

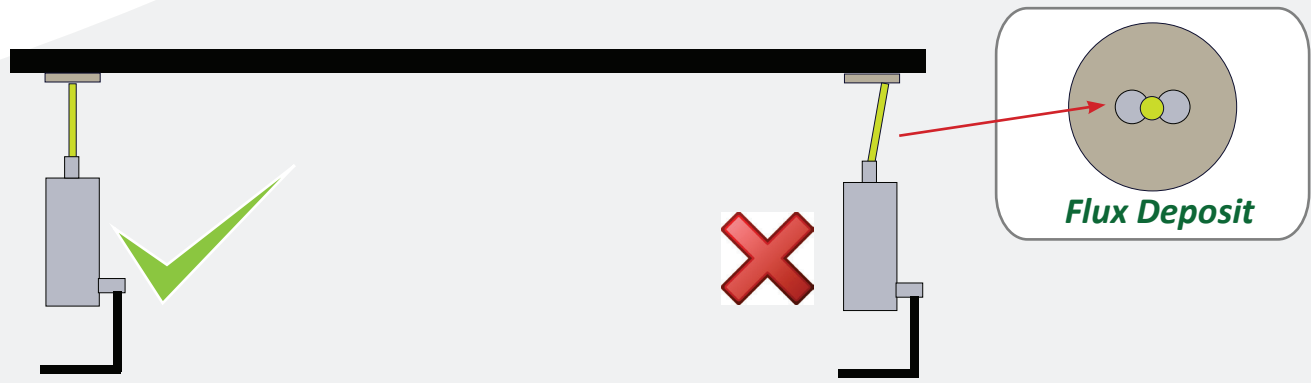
- ✦ Allows testing of fluxer as part of the daily check
- ✦ Programmable to detect different flux types reliably
- ✦ Detect X/Y positioning errors
- ✦ Detect typical flux spots of 2 - 3mm
- ✦ Detect mis-sprays due to nozzle clogs

Measurement of mini-wave selective fluxor and positioning mechanism

The main problems reported in fluxing within the selective process was X/Y positioning problems and crystallisation/nozzle clogging. These issues often result in flux being deposited in the wrong areas on an assembly, insufficient fluxing of necessary components will result in poor soldering quality, and potentially un-activated flux could seep under sensitive electronics, producing in-field issues.

The Flux Sensor option can be installed to the Solderstar Mini-Wave selective measurement pallet, expanding its standard measurement system to allow detection of the presence on flux. An array of four sensor heads are installed to the base pallet, plus an additional signal conditioning circuit to allow small surface resistance measurement to be performed by the measurement electronics. The selective machine is programmed to deposit a small amount of flux at the centre of each sensor.

The gap between the sensor points is 1mm, allowing a very small deposit of flux to be sprayed for detection. This 4 point method gives a good indication of both positioning accuracy and perpendicular spraying/jetting of the flux.



Software Integration

When the flux sensor option is fitted, an additional Process Checker chart is made available in the Process Central software. This chart shows a red/green indication of which flux sensors detected flux as part of the diagnostic run. Combined with contact, nozzle height and temperature profiles the addition of the flux sensors gives the most comprehensive independent measurement of the selective process.



Software controlled flexibility for differing flux types

The 'Advanced' settings window is shown with the following sections:

- Start Inhibit Function:** This functions will prevent the instrument from recording if Internal Temperature or any Channel Temperature is above defined levels.
 - Do not allow recording if Internal Temperature > 0 C
 - Do not allow recording if Channel Temperature > 0 C
 - NOTE: Setting a value of ZERO will clear the mode
- Flux Detection Sensing:**
 - Threshold: 200
 - NOTE: Default Setting = 200
- SLX Special Functions:**
 - Selective Multi-stage Start/Stop Settings:
 - Channel: 0 (Default Setting = 4 (TCA))
 - Temperature: 0 (Default Setting = 180 (Celsius))
 - Restart Time: 0 (Default Setting = 5 (Seconds))
 - Erase All Memories!

Programmable Thresholds

Different flux chemistries can behave differently on the surface of the sensors, although the default setting sensors will detect most flux types.

For special fluxes, the software can change the dynamics of the measurement circuit with ease.

This feature allows the pallet to be tailored to any special settings required to detect the flux type in operation.

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