

# SW-D600S-48/Motor Drive Ultrasonic Small Metal Welder



## Compact and High Performance with Various Monitoring Function For Cu·Al Thin Wire Harness and Foil Welding

- High Frequency 48kHz/High Power 600W for Metal Welding
- High Resolution Motor for Fine Control
- Various Control Mode for Various Welding
- Various Monitoring Function for OK/NG Judgement
- Easy Operation by Touch Panel



### ◆ Displacement Control for Good Appearance and Stable Strength

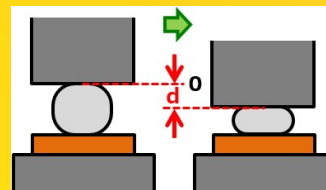
#### Various Control Mode

- Peak Power
- Energy
- Time
- Continuous Oscillation
- External Sensor  
Displacement Sensor  
Thermal Sensor and etc.

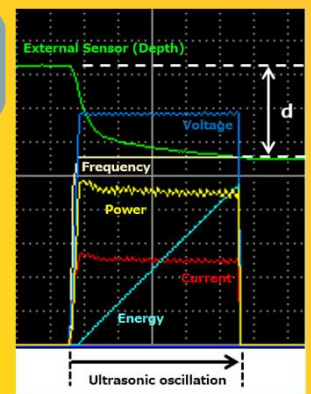
#### Displacement Sensor



#### Depth Control (Horn Subduction Amount)



Oscillation is stopped when depth amount reaches to set value from oscillation start position.



### ◆ Welding Sample



0.5SQ Cu Strand Wire × 2



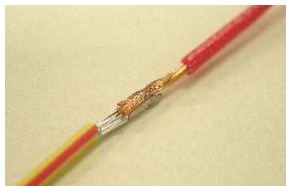
Al Plate 0.1mm ×  
Ni Plate 0.1mm



0.75SQ Al Strand Wire × 2



Cu Foil 10 μm ×  
Al Plate 0.1mm



0.5 SQ Cu Strand Wire ×  
0.75 SQ Al Strand Wire

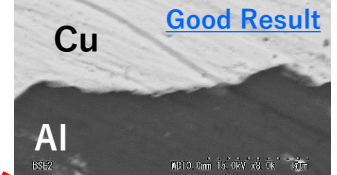
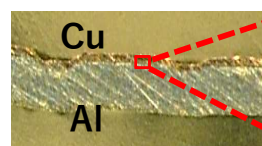


Strand Wire  
Compacting

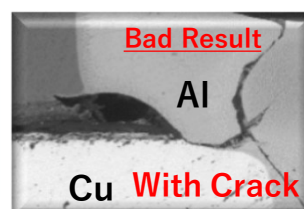
### ◆ Welding of Dissimilar Metals

#### Cu Foil 10 μm × Al Plate 0.1mm Welding

Electronic Microscope Image



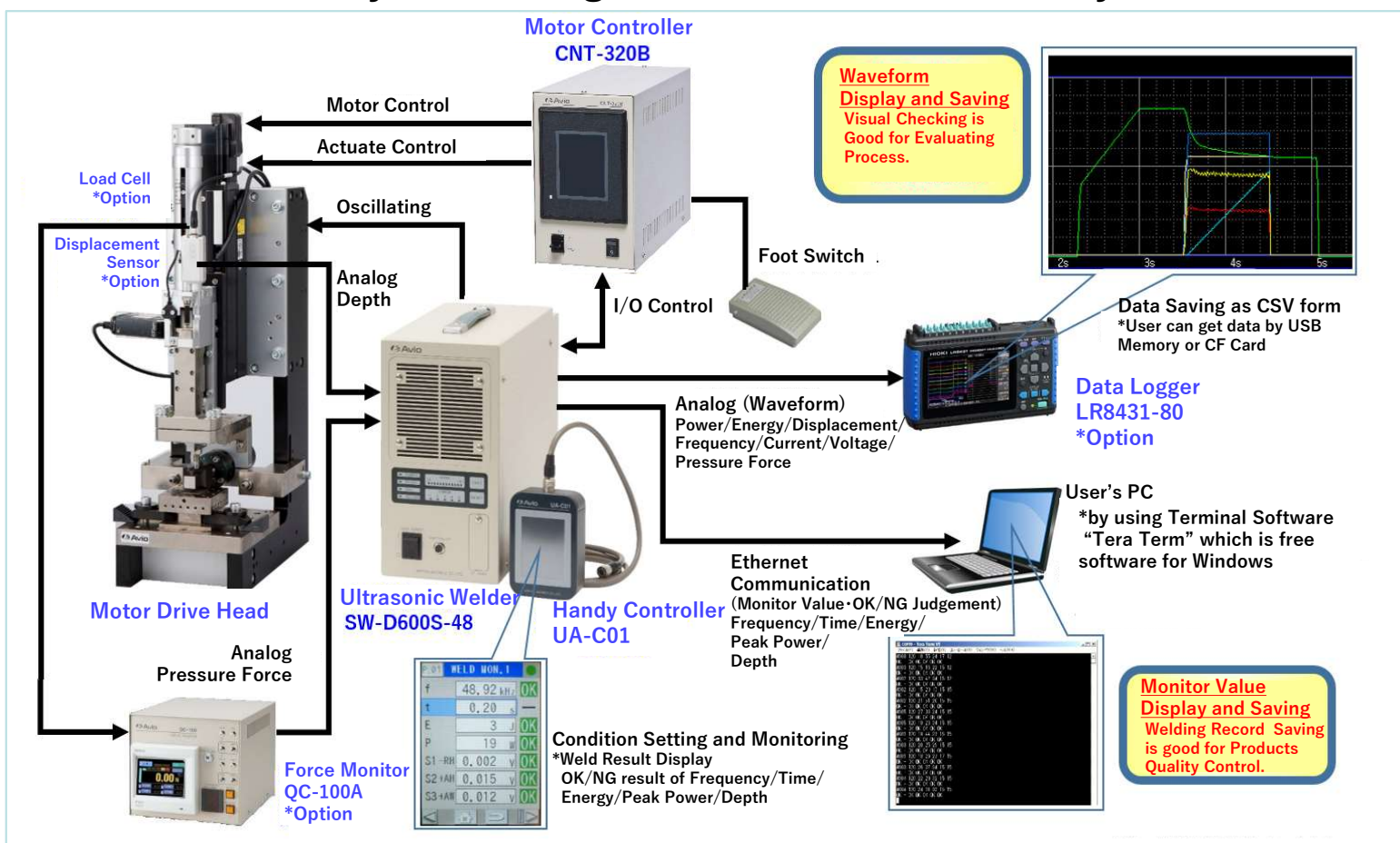
Clear boundary at joint interface  
⇒ It's Solid Phase Welding, not Fusion Bonding



↓ Solid Phase  
Welding

Weak Intermetallic  
Compounds are  
suppressed by low  
temperature welding.

## ◆ Recommended System Configuration for Good Traceability



## ◆ Main Specification

Ultrasonic Welder SW-D600S-48		Motor Drive Head	
Frequency/Output	48.5kHz/600W (Continuous Oscillation 300W)	Pressure Range	60~350N
Oscillation Method	Digital ATHMOS	Drive	Motor (resolution 1 μm)
Amplitude Setting	30~100% (1% step)	Pressure Method	Spring
Control Mode	Time/Energy/Peak Power/External Sensor/ Continuous Oscillation	Stroke	50mm
Monitor (for OK/NG)	Frequency/Time/Energy/Peak Power/ External Sensor	Air Supply	0.1MPa
Number of Program	31 programs	Size	W227 × D300 × H585mm
Interface	I/O / Analog/RS-232C/LAN/CF Card	Weight	Approx. 35kg
Power Source	Single-Phase AC100~240V ± 10%	Controller	CNT-320B
Size/Weight	W150 × D370 × H310mm/Approx. 8.5kg	Displacement Sensor*	resolution 1.6 μm

\*Displacement Sensor is option.

Please contact Avio sales for free welding test.

**NIPPON AVIONICS CO.,LTD.**

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