

OneReach™

TVSS, Grounding, and Surge Considerations

OneReach System

Important: This presentation does not, nor is it intended to, supersede, modify, or replace any requirements outlined by OSHA, NEC, NESC, or any other code enforced by the local authority having jurisdiction (AHJ).

Surge Protection

- OneReach System contain built-in Transient Voltage Surge Suppression (TVSS) for basic protection
 - Head-end injection devices are compliant with IEC 1000-4-5
 - provides 1.5 KV surge immunity for basic protection
 - 1-port sources, 1-, 2-, 4-port remotes are compliant with IEC 61000 4-5, Level 4
 - provides 4KV Surge Immunity for more robust protection
 - Fails “safe”
- Additional protection **highly** recommended if any part of the system is outdoors and/or in a high surge environment
- TVSS **requires** proper grounding to work!

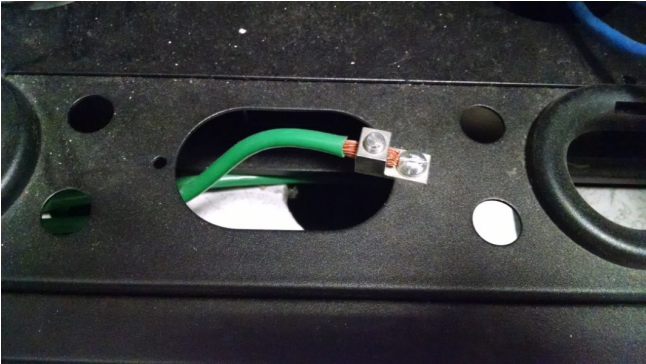
Grounding

- Recommend BICSI TDMM Chapter 9 (Bonding and Grounding) as general reference for ER & TR Telecommunications Grounding Busbar (TGB)
 - 6 AWG if length is less than 100ft
 - Consult NEC if length is more than 100ft

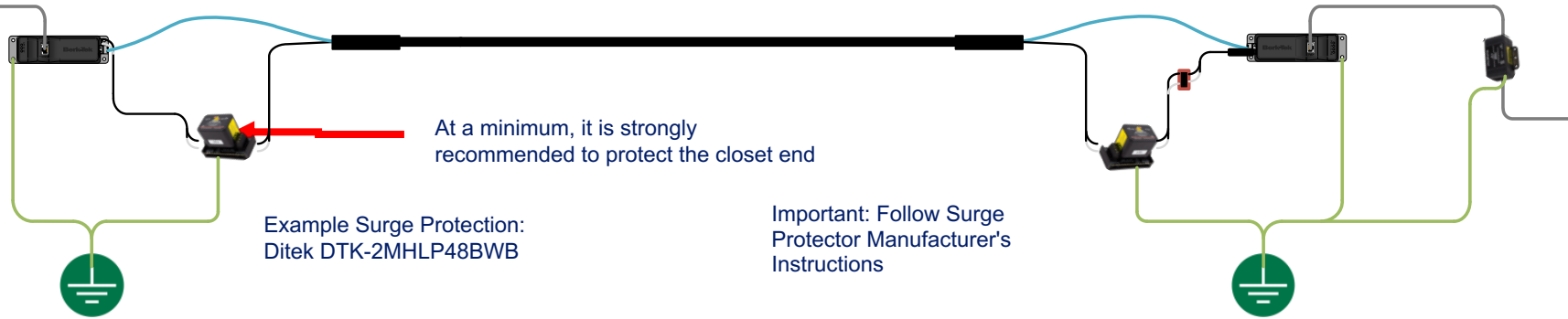


Image Source: <https://images.eanixter.com/viewex/PR20305V7.JPG>

Grounding specific to OneReach



Surge Protection Recommendations



For outdoors installations and other places with potential surge events, 48 VDC surge protectors, specifically rated for lightning strike protection, are **strongly** recommended. Likewise, it is **strongly** recommended that in places with potential surge events, a surge protector be added to the network cables running to the powered device.

Proper grounding is required for surge protectors to operate correctly.

Regardless of these recommendations, installations must be compliant with the requirements of the local authority having jurisdiction.

General Surge Protection

- Power should be off during installation
- Read all instructions prior to installation
- Ensure you have proper grounding implemented

Composite Cable Protector

- Surge protector has two sides:

Closet End

- Unprotected connects to the composite cable
- Protected connects to the source (3 ft. of conductors needed)

Remote End

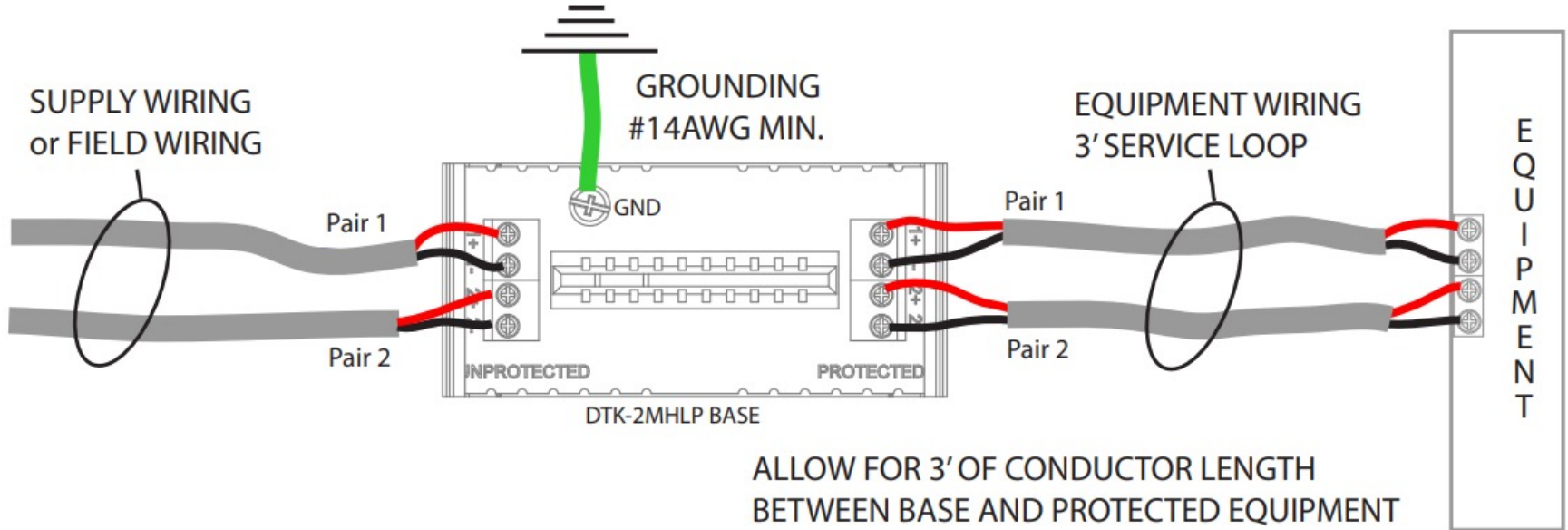
- Unprotected connects to the composite cable
 - Protected connects to the remote (3 ft. of conductors is needed, included in the OCA)
- Black and/or Blue wires go to the + terminal, White and/or Yellow wires go to the -terminal

Image Source: https://www.ditekurgeprotection.com/media/djcatalog2/images/item/1/dtk-2mhlp48bwb_f.png



Composite Cable Protector

3. Connect ground to the ground terminal using a minimum of 14 AWG wire, make this conductor as short as possible.
Ground Resistance Rule: Max ground resistance is 25 Ohms, 5 Ohms or less is optimum.



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RJ45 Protector

- Surge protector has two sides:
 - The out side (protected side) goes to the remote
 - The in side (unprotected side) goes to the device

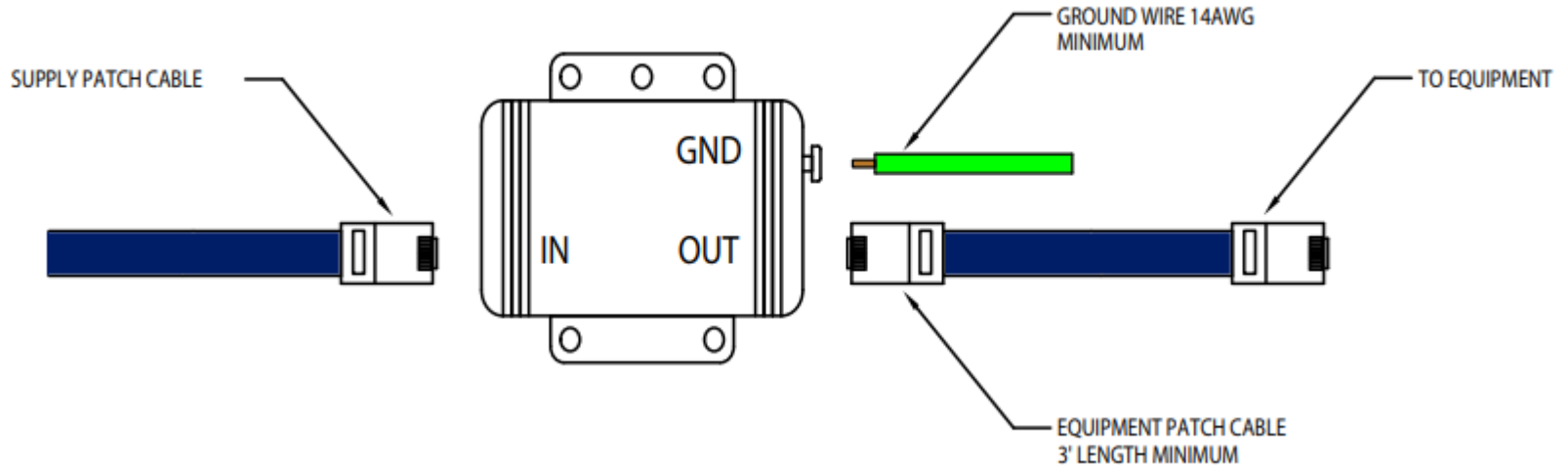


Image Source:
https://www.ditekurgeprotection.com/media/djcatalog2/images/item/2/dtk-mrjexts_f.png

RJ45 Protector

6. Connect the ground lead to the ground terminal on the DTK-MRJEXTS. Make sure the ground wire is as short as possible.

Ground Resistance Rule: Max ground resistance is 25 Ohms, 5 Ohms or less is optimum. This cannot be an assumed value and must be measured to assure proper grounding.



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Fiber Termination

- Leviton Injection-Molded Plastic Splice Trays provide protection and slack management of heat-shrink fusion spliced fibers inside of a fiber enclosure. The 12-fiber mini tray accommodates 250 or 900 μ m fiber and features a clear cover for viewing and inspection of tray contents.



T5PLS-12F

The
Industry's
Best
& **Service**
& **Support**

Outstanding
Return On
Infrastructure
Investment

Committed
To Our
Customers
& the
Environment

A **Culture** of
Ingenuity &
Innovation

Quality &
Performance
in every
Solution