

# TSS 500 N4B

## TELECOM SURGE GENERATOR



FOR TESTS ACCORDING TO ...

› Bellcore GR-1089-Core

### TSS 500N4B - TELECOM SURGE SIMULATOR AS PER TELCORDIA/BELLCORE GR-1089, 10/250US

The surge simulator type TSS 500N4B generates high voltage transients with a waveform of 10/250us up to 4,000V as required by Telcordia/Bellcore GR-1089 such as

- para 4.7 Equipment in high exposure premises
- para 4.9.8 Lightning Surge Test
- para 4.10.3 Broadband Communication Equipment

The test pulses are coupled to the four Telecom lines via a built-in resistor network or direct via the source impedance.

#### HIGHLIGHTS

- › Standalone Tester for Bellcore
- › Test pulse 10/250us up to 4,000V
- › Covers First Level Lightning and Second Level Lightning
- › Voltage and current monitors
- › Pre-programmed Test routines
- › Manual operation

#### APPLICATION AREAS

-  COMPONENTS
-  TELECOM

**TECHNICAL DETAILS**

FIRST & SECOND LEVEL LIGHTNING, PULSE 10/250US	
Output Voltage (open circuit)	100V to 2,000V -0%/+10%
Rise time tr	10us -50%/-0%
Pulse duration td	250us -0%/+50%
Output Current (short circuit)	50A to 1,000A -0%/+10%
Rise time tr	10us -50%/+0%
Pulse duration tr	250us -0%/+20%
Source impedance	2ohm
Polarity	Positive, negative or alternating
Counter select	1 to 30,000 or endless

FIRST LEVEL LIGHTNING SURGE, PULSE 10/250US	
Output Voltage (open circuit)	100V to 3,000V -0%/+10%
Rise time tr	10us -50%/+0%
Pulse duration td	250us -0%/+50%
Output Current (short circuit)	66.5A to 2,000A -0%/+10%
Rise time tr	10us -30%/+0%
Pulse duration td	250us -0%/+20%
Source impedance	1.5ohm
Polarity	Positive, negative or alternating
Counter select	1 to 30,000 or endless

SECOND LEVEL LIGHTNING, PULSE 10/250US	
Output Voltage (open circuit)	100V to -4,000V -0%/+10%
Rise time tr	10us -50%/+0%
Pulse duration td	250us -0%/+50%
Output Current (short circuit)	50A to 2,000A -0%/+10%
Rise time tr	10us -30%/+0%
Pulse duration td	250us -0%/+20%
Source impedance	2ohm
Polarity	Positive, negative or alternating
Counter select	1 to 30,000 or endless

MEASUREMENTS	
Peak voltmeter	4,000V +10%/-10%
Peak current meter	2,000A +10%/-10%
CRO U	10V at 4,000V
CRO I	10V at 2,000A

TRIGGER	
Automatic	Automatic pulse release
Manual	Single pulse release
External	External pulse release
CRO trigger	5V trigger signal for oscilloscope

HIGH EXPOSURE PREMISES, PULSE 10/250US	
Output Voltage (open circuit)	100V to 4,000V -0%/+10%
Rise time tr	10us -50%/+0%
Pulse duration td	250us -0%/+50%
Output Current (short circuit)	12.5A to 500A per wire T1, T2, T3, T4
Rise time tr	10us -30%/+0%
Pulse duration td	250us -0%/+20%
Source impedance	8ohm
Polarity	Positive, negative or alternating
Counter select	1 to 30,000 or endless

TEST ROUTINES	
Quick Start	Immediate start; easy to use and fast
Standard Test routines	Bellcore, First Level-Lightning Bellcore, Second Level Lightning
User Test routines	Manual Standard Test Routine Change Polarity after n pulses Change voltage after n pulses
Service	Service, setup, self test

## TECHNICAL DETAILS

### GENERAL DATA

#### INTERFACE

Serial interface	USB
Parallel interface	IEEE 488, addresses 1 to 30
CN interface	To control external coupling matrix

#### SAFETY

Safety circuit	Control input (24Vdc)
Warning lamp	Floating output contact

#### GENERAL DATA

Dimensions, weight	19"/16HU, approx. 110kg
Supply voltage	115V/230V +10/-15%
Fuses	2 x T 2AT (230V) or 2 x T 4AT (115V)

# COMPETENCE WHEREVER YOU ARE



## CONTACT EM TEST DIRECTLY

### Switzerland

AMETEK CTS GmbH › Sternenhofstraße 15 › 4153 Reinach › Switzerland  
Phone +41 (0)61 204 41 11 › Fax +41 (0)61 204 41 00  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [sales.conducted.cts@ametek.com](mailto:sales.conducted.cts@ametek.com)

### Germany

AMETEK CTS Europe GmbH › Customer Care Center EMEA › Lünener Straße 211  
› 59174 Kamen › Germany  
Phone +49 (0) 2307 26070-0 › Fax +49 (0) 2307 17050  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [info.cts.de@ametek.com](mailto:info.cts.de@ametek.com)

### Poland

AMETEK CTS Europe GmbH › Biuro w Polsce › ul. Twarda 44 › 00-831 Warsaw › Poland  
Phone +48 (0) 518 643 12  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [Infopolska.cts@ametek.com](mailto:Infopolska.cts@ametek.com)

### USA / Canada

AMETEK CTS US › 52 Mayfield Ave › Edison › NJ 08837 › USA  
Phone +1 732 417 0501  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [usasales.cts@ametek.com](mailto:usasales.cts@ametek.com)

### P.R. China

AMETEK Commercial Enterprise (Shanghai) Co. Ltd. › Beijing Branch › Western Section, 2nd floor › Jing Dong Fang Building (B10) › Chaoyang District › Beijing, China, 100015  
Phone +86 10 8526 2111 › Fax +86 (0)10 82 67 62 38  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [chinasales@ametek.com](mailto:chinasales@ametek.com)

### Republic of Korea

EM TEST Korea Limited › #405 › WooYeon Plaza › #986-8 › YoungDeok-dong › Giheung-gu › Yongin-si › Gyeonggi-do › Korea  
Phone +82 (31) 216 8616 › Fax +82 (31) 216 8616  
Internet: [www.emtest.co.kr](http://www.emtest.co.kr) › E-mail: [sales@emtest.co.kr](mailto:sales@emtest.co.kr)

### Singapore

AMETEK Singapore Pte. Ltd › No. 43 Changi South Avenue 2 › 04-01 Singapore 48164  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [singaporesales.cts@ametek.com](mailto:singaporesales.cts@ametek.com)

### Great Britain

AMETEK GB › 5 Ashville Way › Molly Millars Lane › Wokingham › Berkshire RG41 2 PL › Great Britain  
Phone +44 845 074 0660  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com)

Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.