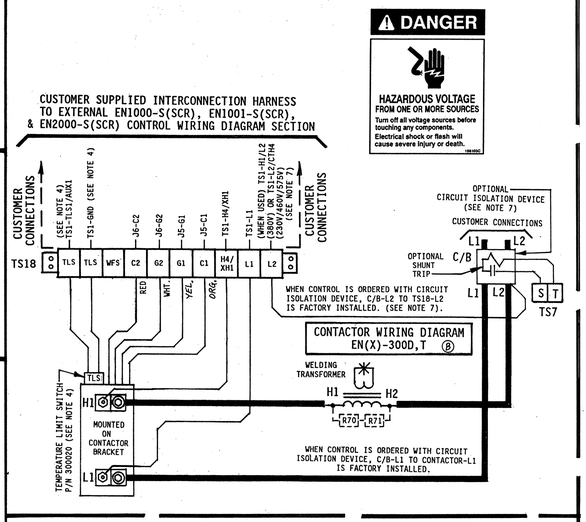


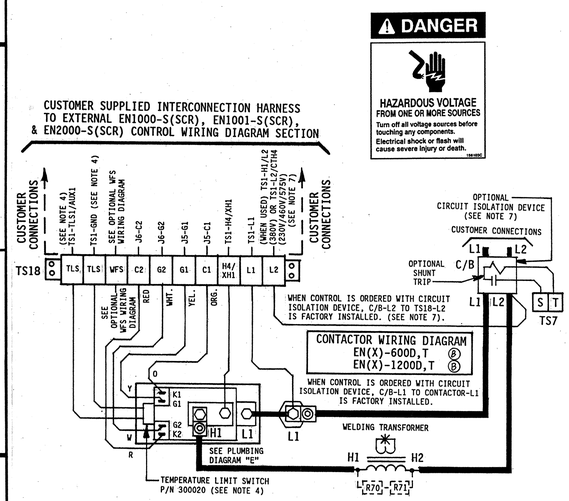


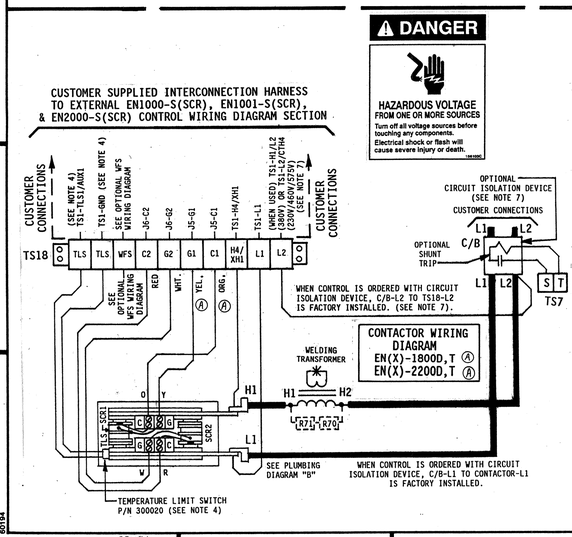


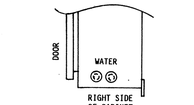


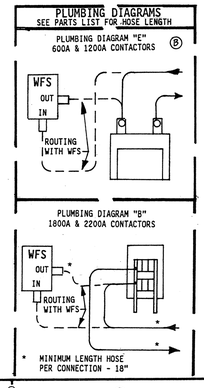


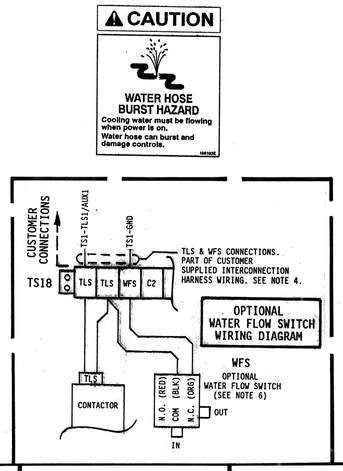


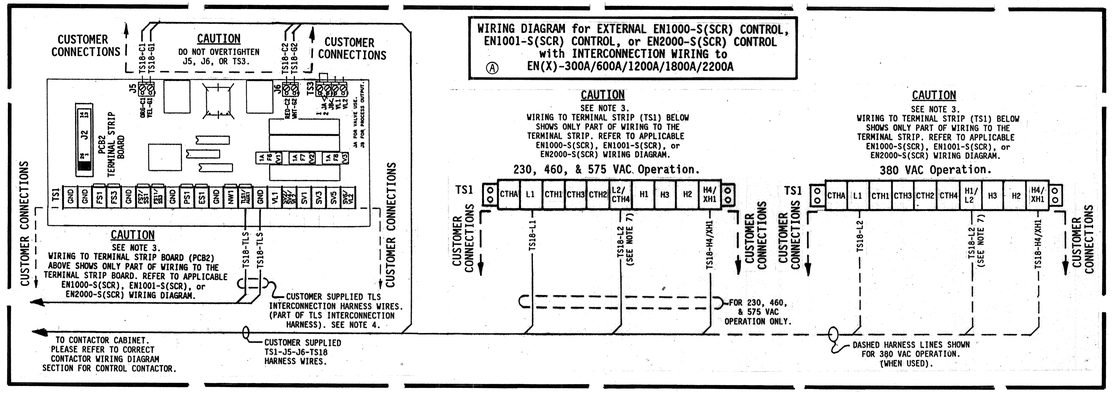


NOTES:

1. It is recommended that control wiring (i.e.: initiation, pressure switch, etc.) be physically separated from the high voltage wiring (115 volts or higher).
2. All interconnection wiring for use between this control and an EN1000-S(SCR), EN1001-S(SCR), or EN2000-S(SCR) control is to be provided for by customer.
3. In the External EN1000-S(SCR), EN1001-S(SCR), & EN2000-S(SCR) section of drawing, the 10 pin Terminal Strip (TS1) & the Terminal Strip Board (PCB2) do NOT show all wiring on these components.
   NOTE: Refer to applicable EN1000-S(SCR), EN1001-S(SCR), or EN2000-S(SCR) Wiring Diagram for additional wiring of these components.
(A) 4. EN(X)-300A/600A/1200A/1800A/2200A, "D/T" CABINET:
   When Temperature Limit Switch (TLS) is used, TLS wires connect to TS18-TLS. Customer supplied interconnection wiring for TLS should be physically separated from other TS18 interconnection wiring. Jumper not required between TS1-TLS1/AUX1 and TS1-GND on Terminal Strip Board (PCB2). Refer to applicable EN1000-S(SCR), EN1001-S(SCR), or EN2000-S(SCR) Wiring Diagram for TLS Jumper on Terminal Strip Board (PCB2).
   NOTE: TLS SCR & Thyristor will open at temperatures greater than or equal to 150° F.
(R) 5. EN(X)-300A/600A/1200A/1800A/2200A, "D/T" CABINET:
   Remove all connections from previously existing firing circuits to L1, L2/H2, H1, & also SCR Gate leads & SCR Cathode leads. All previously existing Surge Resistors or Rectifiers must be disconnected prior to installation of this control.
   CAUTION: Do NOT overtighten J5 & J6.
6. When WFS and TLS are used together, add WFS P/N 600297. Wire as shown in Water Flow Switch Wiring Diagram. Jumper not required between TS1-TLS1/AUX1 and TS1-GND on Terminal Strip Board (PCB2). WFS will open at flows less than .75 GPM.
7. When Optional Circuit Isolation Device is required, list P/N and size of Circuit Isolation Device. Wire connection from C/B-L2 to TS18-L2 is factory installed. This connection will substitute for the wire connection that is shown on EN1000-S(SCR), EN1001-S(SCR), & EN2000-S(SCR) Wiring Diagrams. This connection substitutes the TS1-L2/CTH4 (230V/460V/575V) or TS1-H1/L2 (380V) connection to the L2/H2 side of the Welding Transformer Primary.

   For 230/460/575 VAC Operation - Customer to supply interconnection wire between TS18-L2 & TS1-L2/CTH4.
   For 380 VAC Operation - Customer to supply interconnection wire between TS18-L2 & TS1-H1/L2.

   NOTE: For controls without a Circuit Isolation Device, refer to applicable EN1000-S(SCR), EN1001-S(SCR), or EN2000-S(SCR) Wiring Diagram for wire connection to the L2/H2 side of the Welding Transformer Primary.

REF:
See Wiring Diagram #421180-Series for EN1000-S(SCR), "S" Cabinet Controls.
See Wiring Diagram #421270-Series for EN1001-S(SCR), "S" Cabinet Controls.
See Wiring Diagram #421280-Series for EN2000-S(SCR), "S" Cabinet Controls.

| (A) EN(X)-20000,T | (A) EN(X)-18000,T | (A) EN(X)-12000,T | (A) EN(X)-6000,T | (A) EN(X)-3000,T | DESIG. | PART NO. | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | TS18 | 335034 | Terminal Strip, 10 Pin |
| # | # | # | # | # | TS7 | 335044 | Terminal Strip, 2 Pin |
| + | + | + | + | + | TS8 | 335017 | Terminal Strip, 2 Pin, (For WFS) |
| | | | | 1 | | 600520-005 | Assem., Contactor, Thyristor, Air, 300A, 460/575V, w/TLS |
| | | | 1 | | | 600610-003 | Assem., Contactor, Thyristor, Water, 600A, 460/575V |
| | | 1 | | | | 600598-003 | Assem., Contactor, Thyristor, Water, 1200A, 460/575V |
| | 1 | | | | | 600533-008 | Assem., Contactor, Thyristor, Water, 1800A, 460/575V |
| 1 | | | | | | 600533-009 | Assem., Contactor, Thyristor, Water, 2200A, 460/575V |
| | | 1 | 1 | | | 341040 | Standoff, Insulator, 600/1200A Thyristor Contactor, L1 |
| | | 1 | 1 | | | 325174 | Assem., Wire, Contactor-L1 to Lug-L1, 600/1200A Contactor |
| | | | 1 | | | 346004 | Lug, Screw, 5/16 Bolt to 2/0 Wire, 600A Contactor, Hi |
| | | | 1 | | | 346011 | Lug, Screw, 1/4 Bolt to 2/0 Wire, 600A Contactor, L1 |
| | | 2 | | | | 346002 | Lug, Screw, 5/16 Bolt to 250 MCM Wire, 1200A Cont., L1 & Hi |
| 1 | 1 | 1 | 1 | 1 | TLS | 300020 | Switch, Temperature Limit, (N.C.), (Part of 300A Contactor & 1800/2200A Contactor Assem.'s) |
| 39" | | | | | | 900045 | Hose, 3/8" I.D. |
| 10 | 10 | 10 | 10 | | | 566010 | Hose Clamp, 3/8" Hose |
| + | + | + | + | | | 600179 | Assem., Water Fitting, 3/8" Hose |
| + | + | + | + | | WFS | 900297 | Assem., Water Flow Switch, 3/8" Hose |
| △ | △ | △ | △ | △ | C/B | | Circuit Breaker, Pole, Amp, V, (See Note 7) |
| 1 | 1 | 1 | 1 | 1 | | 550014 | Vault Closing Door Mechanism, "D/T" Cabinet |
| 1 | 1 | 1 | 1 | 1 | | 510247 | Cabinet, Control, Style "D/T" |
| 1 | 1 | 1 | 1 | 1 | | 510248 | Door, Cabinet, Control, Style "D/T" |
| (A) 1 | 1 | 1 | 1 | 1 | | 421385 | Wiring Diagram, EN(X)-300A/600A/1200A/1800A/2200A, "D/T" Cab. |

△ Optional.
+ 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.
# Supplied when optional Shunt Trip (ST), 115V is specified.

All interconnection wiring for use between this control and an ENTRON External SCR Contactor Firing Control is to be customer provided.

MANUFACTURING INSTRUCTIONS:
(A) See Drawing #600562 for Mechanical Assembly of EN(X)-Series, "D/T" Cabinet.
See Drawing #440366 for Inner Pack & use Carton #650016 for "D/T" Cabinet Packing Instructions.

**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.

**CAUTION**
WATER HOSE BURST HAZARD
Cooling water must be flowing when power is on.
Water hose can burst and damage controls.

**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.

**NOTICE**
FOR SERVICE ON THIS CONTROL
Contact Your Machine Dealer Or
ENTRON CONTROLS INC.
DIRECTLY:(630) 682-9600
485 EAST RANDY ROAD
CAROL STREAM, IL 60188
FAX # (630) 682-3374

| REV | AUTH | DESCRIPTION | DRWN BY DATE | CHK BY DATE |
|---|---|---|---|---|
| B | ECN 2553 | IN DRWG:ADDED 300A XTOR W/D,600/1200A XTOR W/D, & PLUMBING DIAGRAM "E"; | DEC 20 98 | DEC 20 98 |
| A | ECN 2522 | IN TITLE BLOCK:IN P/L, & IN DRWG:DESC OF CTRL "EN(X)-" WAS "EN-";IN 1800/2200A XTOR W/D:ORG WIRE FROM SCR1-C1 WAS CONNECTED TO TS18-G1 NOW CONNECTED TO TS18-C1 & YEL WIRE FROM TS18-G1 WAS CONNECTED TO TS18-C1 NOW CONNECTED TO TS18-G1;IN 1800/2200A XTOR W/D:ADDED NUMBERS W/INDIVIDUAL XTOR REF'S NEXT TO TITLE BLOCK; | DEC 12-11 98 | DEC 12-11 98 |
| — | — | ORIGINAL RELEASE | | |

ENTRON CONTROLS INC

| SCALE | DATE | DRAWN BY | CHK'D BY | APPROVED BY |
|---|---|---|---|---|
| NONE | 9-30 98 | DEC | DEC 9-30-98 | |

TOLERANCE UNLESS SPECIFIED — REVISED
ANGLES: ± 1° | REV LTR | APPROVED BY
DECIMALS: ± .010 | B |
FRACTIONS: ± 1/64 | DATE | 7-20-99 DEC

WIRING DIAGRAM, EN(X)-300A/600A/1200A/1800A/2200A, (A) "D/T" CABINET

| NEXT ASSM/USED ON | DRAWING NUMBER | REV |
|---|---|---|
| (A) EN(X)-300D,T (A) EN(X)-1200D,T (A) EN(X)-2200D,T (B) EN(X)-600D,T (A) EN(X)-1800D,T | 421385- | B |

421385 B

DRAWING NUMBER 421385- REV B

60194

22x34 ENTRON 470046