

3 in 1 Transformer Testing System

6265 + 7721 + 7605
3-in-1

2 in 1 Transformer Testing System

6265 + 7631
2-in-1



The MICROTTEST Transformer Testing System is a one-station solution that integrates low-voltage electrical characteristics testing and safety compliance testing. The system provides 20 test channels and supports multiple configurations:

3 in 1 (Transformer Low-Voltage Testing + AC/DC Withstand Voltage Insulation Testing + Coil Layer Short Circuit Testing)

2 in 1 (Transformer Low-Voltage Testing + AC/DC Withstand Voltage Insulation Testing)

Low-voltage electrical tests include: Inductance, leakage inductance, DC resistance, AC resistance, quality factor (Q), capacitance, turns ratio, and pin short-circuit detection.

Safety tests include: AC withstand voltage: up to 5000V, DC withstand voltage: up to 6000V, Insulation resistance: up to 12000MΩ

Impulse winding test adopts a non-destructive high-voltage pulse test technique.

By analyzing the damped oscillation waveform generated through L/C resonance, the system detects defects causing short circuits between windings or between layers of enameled wire insulation.

For inductance measurement, optional LCR meters are available with test frequencies of 200kHz, 500kHz, and 1MHz.

The system also supports PC Link Software for data management and control.

Application

Electronic transformers, Power transformers,
Communication transformers, Networking transformers

Feature

- 20 channels
- Support AC output voltage 5000V, DC output voltage 6000V
- Insulation Resistance 1~12000MΩ
- Impulse Winding Test Function
- PC Link Software support
- High speed test: up to 30 test items per second
- Inductance, leakage inductance, turns ratio, winding resistance, distributed capacitance, and pin short circuits
- 2 in 1 Transformer Testing System(Transformer Low-Voltage Testing + AC/DC Withstand Voltage Insulation Testing)
- 3 in 1 Transformer Testing System(Transformer Low-Voltage Testing + AC/DC Withstand Voltage Insulation Testing + Coil Layer Short Circuit Testing)



2 in 1 Standard Interfaces (7631)

RS-232

USB Host

Remote

EXT. I / O



3 in 1 Standard Interfaces (7721)

RS-232

Remote

Printer

Specification

One-Step Transformer Test System	2 in 1 (6265 + 7631)		3 in 1 (6265 + 7721 + 7605)		
	Transformer Tester	Hipot Tester	Transformer Tester	Hipot Tester	Impulse Winding Tester
	6265/ 6266/ 6267	7631	6265/ 6266/ 6267	7605	7721
Frequency Range	6265 10Hz~200kHz 6266 10Hz~500kHz 6267 10Hz~1MHz				
Channel	20				
Low Voltage Test Function (Parameters Measurement)					
Inductance (L), Impedance (Z), Capacitance (C), Resistance (R), Conductance (G), Susceptance (B), Admittance (Y) Alternating Current Resistance (ACR), Quality Factor (Q), Phase angle (θ), Direct Current Resistance (DCR), Leakage Inductance, Turn Ratio, Balance, Short Circuit					
High Voltage Test Function (Parameters Measurement)					
Leakage Current, Insulation Resistance, Impulse Winding Test (Impulse waveform analysis and comparison)					
LV Electrical Specifications					
L, LK	0.1nH~9999.99H				
C	0.00001pF~999.99mF				
Q, D	0.00001~99999				
Z, X, R	0.00001Ω~99.9999MΩ				
Y	0.01nS~99.9999S				
θ	-180°~+180°				
DCR	0.01mΩ~99.999MΩ				
Turn Ratio	0.01~99999.99turns				
Pin-Short	12 pairs, between pin to pin				
Hipot/ Insulation Test					
AC withstand voltage, DC withstand voltage, IR, Arc detection					
HV Electrical Specifications					
AC Output Voltage	10V~5000V				
Voltage Resolution (AC)	1V				
Voltage Accuracy (AC)	±(3% of setting+5V)				
AC Leakage Current	0.001~31mA				
AC Rated Current (Max.)	30mA				
Arcing Detection (AC)	1~20				
DC Output Voltage	10V~6000V				
Voltage Resolution (DC)	1V				
Voltage Accuracy (DC)	±(3% of setting+5V)				
DC Leakage Current	0.001~11mA				
DC Rated Current (Max.)	10mA				
Arcing Detection (DC)	1~10				
Output Voltage (IR)	10V~1000V				
Voltage Resolution (IR)	1V				
Voltage Accuracy (IR)	±(3% of setting+5V)				
Insulation Resistance	1~12000MΩ				
Measuring Time (AC/DC)	0.1~999s				
AC Ramp Time	0.1~10s				
DC Ramp Time	0.1~10s				
Impulse Winding Test Function (Parameters Measurement)					
Impulse Voltage (programmable)	200V~5000V				
Comparison Mode	AREA, DIFF, WAVEFORM, FLUTTER, CORONA				

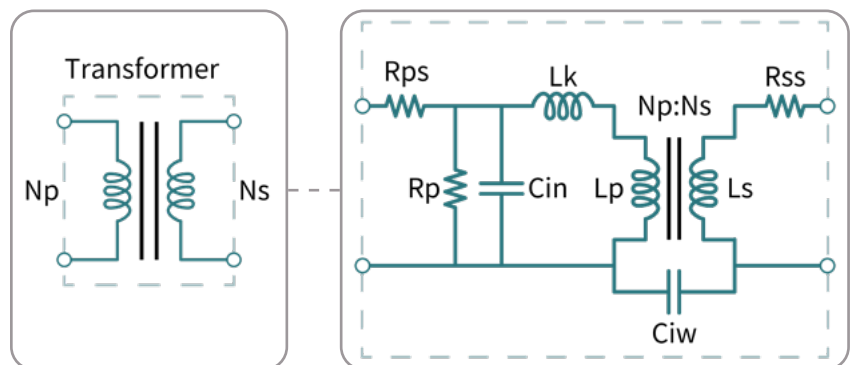
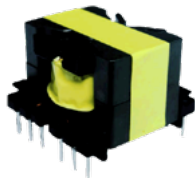
General

Units included in the system	6260 Series Transformer Tester	7631 Hi-Pot Tester	7605 Hi-Pot Tester	7721 Impulse Winding Tester
Built-in Storage	128 sets	15 sets	N/A	200 sets
PC Link(Storage)	Unlimited			
PC Link Software	●			
Interface	RS-232, Handler, LAN, USB Host, EXT.I/O	RS-232, Remote, USB Host, USB Device, EXT.I/O	RS-232, Remote, USB Host, USB Device, EXT.I/O	RS-232, Remote, Printer
Power Supply	Voltage : 90Vac~125Vac or 190Vac~250Vac	Voltage : 90Vac~264Vac	Voltage : 90Vac~264Vac	Voltage : 115/230Vac±15%
	Frequency : 47Hz~63Hz	Frequency : 50/60Hz±5%	Frequency : 50/60Hz±5%	Frequency : 50/60Hz±5%
Power Consumption	400VA (set)			
LCD Display	7" TFT, color display (800*480)	4.3" TFT, color display (480*272)	4.3" TFT, color display (480*272)	5.7" TFT, monochrome (320*240)
Dimension(W*H*D)	435x145x522mm	435x145x500mm	365x145x430mm	435x190x522mm
Weight	9kg	15kg	14Kg	16Kg

Functions

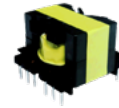
One-Step Transformer Test System

One-Step Transformer Test System integrates all testing items into a single workstation to ensure transformers meet design requirements. It includes comprehensive testing of multiple aspects such as winding wires, core materials, gap dimensions, welding materials, and sealing compounds. It performs low-voltage electrical and safety compliance tests. MICROTTEST offers customers a 2-in-1, 3-in-1 integrated transformer testing system, unified as the One-Step Transformer Test System.



Key parameters inspection of transformer components

Rcl	The loss in the magnetic core itself and the insulation resistance of the transformer frame and leads exist in parallel configuration.
Rss	The lead resistance of the secondary coil exists in series with the secondary coil.
Rps	The lead resistance of the primary coil exists in series with the primary coil.
Ls	The inductance formed by the mutual coupling of magnetic flux between the primary coil and the secondary coil.
Lp	The inductance value of the secondary coil.
Lk	In the primary winding of the coil, some magnetic flux remains uncoupled to the secondary winding and instead forms an internal inductance. This leakage inductance can lead to energy losses.
Np	The turns ratio between the primary coil and the secondary coil.
Ciw	The distributed capacitance present between the primary coil and the secondary coil.



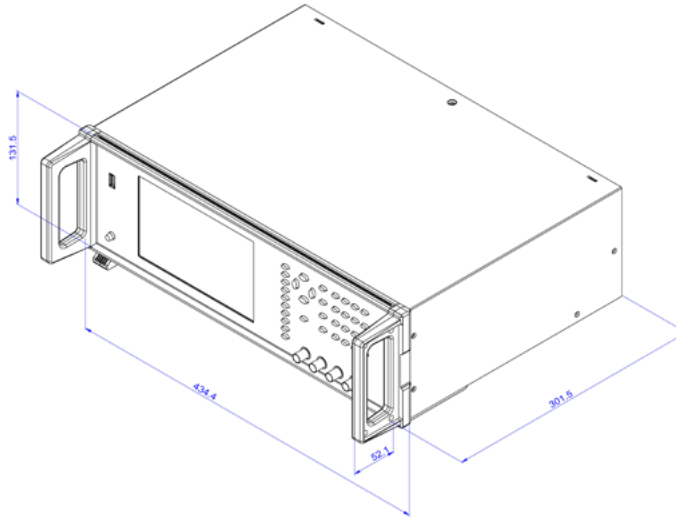
One-Step Transformer Test System

Low-Voltage Test	Safety Test	Safety Test
<ul style="list-style-type: none"> • Ls-(Inductance) Measure the series inductance value between the primary and secondary windings. • DCR-(DC resistance) Measure the lead resistance of the primary and secondary windings (Rps/Rss). • Rs-(AC equivalent resistance) Measure the equivalent resistance (Rcl) generated by the copper wire resistance plus hysteresis losses and eddy current losses. • Q-(Quality factor) Measure the Q factor to ensure magnetic material and assembly quality. • θ-(Impedance phase angle) Measuring the θ value ensures that the magnetic material characteristics, number of winding turns, winding resistance, and distributed capacitance between windings conform to the design specifications • Lk-(Leakage inductance) Leakage inductance measurement ensures that the transformer windings are correctly positioned on the bobbin and that the air-gap size within the magnetic core is properly designed. • C-(Capacitance) Transformer windings inherently exhibit distributed capacitance, which may exist between the primary and secondary windings, or between adjacent secondary windings due to electrostatic coupling. Using the 5260 / 5460 Series Transformer Testers, capacitance can be measured to verify that the inter-winding insulation system—including insulation material and thickness—is properly designed and implemented. • TR-(Turns ratio) Turns ratio measurement ensures that the number of turns in each winding meets the transformer design requirements. • Pin Short Short-circuit testing can be performed between any two transformer pins to verify that no short circuits or unintended contact issues exist between pins and winding terminals after assembly on the bobbin. 	<ul style="list-style-type: none"> • ACW/DCW-(AC/DC withstand voltage) AC/DC withstand voltage testing verifies that the materials used in the windings and their installation positions comply with safety standards. This test ensures that the transformer has sufficient dielectric strength and will not suffer breakdown or damage under high-voltage stress. • IR-(Insulation resistance) Insulation resistance testing confirms that the transformer meets safety compliance requirements and that its insulation performance is adequate. 	<ul style="list-style-type: none"> • Surge/Impulse Transformers are often wound with ultra-fine wire and a high number of turns. If the conductor material has inherent defects or if the insulation is damaged during manufacturing, these issues may not immediately result in a complete short circuit. However, when operating in high-voltage environments, such insulation defects can lead to arcing and sparking. Over time, thermal effects may cause the conductor to short-circuit. Inter-winding short defects cannot be reliably detected using low-voltage test methods. Therefore, a non-destructive high-voltage pulse test is required to detect interlayer short-circuit issues in transformers.

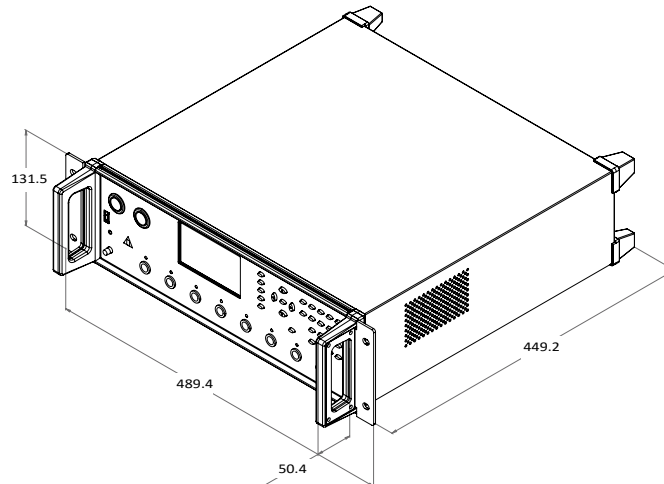
Automatic Chassis Dimension

- Dimension (mm)

• 6265



• 7631



2-in-1 Transformer Testing System (6265+7631)

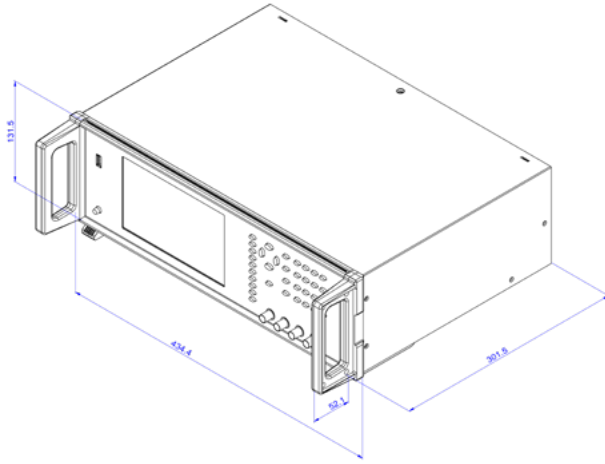
Ordering Information

Transformer Testing System	Standard	Optional
2 in 1 Transformer Testing System <ul style="list-style-type: none"> • 6265+7631(Test Frequency 200kHz Low Voltage+Safety) • 6266+7631(Test Frequency 500kHz Low Voltage+Safety) • 6267+7631(Test Frequency 1MHz Low Voltage+Safety) 	<ul style="list-style-type: none"> • TL-000013 D-Sub Cable- 25F TO 25F (180cm) • Power Cord • Switch Power Supply (DC 24V) 	<ul style="list-style-type: none"> • F7721A Single Scan Control Box • F7721-D Dual Scan Control Box • TL-000003 RS-232 Cable (180cm) • TL-000002 Banana Plug-HV Test Cable-Red (60cm) • PC Link Software

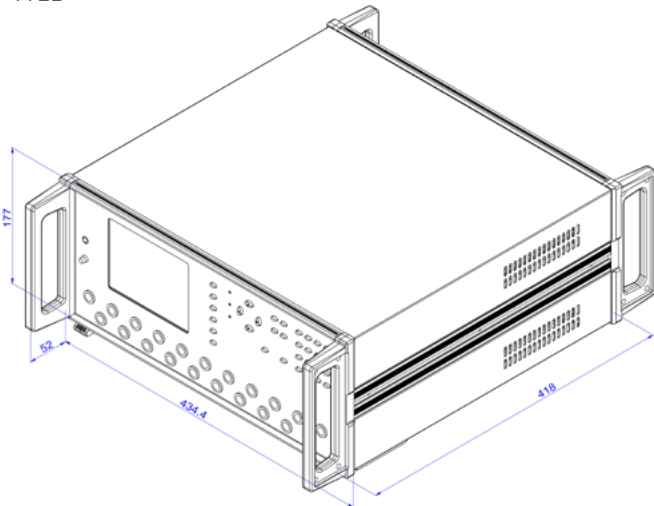
Automatic Chassis Dimension

• Dimension (mm)

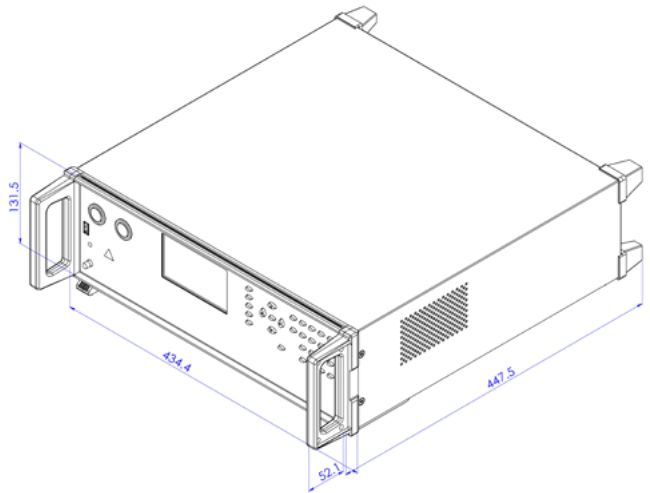
• 6265



• 7721



• 7605



3-in-1 Transformer Testing System (6265+7721+7605)

Ordering Information

Transformer Testing System	Standard	Optional
3 in 1 Transformer Testing System • 6265+7721+7605(Test Frequency 200kHz Low Voltage+ Safety+Impulse) • 6266+7721+7605(Test Frequency 500kHz Low Voltage+ Safety+Impulse) • 6267+7721+7605(Test Frequency 1MHz Low Voltage+ Safety+Impulse)	• TL-000013 D-Sub Cable- 25F TO 25F (180cm) • Power Cord • Switch Power Supply (DC 24V)	• F7721A Single Scan Control Box • F7721-D Dual Scan Control Box • TL-000003 RS-232 Cable (180cm) • TL-000002 Banana Plug-HV Test Cable-Red (60cm) • PC Link Software

Fixture & Accessories

F5620(P)
Transformer Scan Box (Pneumatic)



F5648(P)
Transformer Scan Box (Pneumatic)



F7721A
Single Scan Control Box



Applicable Models	5260 Series	5460 Series	2-in-1/ 3-in-1
Accessory Description	20 channels	48 channels	20 channels

F7721-D
Dual Scan Control Box



TL-000006
LAN Cable



F522010
RCA-Foot Switch



Applicable Models	2-in-1/ 3-in-1	5260 Series/ 5460 Series	5260 Series/ 5460 Series
Accessory Description	20 channels I Dual	150cm	External Control

F5620(M)
Transformer Scan Box (Manual)



F5648(M)
Transformer Scan Box (Manual)



HI-0001
Handler Box



Applicable Models	5260 Series/ 5460 Series	5260 Series/ 5460 Series	5260 Series/ 5460 Series
Accessory Description	20 channels	48 channels	External Control

F423501
Kelvin Clip Leads



F423901
Kelvin Clip Leads



Applicable Models	5260 Series/ 5460 Series	5260 Series/ 5460 Series
Accessory Description	DC ~300kHz	DC~1MHz

TL-000003
RS-232 Cable



Handler Cable



TL-000013
D-Sub Cable



Applicable Models	5260 Series/ 5460 Series/ 2-in-1/ 3-in-1	5260 Series/ 5460 Series	2-in-1/ 3-in-1
Accessory Description	Connect to a computer, and transmit commands to control the instrument from the computer.	Remote Control	25Pin F /25Pin F

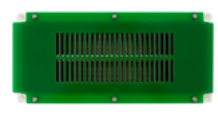
TL-000002
Banana Plug-HV Test Cable-Red



F522001
Fixture Head



F564802
Fixture Head



Applicable Models	2-in-1/ 3-in-1	5260 Series	5460 Series
Accessory Description	HV 20kV 60cm	7.5/5.0-5.0mm	5.0-5.0mm