

# TFi DIGITAL INDUCTION POWER SUPPLY

*Precision Power Converters for Heating Applications*



The TFi series of converters from Radyne offers a selection of power and frequency combinations suitable for most induction heating applications.

Applications suited to the rugged, reliable and flexible TFi series includes:

- **Surface Hardening**
- **Joining Processes**
- **Bonding**
- **Shrink Fitting**
- **Wire Heat Treatment**
- **Cable Preparation**
- **Crystal Growing**
- **Silicon Processing**
- **Melting**
- **General Induction Heating Applications**

Radyne TFi Converters utilise high efficiency IGBT power semi-conductors with faster switching characteristics, ideally suited to induction heating applications between **3 - 50 kHz**.

The performance of the TFi series tuned output circuit can be matched to the working load by selecting the appropriate output tapping and amount of capacitance built into the converter to suit the required coil configuration.

The compact design of the TFi series ensures that it can be easily installed into process lines or manufacturing cells. Alternatively the converter can be intergrated into the construction of a free-standing induction heating machine.



## CONSTRUCTION

The complete range of TFi converters is constructed using modular power transistor assemblies rated at **60 & 250 kW**. By using one, two or more modules, an extensive range from **20 kW to 2000kW** is available using a limited number of external cabinet sizes.

Available with nominal output frequencies of **3, 10, 30 and 50 kHz** the TFi range is produced in two versions suitable for both high and low impedance load conditions likely to be encountered in the majority of industrial process heating applications.



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## FEATURES

- Flexible operation to wide range of heating loads
- Operating conversion efficiency up to 95%
- Easy to install and operate
- Meets latest European safety & EMC standards
- Accepts cooling water up to 40°C

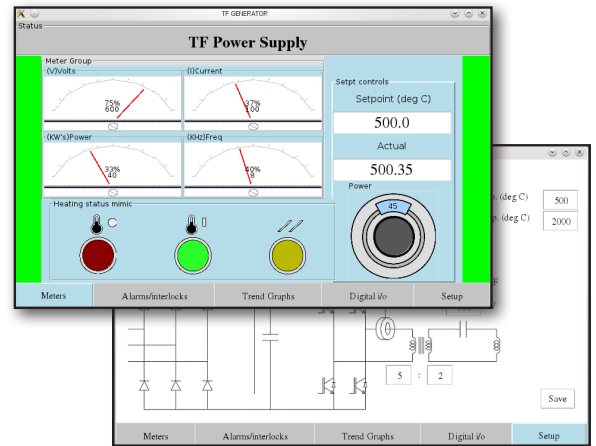
## BENEFITS

- Compact, very small footprint for high power capability
- Quick start-up and ramp to full power
- Simple water cooling requirements
- Fully self-protecting high reliability

## DIGITAL CONTROL SYSTEM

Radyne has developed the TF-i series to include a digital control system which provides a number of benefits to the user.

- Advanced digital control system utilising Dual Core ARM processors
- Digitally controlled frequency output
- Precision set-point power control
- Programmable frequency ramp control
- Modular design with multiple interface diagnostics
- Internal data logging and monitoring of critical process parameters



## COMMUNICATION & INTERFACE

- Selectable communication options:
  - Local
  - Remote
  - Ethernet
  - RS-232
- Selectable control options:
  - Kilowatts
  - Voltage
  - Current
  - Temperature
- USB Port for easy data download / upload
- Micro SD Port (2GB)

## DISPLAY HARDWARE

- 7 Inch colour LCD touch screen display (Optional 12 inch)
- Selective digital / analogue metering for enhanced flexibility
- Diagnostics display showing digital I/O and analogue status
- Trend graphs for a selection of essential process parameters
- Energy consumption monitoring
- Auto-tune / load matching teacher programme
- Local recipe storage, for standalone application
- Easy communication with user's production PLC



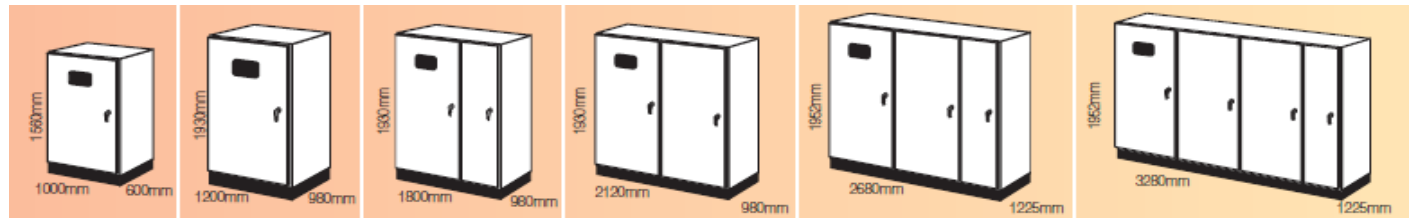
Leading Manufacturers of Melting, Thermal Processing and Production Systems for the Metals and Materials Industry Worldwide.

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## CABINET SPECIFICATIONS



## CONVERTER TYPE

75TF3	300TF3	750TF3	800TF10	1000TF3	1500TF3
150TF3	500TF3	600TF10	520TF30	1200TF10	2000TF3
250TF3	240TF10	390TF30	400TFP50	800TF30	1600TF10
60TF10	400TF10	300TFP50			1040TF30
120TF10	160TF30				
200TF10	260TF30				
40TF30	200TF50				
80TF30					
130TF30					
50TF50					
100TFP50					
150TFP50					

## NOMINAL OUTPUT POWER AVAILABLE

	kW				
	0	1000	2000	3000	4000
	75			2500	
<b>3 kHz</b>	TF				
	60		2000		
<b>10 kHz</b>	TF				
	40	1300			
<b>30 kHz</b>	TF				
	50	440			
<b>50 kHz</b>	TFP				

Inductotherm Heating & Welding Ltd  
Thermatool House Crockford Lane  
Basingstoke Hampshire RG24 8NA ENGLAND

+44 (0)1256 335533  
info@inductothermhwh.co.uk  
www.inductothermhwh.com