

## Product Information

# SO2000DT Dual Temperature Handler

**Rasco**  
A Cohu Company

May 2009

### 2-IN-1 HANDLER WITH 2 TEMPERATURE CHAMBERS

The SO2000 DT Dual Temperature Handler provides 2 temperature chambers in one system, one for ambient and one for cold, hot and extended hot temperature so that the devices can be separately handled in two different temperature modes.

The SO2000 DT has 2 Dual Plungers (2), one at ambient test site (contact site 3 and 4) and one at temperature test site (contact site 1 and 2) for different contactors, incl. „Real Plunge-to-Board“ (depends on contactor /device type combination).

The temperature range can be selected equivalent to the existing SO2000 Handler (-60°C ... +160°C, optional 175°C).

All other modules, contactors and input and output configurations are equivalent to the SO2000 standard system.

**Contactors** (pitch 0.4 ... 1.27 mm): Kelvin, max. 70A (3ms), ESX Kelvin, Pogo Pin (2A max., up to 3GHz), Johnstech (JTI), Yamaichi and C-Type.

**Input options** (1): left or right site can be equipped differently, Bowl Feeder for QFN left and right (90° steps turn), Bowl Feeder for SO, SOT left and right (180° turn, Automatic/Manual Tube Loading left and right, Automatic Metal Magazine Loader

**Output Options** (3): Automatic Tube Unloader left and right, Metal Magazine Unloader (automatic and manual), up to 16 Manual Tube Outputs, up to 16 Bin Boxes for Bulk Components, Tape & Reel Unloader optional with 3D Lead Inspection, Mark Inspection and/or device orientation in tape, Taper fail bin exits: 4x Box or 4x Tube, Detaping

The SO2000DT is available for all standard SO2000 packages:

MSOP 8ld 0.65mm pitch, 10ld 0.5mm pitch, SO, SOP, TSSOP 4 to 56ld, 150mil, 173mil, 209mil, 240mil, 300mil, QFN, MLP, MLF, CSP 1.5x1.5mm to 12x 12mm, QFN thin, SOT 3ld to 8ld, 51 mil and 63mil, SC703ld to 6ld, 49mil, (others on request).

#### Summary Key Features SO2000DT

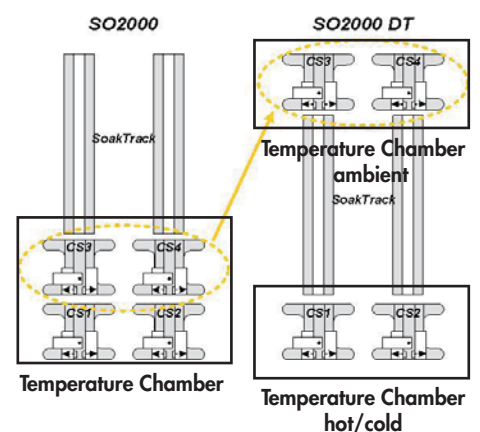
- 2 temperatures in 1 Handler
- Temperature range -60°C up to +175°C
- Controlled ambient temperature
- Device ID tracking
- Extended quality features
- Smallest device size
- Device Input: Tube, Magazine, Bowl (SOT,QFN)
- Device Output: Tube, Magazine, Bowl/Bulk, Tape&Reel
- 2 tracks, quad contact site (2+2)
- Standard belly bar and RPTB plungers
- Index time down to 450 ms
- Throughput up to 16,000 uph
- Small footprint



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### KEY ADVANTAGES

- Reduced costs
- Reduced floor space
- Reduced QIP (quality improvement program)
- Reduced WIP (work in progress)
- Reduced cycle time



Comparison SO2000/SO2000DT

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### PROCESS FLOW

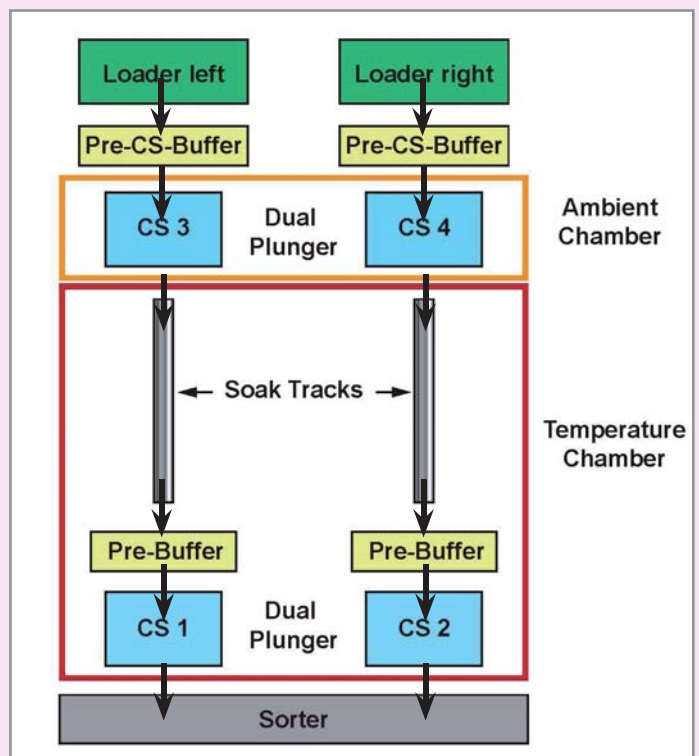
- Standard SO2000 Loaders carry devices to the handler. Singulated device drops from Loader to upper pre-contact site.
- The devices are tested at ambient temperature and assign a unit identification number that is transferred to the tester via the GPIB interface. Device drops into upper CS (ambient area), device is plunged for ambient test.
- The devices that have passed the ambient test site will be released into the temperature chamber and soaked until they have reached the desired set point. Device drops into soak track.
- After the specified soak time has elapsed, devices are tested at the temperature test site. The handler is sending the device's unit ID value to the tester via the GPIB interface. Device drops into lower Pre-CS (buffer with double drop detection). Device is plunged for temperature test.
- The devices will be sorted to the prime bin, off bin or reject bin according to the tester results.

### DEVICE TRACKING

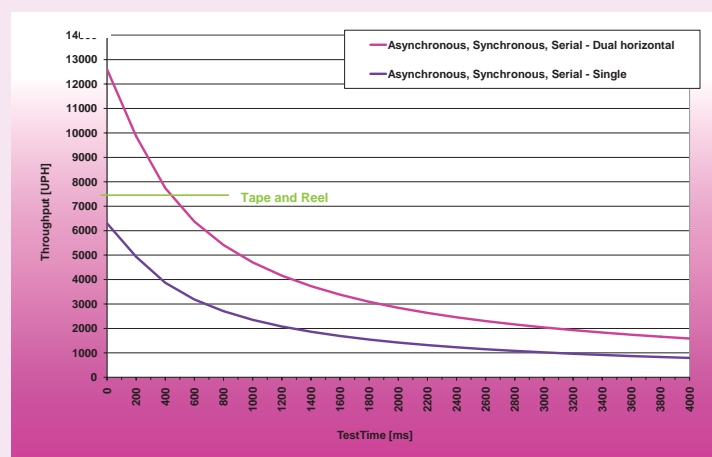
- Device IDs will be generated at both upper contact sites (odd IDs for leftside, even IDs for rightside).
- While device is dropping, device ID and bin are both shifted together to the next handling section.

**S E R V I C E**

For more information please ask your local Rasco service team or contact [service@rasco.de](mailto:service@rasco.de)



SO2000DT schematic diagram



Throughput example for SOT23W device; soak time 60 ms

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