

# UUG-050

The UUG-050 ultrasonic generator series with auto-tune function is designed for all fine wire bonding and low pin count die bond applications. It is a hybrid-controller based system with direct digital synthesis of the ultrasonic sine wave and a full digital phase lock loop control. It operates over a wide frequency range from 40 kHz up to 200 kHz.

The configurable machine interface makes this generator first choice for all wire bonders makers. The UUG-050 works with all standard fine wire ultrasonic transducers and supports an adjustable ultrasonic output power. Different control loops are implemented.

Configuration of the UUG-050 can be done by a host computer (e.g. bonder control system or PC) using a communication port. Some settings can be selected by DIP switches if necessary.

Diagnostic functions are easily available using the communication port of the UUG-050. Internal data sampling during bonding or online data output is possible.



All models of the UUG-050 series are based at a standard design for the ultrasonic board. The standard system is an external generator in metal housing called UUG-050. The following table shows the main specification for the standard system as well as for some pre-configured special versions. The UUG-050/U can replace an old analogues 10H-P2 generator seamlessly.

UUG-050	UUG-050/B	UUG-050/U	Specification
Standard type	Standard type with more power	Uthe 10H-P2 replacement	<i>Model description</i>
11.5 V <sub>rms</sub>	25 V <sub>rms</sub>	11.5 V <sub>rms</sub>	<i>Maximum output voltage</i>
5 VA / 22 Ω	12.5 VA / 47 Ω	2.5 VA / 47 Ω	<i>Ultrasonic output power</i>
Optimized for ball-wedge and wedge-wedge fine wire bonding & low pin count die bonding			
40 to 200 kHz	40 to 150 kHz	40 to 200 kHz	<i>Frequency range</i>
U, I & P		U & P	<i>Control modes</i>
Full metal housing height: approx. 75 mm / 3 inch (with rubber feet) width: 253 mm / 9.96 inch depth: 250 mm / 9.84 inch weight: approx. 5 kg / 11 pounds			<i>Housing</i>
Integrated AC power supply configurable 115/230 VAC, 50/60 Hz			<i>Power supply</i>
<b>LEDs:</b> error, scan, bond & ready Test button for ultrasonic (front panel) On/Off switch (rear panel) Fuse (rear panel)			<b>User interface</b> <i>Standard controls</i>
8 bit parallel (active lo), 26 wire flat ribbon cable connector		8 bit interface with selectable polarity, 2 programmable channels, SUB-D 25 m	<i>Ultrasonic power input</i>
		Hi/Lo-switch 10-DIP switch /FAIL_RESET CHANNEL	<i>Additional input &amp; controls</i>
		/LOCK_FAIL /TUNED /BUSY	<i>Additional output signals</i>
SUB-D 25 f (rear panel)		Cinch (rear panel)	<i>Transducer connector</i>
USB		USB & RS232 (10H-P2 protocol over RS232)	<i>Communication</i>
PC host software for setup and diagnosis			<b>Optional</b> <i>(Windows 2k / XP / 7 / 10)</i>

### Customization on request:

RS232, RS485 or CAN interface for machine communication, Data output during bond process, Internal data sampling during bond process, Board level version, Individual adaptation of U/S-power, interface or frequency range

**Please contact our sales department for your inquiries.**

F&K reserves the right to change this specification without notice.  
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