



## CHAMPTIG 500 AD

The World Class Inverter based AC / DC Pulsed / Mixed Pulsed TIG Welding system



CHAMPTIG500AD is an I.G.B.T inverter welding power source suitable for TIG (AC & DC) welding application. The IGBT power module, high frequency transformer and fast recovery diode, HF choke are used as key device for power conversion and transmission to assure better efficiency and performance. CHAMPTIG 500 AD power source has constant current characteristics (CC), which is mainly suitable for TIG (AC & DC) welding with normal as well as pulsed mode of operation and for MMA welding also. The complete system consists of Power Source, torch and interconnecting cables. Argon gas is used for shielding weld metal against external atmosphere in TIG mode.

### SALIENT FEATURES

- Latest High Frequency Inverter based technology with constant output current suitable for both TIG (AC & DC) and MMA welding operation
- Positive (DC+) & negative (DC-) polarity selection in MMA mode
- Option of HF ON & HF OFF in TIG mode, hence also suitable for scratch start in TIG mode
- Built HF ignition for easy arc striking.
- Welding process, mode selection and parameter adjustment by using keypad and multi function encoder provided on digital frontpanel
- 7 segment LED display for actual current display & 7 segment LED display for actual voltage display & LCD display for other parameter display setting
- Anti stick function to protect the machine from short circuit condition in MMA mode.
- CRATER OFF (2T), CRATER ON (4T), SPOT, CYCLE mode of operation (TIG).
- Available with Cleaning width control and AC offset adjustment and AC frequency setting for AC TIG welding application.
- Adjustment of pulse current, pulse frequency, pulse width, AC current, AC frequency, cleaning control and AC offset, it can meet the requirement of seam depth, width and ripple, which can prolong the using life of tungsten electrode.
- Option of Remote-control unit for setting current remotely in MMA and TIG mode
- Option of Foot switch control regulator for setting current in TIG mode
- The outfit is provided with Water Cooling Unit and 500 Amp capacity Water cooled TIG Torch for heavy-duty TIG Welding

### PROTECTION

**The Equipment is provided with following protections:**

- Under Voltage: TRIP LED (Red) glows if supply voltage goes low (< 340VAC.)
- Over Voltage: TRIP LED (Red) glows if supply voltage goes high (>470 VAC).
- Over Temperature: TRIP LED (Red) glows if the temperature of the main power components is over the safety limits
- Single phasing protection: If any one of the three phases (R, Y, and B) is absent, welding will stop, and TRIP LED (Red) will glow Welding current wouldn't be available when TRIP LED (Red) glows.

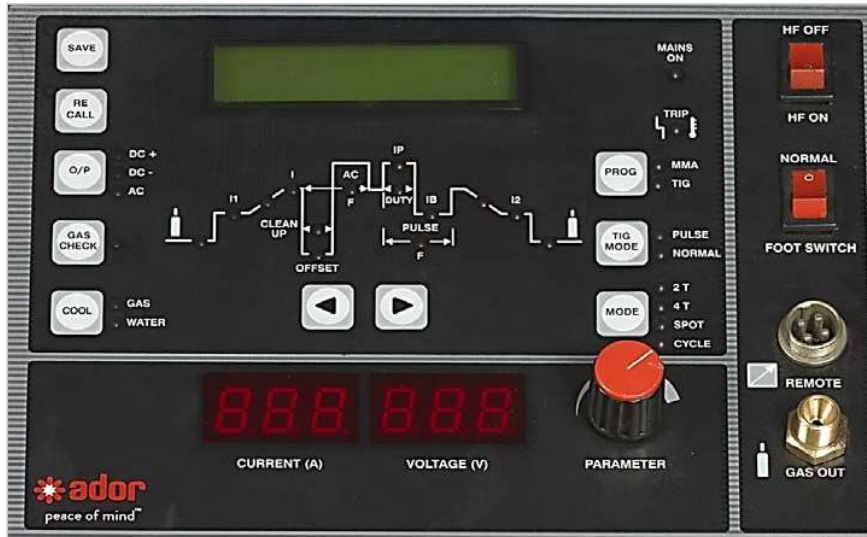
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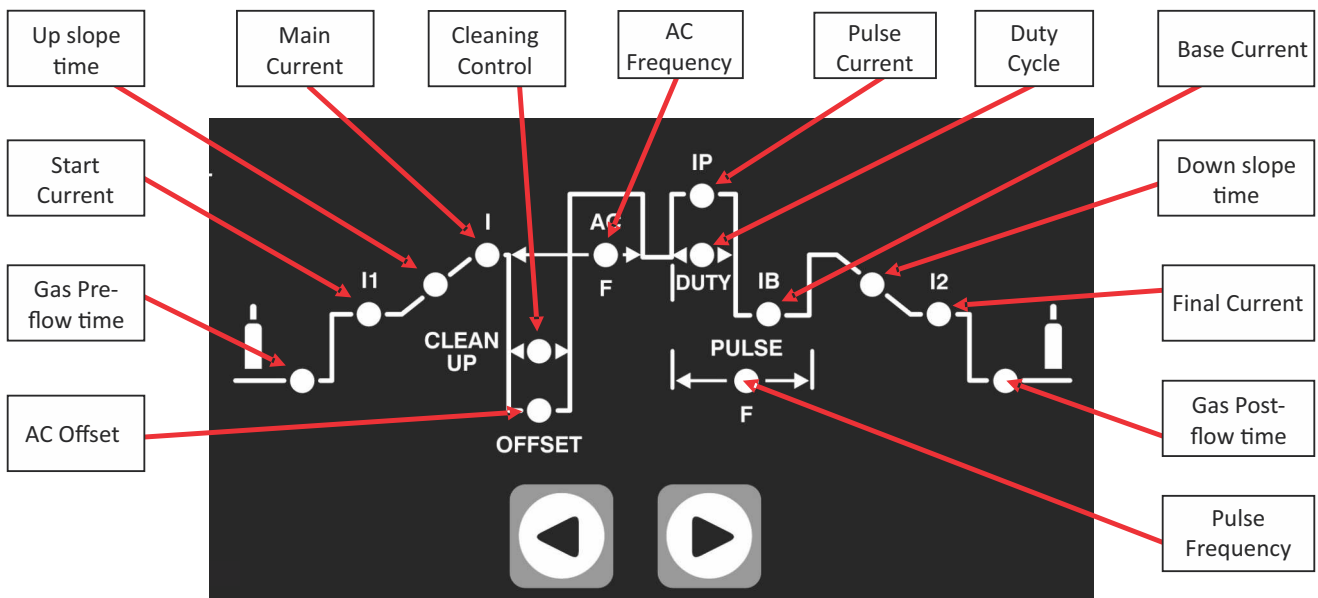
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### CONTROL PANEL



### PARAMETER SETTINGS AND ADJUSTMENTS



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### TECHNICAL SPECIFICATIONS - POWER SOURCE

Parameter	Unit	Value
<b>Input</b>		
Supply Voltage, phase, frequency	Volts, AC	415 V +15%, -10%, 3 Phase, 50 / 60 Hz
Input Power @ 415 AC	KVA	
@ 100 % Duty Cycle	KVA	MMA Mode - 19, TIG Mode - 15
@ 60 % Duty Cycle	KVA	MMA Mode - 26, TIG Mode - 20
@ 35 % Duty Cycle	KVA	MMA Mode - 34, TIG Mode - 27
Input Current @ 415vac	Amps, AC	
@ 100 % Duty Cycle	Amps, AC	MMA Mode - 26, TIG Mode - 21
@ 60 % Duty Cycle	Amps, AC	MMA Mode - 36, TIG Mode - 28
@ 35 % Duty Cycle	Amps, AC	MMA Mode - 47, TIG Mode - 38
Efficiency	%	UP TO 82
Power Factor		0.8 Max
<b>Output</b>		
Open Current Voltage @ 415v Input Supply	Volts, AC	78 V DC (+/-5 V)-DC MMA, TIG; 78 V AC (+/-5 V)-AC TIG
Welding Current Range	Amps	MMA Mode 50 - 500, AC / DC TIG Mode 20 - 500
Welding Current At 40deg C, 10 Minute Cycle		
@ 100 % Duty Cycle		310
@ 60 % Duty Cycle		400
@ 35 % Duty Cycle		500
<b>General</b>		
Remote Controller / Foot Switch Controller	10 Meter	Provided As Optional For Current Setting.
Protections		Over Voltage, Under Voltage, Single-phase, Over-temperature Protection.
Front Panel Functions		<b>1.</b> Selector Switches For Selection of: MMA / TIG, 2T / 4T / Spot / Cycle, Dc+/dc-/ac Welding Method, NormPulse / Normal Mode, Hf On / Off, al / Food Switch Control, Water / Gas Cooled Torch Selection

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		<p><b>2.</b> Gas Check Switch</p> <p><b>3.</b> Menu Switch For Selecting All Functions Via. Gas Pre Flow Start Current, Upslope Time, Base Current, Pulse Current, Down Slope Time, Crater Current, Gas Post Flow Time, Cleaning For Ac, Ac Frequency, Ac Offset, Pulse Width/ Spot Time, Pulse Frequency As Per Selected Mode of Operation.</p>
		<p><b>4.</b> Connect For Torch Switch, Foot Switch, Remote, Gas Out, Camlock Power Output</p>
		<p><b>5.</b> Mains On 'green' Colour And Trip 'red' Indication</p>
		<p><b>6.</b> Encoder For Selected Parameter Value Increment Decrement</p>
Cooling	Type	Forced Air
Class Of Insulation	-	H
Degree Of Protection	-	IP23(S)
Dimension (L x W x H)	mm	780 X 355 X 620
Weight (Approx.)	Kg.	66

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### THE WELDING PARAMETER SETTINGS

Parameter	Unit	Value
Gas Pre Flow Time	Sec.	0 - 5
Initial Welding Current - TIG	Amps	20 - 500
Current Upslope Time	Sec.	0 - 10
Base Current TIG	Amps	20 - 500
Pulse Current (TIG)	Amp.	20 - 500
Pluse Width	%	10 - 90% Of Pulse Time Period (1 Second - 2 Milisecond)
Pluse Frequency	Hz	1 - 500
Cuurent Downslope Time	Sec.	0 - 10
Crater Current (tig)	Amps	20 - 500
Gas Post-flow Time	Sec.	0.1 - 20
Sopt Time	Sec.	1 - 10
Cleaning Control		-40 to +40
Ac Frequency Control	HZ	20 - 50
Ac Frequency Control	%	-50 to +30

### SPECIFICATIONS OF WATER COOLING UNIT

Parameter	Unit	Value
Input Supply	V AC	230
Phase	No.	1
Frequency	Hz	50
Cooling Capacity	W	750 - 1000
Maximum Motor Power	W	220
Maximum Pump Pressure	Bar	2.5
Maximum Pump Flow Rate	L/Min	10
Tank Capacity	L	8
Connector Size	In/Out	1/4" BSP, 19TPI
Dimensions (L x W x H)	Mm	560 X 325 X 285
Weight	Kg.	18

- **Warranty:** One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorized Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.