

Wiring Test System

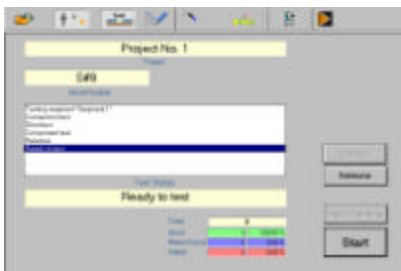
NT 630, NT 631, NT 632

Compact High Voltage Test Systems

This range of test systems are very compact and modular, providing the flexibility to fit into a wide range of applications for test voltages up to 1500 VDC (1000 VAC as option) with up to 4096 test points.

The intelligent test unit is integrated into the portable housing together with the test point electronics.

A separate PC is used to drive this test box via an RS232 serial interface (optionally Ethernet 10BaseT). The front-end PC provides the user interface and is responsible for test program editing, data handling and data storage.



Powerful Measurements

The system's measurement technology is setting new standards in wire harness testing.

Three powerful measurement units are integrated into the NT 630 series of testers. High accuracy will be achieved with continuity test, short test and resistance measurement.

The component test function reliably checks resistors, capacitors, varistors, diodes, zener diodes and LEDs.

The precise high-voltage measurement provides insulation or breakdown tests up to 1500 VDC.

High current measurements (up to 2 Amps) are standard. Optionally, a four-wire measurement from 5 mV up can be integrated.

adaptronic Quality

The excellent reliability of adaptronic test systems, our responsive service and the experience of two decades render a convincing contribution to the quality assurance of your products. Our certification under **DIN EN ISO 9001** and **VDA 6.1** is evidence of this claim.

Flexibility in Applications

The NT 630 series of testers is used in cable assembly, medical technology, telecommunications, aerospace and automotive industries.

A major application is the testing of safety-related wiring and devices such as airbag and ABS harnesses.

The system performs in a production environment as well as in laboratories. Together with a laptop front-end, the PC NT 630 makes a portable system for applications where the system has to be moved to the unit under test. The NT 631 and NT 632 are integrated into compact desktop housings even though they can be expanded to a high number of test points.

Two types of test point electronics are available to adapt the systems to the testing application: the **MPX** (Multiplex) technology with greater test point density per switch card or the **SP** (Single Point) technology providing optimal test speed.

NT Control User Interface

The system operation, based on a Windows® 9x/NT user interface, is efficient and user-friendly. An optional touch screen can be used.

The extensive graphical fault-display allows fast error location, analysis, repair and statistical data storage.

Special testing demands can be solved using the test sequence programming tool.

An integrated adapter editor creates an adapter database, accessible for testing purposes.

Programming

It's a simple mouseclick to switch from testing mode into programming mode and back. This makes it easy to create or alter test programs. Tests can be split into several individually tested segments. After editing, test programs are instantly available for testing.

Technical Data NT 630, NT 631, NT 632

1. Testbox

Test points

MPX or SP test electronics

- MPX: Multiplex technology for high testpoint density
 - SP: Single Point technology for optimum test speed
- Maximum number of testpoints:

Test System	MPX	SP
NT 630	1042	512
NT 631	2048	1024
NT 632	4096	2048

Testpoint interface

DIN 41612, female connectors

Low voltage test

- Test voltage: 0.1 - 40 VDC in steps of 0.1 V
- Threshold for continuity test: 1 Ω - 1 k Ω , \pm 2 %, min. 1 Ω
- Threshold for short circuit test: 20 k Ω - 10 M Ω , \pm 2 %
Option 10 M Ω - 100 M Ω , \pm 10 %)

Component test

- Resistance: 1 Ω - 10 M Ω , \pm 2 %, min. 1 Ω
Option 10 Ω - 100 M Ω , \pm 10 %
- Capacitance: 10 nF - 20 mF, \pm 5 %, min. 100 pF
Option 10 pF - 10 nF, \pm 10 %, min. 5 pF
- Diodes: forward voltage: < 1.0 V
reverse voltage: max. 40 V
- Zener diodes: forward voltage: < 3.0 V
zener voltage: max. 35 V
- LEDs: forward voltage: < 4.0 V
reverse voltage: max. 35 V
- Varistors: varistor voltage: 50 - 500 V
current: 1 mA

High current continuity test

- Test voltage: max. 12 V
- Test current: 50 mA - 2 A in steps of 10 mA
- Threshold for continuity test: 0.5 Ω - 1 k Ω , \pm 5 %, min. 0.5 Ω
- Four wire measurement (Option):
5 m Ω - 5 Ω , \pm 3 %, min. 1 m Ω at $I \geq 1$ A
50 m Ω - 5 Ω , \pm 5 %, min. 1 m Ω at $I \geq 100$ mA

Insulation test and dielectric strength test DC

- Test voltage: 50 - 1,500 VDC in steps of 10 V
- Insulation test: threshold 500 k Ω - 1,000 M Ω , \pm 5 %
- Dielectric strength
Testing times:
Rise time 0 - 10s in steps of 100 ms
Dwell time 0 - 60s in steps of 100 ms
- Test current: Maximum 2 mA (limited by VDE 0411, EN61010)

Fast identification of voltage drops (arc detection).

Dielectric strength test AC (Option)

- Test voltage: 100 - 1,000 VAC in steps of 10 V
- Testing times:
Rise time 20 ms - 65 s in steps of 20 ms
Dwell time 20 - 65 s in steps of 20 ms
Fall time 0 - 65 s in steps of 20 ms
- Test current: max. 3 mA (limited acc. to VDE 0104)

Interfaces

- External Interface
- Serial interface for control by the front-end PC
- Interface for safety interlock and red-green signal lamp
- Ethernet 10BaseT (Option)

Environmental conditions

- Temperature range: Operation: + 10° C to + 40° C
Storage: + 10° C to + 60° C
- Relative humidity: Operation: 30 % - 70 %, non-condensing

Power supply

90-130 VAC, 180-260 VAC, 50 Hz - 60 Hz, auto-ranging

Dimensions

NT 630: 450 x 270 x 420 mm (W x H x D)
NT 631: 505 x 429 x 520 mm (W x H x D)
NT 632: 505 x 696 x 520 mm (W x H x D)

2. NT Control and PC System

Operating environment

- Front-end PC System with NT Control software
- User interface clearly laid out
- Extensive graphic fault display

Programming

- Self learning from known-good sample
- Manual programming under NT Control
- CAD download with CADCONV software (option)
- Backward compatible with existing adaptronic test programs in ATX-format

Diagnosis

- for measurement cards
- for test electronics

Printing

- Detailed printouts of test results on all Windows® supported printers
- Label printing

Recommended PC system

- Pentium 166 or higher
- 32 MB RAM
- CD-ROM drive
- Monitor 15", optional touch screen
- Keyboard, mouse (for programming mode)
- 2 serial interfaces
- Windows® 9x/NT

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