

K&S SMART SERIES: GEN-S

The **GEN-S Series** of Ball Bonders from K&S is a brand new series of equipment succeeding the **Power Series** lines of bonding equipment.

In addition to its superior capability in wire bonding, the *GEN-S Series* of bonders marks the introduction of Smart bonding equipment.

AUTOMATIC WIRE BONDER



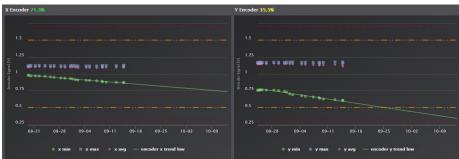
RAPID™ Pro introduces advanced process capabilities, real-time monitoring and diagnostics to ensure the best quality and efficient assembly serving high-performance and high-reliability semiconductor applications.

RAPID™ Pro is the first K&S *GEN-S Series* Automatic Bonder engineered to enable Industry 4.0 communication and is RoHS compliant.

KEY FEATURES

- Real-time Process & Performance Monitoring
- Equipment Health Monitoring
- Advanced Data Analytics & Traceability
- Predictive Maintenance Monitoring & Analysis
- Detection & Enhanced Post bond Inspection
- Latest Response Based Processes
 - ProCu-6, ProAu-2, ProAg
 - PSP-Cu, PSP-Ag
 - ProCu Loop







Real-time Process Monitoring



TECHNICAL SPECIFICATIONS

WIRE BONDING CAPABILITY

Ultra Fine Pitch

35 µm inline bond pad pitch

Wire Size

0.6 mil to 2.5 mil copper, silver, or gold wire (heavy wire kit needed for wire diameter > 2.0 mil)

Bonding Area

X Axis: 56 mm

Y Axis: 80 mm (Standard), 87 mm (LA), 90 mm (ELA)

Total Bond Placement Accuracy

2.0 µm @ 3 sigma

Pattern Recognition/Optics/Vision

Higher Resolution Progressive Scan Vision System

CCD Camera

- Dual Magnification Optics (standard: 2x & 6x)
- Optional Programmable Focus for High Magnification

Premium Processes

New - ProCu-6 and ProAu-2

Pro Series - ProBond, ProStitch PLUS, ProLoop, and ProCu SSB

Program Compatibility

Compatible with all standard processes from existing models Process programs are NOT backwards compatible. Programs taught on a new bonder model will not run on an older bonder.

LOOPING CAPABILITY

Maximum Wire Length

7.6 mm with 1.0 mil wire

3.0 mm with 0.6 mil wire

Minimum Loop Height

Ultra-low loop with Power Series Low Loop

40 µm with 0.6 mil wire

Wire Sway

Wire length < 2.54 mm: 25 µm @ 3 sigma

Wire length > 2.54 mm: ± 1% wire length @ 3 sigma

SET UP & CONVERSION TIMES

If Wire Type remains unchanged, the time estimated below applies. If Wire Type changes, the time estimated would be doubled.

Same Leadframe Type: < 4 min

Heat block insert & clamp changes, program load from disk

Different Leadframe Type: < 8 min

Leadframe width & length changes, magazine size change, heat block insert & clamp change, program load from disk

CONNECTIVITY ENHANCEMENTS

Standard - K&S Connect

K&S *Connect* enables automatic transfer of data generated by RPM for future traceability.

Optional - KNet PLUS

KNet *PLUS* improves efficiency and productivity, by monitoring equipment status in real-time. It collects data and controls process programs locally or from anywhere on a customer's network. Contact your K&S Sales Representative to learn more.

MATERIAL HANDLING CAPABILITY

Package/Leadframe Dimensions

Length: 90 to 300 mm

(L/F shorter than 100 mm will require optional injector kit and

short magazine kit)

Width: 15 to 92 mm (Standard)

15 to 95 mm (LA) 25 to 100 mm (ELA)

Thickness: 0.10 to 1.1 mm
Die Pad Downset: Up to 2.3 mm

Magazine Dimensions

 Width:
 20 to 110 mm

 Length:
 127 to 305 mm

 Height:
 50 to 178 mm

 Slot Pitch:
 1.27 to 25 mm

 Max. Weight:
 5.22 kg

MAN-MACHINE INTERFACE

Monitor

21.5" color LCD display

Durable Control Panel

Function keys and dedicated buttons, and user-friendly mouse.

Industry-Recognized User Interface

Simple pull-down menus. Color-overlays of wire groups for easy programming and teach.

FACILITY REQUIREMENTS

Minimum Air Pressure

3.52 kg/sq cm (50 psi)

Nominal Air Consumption (flow rate)

185 liters/min @ 4.6 kg/sq cm (6.5 CFM @ 65 psi)

Cover Gas Consumption for Cu & Ag wire bonding (flow rate)

Minimum 0.6 liters/min Maximum 1.5 liters/min

Nominal 1.1 liters/min

Input Voltage

Standard

200 - 240 VAC; - 15% to + 10% Single Phase 50/60 Hz (± 3 Hz)

Optional

100 - 115 VAC; - 15% to + 10% Single Phase 50/60 Hz (± 3 Hz)

Power Consumption

1.5 KVA (nominal), 2.6 KVA (max.)

Footprint

Base machine with MHS

889 mm wide x 1009 mm deep (35" x 39.7")

Weight (estimated)

Machine: 590 kg (1300 lbs)
Machine & Crate: 670 kg (1477 lbs)





