

# Introduction

Name: ZL-8001A Computer Servo Universal Testing Machine



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## ZhongLi Instrument Technology Co., Ltd.

#### **Equipment summary:**

ZL-8001A Computer Servo Type Universal Testing Machine is a new material testing machine that combined with the electronic technology and mechanical transmission, it has accurate load speed, range of force measurement, Has high accuracy and sensitivity for the load, displacement measurement and control, it also can be tested the constant-velocity loading, constant- velocity displacement. This machine is simple to operate, especially suitable for controlling quality in production line, This series of machine is mainly applied to test the non-metallic and metallic materials which the load is less than 2 ton.

#### Main feature:

Adopted photoelectric encoder to measure the displacement, the controller uses the embedded single-chip microcomputer structure with multi-function software, which combined with measurement, control, calculation and storage. It can automatic calculate the stress, rate of elongation (need to add with extensometers), tensile strength, elastic modulus, automated statistical results; automatically recorded the biggest point, breaking point, the designated point value or the rate of elongation; Using computer to display the dynamic curves in the testing process and process the data, After testing, it can re-analysis and editing the data by amplifying the curves through the graphics processing module, printing reports, product performance reached the international advanced level.

#### Main functions:

This test machine is applied to test the flexible material with large deformation. such as rubber, plastics, leather and others to complete the test of tensile, tear, adhesive strength, peel and other tests, it is equipped with large deformative extensometer which has the specialized terminology used in measurement of specimen, suitable for testing large deformation of materials.

#### Applicable industry:

It is widely used in controlling the quality; Rubber & Plastics; metallurgical iron and steel; manufacturing machinery; electronic equipment; automobile production; textile fiber; wire and cable; packaging materials and foodstuffs; instrumentation; medical equipment; civilian nuclear energy; civil aviation; colleges and universities; research Laboratory; inspection arbitration, technical supervision departments; building materials, ceramic; Petroleum & Chemical; other industries.

#### Corresponding standard :

《GB/T16491-1996 electronic universal testing machine》

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## **Technical parameter:**

Model	ZL-8001A
Max load	5KN, 10KN, 20KN
Accurate grade	1 % /0.5 %
Effective measuring range	0.2%~100% (1grade) /0.4%~100% (0.5 grade)
Measuring accuracy	Display the value ±1%/Display the value±0.5%
Tester resolution	Max load 1/200000, regardless of inside and outside, constant the resolution
Load sensor	Basic configuration: sensor (max load): one  Extended configuration: can add more sensors
Effective testing width	390mm(can be widened according to customer's requirement )
Effective Tensile stroke	800mm;1000mm;1200mm, (can be increased the height according to customer's requirement)
Range of testing speed	0.1~200mm/min ; 500mm/min (1000mm/min is option)
Accuracy of	
displacement	Tolerance: ±0.5%/ tolerance: ±0.2%
measurement	
Deformation of	Min span :10mm, Max range of deformation : 800mm
measured	
, ,	Extended deformation: Min span: 25mm、50mm、100mm, range of
requirements)	deformation: 5mm、10mm、25mm
Accuracy of measured	Tolerance :±0.5% (according to requirement of customer to choose the
deformation	larger or small deformation)
Safety	Electronic-limit protection
Testing platform moving device	Fast /slow two speeds to control,can jog
Return back	Manual or automatic operation. After the test, the moving iron return to initial position with the highest speed by manual or automatic operation
Overload protection	Overload 10%,automatic protection
fixture	A set of tensile fixture
Machine size	80x55x220cm(length*width*height)
Power system	Panasonic AC Servo Motor + Driver + high-precision ball screw
Power supply	220V、50HZ、
Power	4KW(depending on different demand of force, using different motor)
Machine weight	(about) 250 Kg
Units	Kg, N, LB, TON, can be exchanged.

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#### Software features:

#### 1. The software description about Computer servo testing machine

- A. Function of standard modular: provide users with the necessary applications to the test, covering GB, ASTM, DIN, JIS, BS ... and other testing standard specification.
- B. Tested product information: provide users with the data to set about the products, one time to input and re-use permanently . for improving the accuracy, the data can be corrected by the formula automatically.
- C. Dual-Report Editor: provide users with the reported format that users choose (testing program add EXCEL reported format, Extend the previous single pattern of statements)
- D. The data's unit of length and force can be exchanged, unit of force is T, Kg, N, KN, g, lb, unit of length is mm, cm, inch.
- E. Auto-optimization of graphic scale, display the best measurement of graphics. It can test the moving exchange in graphics. It has the load - displacement, load - time, displacement - time, stress - strain load -2 points extending maps, and lots of graph compared.
- F. Test results can be output in EXCEL format.
- G. Testing result can be automatically preserved or manual preserved, after the test, it can automatically calculate the most strength, up and down yield strength, loop method, best method, non-proportional extended strength, tensile strength, compressive strength, tensile strength at any point, constant load extension, elastic modulus, rate of elongation, peel range of maximum force, minimum force, average force, total energy, bending modulus, x% load in break displacement, load X% in break displacement, and so on . the test data can be stored in any disk.
- H. Software has a capability that can output the before data.

#### 2. The accessories about Computer servo testing machine

- A. Warranted book within one-year and operating instructions.
- B. A group of fixture
- C. Testing software for tensile machine.
- D. A set of brand computer, color printer

#### 3. Items can be tested in the Computer servo testing machine

Common items: ( display data and calculation )

•tensile stress

• tensile strength

• tensile strength

rate of elongation at break

•fixed stress

• rate of stress at break

• tear strength

stress strength

rate of elongation at any point

the value of force at any point

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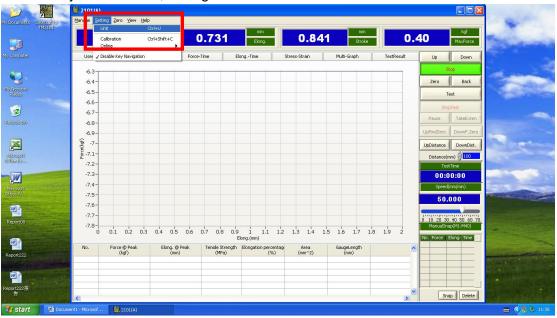
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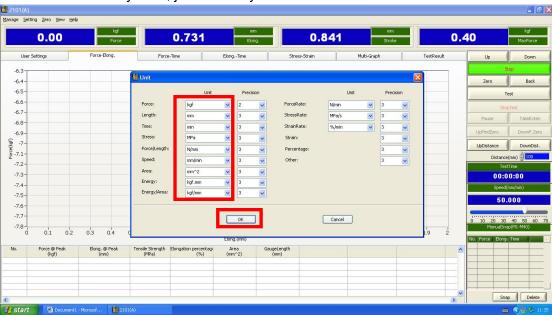
•pull-out strength

- force of adhesion and the peak of force
- 4. Computer servo control material testing machine software operation interface

1. Choose you need units, setting==>unit



2. There are so many units, just choose you need.



3. Connect computer and software online. Setting==>Online==>COM1 or COM2..., after it shows

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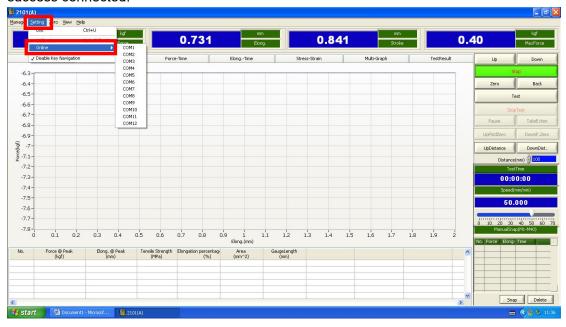
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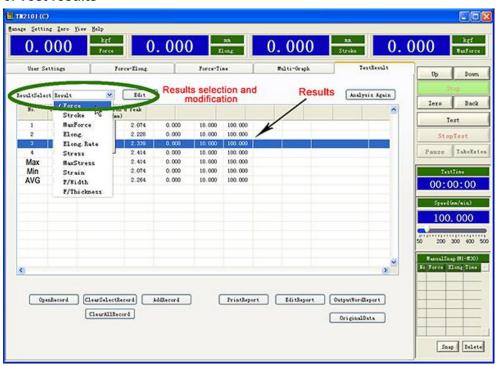
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#### success connected.

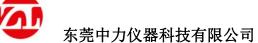


#### 5. Test results



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### 6. Computer servo control material testing machine test curve



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