

# WT6000 DCIT Welding Gun Station



- Single or Dual Weld Guns for One Operator
- Dual Redundant Ground Fault Protection - 10mA detection
- WT6000 Weld Control with Gen 6 Inverter
- Pneumatic and Water Densification Panel with Protective Cage
- 4 - 20mA Analog Regulator for Tip Force Control
- Hanging Mount or Balcony Mount Options
- Operator Panel for Tip Dressing & Cap Change Notification
- Data Entry Panel Port and Ethernet IP Port for Data and I/O
- Intelligent "Single Trigger" Adaptive Option for Auto Weld Selection
- Multi-Language Programming for Global Operations



# wtco

WELDING TECHNOLOGY CORP

## All Inclusive Hardware for Complete Control

- Ball Valve with extension cables for incoming air pressure
- Safety lock-out air valve and pressure relief valve and filter
- Programmable electric proportional air valve regulator
- Double Ball Valve lockout provisions with extension cable for water shutoff
- Electronic water flow detection, Y strainer, and 3 device ports
- Gen 6 Inverter with WT6000 weld processor
- Operation panel for electrode management
- Mounting Styles: Hanging or Balcony Mount
- Options: Dual Gun Operation with GSR Module or Single Gun Operation
- Dual Redundant Ground Fault Safety System - 10mA
- Discrete I/O (24Volts) and optional EIP Expansion Port
- DEP Port - DEP600
- Mapped for standard 3-push button gun trigger  
two weld schedules and one gun retract
- Optional single gun trigger with adaptive weld sequencing feature



## Intelligent “Single Trigger” Adaptive Option for Auto Weld Selection

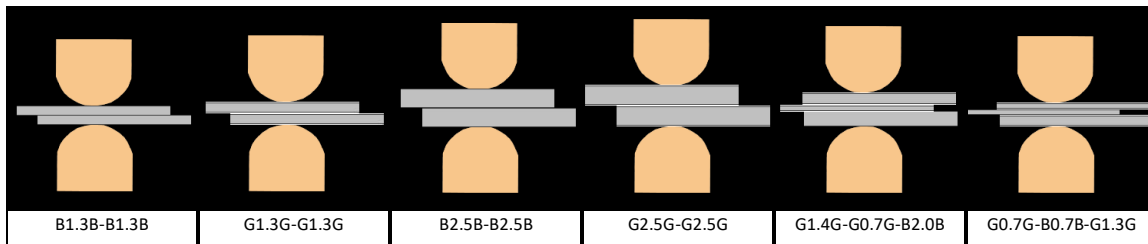
WTC's **RAFT™** system (*Resistive Adaptive Feedback Technology*) is used for manual operations dealing with multiple stack-up applications with a single weld initiate trigger button and removes operator responsibility for weld schedule selection. It is difficult to ensure that the operator will select the proper weld schedule when there is more than one weld schedule to select. **RAFT™** automatically sets the weld current and weld time to achieve a quality weld. The weld gun validation procedure can be simplified as follows:

- Determine the variations of welding requirements at the station
- Arrange the requirements from the lowest to highest weld current profile
- Set up a flash free weld for the lowest current profile in current regulation
- Reference this weld for all ranges of metal combinations at the station
- Test each metal combination for desired weld nugget size

### Example of Variations

B1.3B - B1.3B  
 G1.3G - G1.3G  
 B2.5B - B2.5B  
 G2.5G - G2.5G  
 G1.4G - G.7G - B2.0B  
 G.7G - B.7B - G1.3G  
 G.7G - G1.3G - B1.3B  
 G.7G - B1.3B - B.9B

Can one trigger do all these variations ? **Yes!**



The DCIT **RAFT™** Adaptive Station takes the decision making away from the welding operator.

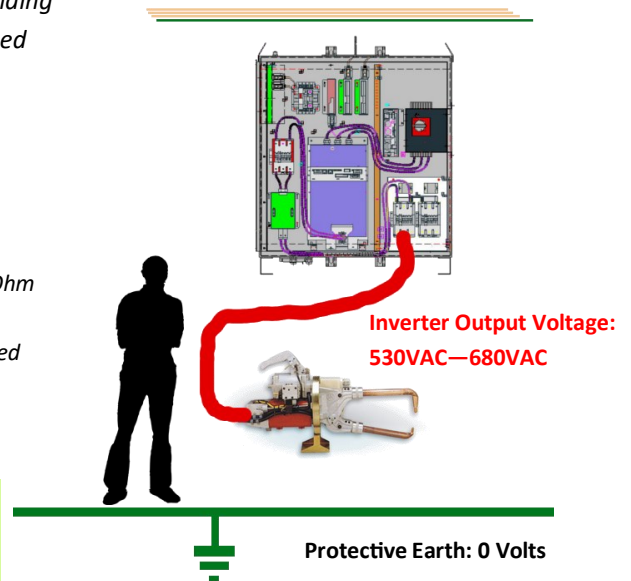
# Unsurpassed Operator Safety in Industrial Environments

Using a DC Integrated Transformer weld gun, the operator is holding approximately 700 volts in his hands. The DCIT station is designed with unsurpassed multi-function protection system designed specifically for resistance welding applications.

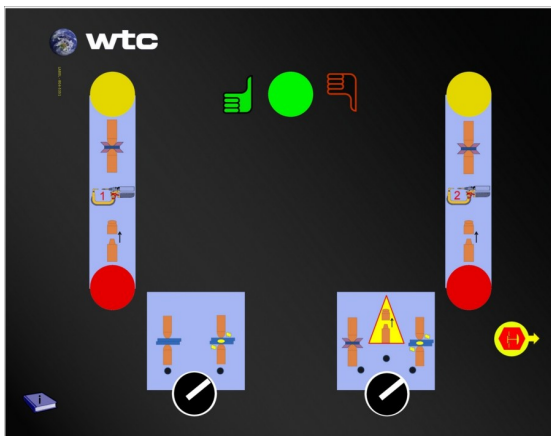
- Each weld gun has 2 redundant ground fault monitoring coils
- Detects ground currents from 10mA to 30mA
- Protective Ground Cable Integrity continuously monitored < 1 Ohm
- Protective Power Cable Shield Integrity continuously monitored < 1 Ohm
- Power Cable Insulation monitored > 250M Ohm
- Excessive Voltages on Protective Earth Circuits continuously monitored
- Complete System Check on Power Up - Maintains Dual Redundancy
- System Check on Demand by Push Button

Most Dual Redundant Ground Fault Safety Systems used in global automotive assembly plants are provided by WTC.

Weld Bus Mains: 3 Phase - 380VAC - 480VAC



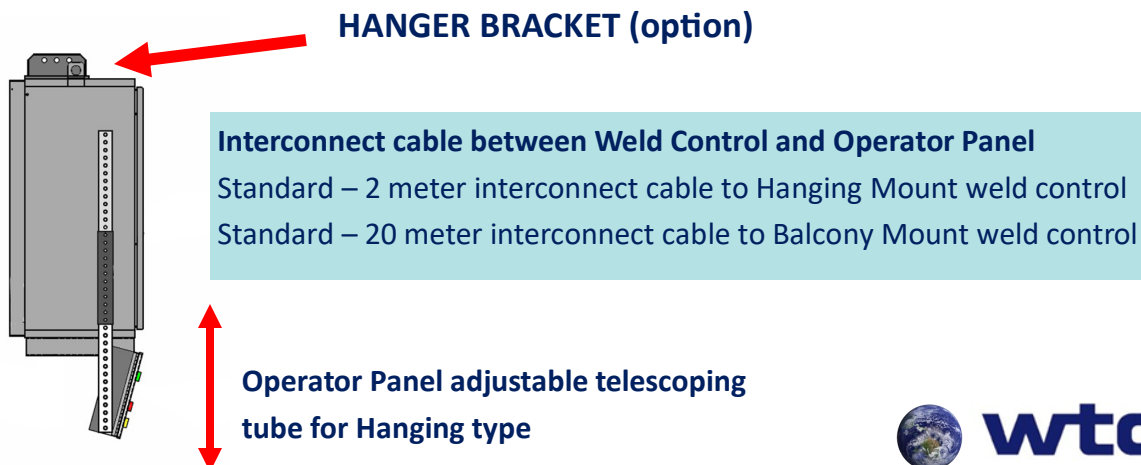
## Operator Panel for Electrode Management



Effective management of electrode caps for 2 welding guns.

- One Green push button light - Ready to Weld, No Fault, Fault Reset
- Two Yellow push button lights - Tip Dress Request, Reset to Dress Position
- Two Red push button lights - Cap Change Request, Stepper Reset
- 2-Position Selector Switch: Weld Mode, No Weld Mode
- 3-Position Selector Switch: Weld, Cap Change and Tip Dress Operation
- Control Stop Push Button for resetting gun station system

## Two Mounting Configurations: Hanging & Balcony Mounting



# DCIT Gun Station Specifications

Power Source	
Voltage:	3-Phase AC 220V - 480V (± 10%)
Line Power Frequency:	50/60Hz (Automatic Selection)
Alternate Configuration:	Optional: 575V (± 10%)
Output Frequency:	1,000 Hz (Programmable Range = 400Hz - 2,000Hz)
Output Current at 10% Duty Cycle:	600/500 Amps, Water/Air Cooled
Device Type:	IGBT
Power Consumption:	70VA (Idling Condition)
Processor	
Weld Processor:	WT6000 Integrated
I/O Protocol:	Discrete I/O
Optional I/O Protocol:	Ethernet IP 10/100BASE T Device Net, PROFINET, PROFIBUS for weld counting
Onboard Inputs:	2 x 24VDC
Onboard Outputs:	3 x 120VAC
Number of weld schedules:	255
Number of steppers:	32
Processor Storage Type:	F-RAM (No Battery Required)
Weld Processor Languages:	English, French, German, Spanish, Portuguese, Chinese, Korean, Polish
Monitoring and Control Functions	
Firing Control:	Fixed Frequency, Pulse Width Modulation
Firing modes:	Primary Constant Current Secondary Constant Current Voltage Control
Primary Current Range:	20A to Rated Current Level
Primary Current Accuracy:	± 1% Setting, ± .5% Repeatability
DC Bus Voltage	± 1% Setting, ± .5% Repeatability
Measurement Accuracy:	
Secondary Current Accuracy:	± 2% Setting, ± 1% Repeatability
Secondary Voltage Accuracy:	± 3%
Secondary Resistive Accuracy:	± 3%
MFDC Transformer Flux Protection:	Included
Digital Scope Function:	1 MHz Equivalent Uploads to PC
Duty Cycle Protection:	Inverter and Weld Transformer Duty Cycle
MFDC Weld Transformer Monitoring:	Diode Monitoring

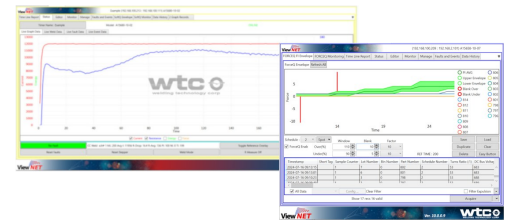
Data Entry Panel



Network Programming



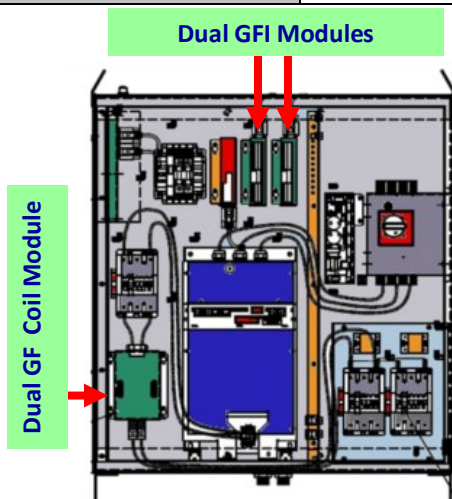
View-R Network



Configurations

Dual Gun - Hang Mount	A601-0010
Dual Gun - Balcony Mount	A601-0020
Single Gun - Hang Mount	A601-0030
Single Gun - Balcony Mount	A601-0040

Dual GFI Modules



Crating Information for DCIT



Crates measure  
114W x 114L x 114H (cm)  
weighing 186Kg each

4 DCITs in 4 crates  
stacked 2 high

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