

# TP232

## High Energy Surge Protector

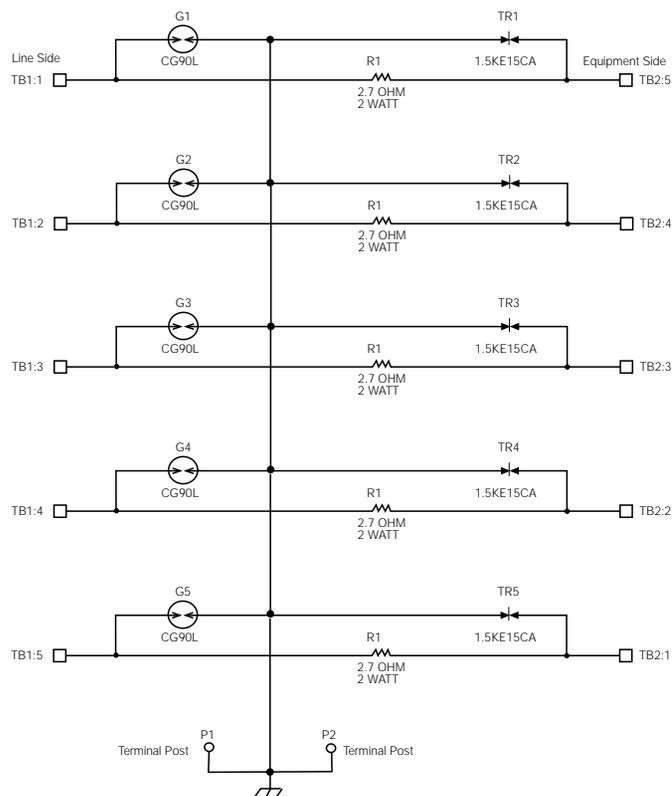


Figure 2-2: Signal Path Diagram

## Installation Guide



### 3.0 Specifications

Clamping Voltage (stage one):	Min. 72 VDC, Max. 108 VDC
Series Resistance (stage two):	2.7 Ohms
Clamping Voltage (stage three):	Min. 14.3V, Max 15.8V
Clamping Time:	Less than $5 \times 10^{-9}$ seconds
Connectors:	5 position terminal blocks
Dimensions:	Approximately 4.5"L x 3.3"W x 1.8" H (11.4 x 8.4 x 4.6 cm)
Weight:	Approximately 6.7 ounces (.19 kg)

# Contents

<b>1.0 Introduction</b> .....	<b>1</b>
<b>2.0 Connections</b> .....	<b>1</b>
<b>3.0 Specifications</b> .....	<b>2</b>

## 1.0 Introduction

The TP232 is designed to help protect against low voltage lightning strikes, power surges, and other types of voltage disturbances. Five RS-232 signals on terminal blocks are supported with a clamping voltage of approximately 15 volts, The TP232 offers three stages of protection starting with a gas discharge tube followed by a series resistor and finally a Transient Voltage Suppressor (TVS).

In order for a surge protector to work properly, it is important to have a good connection to earth ground. The TP232 offers two terminal posts and two metal mounting brackets which provide a good ground connection for the user. The unit has been tested to two specifications at 6 kilovolts, IEC 1000-4-5: 1995 “Surge Immunity Test” and IEEE C62.41-1991 “IEEE Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.” To ensure the best protection of your equipment some simple connection guidelines should be followed.



Authorized distributors and their employees can view or download this manual from the Rice Lake Weighing Systems distributor site at [www.rlws.com](http://www.rlws.com)

## 2.0 Connections

The following connections should be made when installing the TP232 surge protector:

- The unit should be located as close as possible to the equipment being protected.
- A good ground connection must be made between the TP232 and earth ground. This can be done with the two terminal posts on the top of the unit or the two mounting brackets.
- The earth ground connection should be kept as short as possible for best performance. As a recommendation a minimum of 10 gauge copper wire at no more than three feet should be used (see Figure 2-1). If it is not possible to achieve the short distance a braided cable made specifically for grounding purposes should be used.
- The chassis ground of the equipment should be connected to the buildings three prong plug ground.

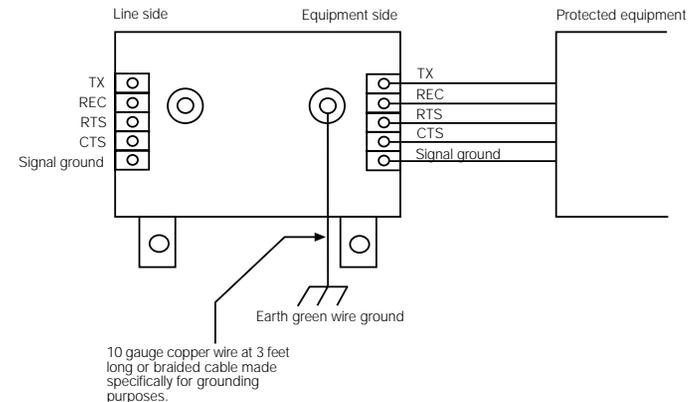


Figure 2-1: Wiring Diagram