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Inverter Technology

What is an inverter? How does it work?
Why is it so small?

The size and weight of a standard transformer is directly proportional to the current and frequency required to flow through it. This size in turn governs the overall size of the welding unit. Inverter technology has changed this basic rule.

An inverter is an electronic welding power source that takes the incoming mains at 50Hz, rectifies it, chops it into small pieces at a frequency between 8K and 40K Hz, transforms it again, rectifies it again and uses the resultant output.

There is a feedback control loop to regulate the machine.

In the technology of transformer design there is a relationship between the frequency (Hz) of the wave form to be transformed and the size of the transformer. The result of chopping the 50Hz incoming mains into small pieces means that only small amounts are transformed at a time and therefore the transformer does not need to be so big.

Another advantage is the rapid response time inverters offer now. Instead of 50 opportunities per second to make a change in parameters there are now up to 40,000.

Tradesarc 131i

The Tradesarc 131i is the result of 15 years of experience in the design and manufacture of inverter based, portable welding rectifiers. Weighing only 11 kilos and being equipped with a carrying handle/shoulder strap the 131i is the perfect "go anywhere" repair and maintenance tool.

Although compact, the Tradesarc 131i is packed with features rarely found on equipment of this level such as automatic arc force for excellent welding properties and an anti-stick, hot start function to ease weld starts. Even with sophistication, operation couldn't be simpler. The welding amps are set using a single control knob. The body of the Tradesarc 131i is made from a light, yet impact resistant moulded material, ensuring compliance to IP23, the safety legislation which governs a product's suitability for indoor or outdoor use. In addition to the MMA welding facility, by adding the optional Scratch Start Kit the 131i can be used for TIG welding on a range of mild and stainless steels.

All things considered, the Murex Tradesarc 131i is a very impressive repair and maintenance welding package designed to give excellent service in all light duty MMA and TIG welding applications.

- Mains voltage compensation
- Automatic arc force and anti-stick hot start function
- Overload protection warning light
- Conforms to IEC 974 and IP23
- CE Approved
- 240V single phase supply with 16A fuse (can be used with 13A supply up to 100A)
- Double insulation for maximum safety
- HF suppression for interference elimination
- Available with optional scratch start TIG kit



MMA Welding

Suitable for use with a range of alloyed and non-alloyed steels, stainless steel and cast iron, the Tradesarc 131i will run most electrodes from 1.6mm - 3.2mm in diameter. The built-in Arc Plus regulator gives an intense, yet stable arc which is easy to control.

TIG Welding

The addition of the "Scratch Start" Kit consisting of a regulator, flowmeter, TIG torch and accessories enables the 131i to be used for TIG welding with a range of thin mild and stainless steel plate.

Package Contents

Tradesarc 131i inverter power source with 3m mains cable, work return cable and welding cable.

Ordering Information

Tradesarc 131i	
MMA package	1415294
Optional extras:	
TIG Scratch Start Kit	1412652



Technical Specification	Input	Output	
	Mains voltage 240V Frequency 50/60 Hz Phase 1	Current range 3A/20V -130A/26V Rating 35% Duty 130A/25V 60% Duty 100A/24V 100% Duty 75A/23V Open Circuit voltage 60V	Standard EN 60974-1 Insulation Class F Protection Class IP 23
Dimensions	Length	Width	Height
	450mm	131mm	245mm
			Weight
			11Kg Net