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INSTALLATION INSTRUCTIONS
MODEL: ST-CLCxxnx-B

WARNING - HAZARDOUS VOLTAGES MAY BE PRESENT. Improper installation may result in serious injury to the installer and/or damage to the electrical system or connected communication equipment. Read all instructions before beginning the installation. Safety equipment must be used as prescribed by OSHA, whenever working around hazardous voltages.

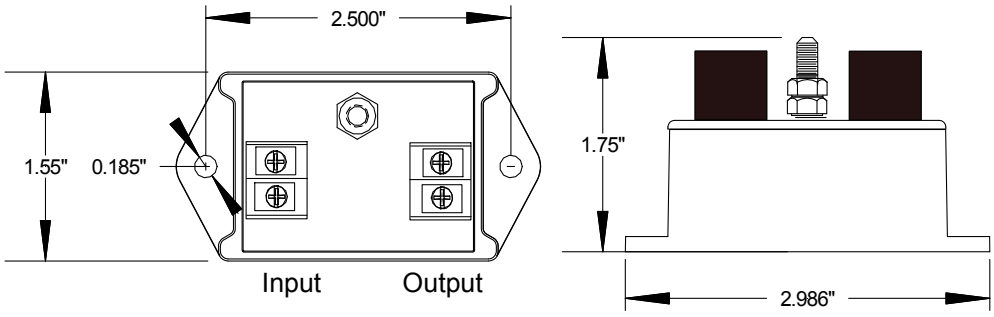
Failure of unit and/or consequential equipment damage due to improper installation or misapplication is not covered by the product warranty.

Voltage measurements and **installation must be completed by a licensed/qualified electrician** in accordance with the National and/or Canadian Electric Code, State, and Local codes. These requirements supersede this instruction.

POWER MUST BE REMOVED FROM THE ELECTRICAL SYSTEM BEFORE INSTALLING THE CLCxxnx-B SERIES DATA UNIT.

PICTORAL CONNECTION DIAGRAM

(Wired, DIN and Kelvin connected options not shown)



Actual unit may vary from picture.

BEFORE INSTALLATION

Prior to installation of the ST-CLCxxnx-B series unit:

- **1** – Test system to verify that the voltage and current do not exceed the Maximum Continuous Operating Levels listed in the table below
- **2** – Actual measurement with an oscilloscope, or verification through review of 'as installed' equipment specifications may be sufficient to establish compliance
- **3** – **If the circuit exceeds Maximum Continuous Operating Levels in voltage and/or current, do not proceed with the installation!**

The ST-CLCxxnx-B series devices are designed to protect current loop circuits, signal lines and/or low speed data lines feeding transducers, leak detectors, flow meters and a broad variety of similar sensory devices.

There are no position-oriented components in the CLCxxnx-B series unit; therefore, the device can be mounted upside down or sideways to allow for the most efficient installation.

Table of Maximum Suggested Operating Limits, Data Rate & Additional Device Resistance						
Nominal System Operating Voltage (Vnom)	*** ST-CLCxxnx-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: (n = A) & 10 Mbps/ 100 MHz: (n = B)**	**100 Mbps/ 1 GHz: (n = C) models:**
0 > Vnom ≤ 6	ST-CLC5nx-B	± 7.5 Vpk	± 7.5 Vpk	500 mA	5 Ω per line (10 Ω per pair/loop)	0 Ω per line or loop
6 > Vnom < 24	ST-CLC12nx-B	± 24 Vpk	± 24 Vpk	500 mA	5 Ω per line (10 Ω per pair/loop)	0 Ω per line or loop
24 ≤ Vnom < 36	ST-CLC24nx-B	± 36 Vpk	± 36 Vpk	500 mA	5 Ω per line (10 Ω per pair/loop)	0 Ω per line or loop
36 ≥ Vnom < 62	ST-CLC48nx-B	± 62 Vpk	± 62 Vpk	500 mA	5 Ω per line (10 Ω per pair/loop)	0 Ω per line or loop
62 ≥ Vnom ≤ 140	ST-CLC140nx-B	± 140 Vpk	± 140 Vpk	500 mA	5 Ω per line (10 Ω per pair/loop)	0 Ω per line or loop

*Notes: The lower case "x" after the model string suffix character "n" is set to: 2, 3, or 4 to specify the number of terminals to be protected.

INSTALLATION STEPS

CAUTION: Do not proceed further until power has been removed from the electrical system.

STEP 1: Mounting the Unit

- Mechanically mount the suppressor using the threaded ends of the conduit.
- The device should be mounted for maximum separation between protected and unprotected wiring.
- The device contains no direction-oriented components and can be mounted in any position.
- The device should be the last device placed in the circuit before the protected equipment.
- The device should be mounted directly to, or as close as practical to the equipment to be protected.

STEP 2: Wiring the Unit

Standard

- Connect the cable shield to the device ground lug (where applicable).
- Connect a ground wire (#6-12 AWG) from ground lug to system ground.
- Connect the incoming line 1 wire to the L1 screw terminal.
- Connect the outgoing line 1 wire to the L1 screw terminal.
- Connect the incoming line 2 wire to the L2 screw terminal.
- Connect the outgoing line 2 wire to the L2 screw terminal.

Kelvin Connected (K Option)

- Connect a ground wire (#6-12 AWG) from ground lug to system ground.
- Connect the incoming line 1 wire to the L1 screw terminal.
- Connect the outgoing line 1 wire to the L1 screw terminal.
- Connect the incoming line 2 wire to the L2 screw terminal.
- Connect the outgoing line 2 wire to the L2 screw terminal.

STEP 3: Restart the system and check for proper operation

- The system may require recalibration due to the additional resistance of the suppressor on the line. If the system does not operate properly, remove the suppressor and contact Energy Control Systems at 1.800.383.6956.