

AUTOMATIC ELECTRONIC UNIVERSAL TESTING MACHINE SYSTEM CODE RBT-UTM01

CUSTOMIZED ACCORDING TO
THE TEST REQUIREMENTS



- 6-axis industrial robot for high speed and precision, IP54, triple protection
- Supports automatic loading, testing, unloading and test data upload
- Control system Modbus Tcp via bus communication, high speed, high efficiency and easy to extend

Step 1: Manually place specimens on the specimen rack.
 Step 2: Press the reset button to return the robot and cylinder to the initial position.
 Step 3: Press the start button, the system prompts whether the workpiece is correctly placed and click OK.
 Step 4: Robot grips the specimen and places it between fixtures.
 Step 5: The testing machine clamps the specimen, runs the test and exports results.
 Step 6: Robot removes the tested specimen and places it at designated position.
 Step 7: Carry out next test at preset intervals.

SPECIFICATION

Robot*	robot arm spreading	1450mm
	Max working speed	180~460°/s
	Max weight of workpiece	10kg
	repeat positioning accuracy	±0.05mm
	number of control axis	6
	communication protocols	Ethernet Modbus Tcp
Electric universal testing machine*	Max. test force	50kN
	type of testing machine	bench-top single-space
	accuracy class	0.5 class
	accuracy of test force	±0.5%
	range of test force	0.4%~100%FS
	resolution of test force	1/600000FS
	accuracy of crossbeam displacement	±0.2% or ±0.01mm (whichever is larger)
	resolution of crossbeam displacement	0.0100μm
	minimum test speed	0.00005mm/min
	maximum test speed	900mm/min
	maximum return speed	1500mm/min
	accuracy of crossbeam speed	0.05mm/min~100%FS, ±0.2% of the set value
	resolution of deformation	1/600000FS
	accuracy of strain measurement	superior to the requirements of standards such as: GB/T 228, ISO 6892-1, ASTM E8, and ASTM E21
	frequency of data sampling	1200Hz
	frequency of control loop	1200Hz
	stiffness	180kN/mm
	vertical test space	1000mm
	effective test width	420mm
	protection function	force overload protection, limit protection, anti-collision protection, voltage overload protection
	power supply	AC 220V, 50/60Hz, 1.5kW
	dimension (L×W×H)	1700×770×640mm
	net weight	400kg

*Can be customized according to test requirements

STANDARD DELIVERY

Robotic system	robot body	1 pc
	robot control cabinet	1 pc
	programming guide	1 set
Electric universal testing machine	main unit (≥600kN with Control Cabinet)	1 pc
	control box	1 pc
	measuring software	1 set
	computer	1 pc
	printer	1 pc
	compression fixture	1 set
	tensile fixture	1 set
Control touch screen		1 pc
Control box		1 pc
Specimen rack		1 set

OPTIONAL ACCESSORY

Fixture	bending fixture, shear fixture, pneumatic fixture, hydraulic fixture, other fixtures (customized)
Electronic extensometer	UTM-G-EX series (customizable)
Large deformation extensometer	UTM-G-EX100L (customizable)
Automatic extensometer	UTM-G-EX350A (customizable)
	UTM-G-EX450A (customizable)
High-temperature extensometer	UTM-G-EX50-5H (customizable)
High-temperature furnace	UTM-G-FU1200 (customizable)
Video extensometer	UTM-M series
Security door	UTM-G-SD2
Workbench	UTM-G-W2