Function Test Solutions
Automated Testing Equipment
for Electrical Wiring and Components
AUTOMATED TESTING EQUIPMENT
FOR ELECTRICAL WIRING AND COMPONENTS

Multibox KT 235 Maintenance Box
NT 730LT “All-in-One” Trolley
NT 730 Component Test Rack
NT 830 Flexible Vehicle Tester
Configuration Example: Distributed Test with NT 830

NT 730 All-Round Test Rack
NT 751 Cost Saver for High Voltage Test
NT 850 Flexible Vehicle Tester
Configuration Example: Distributed Test with NT 850

Test Table Systems
for Low Voltage Applications and Intrinsically Safe
High Voltage Applications
Test Table Systems
with Safety Housing and Infra Red Light Curtain for
High Voltage Applications Which are Not Intrinsically Safe
Bench Top Test Consoles PT 40 and PT 60
for Low Voltage and High Voltage Applications
of Small and Mid Range Cable Harnesses

KT - COMPACT TESTERS
KT 210
KT 230
KT 638
NT Testers with Graphical User Interface
NT 210
NT 230
NT 637
NT 630, NT 631, NT 632
NT 642
NT 730
NT 910, NT 920

THE INTUITIVE GUIDING CONTROL SOFTWARE

Aerospace, Defense, Marine
Test systems for air-, sea- and ground vehicles and their components

Railway Industry
Test systems for locomotives, wagons or components like driver desks, control cabinets or couplers

Automotive Industry
Test systems for automotive wiring and components

Industrial Wiring
Test systems for automation, telecommunication and data-communication, medical technology or white goods industry

NT Control Operating Software
The graphical user interface for testing and programming

For more detailed information please visit our websites
tooling.te.com, tooling.te.com/china and tooling.te.com/europe
Automated Testing Equipment for Electrical Wiring and Components

Customized testing solutions for aerospace, defense, marine and railway as well as for automotive or industrial products, from the module to the vehicle.

Coverage of the process chain from small part manufacture to pre- and final assembly and maintenance.

Test systems for fully automated wiring and function test tasks. From compact bench top testers up to distributed test systems for large UUTs, as well as high voltage test tables.
Scope of Functions

- Continuity test
- Short circuit test
- Test of passive components (resistors, diodes, LEDs, switches...)
- Capacitance test
- 4-wire measurement (Kelvin mode)
- HV insulation test
- Dielectric strength test
- Functional test (stimulating) of electromechanical components (relays, conductors)
- Inductance test
- Test of communication cable (twisted pair)
- Attenuation test of optical fibers
- Table test, with features such as:
  - Leak test
  - Push back test
  - Presence test of mechanical components

Select Between 2 Test System Families

- KT compact systems: integrated user interface (display / keyboard)
- NT test systems: graphical user interface
  NT Control on external Windows based PC

For more detailed information please visit our websites tooling.te.com, tooling.te.com/china and tooling.te.com/europe
Multibox KT 235
The Maintenance Box

Mobile compact test system in hard-top case. Integrated display, keyboard and application specific test point interfaces.

**Scope of Functions**
- No. of test points: max. 512
- Low voltage test: max. 12 VDC / 400 mA
- 4-wire measurement
- High voltage test: max. 1000 VDC
- Line input: 230 VAC / 24 - 28 VDC / battery

**Applications**
- Cable repair
- In field testing (aero engines, naval propulsions etc.)

The test systems comply with valid norms and standards, such as DIN EN 2283. Thus documented and acknowledged test is secured.

For more detailed information please visit our websites tooling.te.com, tooling.te.com/china and tooling.te.com/europe
NT 730LT
The “All-in-One” Trolley

Mobile testing system in trolley case. Integration of functional test possible. Storage compartment for notebook and accessory. Application specific interfaces and equipment.

Scope of Functions:
- No. of test points: max. 1024
- Low voltage test: max. 40 VDC / 2 A
- 4-wire measurement
- High voltage test: max. 1500 VDC / 1050 VAC
- 24 – 28 VDC functional test

Applications:
- Harness shop
- In field testing (aero engines, naval propulsions etc.)
- Test of active components (relays, conductors, signal lamps etc.)

NT 730
The Component Test Rack

Customizable and moveable testing system in 19” technology. Modules are combined to an application specific turn key solution (wiring, functional, optical attenuation test etc.). Application specific interface.

Scope of Functions:
- No. of test points: max. 32768
- Low voltage test: max. 40 VDC / 2 A
- 4-wire measurement
- High voltage test: max. 1500 VDC / 1050 VAC
- Functional test (up to 115 VAC / 400 Hz)

Applications:
- Harness shop
- Pre- and final assembly of vehicles
- Component manufacture (e.g. aero engines)
- Test of active components (relays, conductors, signal lamps etc.)

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NT 830
The Flexible Vehicle Tester

Distributed test system in 19” technology. External test point units (TPUs) to be arranged in ideal position. Reduction of adapter cable masses up to 70%. Modules are combined to an application specific turn key solution (wiring, functional, optical attenuation test etc.). Application specific interface.

Scope of Functions
- No. of test points: max. 131072
- Low voltage test: max. 40 VDC / 2 A
- 4-wire measurement
- High voltage test: max. 1500 VDC / 1050 VAC
- Functional test (up to 115 VAC / 400 Hz)

Applications
- Pre- and final assembly of vehicles, such as aircrafts, helicopters, satellites.
- Huge component manufacture
- Test of active components (relays, conductors, signal lamps etc.)

<table>
<thead>
<tr>
<th>FIND YOUR DEDICATED TESTING SYSTEM</th>
<th>NT 637</th>
<th>NT 63...</th>
<th>NT 730LT</th>
<th>NT 730</th>
<th>NT 648</th>
</tr>
</thead>
<tbody>
<tr>
<td>The cost and space saver</td>
<td>Bench top</td>
<td>Bench top</td>
<td>Mobile trolley</td>
<td>19” rack</td>
<td>Bench top</td>
</tr>
<tr>
<td>Housing</td>
<td>1500 VDC/1050 VAC</td>
<td>1500 VDC/1050 VAC</td>
<td>1500 VDC/1050 VAC</td>
<td>1500 VDC/1050 VAC</td>
<td>2150 VDC/1500 VAC</td>
</tr>
<tr>
<td>Max. test voltage</td>
<td>512</td>
<td>4096</td>
<td>1024</td>
<td>32768</td>
<td>1024</td>
</tr>
<tr>
<td>Max. no. of test points</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>Customizable interface</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Line input</td>
<td>230 VAC</td>
<td>230 VAC</td>
<td>230 VAC</td>
<td>230 VAC</td>
<td>230 VAC</td>
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<tr>
<td>4-wire mode</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Continuity test</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Short test</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>HV-insulation test</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Component test</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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</tr>
<tr>
<td>Dielectric strength test</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>x</td>
</tr>
<tr>
<td>Capacitance test</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Inductance test</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Optical attenuation test</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Functional test</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

x = included o = Option

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**Configuration Example:**

**Distributed Test with NT 830**

Especially designed for the testing of large units, such as aircrafts, helicopters or satellites. Test systems of the NT 830 series consist of a base unit with measurement electronics and control-PC + application specific designed distributed Test Point Units (TPUs) up to a maximum of 131000 test points.

The TPUs are connected to the base unit via a serial bus cable to be located at an ideal place. Thus adapter cable lengths and masses can be optimized to a high extent.

The system can be operated directly from the base unit or by a mobile operating panel with WLAN connection.

All measurement parameters and test results will be reported during the test procedure and can be printed or saved in a file.

A high degree of programming automation can be achieved by importing test data from CAD, Excel or xml files (link, net or component list). Moreover several interpreter or importer solutions for existing testing files of different standard can be provided.

Helpful tools like an integrated multimeter facilitate fault detection and repair.

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**System Overview**

(Example Aircraft)

**NT 742**
- The higher voltage test rack

**NT 830**
- The flexible vehicle tester
- 19" base unit + test point satellites
- 3750 VDC/2650 VAC
- 230 VAC

**KT 235**
- The maintenance box
- Hard-top case
- 1500 VDC/1050 VAC
- 230 VAC
- 230 VAC / 24 - 28 VDC
- 32768
- 131072
- 512

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RAILWAY INDUSTRY

TEST SYSTEMS FOR LOCOMOTIVES, WAGONS OR COMPONENTS LIKE DRIVER DESKS, CONTROL CABINETS OR COUPLERS.

The test systems comply with valid norms and standards, such as DIN EN 50343 (railcars) and DIN EN 50151 (components). Thus documented and acknowledged test is secured.

NT 730
The All-Round Test Rack

Customizable and moveable testing system in 19" technology. Beside “classic” wiring test, functional test of electromechanical components (relays, conductors) can be performed. Up to 4 different (programmable) power supplies can be administered at the same time. Application specific interface.

Scope of Functions
- No. of test points: max. 32768
- Low voltage test: max. 40 VDC / 2 A
- 4-wire measurement
- High voltage test: max. 1500 VDC / 1050 VAC
- Test of passive components (resistors, LEDs, diodes, varistors etc.)
- Functional test (switching cabinets, driver desks etc.)

Applications
- Harness shop
- Pre- and final assembly of vehicles
- Component manufacture (switching panels, air condition etc.)
- Test of active components (relays, conductors, signal lamps etc.)

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NT 751
The Cost Saver for High Voltage Test

Customizable and moveable testing system in 19" technology. Up to 3 different voltage levels can be administered (6 kV / 3.7 kV / 1.5 kV, e.g.). The intention is to minimize the number of cost intensive high voltage testing points. Beside “classic” wiring test, functional test of electro-mechanical components (relays, conductors) can be performed. Up to 4 different (programmable) power supplies can be administered at the same time. Application specific interface.

Scope of Functions
- No. of test points: max. 32768
- Low voltage test: max. 40 VDC / 2 A
- 4-wire measurement
- Up to 3 different HV-Levels e.g.:
  - 1500 VDC / 1050 VAC
  - 3750 VDC / 2650 VAC
  - 6000 VDC / 5000 VAC
- Test of passive components (resistors, LEDs, diodes, varistors etc.)
- Functional test (switching cabinets, driver desks etc.)

Applications
- Harness shop
- Pre- and final assembly of vehicles
- Component manufacture (switching panels, air condition etc.)
- Test of active components (relays, conductors, signal lamps etc.)

For more detailed information please visit our websites tooling.te.com, tooling.te.com/china and tooling.te.com/europe
Distributed test system in 19” technology. External test point units (TPUs) to be arranged in ideal position. Reduction of adapter cable masses up to 70%. Modules are combined to an application specific turn key solution (wiring, functional, optical attenuation test etc.) and application specific interface.

**Scope of Functions**
- No. of test points: max. 131072
- Low voltage test: max. 40 VDC / 2 A
- 4-wire measurement
- High voltage test: max. 6000 VDC / 5000 VAC
- Functional test (switching cabinets, driver desks etc.)

**Applications**
- Pre- and final assembly of vehicles, such as locomotives, trams or train sets.
- Huge component manufacture
- Test of active components (relays, conductors, signal lamps etc.)

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**NT 850**

The Flexible Vehicle Tester

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**FIND YOUR DEDICATED TESTING SYSTEM**

**NT 637**
- The cost and space saver
  - Housing: Bench top
  - Max. test voltage: 1500 VDC / 1050 VAC
  - Max. no. of test points: 512
  - Customizable interface: -
  - Line input: 230 VAC
  - 4-wire mode: o
  - Continuity test: x
  - Short test: x
  - HV-insulation test: x
  - Component test: x
  - Dielectric strength test: o
  - Capacitance test: x
  - Inductance test: o
  - Optical attenuation: o
  - Functional test: o

**NT 630LT**
- The all in one harness tester
  - Housing: Mobile trolley
  - Max. test voltage: 1500 VDC / 1050 VAC
  - Max. no. of test points: 4096
  - Customizable interface: -
  - Line input: 230 VAC
  - 4-wire mode: o
  - Continuity test: x
  - Short test: x
  - HV-insulation test: x
  - Component test: x
  - Dielectric strength test: o
  - Capacitance test: x
  - Inductance test: o
  - Optical attenuation: o
  - Functional test: o

**NT 730**
- The component test rack
  - Housing: 19” rack
  - Max. test voltage: 1500 VDC / 1050 VAC
  - Max. no. of test points: 1024
  - Customizable interface: x
  - Line input: 230 VAC
  - 4-wire mode: o
  - Continuity test: x
  - Short test: x
  - HV-insulation test: x
  - Component test: x
  - Dielectric strength test: o
  - Capacitance test: x
  - Inductance test: o
  - Optical attenuation: o
  - Functional test: x

**NT 730LT**
- The AC test cost saver
  - Housing: Bench top
  - Max. test voltage: 2150 VDC / 1500 VAC
  - Max. no. of test points: 1024
  - Customizable interface: 19
  - Line input: 230 VAC
  - 4-wire mode: o
  - Continuity test: x
  - Short test: x
  - HV-insulation test: x
  - Component test: x
  - Dielectric strength test: o
  - Capacitance test: x
  - Inductance test: o
  - Optical attenuation: o
  - Functional test: x

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Configuration Example:
Distributed Test with NT 850

Specifically designed for the testing of large units, such as locomotives, trams or train sets. Test application specific designed distributed Test Point Units (TPUs) up to a maximum of 131000 test points.

The TPUs are connected to the base unit via a serial bus cable to be located at an ideal place. Thus adapter cable lengths and masses can be optimized to a high extend.

The system can be operated directly from the base unit or by a mobile operating panel with WLAN connection. All measurement parameters and test results will be reported during the test procedure and can be printed or saved in a file.

A high degree of programming automation can be achieved by importing test data from CAD, Excel or xml files (link, net or component list). Moreover several interpreter- or importer solutions for existing testing files of different standards can be provided. Helpful tools like an integrated multimeter facilitate fault detection and repair.

<table>
<thead>
<tr>
<th>NT 751</th>
<th>NT 850</th>
<th>KT 235</th>
</tr>
</thead>
<tbody>
<tr>
<td>The higher voltage test rack</td>
<td>The flexible vehicle tester</td>
<td>The maintenance box</td>
</tr>
<tr>
<td>19&quot; rack</td>
<td>19&quot; base unit + test point satellites</td>
<td>Hard-top case</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6000 VDC/ 5000 VAC</th>
<th>6000 VDC/ 5000 VAC</th>
<th>1000 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>32768</td>
<td>131072</td>
<td>512</td>
</tr>
<tr>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>230 VAC</td>
<td>400 VAC (3-phase)</td>
<td>230 VAC / 24 - 28 VDC</td>
</tr>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
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<td>o</td>
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<tr>
<td>x</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

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TE offers specialized test table systems for low and high voltage test applications for the testing of automotive cable harnesses. The test tables are prepared for the integration of different series of wiring testers and adapters of the type AT 4000. Test systems with most different test voltages and test point extensions can be configured and built easily.
Outstanding Test Range

The wiring is tested with test table or test console systems. In addition there are many other test types e.g. presence detections, checking for the correct positioning and alignment of connector terminals, test of presence and values of electrical components as e.g. resistors, diodes, capacitors. Also color detection is available.

High Voltage Test Solutions

The market of e-mobility has passed through its orientation phase. Especially in the field of electrical vehicles many OEMs have pushed their models from prototype status into series maturity.

A huge number of vehicle models will be launched in the near future. Thereby the requirements of automotive high voltage cable harnesses will increase rapidly. This presents the cable manufacturers and suppliers with new challenges at serial production.

For ‘end of line’ test of the manufactured HV cable harnesses TE delivers project specific high voltage turn-key solutions.

The TE test systems fulfill current national and international standards. Numerous HV test table systems are already installed at the factories of the cable harness manufacturers.

Adapters

The contacting of the connector terminals is done in the contour of the adapter using spring loaded test pins. Pin head shapes and spring forces are selected specifically corresponding to the types of connector terminals.

The mounting of AT 4000 type adapters is realized modularly in the test table. So the adapter layout, predetermined by the UUT, can be changed individually.

Pneumatic clamps hold the connectors of the unit under test in the corresponding contour. Release is done either pneumatically under control by the tester, with the central release button or per connector using the button in each adapter. Adapter LEDs help the operator when adapting, in case of faults and many other situations.

Reliability of the adapters is ensured even at high throughput levels by way of their ease of maintenance. Thanks to the modular design and use of threaded test pins, repairs can be done quickly and easily.

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Test Table Systems
for Low Voltage Applications and Intrinsically Safe High Voltage Applications

Test Tables
Test tables are a decisive component of the TE Connectivity kit for the assembly of comfortable and high-quality test systems for the wiring test of manufactured cable harnesses of all types.

The test tables are prepared for the integration of our testers of the different series and adapters of the type AT4000. Test systems with different test voltages and test point extensions can be configured and built easily.

The lower cabinet offers space and 19” mounting mechanics for the tester and a 19” industrial PC.

Adapters
The mounting of AT4000 type adapters in the test table is realized without the use of assembly rails. So the adapter layout, predetermined by the UUT, can be changed individually. The mounting of simple up to complex adapters with different mechanical dimensions is easily possible without modifications of the table frame.

Due to the modular and flexible design, an adaption to a new or changed UUT can be realized easily.

Test Table Sizes

<table>
<thead>
<tr>
<th></th>
<th>TT 1200</th>
<th>TT 1800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (W x H x D in mm, without options)</td>
<td>1270 x 1100 x 1090</td>
<td>1870 x 1100 x 1090</td>
</tr>
<tr>
<td>Weight (tare weight without adapters and options)</td>
<td>approx. 150 kg</td>
<td>approx. 180 kg</td>
</tr>
<tr>
<td>Max. no. of adapters AT4000 100 x 100 mm (horizontal/vertical)</td>
<td>72 (12 / 6)</td>
<td>108 (18 / 6)</td>
</tr>
<tr>
<td>Max. no. of test point interface boards</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Air distribution outputs to adapters</td>
<td>60</td>
<td>90</td>
</tr>
<tr>
<td>Storage area (W x D in mm)</td>
<td>1200 x 410</td>
<td>1800 x 410</td>
</tr>
</tbody>
</table>
Test Table Software

All testers used in test tables are equipped with operator software specifically set up for test table applications.

Table specific functions like
- automatic adapter scan,
- control and display of adapter LEDs,
- adaptation test etc.

are available.

Basic Equipment

- Solid steel framework with integrated coordinate inscription
- Ergonomic reception surface for the integration of AT4000 adapters, approx. 15° inclination
- START/RELEASE and PIN module
- Unused areas are covered with blind plates
- Integrated control unit for the control of the adapters
- Integrated 24 VDC power supply unit for the power supply of the AT4000 adapters
- Air distribution rail (air supply for AT4000 adapters)
- Compressed air maintenance unit, consisting of pressure control, filter and connector
- Storage area e.g. for monitor, keyboard, printer
- Height adjustable frame feet
- Lower cabinet, lockable, with 19” assembly rails for the integration of PC system (IPC) and test box
- Without AT4000 adapters, adapter cables, test point interface boards (equipment application specific)

Options

- Illumination
- Monitor swivel-arm
- Caster set

<table>
<thead>
<tr>
<th>TT 2400</th>
<th>TT 3000</th>
<th>TT 3600</th>
</tr>
</thead>
<tbody>
<tr>
<td>2470 x 1100 x 1090</td>
<td>3070 x 1100 x 1090</td>
<td>3670 x 1100 x 1090</td>
</tr>
<tr>
<td>approx. 250 kg</td>
<td>approx. 280 kg</td>
<td>approx. 300 kg</td>
</tr>
<tr>
<td>144 (24 / 6)</td>
<td>180 (30 / 6)</td>
<td>216 (36 / 6)</td>
</tr>
<tr>
<td>26</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>120</td>
<td>150</td>
<td>180</td>
</tr>
<tr>
<td>2400 x 410</td>
<td>3000 x 410</td>
<td>3600 x 410</td>
</tr>
</tbody>
</table>

Different types of testers can be adapted. NT Testers will be mechanically integrated into the lower cabinet.

Typical testers are:
- NT 411
- NT 620
- NT 637

Example application:
- TT 1200 with tester
- NT 411 integrated

Equipped with the options Illumination and guide roller set

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Test Table Systems with Safety Housing and Infra Red Light Curtain for High Voltage Applications which are not Intrinsically Safe

In most cases NT types of the series 7 with a mixed matrix are used. 'Mixed matrix' means, that the tester includes different types of test point cards in order to support different test voltage levels. Such testers must be individually configured to correspond with the requirements of the test application. Because of the bigger size those testers are positioned beside the test table.

**Basic Equipment**
- Test voltages up to 6.000 VDC / 5.000 VAC
- Test current up to 2 A
- Continuity, short circuit and component test
- Four-wire measurement (Kelvin)
- Insulation test
- Dielectric strength test DC and AC
- 'Mixed Matrix' in order to support different test voltage levels
- Contact safe and high voltage resistant adapters
- Light curtain protected test cage
- Highly modular and expandable; all components are integrated well arranged and maintenance friendly
- Comfortable programming and handling

**Options**
- Illumination
- Monitor swivel-arm
- Caster set

Different sizes of safety housings are available for:
- TT 1200
- TT 1800
- TT 2400
- TT 3000
- TT 3600

Typical testers are:
- NT 642
- NT 742
- NT 751

Example application
High voltage test table system
TT 2400 with tester NT 751

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Bench Top Test Consoles
PT 40 and PT 60
for Low Voltage and
High Voltage Applications
of Small and
Mid Range Cable Harnesses

The test consoles PT 40 / PT 60 in connection with a test system are
the optimal instruments for small and mid range cable harnesses. They offer almost the same
functionality as the test tables, only limited by their dimensions.

For type PT 60 the following options are available:
• Support frame on wheels
• Desk illumination
• Safety cover mounted with gas springs, incl. safety switch

Example application
PT 40 with KT 210

Different sizes of test consoles are available:
• PT 40
• PT 60

Different types of testers can be adapted:
Typical Testers are:
• NT 210
• NT 230
• KT 210
• KT 638

Only in combination with option ‘Safety Cover’:
• NT 642

Option ‘Safety Cover’
(only for PT 60)
Wide range of low voltage and high voltage testers for industrial applications in electrical engineering, automation, medical technology, telecommunication or data-communication. We offer KT stand-alone testers with integrated display, keyboard, I/O-interfaces, bus interfaces for control by PLC or NT testers with the outstanding graphical user interface NT Control for testing and programming on a PC.

**KT – Compact Testers**

All systems of the series KT are applicable with interfaces for use in automatic environment (I/O-modules, Profibus, ProfiNet, serial communication ...).

**KT 210**

**Automation**
Test of connectors and insert molding parts Interfaces for use in automatic environment (I/Os, field busses like Profibus, ProfiNet)

- Low voltage continuity test
- Short test
- Component test (R, C, D, LED etc.)

- Up to 512 test points
KT 230

**Automation**
High voltage version of the KT 210 with high voltage test up to 1000 VDC. Test of connectors and insert molding parts.

- Low voltage continuity test
- Kelvin test from 10 mOhm optional
- Short test
- Component test (R, C, D, LED etc.)
- Insulation test up to 1 G Ohm
- Breakdown test up to 1000 VDC

- Up to 256 test points

KT 638

**Automation**
Main field of application in automatic environment. Test of connectors and insert molding parts up to 1500 VDC.

- Low voltage continuity test
- High current continuity test up to 2 A
- Kelvin test from 1 mOhm optional
- Short test
- Component test (R, C, D, LED etc.)
- Breakdown test up to 1500 VDC
- Insulation test

- Up to 512 test points
NT Testers with Graphical User Interface

Systems of the series NT are programmed and controlled with the graphical user interface NT Control installed on an external PC system. The systems are ideal for use in workplaces where it matters to give as much as possible information about the fault location and the fault type. Another aspect is the logging of test results, for example databases, printouts, labels etc.

**Applications**
Industry, telecommunication, medical, automation

NT 210

**Industrial Wiring**
Perfect for stand-alone operation and for test consoles.

- Low voltage continuity test, max. 12 VDC
- Short test
- Component test (R, C, D, LED etc.)
- Up to 512 test points
NT 230

**Industrial Wiring**
High Voltage version of the NT 210 up to 1000 VDC.

- Low voltage continuity test
- Kelvin test from 10 mOhm optional
- Short test
- Component test (R, C, D, LED etc.)
- Insulation test up to 1 G Ohm
- Breakdown test up to 1000 VDC

- Up to 256 test points

NT 637

**Automation/Industrial Wiring**
For example: test of cable assemblies

- Low voltage continuity test
- High current continuity test up to 2 A
- Kelvin test from 1 mOhm optional
- Short test
- Component test (R, C, D, LED etc.)
- Breakdown test up to 1500 VDC / 1050 VAC (AC optional)
- Insulation test

- Up to 512 test points

NT 630, NT 631, NT 632

**Industrial Wiring**
For example: test of sensors

- Low voltage continuity test
- High current continuity test up to 2 A
- Kelvin test from 1 mOhm optional
- Short test
- Component test (R, C, D, LED etc.)
- Breakdown test up to 1500 VDC / 1050 VAC
- Insulation test
- Shielding test

- NT 630: up to 1,024 test points
- NT 631: up to 2,028 test points
- NT 632: up to 4,096 test points

For more detailed information please visit our websites tooling.te.com, tooling.te.com/china and tooling.te.com/europe
INDUSTRIAL WIRING

NT 642

Medical Wiring
For example: ECG cables

Energy
For example: test of charging cables

- Low voltage continuity test
- High current continuity test up to 2 A
- Kelvin test from 1 mOhm optional
- Short test
- Component test (R, C, D, LED etc.)
- Breakdown test up to 3750 VDC / 2650 VAC
- Insulation test
- Shielding test

- Up to 1024 test points

NT 730

Industrial Wiring:
For example: function test for robot tool changers

- Continuity test
- Short test
- Insulation test up to 1500 VDC
- Stimulus function
- Test of relays inside of UUT
NT 910, NT 920

Direct Test Systems for Telecommunication
For example: test of backpanels, subracks, cabinets

- Up to 250 VDC
- Up to 262144 test points

For more detailed information please visit our websites tooling.te.com, tooling.te.com/china and tooling.te.com/europe
THE INTUITIVE GUIDING CONTROL SOFTWARE

The Graphical User Interface for Testing and Programming with NT Test Systems

NT test systems are predestined for most application-specific test tasks in the wiring, back panel and function test area and are operated and programmed by the graphic user interface NT Control. NT Control is proven by thousands of various applications in the field.

Advanced Test of Wirings and Assemblies
- Intuitively guiding testing and programming environment
- No programming skills required
- Integrated multimeter and pin probe function
- Free design of report and label layouts
- Importers and interpreters to enable use of existing test programs in different standards
- Converter for generation of test data from CAD, Excel or XML files

Testing is operated via buttons, which can be activated by mouse-click or by touch screen. Additional functions like entries of serial numbers, lot size, operators name etc. can be carried out by keyboard or by barcode scanner.

Visualization in any operating and programming level facilitates handling to a high extent. The user interface can be adjusted to special requirements according to presentation and test procedure control.
The test results are evaluated statistically and visualized in the test panel. Detected UUT faults will be listed. Additional information to each error – type of error, affected test points, measured values etc. – can be displayed.

Beside this NT Control is providing an integrated multimeter function for a wide range of specific single measurements. Physical localization of connective points will be supported by a pin probe.

The generation of the UUT specific test program can be managed manually with comfortable editors (net list editor, link list editor, insulation test point editor), by auto-programming of golden patterns or by import of CAD data or wiring lists of different formats. Several interpreter or importer solutions for existing testing files of different standards can be provided. Components like resistors, varistors, LEDs etc. are edited in a pre-arranged list, containing dedicated predefined information to most common electronic elements.

For more detailed information please visit our websites tooling.te.com, tooling.te.com/china and tooling.te.com/europe