WT6000 Servo Resistance Weld Control

Servo Controls & Actuators

WT6000 Servo Resistance Weld Control

Servo Controls Features

- Simplicity of servo setup (<15 min)
- Fully integrated weld control and motion control
- Optimized squeeze time
- Simple user interface for initial set up and maintenance of the servo actuator system
  - Manual jogging of the servo actuator
  - Auto calibration of Home and servo stroke
  - Automatic Gun Ratio Detection
  - Simple 5 point manual calibration
- Check thickness before the weld is executed
- Check the amount of set down or collapse after the weld is executed
- Send the current position of the servo actuator to an external system through the I/O Field bus interface
- Control servo actuator position dynamically through the I/O Field bus interface
- A soft touch is embedded into the closing of the servo valve on the part (Gun MTBF improved & longer tip life)
- Change force due to part fit up issues

Ethernet interface with high speed protocol
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Base System
Standard system
- Line = 480 VAC
- Resolver Position Feedback.
Optional
- Line = 230 VAC operation.
- Encoder Position Feedback.
- Safety Interlock Circuits.
- Auxiliary box under Welding Control Cabinet.
- Servo powered from weld control circuit breaker.

Safety Interlock: (Type 4 – Dual Redundant)
Control stop input
- Externally supplied 24 VDC.
- Provides control stop to weld control.
- Provides control of Servo Safety relay.
- Provides enable to Servo Drive.

Servo Safety Relay
- When Control Stop input is low, this relay removes servo valve (Actuator) power from servo drive.

Drive Enable.
- When Control Stop input is low, this input causes the DC bus to be isolated from the Servo Drive IGBT’s.

Procedure
- Set initial setup parameters.
- Auto Home. (Home & Max stroke positions)
- Auto Gun Ratio. (Ratio of Actuator move to tip)
- Manual Calibration. (Motor Current to Force)
- Auto Calibration. (Deflection to force)

Setup Parameters

Maximum force
- Maximum force range the gun will be used in. This value is used to set up the motor current to force table and the force to deflection tables.

Minimum force
- Minimum force range the gun will be used in. This value is used to set the motor current to force table and the force to deflection table.