

Introducing WSD81i

Weller®



Features

- Standby time
- Offset (temperature offset)
- EOS Safe Process Safe
- Temperature version °C/°F
- Password (lock function)
- Temperature window (WINDOW)
- Factory Setting – FSE

Cost Benefit

- Moderate station cost
- Low running cost via LT tips
- Long life heater – NiCr Technology
- Minimal energy consumption

‘Low cost’...really?

Many users are prompted to exact purchase of so called low cost stations, or low initial purchase price. However, it's best to understand what one is actually paying for. Consider a common brand in the market as a comparison.

Brand	Low Cost Stations (LC)				Weller (W)				W vs LC
Model	X				WSD81i				
Country of Origin	X				Germany				
Market Price USD\$ - Station*	\$				\$ _s				LC
Market Price USD\$ - Tips*	\$				\$				Same
Control Electronics	Digital				Digital				Same
Heating Technology	PTC Ceramic				Nichrome heating				W
Soldering Iron - Power (W)	70W				80W				W
Act. Power during start up (W)	170W				90W				W
Act. Idle Power after start up (W)	60W				25W				W
Performance - Heat up to 380°C	70 secs (170 Watts)				15secs (90 Watts)				W
Temperature Response (Slug*)	Slug	1	2	3	Slug	1	2	3	
	Secs	23.8	23.6	22.6	Secs	14.1	13.1	14.1	W
Multi tool connectivity	No				Yes				W
EOS / Potential Balancing	No				Yes				W

Why choose Weller® vs Low cost stations



Energy saving: Low power consumption during start up and after start up when iron is not in used. Power on demand: which sense the thermal requirement for each solder joint size. Variable and adequate power according to the application. Reducing power consumption. No high steady power if it is not required.

Low Cost: Conventional soldering irons are fixed power systems that store energy in their tips. They do not adjust power in response to thermal demand. Steady and high power consumption when it is not necessary.



Weller using Platinum Temperature Sensor: Resistance-temperature relationship holds true over extended periods of time. The most accurate sensor offering a brief response time, a high resistance against vibration and temperature shocks and the best long-term temperature stability. There is no temperature drift through ageing. No need for calibration.

Low Cost: Thermocouple long-term stability is somewhat worse (temperature shift over time), the measuring accuracy is slightly poorer. Calibration has to be done regularly.



Heater technology: Nichrome specific high precision heating bifilar wire wounded around a pure silver core for best thermal conductivity heats faster, evenly and recovers better than ceramic heater. The drop in temperature is significantly lower. Storing energy into a large silver core offers best thermal conductivity, maximum energy storage and longer life of heating element.

Low Cost: Slower heat up time and high drop in temperature are usually a strong indicator of the heater's capability and higher energy load. Ceramic heaters generally tend to be more frail & brittle – Increase cost of heater change / annum.



Soldering process: Iron works on "precise tip temperature setting and automatic power on demand" principle. Goal is to solder joint quality as per IPC within the fastest period at lowest temperature. Controlling solder tip temperature with adequate heat transfer is essential for creating reliable solder joints and avoiding damages on SMD sensitive component.

Low Cost: Operators adjusting station temperature to maximum to compensate low temp recovery. Reducing tip lifetime, high energy cost, may cause change in electrical characteristics, damage to electrical parts (such as loosening of terminations), softening of insulation, opening of solder seals and weakening of mechanical joints, risk of pad pattern lift up.



EOS – Electrical Over Stress / Potential balancing possible: Unique grounding management possibility to prevent noise, interference & undesirable current to component. EOS safe soldering iron.

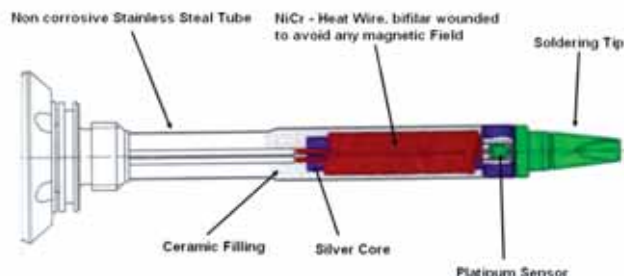
Low Cost: The vast majority of conventional irons have no separate//independant grounding wire and therefore no alternative to be connected directly to the main ground via low impedance; "Hard Grounding". Safe soldering process is not secured. Transient/voltage signals providing from power line ground can damage sensitive components.



Multi tools Connectivity: Connectivity of several tools possible. Iron, heated tweezers, preheating platte, soldering bath. One station controlling various soldering/dessoldering tools.

Low Cost: Nil

Durability, Reliability & Repeatability



Weller Soldering Tips

Designed at Weller's German Research and Development Centre, Weller tips meet most thermal requirements in terms of design and durability. Coupled with the excellent heating technology from Weller, these tips provide a low cost and effective soldering results from a wide selection of tips.

