

# ENTRON™

## Controls for Resistance Welding EN1501

### Constant Current Seam Welding Controls



- **Constant Current**  
Quick response algorithms use learned weld current characteristics to compensate for weld current changes.
- **Simple to Program**  
Push-buttons and a three-step procedure make easy work of programming any welding schedule.
- **Two Year Warranty**  
A two year warranty is offered on all ENTRON parts and assemblies. Expert phone support and application service are available at no cost.
- **Change Current “On the Fly”**  
While welding, change current “on the fly” with Manual Current Adjust (optional).
- **Direct Replacement for EN500**
- **Unique Design**  
Specifically designed for ALL types of seam welding, including roll spot.

#### Features

- Seam Sequence
- Preheat/Postheat
- Continuous/Intermittent
- Up/Down Slope
- Beat/Non-Beat Operation
- End of Sequence Output
- Optional Manual Current Adjust
- Hierarchical Initiation Structure

#### Capabilities

- 50 Unique Schedules
- Weld & Valve Control Relays
- One Valve Output
- Multiple Job Set-ups
- Easy to Program
- Program Only the Functions Required
- Spot/Roll Spot

#### Constant Current

- Primary or Secondary Sensing
- Two minute Set-Up Procedure
- No Transformer Turns Ratio Calculation Required
- Constant Current Program Modes:
  - Percent Current Steps
  - Secondary Current Kiloamperes Proportional to Maximum Current
- Range: 1,000 to 50,000 Secondary Amperes
- Current Monitor with Hi/Lo Limits

*Exclusive ENTRON two year warranty*

# EN1501 Series Controls

Constant Current Seam Welding Controls

Date: May 2006

Supersedes: New

## SPECIFICATIONS

### Constant Current Operation

Primary or Secondary Sensing  
Two minute Set-Up Procedure  
No Transformer Turns Ratio Calculation  
Constant Current Program Modes: Percent Current Steps; Proportional to Maximum Current  
Range: 1,000 to 50,000 Secondary Amperes  
Current Monitor with Hi/Lo Limits

### Absolute Count: Push Button Data Entry with Display

Squeeze Count: 0 to 99 cyc, 50/60 Hz  
Preheat Count: 0 to 99 cyc, 50/60 Hz  
Weld Count: continuous seam or intermittent seam  
Cool Count: 0 to 99 cyc, 50/60 Hz  
Postheat Count: 0 to 99 cyc, 50/60 Hz  
Hold Count: 0 to 99 cyc, 50/60 Hz  
Slope control/Up and Down Slope: 0 to 99 cyc, 50/60 Hz  
Digital Phase Shift Current Control, 10 to 99% in 1% current steps, all weld current functions  
It is NOT necessary to program functions NOT required, program only functions required

### Standard RWMA/NEMA Programmable Functions

Including the following as examples:

Up Slope and Down Slope  
Seam Weld (Continuous and Intermittent)  
Multi-Weld Count/Multi-Current Select  
Pre-Heat/Post-Heat  
Priority heat select individual or switch on the fly with compensation on  
Switch weld schedule on the fly upon limit switch input

### Additional Features

Error Code/Fault Outputs  
87° First Half Cycle Delayed Firing,  
Anti-Saturation Circuit  
Dynamic Automatic Power Factor  
Equalization  
Dynamic Automatic Voltage Compens-  
ation,  $\pm 20\%$  of Nominal Line  
Emergency Stop Circuit  
Interlocking Pressure Switch Circuit  
Single Stage Pilot/2 Stage Pilot  
Beat/Non-Beat Operation  
Operational Lights: Power On  
Weld Current  
Indicator Lights for all functions on  
display panel  
Valve Transformer: 50VA 230/460-  
150V  
Single Valve output standard, all  
controls  
(Optional) Change Current "On the  
Fly" (while welding) with Manual  
Current Adjust

The EN1501 Series Control is ideal for programming schedules where changing conditions in the secondary are of concern and current compensation is desired. The EN1501 Series Control provides a constant current operation in tandem with the basic EN1000 Series Control functions.

- Store up to 40 UNIQUE SCHEDULES
  - Every parameter of each schedule individually accessible
  - Each schedule can store 11 distinct and totally different parameters
  - All schedules retained in memory with power off
  - It is NOT NECESSARY to program functions not required
- Single contactor circuitry; Process control outputs
- Additional Standard Features:
  - Priority Heat Select
  - Contactors Failed Detection (Circuit breaker with shunt trip, optional)
- Control can be INTERFACED with external Programmable Logic Control (PLC); Advanced interfaces available
- Constant current operation provides push button data entry with a 4-digit display of current settings for primary sensing
- No transformer turns ratio calculations are required for constant current set-up or operation
- Easy to program, quick, three-step set-up; Quick response algorithms use learned weld current characteristics to compensate for weld current changes
- Current monitor with Hi/Lo current limits factory set at  $\pm 10\%$  of nominal current setting or adjustable to any desired Hi/Lo limit
- Meets or exceeds RWMA/NEMA standards



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