

# TSS 500N6B

## COMPACT TELECOM SURGE GENERATOR AS PER BELLCORE/TELCORDIA GR-1089-CORE



### FOR TESTS ACCORDING TO ...

- > Bellcore GR-1089-Core
- > ITU-T K.12
- > ITU-T K.28
- > ITU-T K.45

### TSS 500N6B - TELECOM SURGE GENERATOR FOR BELLCORE 4-WIRE APPLICATIONS

Telecommunication networks are exposed to lightning events. Therefore telecommunications equipment being connected to the outside world need to have appropriate protection to show an acceptable immunity to surge transients in order not to fail in case of lightning events. The TSS 500N6B is used for 4-wire applications as per Bellcore GR-1089-Core and supports 12 pair telecom port testing via the CNB 500 optional coupler. It can also be used for the 2-wire telecom port testing.

### HIGHLIGHTS

- > **Compact Tester for Bellcore/Telcordia GR-1089-CORE**
- > **Test pulses for 4-wire telecom applications**
- > **Also covers 2-wire telecom port testing**
- > **Generates test pulses 10/360µs, 10/1,000µs and 2/10µs**
- > **Includes all necessary matching resistors**
- > **Built-in coupling network**
- > **Supports testing 12 pairs (10/360µs)**

### APPLICATION AREAS

-  COMPONENTS
-  TELECOM

**TECHNICAL DETAILS**

FIRST LEVEL LIGHTNING FOR 4-WIRE PORTS, PULSE 10/1,000US (600V)	
Voltage (o.c.)	50V - 600V -0/+15%, positive/negative
Current (s.c.)	8A - 100A per wire
Rise time	10µs +0µs/-4µs
Pulse duration	1,000µs +500µs/-0µs
Repetition rate	1 pulse every 36s at 600V/100A per wire

INTRA BUILDING LIGHTNING FOR 4-WIRE PORTS, PULSE 2/10US (800V)	
Voltage (o.c.)	100V - 800V -0/+20%, positive/negative
Current (s.c.)	12.5A - 100A per wire
Rise time	2µs +0µs/-1µs
Pulse duration	10µs +7µs/-0µs
Repetition rate	1 pulse every 2s at 800V/100A per wire

FIRST LEVEL LIGHTNING FOR 4-WIRE PORTS, PULSE 10/1,000US (1,000V)	
Voltage (o.c.)	50V - 1,000V -0/+15%, positive/negative
Current (s.c.)	5A - 100A per wire
Rise time	10µs +0µs/-4µs
Pulse duration	1,000µs +500µs/-0µs
Repetition rate	1 pulse every 60s at 1,000V

INTRA BUILDING LIGHTNING FOR 4-WIRE PORTS, PULSE 2/10US (1,500V)	
Voltage (o.c.)	100V - 1,500V -0/+20%, positive/negative
Current (s.c.)	6A - 100A per wire
Rise time	2µs +0µs/-1µs
Pulse duration	10µs +7µs/-0µs
Repetition rate	1 pulse every 3s at 1,500V/100A per wire

FIRST LEVEL LIGHTNING FOR 4-WIRE PORTS, PULSE 10/360US (1,000V)	
Voltage (o.c.)	50V - 1,000V -0/+15%, positive/negative
Current (s.c.)	5A - 100A per wire
Rise time	10µs +0µs/-2.5µs
Pulse duration	360µs +108µs/-0µs
Repetition time	1 pulse every 20s at 1,000V

SECOND LEVEL LIGHTNING FOR 4-WIRE PORTS, PULSE 2/10US (5,000V)	
Voltage (o.c.)	100V - 5,000V -0/+20% positive/negative
Current (s.c.)	10A - 500A per wire
Rise time	2µs +0µs/-1µs
Pulse duration	10µs +7µs/-0µs
Repetition rate	1 pulse every 10s at 5,000V

FIRST LEVEL LIGHTNING FOR 4-WIRE PORTS, PULSE 2/10US (2,500V)	
Voltage (o.c.)	100V - 2,500V -0/+20%, positive/negative
Current (s.c.)	20A - 500A per wire
Rise time	2µs +0µs/-1µs
Pulse duration	10µs +7µs/-0µs
Repetition rate	1 pulse every 5s at 2,500V

MEASUREMENTS	
Peak voltmeter	5,000V ± 10%
Peak current meter	500A ± 10%

COUPLING	
Telecom ports (Tip, Ring, Tip1 and Ring1)	Each lead (T, T1, R, R1) to Generator with the other leads to Ground T and R to Generator simultaneously, T1 and R1 to Ground T1 and R1 to Generator simultaneously, T and R to Ground T, R, T1 and R1 to Generator, simultaneously

**TECHNICAL DETAILS**

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

TEST ROUTINES	
Quick Start	Immediate start; easy-to-use and fast
User Test routines	Manual Standard Test Routine Change Polarity after n pulses Change voltage after n pulses
Standard Test routines	Test levels as per GR-1089 CORE
Service	Service, setup, self test

INTERFACE	
Serial interface	USB
Parallel interface	IEEE 488, addresses 1 - 30

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

GENERAL DATA	
Dimensions, weight	19"/9HU, approx. 45kg
Supply voltage	115/230V +10/-15%
Fuses	2xT2AT (230V) or 2xT4AT (115V)

OPTIONS	
CNB 500	12 pair CDN for 10/360 s pulse up to 1,000V/25A per wire
iec.control	Software to control the test, including standard library, test report facility and data conversion generator

ADDITIONAL MODELS FOR GR-1089-CORE	
TSS 500N2B	Telecom Surge Generator for first level lightning protection, test pulse 10/1000 μs up to 2000 V
TSS 500N4B	4kV/2kA Telecom Surge Generator as per Bellcore; Telecom Surge generator for high exposure premises, lightning surge&broadband communication, test pulse 10/250μs up to 4kV/2kA

# 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.