# WaveRIDER® NL 2

## *KNOW THE PAST… PREDICT THE FUTURE*

The wave soldering process is one of the most challenging procedures to set up. The ECD WaveRIDER® NL 2 greatly simplifies wave solder set up and ensures perfect repeatability, time after time. Board recipe preheat temperatures, conveyor speed, wave height, contact times and parallelism are all measured and monitored using the WaveRIDER® NL 2 process pallet.

www.ecd.com/products/waverider

**ELECTRONICS**   **FOOD/BAKING**   **SOLAR**   **INDUSTRIAL**

M.O.L.E.® Sold Separately
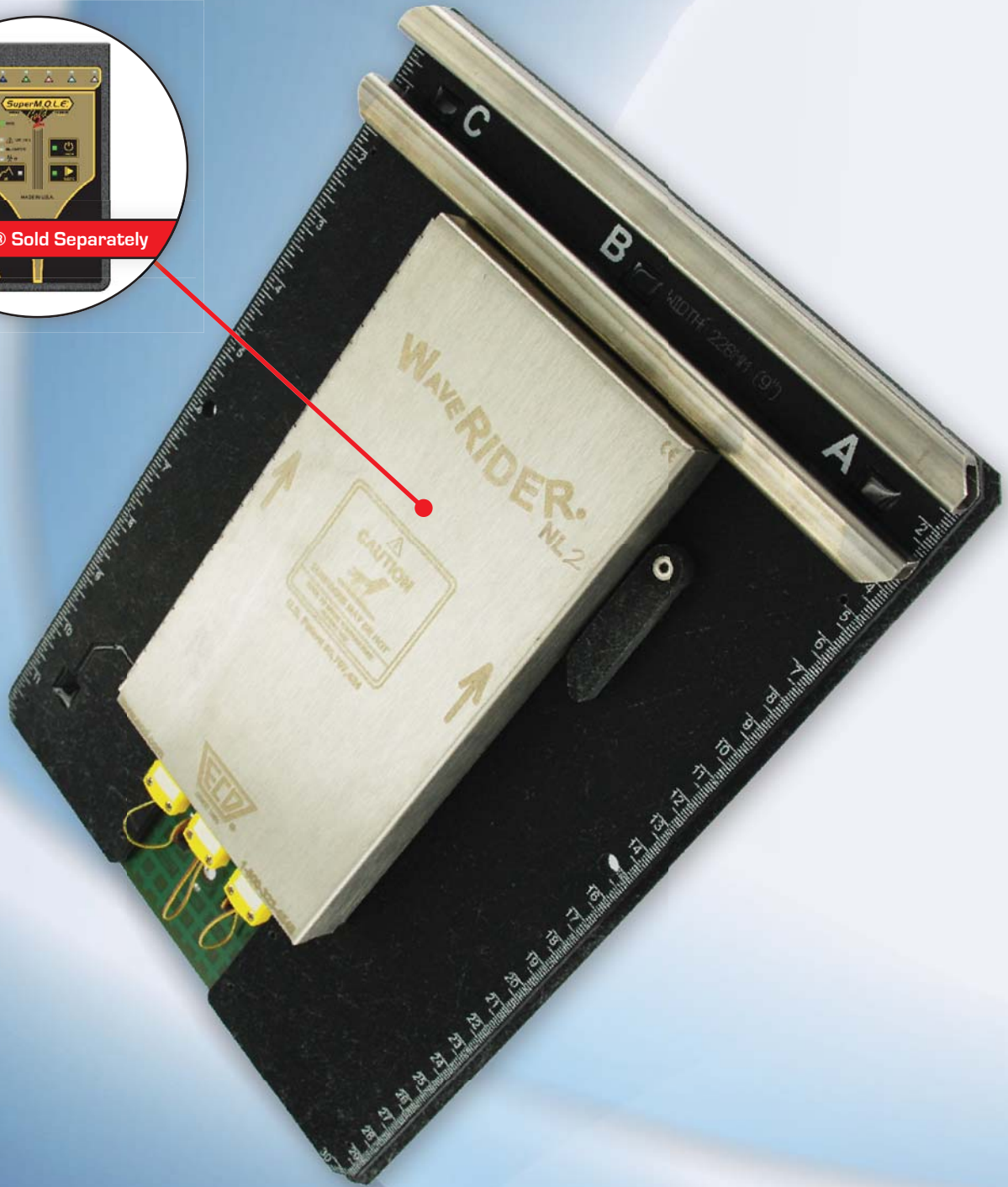
*Excellence in Measurement Solutions Worldwide*

## THERMAL BARRIER
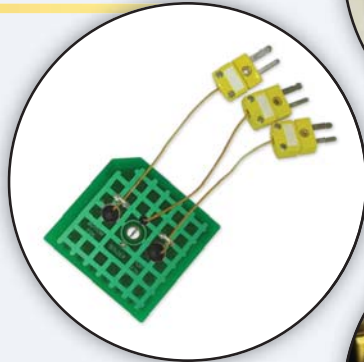
This is the thermal protective barrier for the M.O.L.E.®
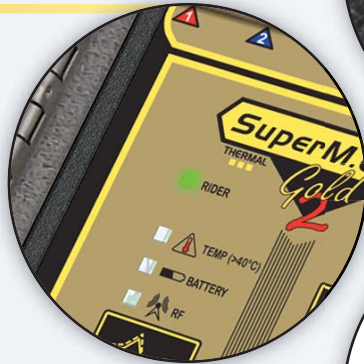
## REPLACEABLE TEST COUPON

Polyimide 3-thermocouple circuit board

## RIDER LED

The Rider LED Indicates when SuperM.O.L.E.® Gold 2 is connected to a WaveRIDER® NL 2 test pallet.

## M.O.L.E.® MAP SOFTWARE

Download and analyze the data with the ECD award winning software.

- SPC tells you when a parameter gets out of Spec before it's out of control
- Key Parameters: Preheat Ramp, Delta T at Wave, Solder Temperature, Top & Bottom side Board Temperature, Immersion Depth, Wave Parallelism, & Conveyor Speed
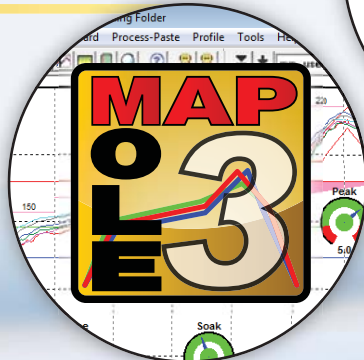
## DWELL SENSORS

Time spent in immersion across the solder pot also provides critical Contact Length, Immersion Depth and Parallelism data. Manage (SPC) optimum and repeatable board-to-wave orientation, icicles mitigation, conveyor finger maintenance, adequate pot replenishment, auto-start and pump maintenance.

## COUPON SENSORS

Three thermocouples are aligned with the Speed Sensor. Coupon Top, Bottom and Solder record board temperatures, Preheat Max Temp (top side), Preheat Max Slope, Wave surface temperature and Delta T at Wave. Provide key wave soldering measurements to verify machine readiness for production (SPC).
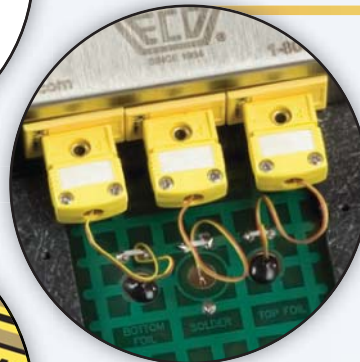
## SPEED SENSOR

Time delay between the "C" and Speed Sensors striking the main wave is used to calculate conveyor speed for every run to verify consistency (SPC) and catch an incorrect recipe setting. Creates event triggers for Coupon Sensors too.
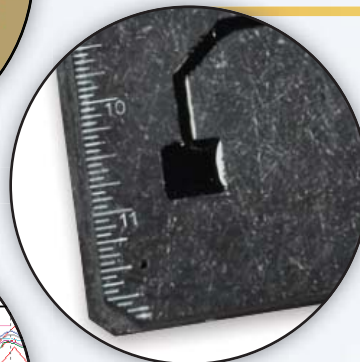
# SPECIFICATIONS

## PHYSICAL: WaveRIDER® NL 2

**Length:** 305 mm [12in.]
**Height:** 33 mm [1.3in.]
**Width:**
- Standard: 229mm [9"], 305 mm [12"], 381mm [15'], 458 mm [18"]
- Custom: >145mm [5.7"]

**Weight:**
- 9": 1.36 kg [3.0 lbs]
- 12": 1.72 kg [3.8 lbs]
- 15": 1.86 kg [4.1 lbs]
- 18": 2.61 kg [5.75 lbs]

**Max. Operational Temperature (Pallet):** 300°C [572°F]

## PALLET SENSORS

6 - Distance/Time & Coupon
Special Limits of Error K-Type thermocouple wire
(± 1.1°C or 0.4%, whichever is greater)

## DATA ACQUISITION: SuperM.O.L.E.® Gold / 2

**Data Capacity:**
- SuperM.O.L.E.® Gold: 9 minutes 6 seconds
- SuperM.O.L.E.® Gold 2: 2,500 minutes (100% memory)

**Time Accuracy:** ±10 millisecond
**Time Resolution:** 0.1 Second
**Temperature Accuracy:** +/- 1°C [1.8°F]
**Temperature Resolution:** 0.056°C [0.1°F]
**Measurement Range:**
- SuperM.O.L.E.® Gold: 0°C to 300°C (32°F to 572°F)
- SuperM.O.L.E.® Gold 2: -200°C to 1271°C (-328°F to 2320°F)

## PATENT

U.S. PATENT No. 5,767,424

## WARRANTY

1 year parts and labor

## WEBSITE

**www.ecd.com** →

## SYSTEM KITS:

**WaveRIDER® NL 2 Standard Systems**
- E36-9285-00: 229 mm [9 in.] wide pallet
- E36-9285-02: 305 mm [12 in.] wide pallet
- E36-9285-05: 381mm [15 in.] wide pallet
- E36-9285-08: 458 mm [18 in.] wide pallet

**WaveRIDER® NL 2 Custom System**
- E36-9285–12: >145mm [5.7in.] wide pallet

## KITS INCLUDE:

**WaveRIDER® NL 2 Pallet**
- Includes 6 sensors & Thermal Barrier

**M.O.L.E.® MAP Software**
**Lead-Free Polyimide Test Coupont**
**Quick Reference & Expert Guides**
**Carrying Box**
**1 year warranty on materials and workmanship**

**• Top rated customer support • No-cost ECD Online Training • Award winning software •**