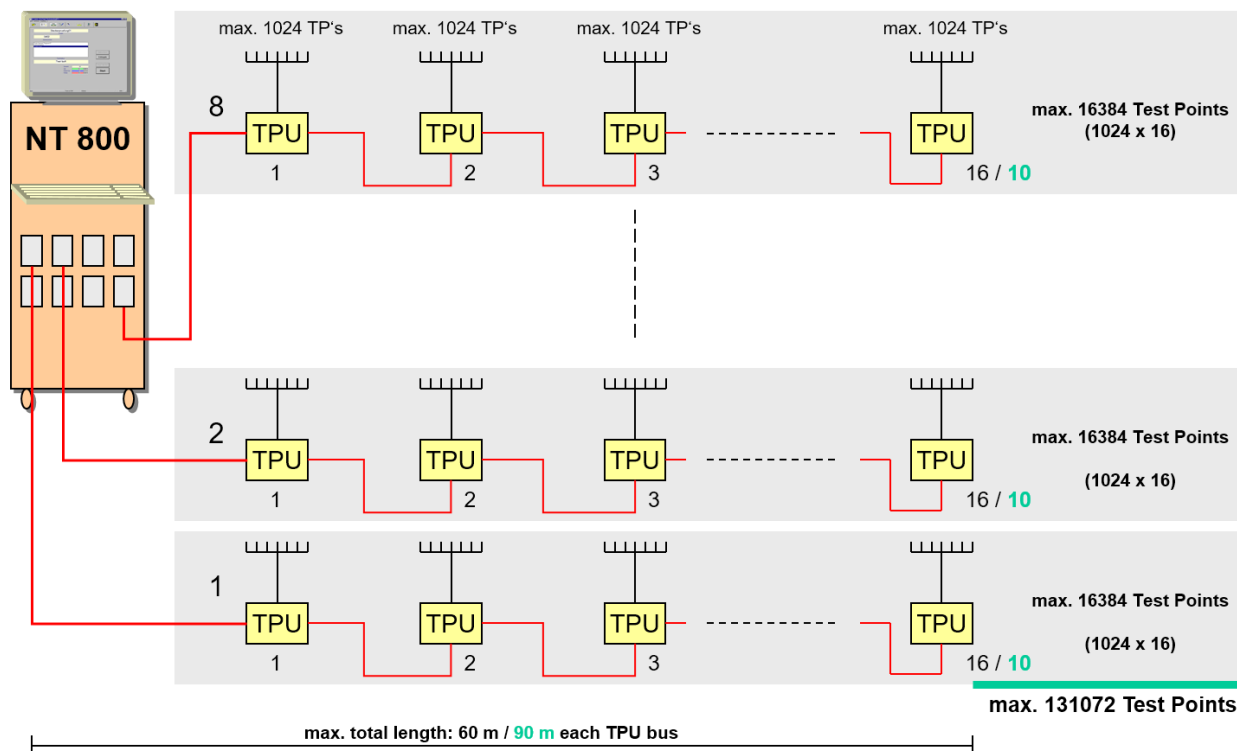


Technical Data NT 800-1

Note:

NT 800 test systems are designed individually. This datasheet includes the basic equipment of a NT 800-1. Optional measurement electronics and generators are described in separate datasheets. Some stated maximal parameters are limited in dependence of the application and the used test point cards.

System topology:



Test points	
Max. number of test points	131072
Test voltage levels depending on the installed test point cards	1500 VDC / 1050 VAC 1300 VDC / 750 VAC 1000 VDC / 750 VAC
Test point interface	Depending on the application specific test point interface and the test voltage (see TPI / Test Point Interface or FPI / Function Point Interface)
TPU Bus	
Max. no. of TPU bus interfaces	8
Max. length	8 x 90 m (total sum of the TPU bus lengths: 720 m)
Max. no. of TPUs each bus	16
Other	
Power supply	100 – 240 VAC (50 - 60 Hz)

Dimensions	12 RU basis cabinet: 600 x 630 x 800 mm 20 RU basis cabinet: 600 x 1060 x 800 mm 25 RU basis cabinet: 600 x 1355 x 800 mm 38 RU basis cabinet: 600 x 1930 x 800 mm 43 RU basis cabinet: 600 x 2150 x 800 mm
Weigth	Application specific, on request
Environmental conditions	Temperature range: operation: +10 °C – +40 °C storage: +10 °C – +60 °C Relative humidity: 30 % – 70 %, non-condensing
Operating	Control software NT Control, executable on a PC with Microsoft Windows® 7 Pro up to Windows® 10 Pro (country variant German or English) Clearly designed operator interface, customizable Transparent test procedures, extensive graphical fault description Detailed printouts of the test results on all printers supported by Windows® Test probe for the test of open wire ends, OWP02 (option) Remote maintenance
Programming	Autoprogramming of golden patterns Test program editors Test point naming in several formats, output format selectable Libraries for connectors and adapter cables Adapter cable management Intelligent adapter cable IAC (option) Individual test procedure programming with Sax Basic Engine Function test of assemblies and components (option) Programmable power supplies AC/DC (option) AC/DC stimulus sources (option) External voltage detection (option) UNICAD converter for CAD- and Excel link-data (option) Correction value determination for R, C, L and Z (option) Temperature and humidity logging, 0 - 100 % rel. humidity ±2 %, -40 – 80°C ±0.3 K (option) LCR measurement units (option) Optical fiber attenuation measurement OLT (Optical Link Test / option)
Diagnosis	Self-diagnosis for the measurement electronics and the test point cards
Interfaces	Network Serial interfaces RS232 / USB 2.0 3 x I/O, digital, 24 V, D-Sub 15-way Interface for warning lamp red-green, foot switch, test result lamp Pin number probe for test point identification Safety loop for the protection of the work place GBIP / IEEE 488 (option) CAN / LIN bus (option) I/O interface with 8, 16 or 24 opto-decoupled inputs and potential-free outputs (option) RJ12 interface for the connection of a temperature and humidity sensor External LCR measuring bridge and digital multimeter (option)
Scope of delivery	NT 800-1, main cable, pin number probe, USB flash drive with NT Control and detailed documentation

Measurement electronics MT20

Low voltage test	
Test voltage	1 – 25 V programmable in steps of 1 V (± 3 %, min. 0.2 V)
Test current	max. 25 mA
Threshold continuity test	1 Ohm – 1 kOhm (± 5 %, min. 1 Ohm)
Threshold short-circuit test	20 kOhm – 1 MOhm (± 5 %) Option: up to 5 MOhm (± 20 % at test voltages ≥ 20 V)
Component test	
Resistors	1 Ohm – 1 MOhm (± 5 %, min. 1 Ohm) Option: up to 5 MOhm (± 20 % at test voltages ≥ 20 V)
Capacitors	10 nF – 20 mF (± 10 %) Option: from 100 pF (± 10 %, ± 20 pF)
Diodes	Forward voltage: < 1.0 V Reverse voltage: max. 25 V
Zener diodes	Forward voltage: < 3.0 V Zener voltage: max. 20 V (± 10 %)
LEDs	Forward voltage: < 4.0 V Reverse voltage: max. 25 V
Suppressor diode	Breakdown voltage: 3 V – 23 V (± 10 %)

Measurement electronics MT1500DC

High voltage test			
Test voltage	40 – 1500 VDC (± 2 %); in steps of 1 V		
Test current	max. 2 mA (safety current limited according to EN 61010)		
Testing times	Rise time 0 – 60000 ms; in steps of 10 ms Dwell time 0 – 60000 ms; in steps of 10 ms		
Insulation test	500 kOhm – 2 GOhm Option: up to 10 GOhm (not valid for Distributed Test Systems or unearthed operation) in steps of 500 kOhm		
Dielectric strength test	Fast recognitions of voltage breakdowns at test voltages ≥ 200 V (arc detections)		
Accuracy in dependence of the voltage:			
Voltage	500 kOhm – 500 MOhm	> 500 MOhm – 2 GOhm	> 2 GOhm – 10 GOhm
1500 V	2 %	5 %	15 %
≥ 1000 V	2 %	5 %	≥ 15 %
≥ 500 V	2 %	≥ 15 %	≥ 15 %
	500 kOhm – 100 MOhm	> 100 MOhm – 2 GOhm	> 2 GOhm – 10 GOhm
≥ 100 V	2 %	≥ 15 %	≥ 15 %
High current test			
Test current	50 mA – 2 A (1 A with RM16); in steps of 10 mA		
Test voltage	max. 22 VDC		
Test times	Dwell time 0 – 60000 ms; in steps of 100 ms		
Threshold continuity test	500 mOhm – 10 Ohm, ± 2 %, min. 2000 mOhm 10 Ohm – 1 kOhm, ± 5 % (dwell time ≥ 100 ms) in steps of 500 mOhm		

Four-wire measurement 1 mOhm (option)	1 mOhm – 1000 Ohm; in steps of 1 mOhm ±2 %, min. 1 mOhm at test current ≥ 1 A ±5 %, min. 5 mOhm at test current < 1 A, min. 50 mOhm	
	Resolution	Measuring range
	13 µOhm	at 2 A test current: 100 µOhm – 50 mOhm
	245 µOhm	at 2 A test current: 50 mOhm – 1 Ohm
	4,9 mOhm	at 2 A test current: 1 Ohm – 11 Ohm
	0.045 % of measured value	if test current of 2 A is not reached due to voltage limitation: 11 Ohm – 1000 Ohm
Note: The measuring ranges change depending on the specified test current.		
Component test		
Varistors		
Varistor voltage	40 – 1300 VDC	
Test current	1 mA	
Surge arrestors		
Breakdown voltage	100 – 1300 VDC	
Ramp	100 V/s or 1000 V/s	

Conditions for all tolerance statements: operating mode „Precise Mode“, earthbound operation, environmental conditions 15 – 35 °C / 20 – 60 % rel. humidity (non-condensing)

The statements for the component test refer to the test of single components, which are connected separately with test points.

Technical data and tolerances are subject to change depending on a specific ambient of the test object or application.