

CCS

Capacitance Comparator Subsystem

The Capacitance Comparator Subsystem (CCS) option accurately measures the capacitance between two randomly selected points in the Unit Under Test (UUT). Capacitance measurements determine if unterminated shields are, in fact, continuous. Another use for the CCS is to ensure twisted pair wiring is not miswired.

- The CCS is a completely floating instrument capable of measuring capacitance to a grounded shield.
- This four digit instrument offers 1% accuracy.
- The CCS self-calibrates before each comparison sequence to maintain accuracy.
- “Time-constant” measurement technique reduces the effect of noise and parasitic inductances.
- The built-in voltage monitor ensures that no residual voltage is present before the measurement begins.
- Tare mapping eliminates the inherent capacitance of the switching system, instrumentation, and interface adapters permitting pico-farad measurements.
- The CCS is fully compatible with the existing test language and structure of DIT-MCO’s process control software.
- The CCS operates from the internal ATA bus. It makes the measurements, subtracts the tare value, compares the results against a specified limit, and returns the PASS or FAIL decision. Digitize (DIG) or Digitize on Fail (DOF) captures values within the range of CCS. The error log will display the digital value of the capacitance in the UUT.
- Fully programmable parameter limits allow you to measure all capacitance in your product.

The CCS is capable of resolution of absolute capacitance to four significant digits. The range is from 100pf to .999 μ f.

100pf - 999.9pf	$\pm (10\%+1\text{LSD})$
1nf - 9.999nf	$\pm (5\%+1\text{LSD})$
.01 μ f - .999 μ f	$\pm (1\%+1\text{LSD})$



To collect a capacitance tare map, the tests are executed without the product connected to the adapter cables. At the time you collect the capacitance tare, you should connect those circuits other than the capacitive circuits to prevent effects from additional circuits in the UUT.

A file stores the capacitance tare for later reference by the process control software during test program execution. The values in the file are stored such that specific Output and Input addresses are associated with a given four (4) digit resolution. This tare value is subtracted from the measured capacitance at the time of the test and before a Pass or Fail decision is made.

