NT 800-1

Flexible tester for aerospace vehicles

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:

- Reduction of serial production costs
- High degree of automation in test program generation
- Verifiable coverage of the relevant standards, e.g. DIN EN 2283
- Reduction of the adapter cable lengths up to 70 %

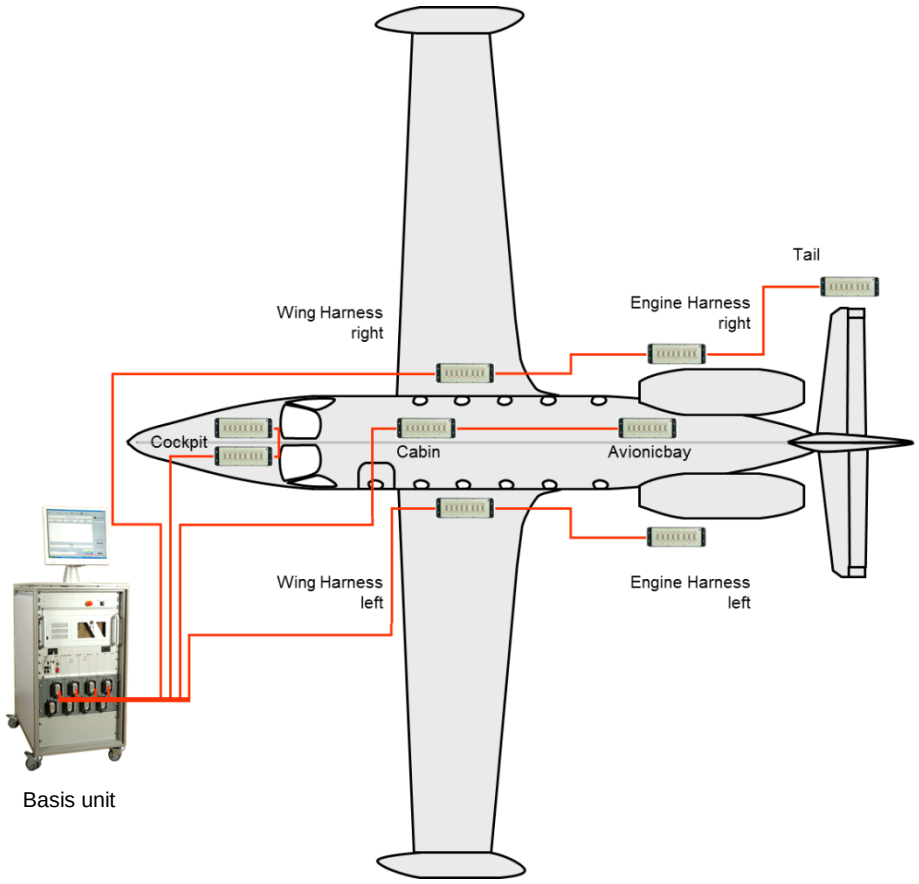
Usage especially for the test of extra large scale UUTs

- Pre- and final-assembly of aerospace vehicles like airplanes, helicopters and satellites
- Supplying industry of components like fuselage parts, wings, tail planes, galleys and their (sub-) cable harnesses etc.
- Flexible usage inside the test facility; centralized and decentralized arrangement of TPUs possible

TESTING

NT 800-1

NT 800-1 System Overview (example)



TPU tower with rollboard

Basis units	integrative	expandable	maximal	combinable

Type	9 RU	20 RU	25 RU	43 RU
Particular feature	Under table installation	Movable cabinet	Movable cabinet	Movable cabinet

TPU Types	minimal	optimized	universal	concentrated	maximal

Type	LRU	TPU8/6	TPU 16/4	TPU 32/8	TPU 192/43
Max. test voltage	1300 VDC / 750 VAC	1300 VDC / 750 VAC	1500 VDC / 1060 VAC	1500 VDC / 1060 VAC	1500 VDC / 1060 VAC
Max. no. of test points	128 (max. 1.024)	1024	1024	2 x 1024	12 x 1024

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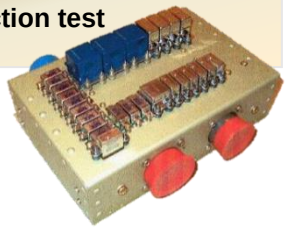
NT 800-1 Possibilities (Excerpt)

Interfaces

USB
Ethernet
Pin Number Probe

Insulation test
up to 1500 VDC / 1060 VAC

Function test



External programming station

Server

Open Wire Probe OWP

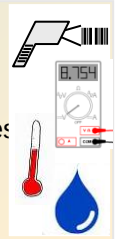
Mobile operating panel

Fault location and repair

Remote maintenance

Reporting

Documentation
Measurement values
Temperature
Humidity

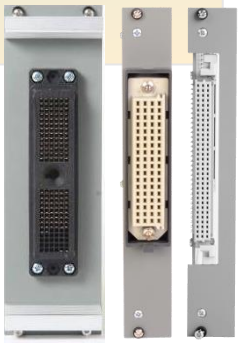


Printer

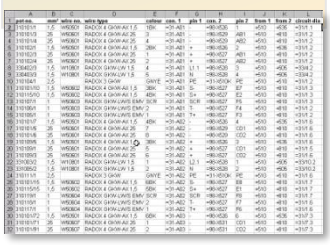
File

Intelligent adapter cables

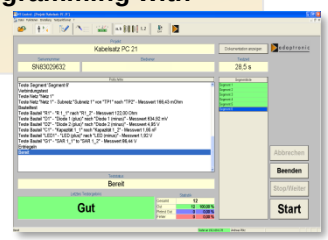
Test Point Interfaces
selectable



Data import



Testing and programming with NT Control



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 800-1 takes place via network. NT Control is necessary for the operation of the NT 800-1 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 800-1	
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 ≥1 µs)
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 (optional)	
Test voltage / test current AC	50 – 1060 V / max. 120 mA
Test voltage / test current DC	50 – 1500 V / max. 25 mA
Measurements at communication cables (optional)	
	Optical fibers Twisted pair cables
Function test (optional)	
	The NT 800-1 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	100 – 240 VAC (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.)	Basis cabinets 12 RU: 600 x 630 x 600 mm, 20 RU: 600 x 1070 x 800 mm and RU: 600 x 1355 x 800 mm TPU 8/6: 360 x 285 x 370 mm, TPU 16/4: 530 x 230 x 480 mm, TPU32/7: 530 x 400 x 480 mm, TPU 192/43: 600 x 2170 x 800 mm

* PC not included in the standard scope of delivery

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