



# DC1013/613-T Series

## Linear DC Resistance Spot Welding Power Supplies

The DC1013-T and DC613-T are high performance 1000 A precision Linear DC spot welding power supplies that combine touch panel integrated database process control and monitoring with a high accuracy, low ripple linear transistor output stage that delivers ultra fast 10  $\mu$ s dynamic process response rates, with absolute closed loop 1 A incremental accuracy and repeatability.

Typically used in aerospace, medical and electronic assembly applications, these units also incorporate SPC data collection and reporting capability via ethernet.

2 A to 1000 A 1 A steps 1% accuracy

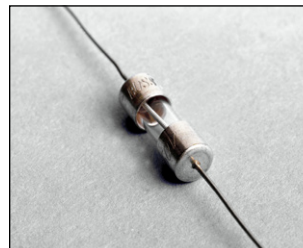
10 mV to 10 V 10 mV steps 1% accuracy

10 W to 4 kW 1 W steps 1% accuracy

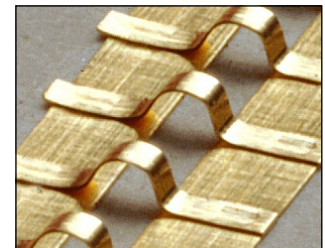
### KEY FEATURES

- High speed, ultra low ripple closed-loop output control for consistent welding process definition and control
- Constant Current, Voltage and Power modes with programmable multi-pulse combinations 1 A steps to 1000 A
- Programmable part & weld checking coupled with optional displacement and force limit checking
- Three phase (DC1013-T) and single phase (DC613-T) operational variants
- Full TCP/IP Ethernet interfacing to internal and external SPC database systems
- Associate and view PDF and text format work instructions and process manuals with weld schedules
- Associate and view JPEG and BMP files with weld schedules for QC and process checking
- 3 USB ports : USB memory stick, mouse, keyboard, servo head drives, etc.
- SMART weld head force control within weld schedules
- High speed automation and communication ports with full remote control capability

### TYPICAL APPLICATIONS



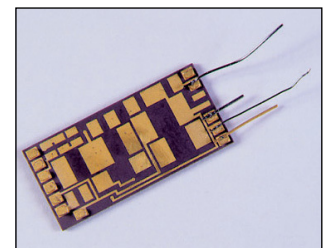
*Butt welding fuses*



*Gold Ribbon bonding*



*Welding components to leadframe*



*Welding fine wire to pad*

## OPTIONS

- Optically isolated analogue electrical channel monitoring
- Versions available with 1,3 or 6 channel weld displacement monitoring built in and combining dynamic weld cutoff

## TECHNICAL SPECIFICATIONS

Model	DC1013-T	DC613-T
Maximum Output Current	1000 Amps DC	1000 Amps DC
Output Voltage at Full Load	4 V DC	4 V DC
Maximum Output Power	4 kW	4 kW
Full Output Duty Cycle	5% @ 1000 A	4% @ 1000 A
Control Modes	Current/Voltage/Power	Current/Voltage/Power
Output Accuracy of setting	± 1%	± 1%
Program Timing Values	Squeeze Time 0.1 – 999.9 ms	
	Upslope Time Pulse 1 0.1 – 999.9 ms	
	Peak Time Pulse 1 0.1 – 999.9 ms	
	Downslope Time Pulse 1 0.1 – 999.9 ms	
	Delay Time Between Pulses 0.1 – 999.9 ms	
	Upslope Time Pulse 2 0.1 – 999.9 ms	
	Peak Time Pulse 2 0.1 – 999.9 ms	
	Downslope Time Pulse 2 0.1 – 999.9 ms	
	Hold Time 0.1 – 999.9 ms	
Process Monitor Limits	Current/Voltage	Current/Voltage
Number of waveforms averaged	User defined	User defined
Waveform Window limiting range	0 - 100%	0 - 100%
Waveform Window tolerances	0 - 100%	0 - 100%
Optional displacement monitoring	LVDT or Encoder Up to 6 channels of real time weld displacement monitoring	LVDT or Encoder Up to 6 channels of real time weld displacement monitoring
Force	0 - 500 N (112 lb)	0 - 500 N (112 lb)
Input Requirements	3 phase	1 phase
Input Voltage	380 - 480 VAC	95 - 265 VAC
Control I/O	Opto isolated	Opto isolated
Serial Communications	Ethernet via TCP/IP, USB 2.0, RS232	Ethernet via TCP/IP, USB 2.0, RS232

## WEIGHT & DIMENSIONS

	DC1013-T	DC613-T
Dimensions (L x W x H)	15.7 in x 7.5 in x 15.7 in (400 mm x 190 mm x 400 mm)	15.7 in x 7.5 in x 15.7 in (400 mm x 190 mm x 400 mm)
Weight	101.4 lb (46 kg)	70.5 lb (32 kg)

Footnote: Also available in horizontal configuration - ask factory for details.



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