

Universal 2 Plus

Two Wire Converter

Convert Any Controller to Two Wire Output



P.O. Box 929, 556 S. Mirage Avenue
Lindsay, CA 93247
For Technical Assistance: 800-468-0071 ext. 331

MADE IN THE USA

March 23, 2005

Specifications and Installation Instructions Read Entire Booklet Before Installing

Receivers Must be Programmed Before Installation

Use LP-RP Receivers Only

SPECIFICATIONS

FEATURES

Universal 2

Plus

Stations Available	1-40
Maximum Number of Valves Running Simultaneously	4
Valves Per Receiver	1
Minimum Wire Size	14 gauge
Maximum Wire Run	12,000 Feet
Maximum Number of Receivers	80
Receivers Programmable and Re-Programmable	Yes
Remote Receiver Programming use LP-HHRP	Yes

Enclosure:

Box - Stainless steel, locking, wall or pedestal mount.

Pedestal – Stainless steel

See diagram section of this manual for box and pedestal dimensions.

Input Power:

110VAC 60Hz or

230VAC 50Hz

Grounding:

Enclosure grounded to utility ground. SPD/Output board grounds with 8 foot ground rod. **See diagram section of this manual.**

Multiple Controller Installation

Install a separate ground rod for each controller. **Do not** connect the field wires or power wires of one controller with those of another. Use slave or isolation relays if activating a common master valve. That is controlled from more than one Universal 2 Plus. **See diagram section of this manual.**

Power ON

A 5 second countdown / delay to "Power ON" the system on initial start up of any manual or automatic watering activity. This eliminates the need to have the system "Hot" with voltage at all times.

Accessory:

Hand held programmer. For Programming
Receivers to be used with the Universal 2 Plus Converter
See diagram section of this manual.

Universal 2 Plus Installation “Do’s & Don’ts”

For Warranty To Be Valid, Installation Must Comply To All Instructions Below

1. Use only **LP-RP Receivers (Gray Molded Box)** with the **Logic Plus Controllers (LP-42, LP-128 and Uni-2 Plus)**.
Do not use the L-RP (Black Molded Box) Receivers with the **Logic Plus Controllers**. Do not use the LP-RP (Gray Box) Receiver with the Logic 1, Logic 2, Logic 3 or Uni-2 Controller.
2. Branching and Teeing is permitted with Universal 2 Plus. But should be well planned and minimized with care given using only waterproof DBC-BR splice kits. All wire connection/splices are to be made in a valve box. **DO NOT** bury connection/splices.
3. Logic Plus receivers must be directly attached to the 2 wire path; red wires to field wires, black wires to solenoid (See #4).
4. **Wire Connections**
 - A. All field wiring Connections of Logic Plus Receiver Red Wires (1 each to each of field wires) to field wires must use the enclosed DBC-BR splice kits. See instructions on back. **DO NOT USE PRE-FILLED GEL TYPE WIRE NUTS.**
 - B. All receiver to Valve Solenoid Connections must be waterproof, using “dry type” wire connectors (Hit Products DBC-Y or DBC-R series or 3M™ DBY/DBR series™) and/or soldered and then installed in waterproof housings. **DO NOT USE PRE-FILLED GEL TYPE WIRE NUTS.**
5. **DO NOT** install the Logic Plus Controller, its Receivers or any Logic Plus Field Wire within 15 feet of any high voltage electrical panels, meters, pumps, equipment or controls.
6. Use with standard 24 VAC solenoids only. **DO NOT** use any with low power/diode bridge type solenoids.
7. Use different colored field wires for every wire in each two wire path.
8. Logic Plus provides 4 separate field outputs. Line 1, Line 2, Line 3 and Line 4. **DO NOT mix the wiring.**
9. On multiple controller Installations **DO NOT** connect any field wires of one controller with those of another. Each controller must have a separate ground rod.
10. **DO NOT** “loop” field wiring. At last valve on wire run, terminate line there.

This is a computer, install it accordingly and it will serve you well. If you have any questions, please don't hesitate to call the factory in California (800) 468-0071, ext. 331 for help. 8am-5pm, Mon-Fri.

Two Wire Operation

Receiver Operations

The Receiver operates as an electronically controlled switch. When the receiver recognizes the encoded signal that matches its programmed data, it then allows or "switches" power to the solenoid at the valve.

Each receiver has a Red LED that will light when the receiver is "switched" or activated. When testing or troubleshooting, this LED is a convenient indicator of the Receiver Status. Lit condition indicates that the signal and power are present and the Power is being sent to the solenoid.

An unlit condition indicates the receiver is not activated. This is an indication that the power and/or signal is not present.

Line Short Code

The controller, through its current monitoring ability, can show a fault condition: "Line Short." This fault is triggered when current draw has exceeded a pre-set level.

Note: No Output is sent to the field during this condition.

- If this current draw is sensed at a programs initial start the "Line Short" LED will light.

Note: This code is designed to protect the controller and transformer. In extremely long wire runs the current level may not be reached to activate "Short" due to line loss.

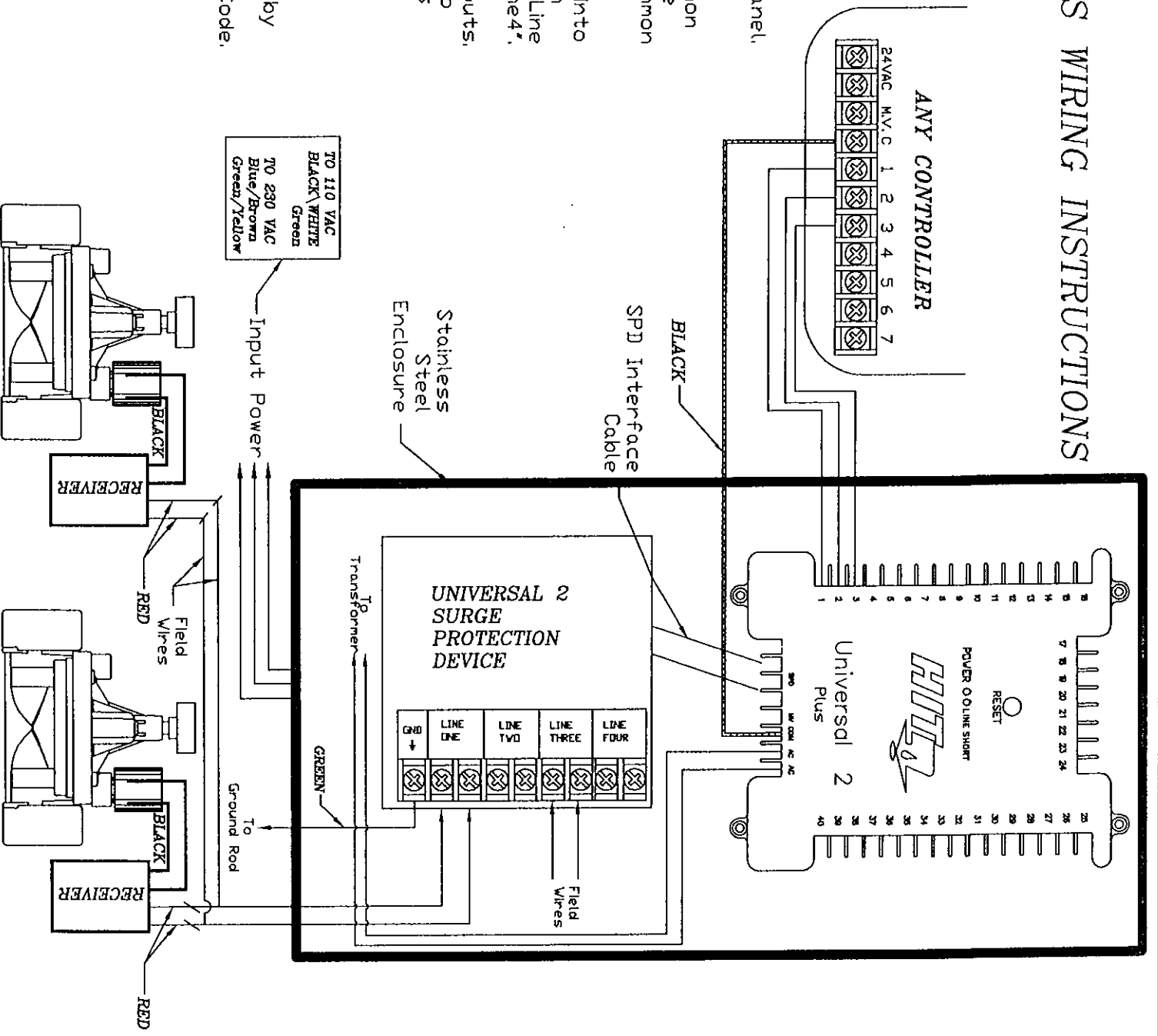
WIRE CONNECTIONS:

One of the most critical installation requirements of a Two Wire system is the quality of your wire connections. If you follow these directions you will have a reliable, dependable control system for many years. It is suggested to solder all receiver (red wire) connections to your main two-wire run. Next install the soldered two-wire connection in a waterproof underground connector housing. When soldering is impractical, a waterproof "dry-type" connection such as the Hit Products DBC-BR wire connector is required. The above mentioned products will provide an uncontaminated, dry connection. **See diagram section of this manual.**

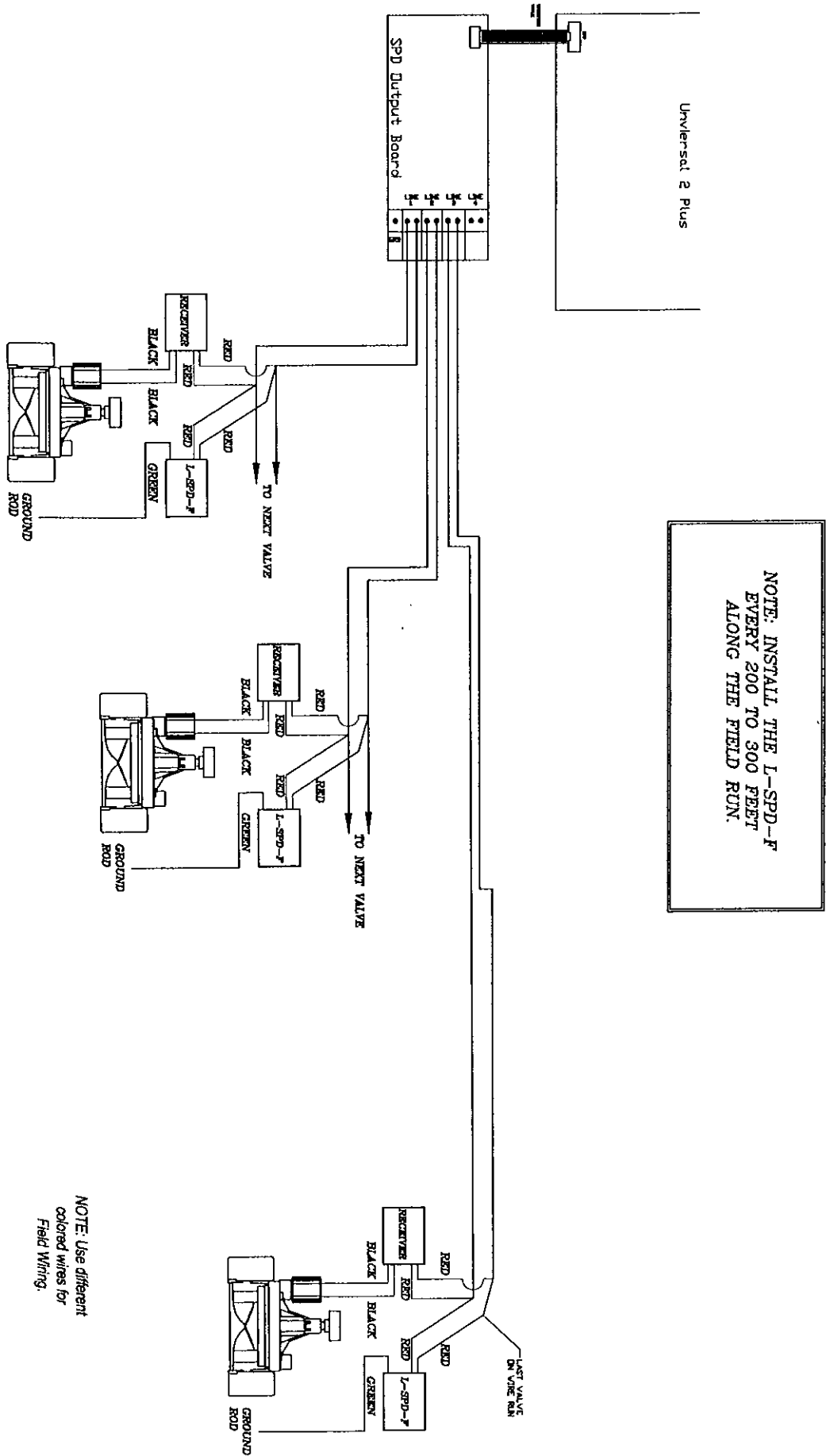
Do not use pre-filled wire nut connectors as they will impede the transfer of the signal through the wire splice.

UNIVERSAL 2 PLUS WIRING INSTRUCTIONS

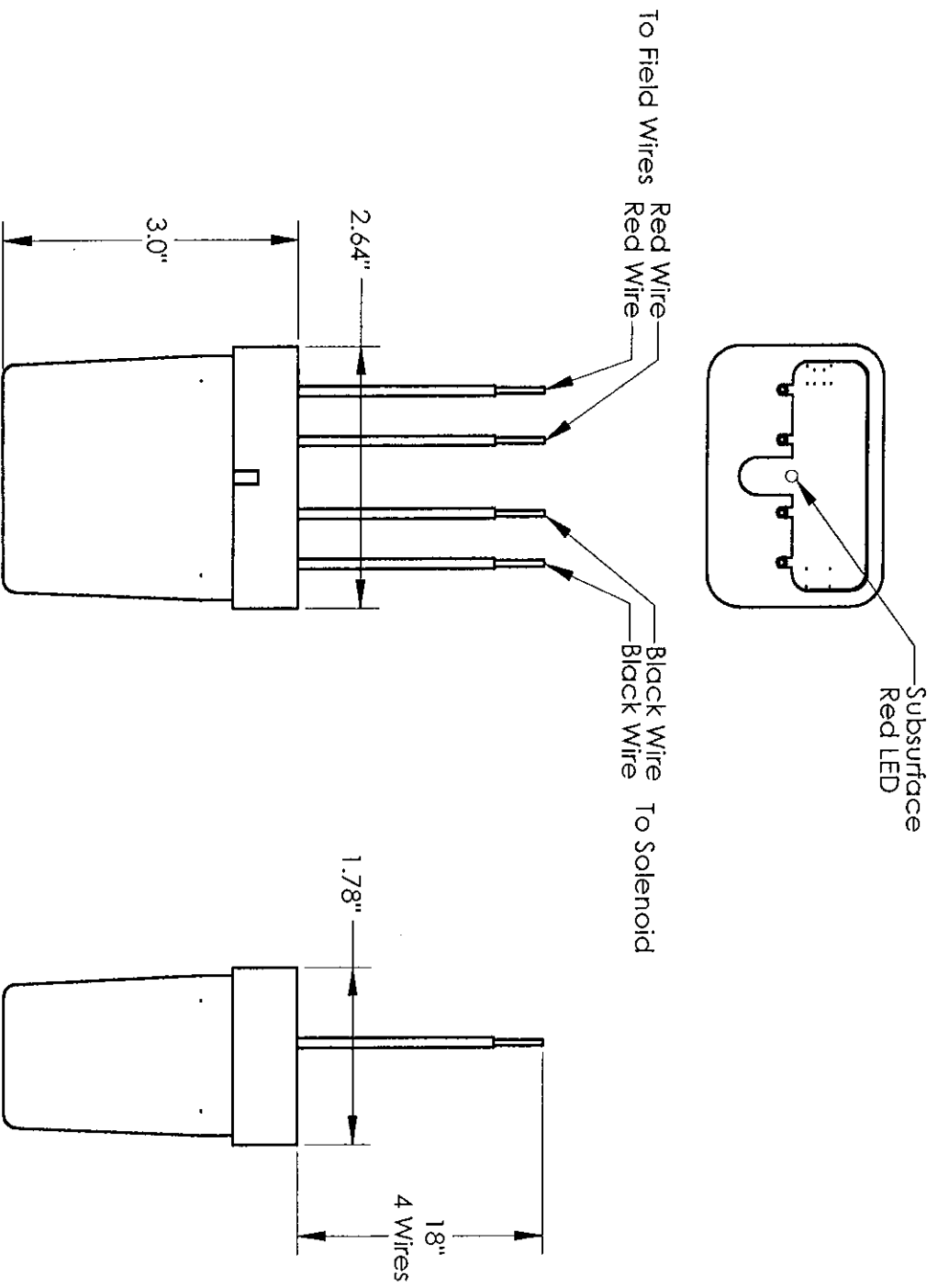
1. Remove Stainless Steel Panel.
2. Wire the Controller Common and Station Outputs to the Universal 2 Station and Common Inputs.
3. Secure each 2-wire run into the appropriate terminal on the terminal strip labeled 'Line 1', 'Line 2', 'Line 3' and 'Line 4'. Keep each 2 wire set independent. Do NOT mix outputs. It is strongly suggested to use different colored wires for each wire used.
4. Make Ground Connection.
5. Connect Black and White Wires to 110VAC. This connection should be made by a qualified Technician with knowledge of Local Wiring Code.
6. Reinstall Stainless Steel Panel.



*HIT Logic Two Wire Controller.
Field Lightning and Surge Protection (L-SPD-F) Wiring Diagram.*



Logic Plus Receiver LP-RP

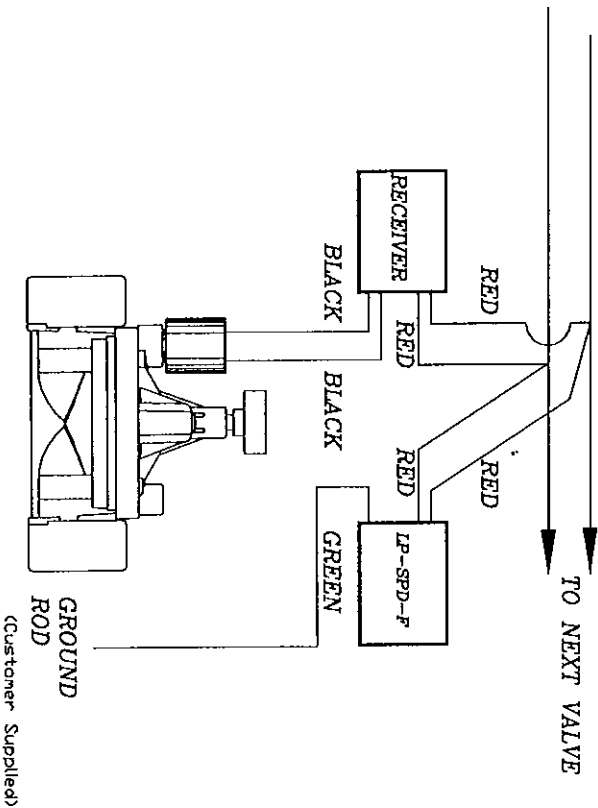
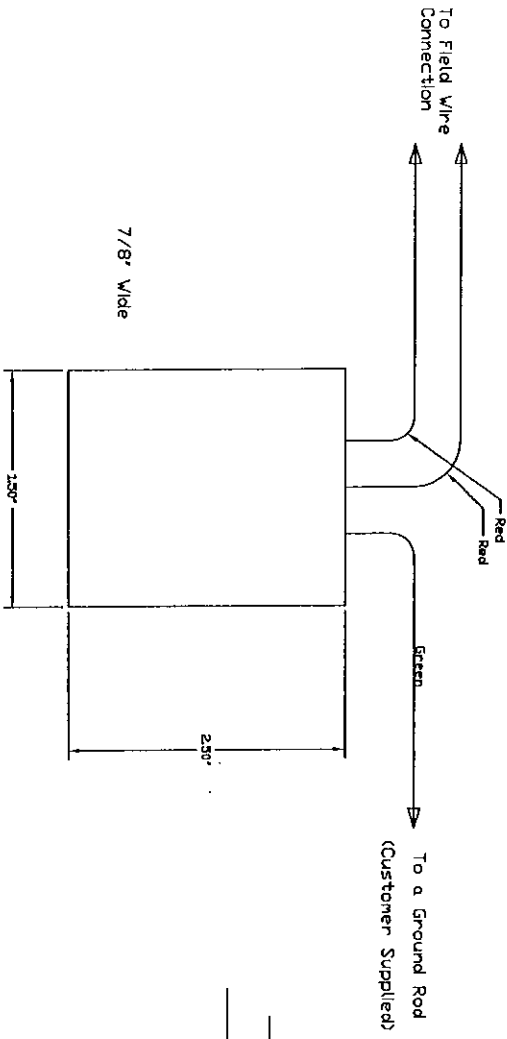


D12

SW-0001

LP-SPD-F Field Surge Protection Device

Install Every 200-300 ft. along the 2 Wire Path.



mta-0022