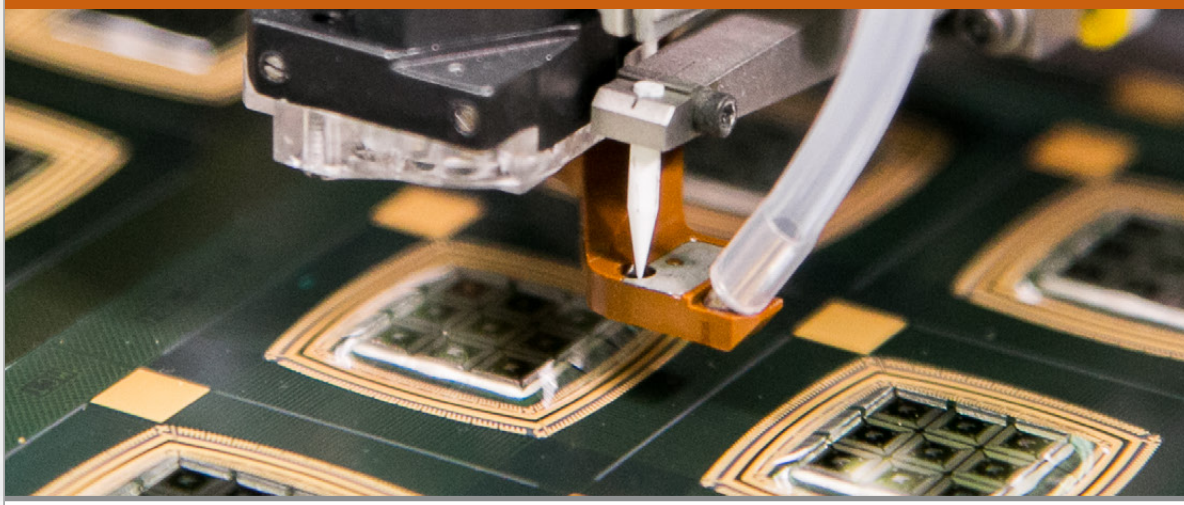
力

Power Series



*The **Power Series** of Semiconductor Assembly Equipment from K&S has established itself as the leading capability in package assembly. These products reinforce two key principles, the **Powerful** performance built into these products, and the Power of K&S as the Technology Leader of its market space for more than five decades.*

*The **Power Series** has set new standards for performance, productivity, upgradeability, and ease of use. The technical success and customer acceptance of the **Power Series** of products since their introduction are evidence of the K&S continued commitment for providing products with the Power to handle not only today's most challenging packaging applications, but also tomorrow's.*

From K&S — the most Powerful name in Package Assembly

IConn PS ProCu PLUS™

ELA

For Copper Today, PLUS Tomorrow

IConn^{PS} ProCu *PLUS*$_{TM}$ ELA (Extended Large Area) is the new State-of-the-Art in Copper Wire Bonding. With its upgraded and enhanced subsytems, it is engineered to deliver all the capability you will need — *For **Copper** today, **PLUS** tomorrow*.

The **IConn ProCu *PLUS* ELA** with an extended bondable area of 90 mm on Y-axis, is prepared to handle all leading edge copper bonding challenges.

Our new ProCu5 process offers the highest level of Copper Process Capability available. It has many added controls and improvements over all existing ProCu processes. ProCu5 enables robust wire bonding production for Advanced node wafers down to 28 nanometer or below.

Features

- Extended bond area of 56 mm x 90 mm
- ProCu Bond and ProCu SSB Processes (Patent Pending) New Easy to Use — Response Oriented Copper Processes with Higher UPH for most applications.
- Enhanced Gas Delivery System design for optimal Free Air Ball Formation and the most optimal level of cover gas consumption.
- Programmable Pneumatics Gas Regulation and Metering.
- Pro-Process library Files and Functions — Recommended Copper Bonding Processes for 1st and 2nd bonds, and Looping. With Easy to Use tools for storing, cataloging, and re-using golden processes.

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Technology . Innovation . Solutions

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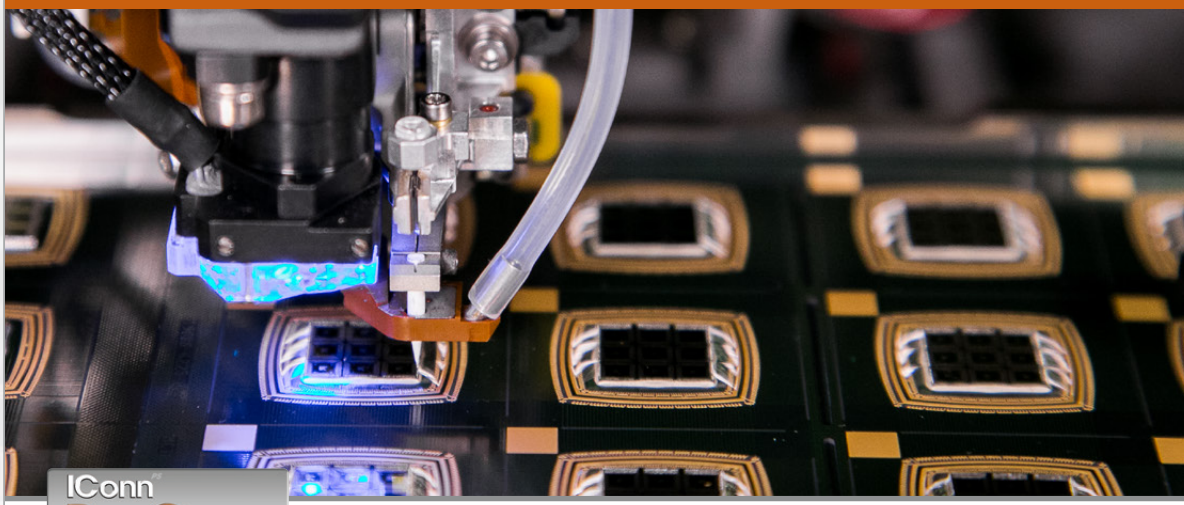
力 Power Series



IConn ProCu PLUS

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Power Series
Wire Bonders include:

- 力 User interface that retains the familiar K&S look and feel; minimal training needed to become familiar with new performance enhancing and productivity increasing features
- 力 CE Certification
- 力 Semi S2 Safety Certification*
- 力 Semi S8 Ergonomic Certification*
- 力 Semi E10 Compliance for Run Time Statistics and MTBA /MTBF calculations
- 力 Upgradeability with Power Pack Upgrade Kits
- 力 Programmable Power Supply System to bond through factory power spikes or dips
- 力 Industry leading K&S Tray and Gripper Magazine Handling system
- 力 Full KNet PLUS compatibility and readiness

** Tested to SEMI S2-0706 (Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment) and S8-0705 (Safety Guidelines for Ergonomics Engineering of Semiconductor Manufacturing Equipment)*

COPPER WIRE BONDING CAPABILITY

Ultra Fine Pitch
40 µm pitch
0.6 mil to 1.2 mil copper wire

Gold Wire Pitch Capability in Copper Configuration
35 µm pitch with 0.6 mil gold wire

Bonding Area
X Axis: 56 mm
Y Axis: 90 mm

Total Bond Placement Accuracy
2.0 µm @ 3 sigma

Pattern Recognition/Optics/Vision
Progressive Scan Vision Engine
CCD Video Camera
- Dual Magnification Optics (2x & 6x)
- Optional Programmable Focus for High Magnification

Standard User Processes
Compatible with all Legacy Processes
Power Series Loops
The Pro Series - Pro-Bond, Pro-Loop, Pro-Stitch ProCu Bond and ProCu SSB
Pro-Process Library
On Bonder Pull Test - 1st bond and 2nd bond tail pull

Compatibility
Power Series bond programs are upwardly compatible with IConn ProCu *PLUS* models - optimization on the newer bonder is recommended for full performance
Process Programs are NOT backward compatible. Programs are taught on a new bonder model will not run on an older model.

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)

KNET PLUS ASSEMBLY EQUIPMENT NETWORK

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
Width:	25 to 100 mm
Thickness:	0.20 to 0.90 mm
Die Pad Downset:	Up to 2.3 mm

Magazine Dimensions

Width:	30 to 106 mm
Length:	95 to 305 mm (Magazines shorter than 125 mm require optional short magazine kit)
Height:	50 to 178 mm
Slot Pitch:	1.27 to 25 mm
Max. Weight:	5.22 kg

MAN-MACHINE INTERFACE

Monitor
17" 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 (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)

Technology Innovation Solutions®

For sales, service and manufacturing locations, visit **www.kns.com**

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