



NT 800-2

Flexible tester for railcars

System design:

- Distributed test systems consist of a base unit (control unit and measurement electronics) and TPUs (Test Point Units), which contain the test points. The remote controlled TPUs can be arranged as satellites around the UUT.
- High modularity in hardware and software
- Later test point expansion on „plug and play“ principle
- Large variety of application specific test point interfaces

System benefit:

- Process optimization by reduction of cycle times and track occupation time
- Reduction of serial production costs
- Verifiable coverage of the relevant standards, e.g. DIN EN 50343 / EN 50155
- Reduction of the adapter cable lengths up to 70 %

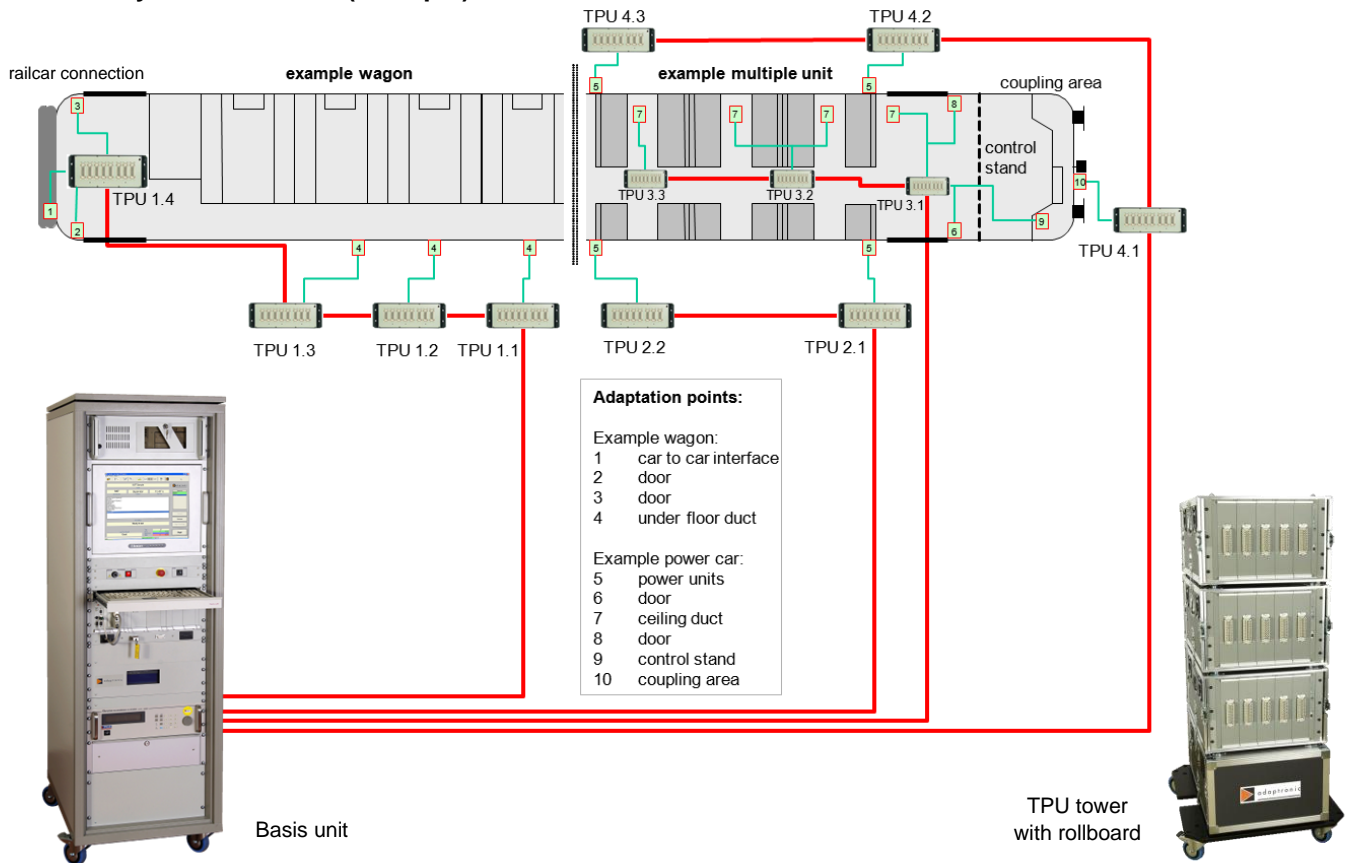
Usage especially for the test of extra large scale UUTs

- Pre-fabrication and initial operation of railcars, locomotives, coupled carriages etc.
- Supplying industry of vehicle components like cable ducts, switchboards, mounting plates, driver desks etc.
- Flexible usage inside the test facility; centralized and decentralized arrangement of TPUs possible

TESTING

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NT 800-2 System Overview (example)



TPU Types	compact	concentrated	maximal	universal
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Type	TPU16/4	TPU32/8	TPU 16/7	TPU 32/11
Max. test voltage	1500 VDC / 1060 VAC	1500 VDC / 1060 VAC	6000 VDC / 5000 VAC	1500 VDC / 1.060 VAC 6000 VDC / 5.000 VAC
Max. no. of test points	1024	2 x 1024	1024	1024

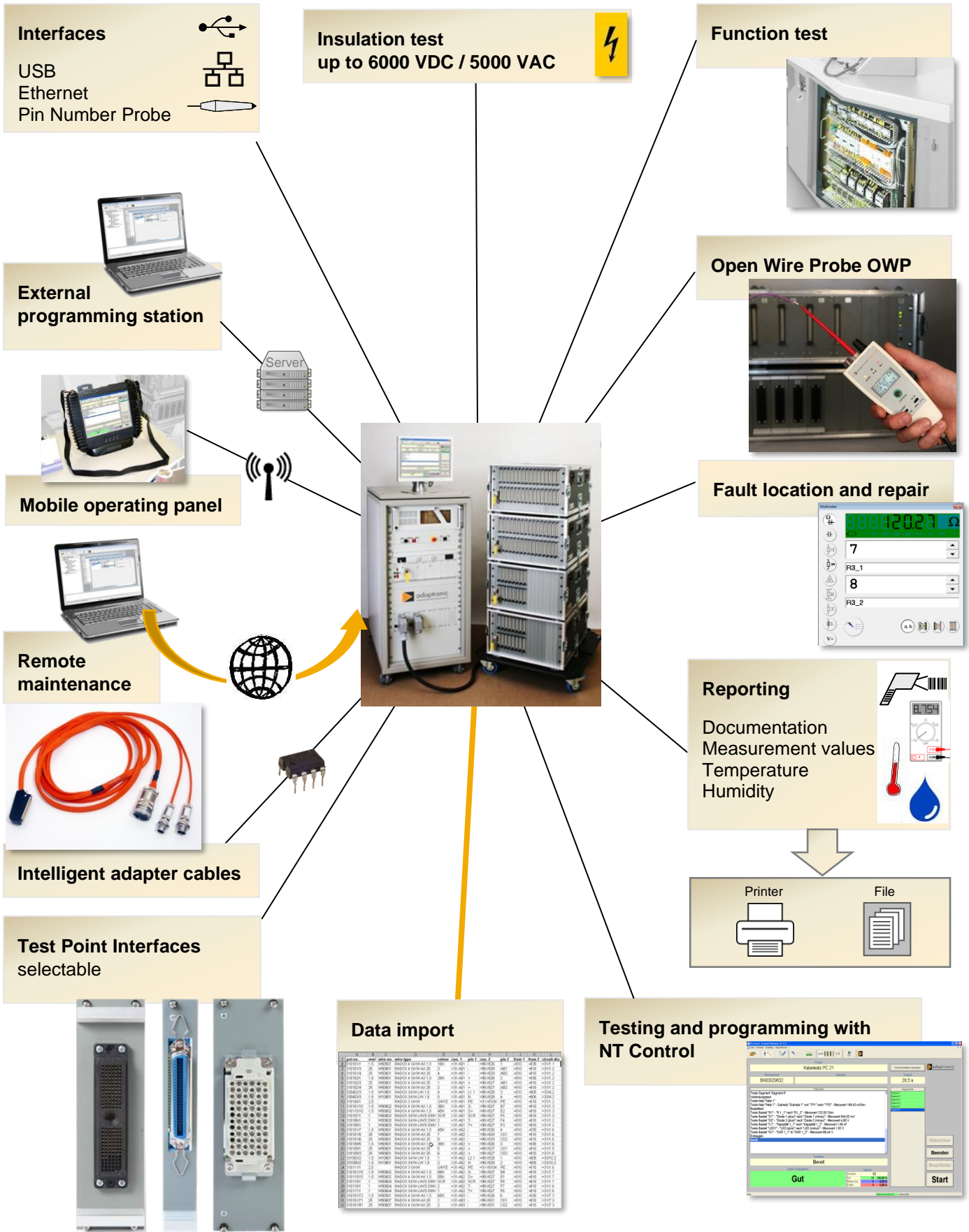
Mixed matrix operation:

Cost optimization by integration of different test voltage levels in one overall system

- Possible test voltages:
- 1500 VDC / 1050 VAC
 - 2150 VDC / 1500 VAC
 - 2830 VDC / 2000 VAC
 - 3750 VDC / 2650 VAC
 - 5100 VDC / 3600 VAC
 - 6000 VDC / 5000 VAC etc.

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NT 800-2 Possibilities (Excerpt)



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Test program generation and testing with NT Control

With the user-friendly software NT Control it is comfortable to generate, edit and to manage test programs as well, as to carry out tests. The data transfer between a PC with NT Control and a NT 800-2 takes place via network. NT Control is necessary for the operation of the NT 800-2 and part of the delivery. NT Control can be run on a PC* with the operating system Microsoft Windows® 7 Pro up to Windows® 10 Pro (country variants German or English).

Technical features NT 800-2	
Test points	max. 131,072
Continuity, short circuit, component test (DC)	
Test voltage	max. 25 V (optional bis 250 V)
Test current	max. 2 A
Threshold continuity test	0.5 Ohm – 1 kOhm (optional from 1 mOhm in Kelvin measurement / optional recognition of short time interruptions $\geq 1 \mu\text{s}$)
Threshold short circuit test	20 kOhm – 1 MOhm (optional up to 100 MOhm)
Component test	Resistors: 1 Ohm – 1 MOhm (optional up to 100 MOhm / optional from 1 mOhm) Capacitors: 10 nF – 20 mF (optional from 10 pF) Diodes, Zener diodes, LEDs, Varistors (max. 1500 VDC) Inductances (LCR AC measuring bridge, optional)
Insulation test DC	
Test voltage	40 – 1500 V
Threshold insulation test	500 kOhm – 2 GOhm (optional up to 10 GOhm)
Dielectric strength test AC/DC	
Test voltage / test current AC	50 – 5000 V / max. 500 mA
Test voltage / test current DC	50 – 6000 V / max. 25 mA
Insulation test according to DIN EN 50343 and DIN EN 50155	
	Wire against wire, wire against housing, group against group, group against group and housing Double insulation test
Measurements at communication cables (optional)	
	Optical fibers Twisted pair cables
Function test (optional)	
	The NT 800-2 can be expanded, so that the test of relays, time relays, contactors, indication lamps, function procedures etc. can be carried out automatically. Therefore stimulus cards and stimulus sources are available beside powerful software tools and editors in NT Control.
General	
Power supply	400 VAC (3 phase / 50 – 60 Hz)
Interfaces	max. 8 TPU bus interfaces for the connection of TPUs, max. 16 TPUs or max. 90 m strand length each interface Safety loop for safeguarding the workplace 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 25 RU: 600 x 1355 x 800 mm and 38 RU: 600 x 1930 x 800 mm TPU 16/4: 530 x 230 x 650 mm, TPU16/7: 530 x 350 x 650 mm, TPU 32/11: 530 x 530 x 650 mm

* PC not included in the standard scope of delivery