

NT 800-5

Flexible low voltage tester for the test of extra-large scale UUTs
Innovative test technology for cable harnesses in installed condition

Design:

- Distributed test system consisting of:
 - Base unit with control unit and measurement electronics
 - TPUs (Test Point Units): The remote-controlled TPUs can be arranged in a satellite-like manner around the test object.
The adapter cables are connected to the TPUs to adapt UUT connectors.
 - ATA (Active Termination Adapter) for direct adaptation of the UUT connectors.
- High modularity in hardware and software
- Test point expansion on „plug and play“ principle possible

Benefits:

- Reduction of production costs, through parallelization of electrical test and other manufacturing steps in the production process.
- Reduction of the number of adapter cables as well as adapter cable lengths by up to 70%.
- Space saving due to miniaturization of the test system
- High degree of automation in test program generation

Application:

- Pre- and final-assembly of aerospace vehicles
- Supplying industry of components like fuselage parts, wings, tail units, galleys and their (sub-) cable harnesses etc..

TESTING

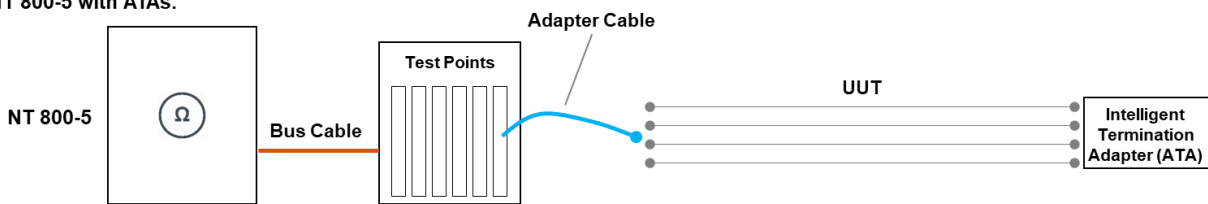
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NT 800-5 measuring principle / system overview

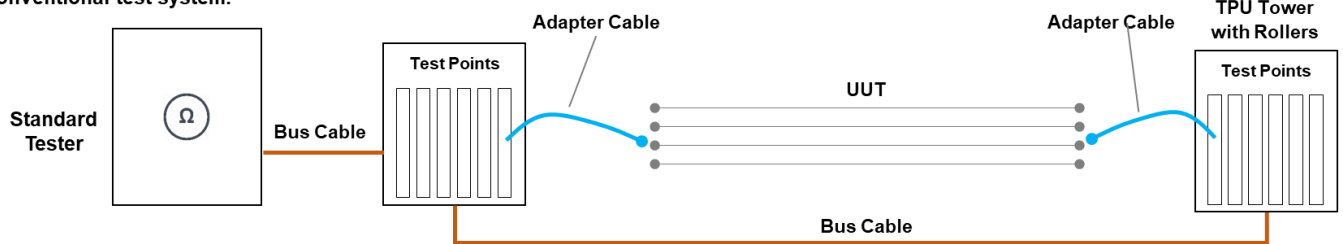
Intelligent termination adapters, so-called ATAs (Active Termination Adapters), allow to reduce the number of adapter cables. The test signal is fed in at one end of a cable bundle of the UUT. The other end is terminated by one or more ATAs. A measurement loop is formed by the ATAs, via which the line resistance of each line in the cable harness is determined. Classic faults in the wiring harness, such as interruption and short-circuit of lines, are reliably detected and the fault location is determined.

Comparison of the test system topologies

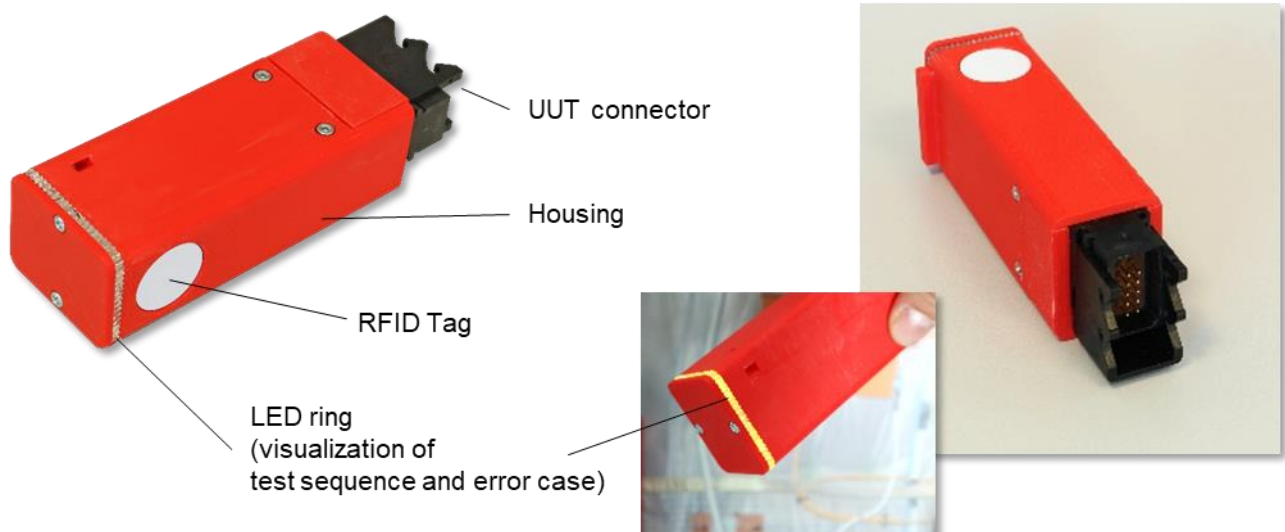
NT 800-5 with ATAs:



Conventional test system:



ATA (Active Termination Adapter)

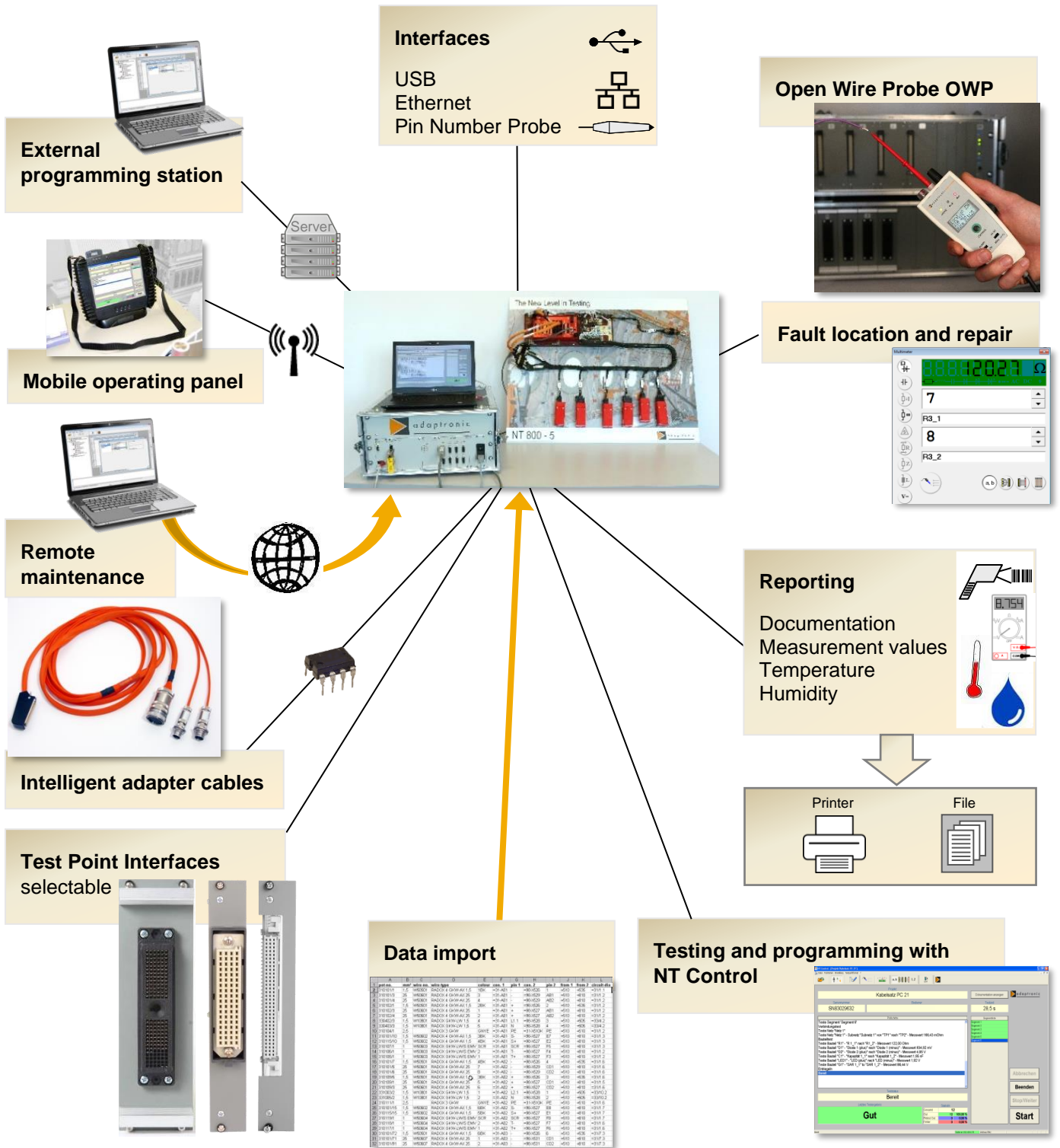


Main advantages of the adaptronic ATA technology are:



- no cables from the ATA to the test system
- no power supply for the ATA
- no battery charging technology for the ATA
- no radio technology in the industrial environment



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Further features:



NT 800-5

Base units	integrative	expandable
		
Type	4 RU	20 RU
Particular feature	Desktop	Mobile cabinet

TPU types	minimal	optimized
		
Type	LRU	TPU LV 04/01
Max. test voltage	35 VDC	35 VDC
Max. no. of test points	512	512

Test program generation and testing with NT Control

Convenient generation, editing and management of test programs as well as testing with the user-friendly software NT Control. Data exchange between a PC with NT Control and NT 800-5 takes place via network. NT Control is required for the operation of the NT 800-5 and is part of the delivery. NT Control runs on a PC* with the operating systems Microsoft Windows® 7 Pro to Windows® 10 Pro (country variants German or English).

Technical features NT 800-5	
Test points	max. 131,072
Continuity, short circuit, component test DC	
Test voltage	max. 35 V
Test current	max. 100 mA
Threshold continuity test	1 Ohm – 1 kOhm
Threshold short circuit test	20 kOhm – 10 MOhm (optional up to 100 MOhm)
Component test	Resistors: 1 Ohm – 1 MOhm (optional up to 100 MOhm) Capacitors: 10 nF – 20 mF (optional from 100 pF) Diodes, Zener diodes and LEDs,
General	
Power supply	100 – 240 VAC (50 – 60 Hz)
Interfaces	max. 8 TPU bus interfaces for the connection of TPUs max. 32 TPUs or max. 90 m strand length each interface Connection possibility for warning lamp red/green, foot switch, test result lamp, acoustic signal Pin number probe for test point identification
Dimensions (W x H x D, approx.)	Base cabinets: 4 RU: 530 x 265 x 650 or 20 RU: 600 x 1070 x 800 mm TPU LV 04/01: 235 x 125 x 90 mm

* PC is not part of the delivery