

## Environmental Endurance Testing System External Controller Package

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 measuring resistance of the object during testing.



# 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 take electrical measurements of resistance during endurance testing. Additionally it can control the testing machine with the users' laptop, setting the number of operations, the speed and timing, and can use the results of the electrical test to change the operation. Electrical measurements can be taken while the mechanical endurance testing is underway. While multiple measurements could be made during each reciprocating cycle, the data storage requirements would increase very rapidly. Typically, measurements would be made once per cycle.

YUASA testing machines that can have the Electronic Controller Package fitted are the smaller desktop models TCDM111LH and DLDM111LH.

ECP Video -- <https://www.youtube.com/watch?v=PTEtc79Mrwo>

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ECP	
External Controller Package	
<b>PC Specifications</b>	
OS (Required)	Windows 7 / 8 / 10
OS (Recommended)	Windows 7 (32bit/64bit) / 10
Resolution (Required)	1366 x 768
Resolution (Recommended)	1920 x 1080
CPU Clock Rate	1 GHz or more
Memory	512 MB or more
Free Space	30 MB or more
Communication Interface	USB 2.0 Port x1 / LAN Port x1
<b>Resistance Meter</b>	
	RM3545 + Z3003 [Hioki]
<a href="https://www.hioki.com/en/products">https://www.hioki.com/en/products</a>	
Resistance ranges	10 mΩ range
	12.00000 mΩ display Max.
	10 nΩ resolution
	to 1000 MΩ range
	1200.0 MΩ display Max.
	100 kΩ resolution)
	12 steps
Resistance range [LP ON]	1000 mΩ range
	1200.00 mΩ display Max.
	10 μΩ resolution
	to 1000 Ω range
	1200.00 Ω display Max.
	10 mΩ resolution)
	4 steps
Measurement accuracy	±0.006 % rdg. ±0.001 % f.s.
Testing current	1 A DC to 1 μA or less (± 5 %)
	[LP ON] 1 mA to 5 μA DC (± 5 %)
Open-terminal voltage	20 V DC (10 kΩ range or more),
	5.5 V DC max. (1000 Ω range or less)
	[LP ON] 20 mV DC max.
Measurement speed	FAST (2.2ms)
	MED (50Hz: 21ms, 60Hz: 18ms)
	SLOW1 (102ms)
	SLOW2 (202ms)
Power supply	100 to 240 V AC, 50/60 Hz
Power consumption	40 VA
Dimensions (mm)	215mm × 306.5mm × 80mm (WDH)
Dimensions (inches)	8.46" × 12.07" × 3.15" (WDH)
Weight	2.5 kg (88.2 oz)
<b>Trial software</b>	
Operation	Manual or Automatic (Programmed)
Programming	Stepping
Connection	TCDM111LH / DLDM111LH
	and/or Resistance meter (PM3545)
I/O Channel for RM3545 + Z3003	8 channels
Measurement timing	End of every step (automatic operation)

### US SERVICES AVAILABLE

- Online training
- Technical support
- Installation & set-up
- Maintenance
- Guaranteed Warranty

[www.yuasa-system.jp/en](http://www.yuasa-system.jp/en)

**YUASA** YUASA SYSTEM CO., LTD.

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