Transient Voltage Surge Suppressors By:

ST-CLP##Ax-B
Data Line Models

Current Loop/Signal Line protection device with Discrete All-Mode Protection

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Made in the USA

The Series ST-CLP devices are designed to protect current loop process instrument, data transmission, control, and signal line circuits. These devices are intended for installation as close to the electrical power source of the equipment as possible so as to allow for a common point for grounding.

This device is for circuits with up to 3 pair of signal lines connected via the detachable terminal strips provided, making installation a breeze. A ground lug is provided on the side of the unit to insure a low impedance ground discharge path.

The unique design of these devices makes them among the most versatile TVSS devices on the market with superior performance specs and a warranty that is second to none.

GENERAL

Description:	Series wired transient voltage surge suppressor with encapsulated **O**ptimal **R**esponse **N**etwork™ circuitry for protection of current loop and data/signal type circuits.
Application:	Designed for use on data, signal, current loop and control circuits to protect equipment from damaging transients generated between terminals and equipment in the data collection/transmission system.
Warranty:	**25 Years Unlimited Free Replacement**
Unit Listing:	UL497B

MECHANICAL

Enclosure:	Plastic, UL 94-5VA
Mounting:	External mounting feet
Connection Method:	Wire clamping detachable box terminals located at the input and output sides of the device. Wire size: Lines # 12-22 AWG, Ground # 6-12 AWG.
Shipping Weight:	**<** 1 lbs

CIRCUITRY

Circuit Design:	Series wired design incorporating discrete all mode protection and utilizing our encapsulated **O**ptimal **R**esponse **N**etwork™ design to provide lowest possible let-through voltages. All suppression circuits are encapsulated in our high dielectric compound to promote long component life and protection from the environment and/or vibration.
Protection Modes:	Dedicated protection components and circuitry for each mode. Discrete each L-L (Normal Mode) and each L-G (Common Mode)

PERFORMANCE

Maximum Continuous Operating Voltage:	7.5, 15, 36, 54, and 140 V
Maximum Continuous Operating Current:	500 mA
Series resistance:	5 Ohms per wire (10 Ohms loop)
Maximum Data Rate:	Up to 2 Mbps
Peak Surge Current per Pair:	L-L 10 kA, L-G 10 kA

Because we are constantly seeking to improve our products, specifications are subject to change at any time.
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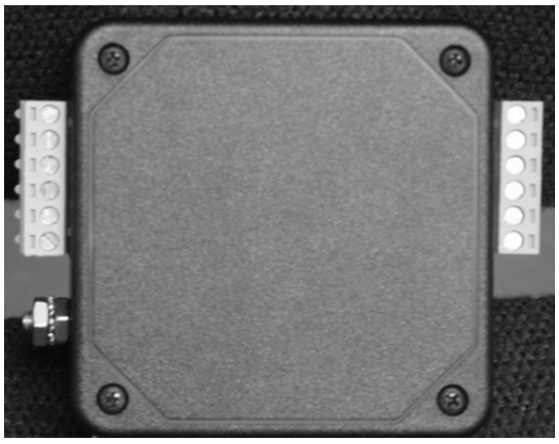
Table of Maximum Suggested Operating Limits, Data Rate & Additional Device Resistance					
Nominal System Operating Voltage (Vnom)	*** CLP##Ax-B Operating Voltage Model Number**	**Maximum Continuous Operating Voltage (MCOV)**		**Maximum Continuous Operating Current (MCOC)**	**Maximum Digital/ Analog Data Rates Vs. Additional Series Resistance**
		Voltage (L-L)	Voltage (L-G)		**2 Mbps / 20 MHz**
0 **>** Vnom **≤** 6	ST-CLP5Ax-B	± 7.5 Vpk	± 7.5 Vpk	500 mA	5 Ohms per line (10 Ohms per pair/loop)
6 **>** Vnom **<** 15	ST-CLP12Ax-B	± 15 Vpk	± 15 Vpk	500 mA	5 Ohms per line (10 Ohms per pair/loop)
15 **≤** Vnom **<** 32	ST-CLP24Ax-B	± 36 Vpk	± 36 Vpk	500 mA	5 Ohms per line (10 Ohms per pair/loop)
32 **≥** Vnom **<** 60	ST-CLP48Ax-B	± 62 Vpk	± 62 Vpk	500 mA	5 Ohms per line (10 Ohms per pair/loop)
60 **≥** Vnom **≤** 190	ST-CLP140Ax-B	± 140 Vpk	± 140 Vpk	500 mA	5 Ohms per line (10 Ohms per pair/loop)

*Notes: The lower case "x" is set to: 2, 4 or 6 to specify the number of terminals to be protected. Odd numbers of conductors require the use of the next higher even numbered model or an additional like model. All CL models use 6-position connectors with the appropriate number of labeled working terminals specified by "x".

	Let-Through Voltages Using ANSI/IEEE C62.45 & C62.41 Test Environment: Static, positive polarity. All voltages are peak (±10%).

Model	**Test Mode**	**Cat. B Impulse Wave 6 kV, 3 kA**
ST-CLP5Ax-B	L-G L-L	**<** 20 **<** 20
ST-CLP12Ax-B	L-G L-L	**<** 30 **<** 30
ST-CLP24Ax-B	L-G L-L	**<** 40 **<** 40
ST-CLP48Ax-B	L-G L-L	**<** 80 **<** 80
ST-CLP140Ax-B	L-G L-L	**<** 160 **<** 160



Dimensions:
4.5" Wide x 4.5" High x 1.4" Deep
Actual unit may vary from picture

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