Engineering Concept

Environmental Endurance Testing System External Controller Package

ECP+

YUASA SYSTEM has been developing Tension-Free[™] endurance testing systems since 2012. With our in-house expertise in mechanical, electrical, and software engineering, we have developed accurate testing methods for next generation devices, components, and materials. Tension-Free[™] endurance testing reduces product design time by producing more consistent and reliable test data. Samples undergo the desired testing without being subjected to undesired tension introduced by the needs of the test equipment. As desired, our jigs also can operate with tension.

The External Controller Package can be used to gather data on the sample during endurance testing. The user's laptop controls the testing machine, setting the number of operations, the speed and timing, and it can use the results of the data to change the operation. Data can be gathered while the mechanical endurance testing is underway.

The ECP+ can use a variety of external "meters" to gather data on the sample during endurance testing. Measurements might include electrical resistance of the sample while folding or stretching, or tension while stretching as shown in the illustration above, or temperature while folding or stretching. One particular interest is measuring the temperature of a flexible battery while it is undergoing mechanical endurance testing. It would be possible also to measure simultaneously the battery voltage and temperature.

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External monitoring and controlling package for endurance testing of planar and linear objects including Flexible Displays, OLED devices, Barrier Film, Flat Cables, Flexible Printed Circuits, Wearables & automobile applications

Allows programmed control of endurance testing machines by gathering data on the object during testing.

Versions of the External Controller Package include measurements of resistance, tension, temperature, and camera monitoring of cracks.