

How to Wire Signal Surge Suppression

[0m:0s]



[0m:4s] Hi I'm Josh Bloom, welcome to another video in the RSP Supply education series. If you find that these videos are helpful to you, it certainly helps us out if you could give us a big thumbs up and subscribe to our channel.

[0m:16s] In today's video, we are going to be talking about protecting the sensitive signals that can come into a control panel and PLC.

[0m:27s] More specifically, we are going to be talking about the analog signals that enter these panels and how adding signal Surge suppression is important in those situations.

[0m:39s] We will also talk about how to actually wire up one of these suppressors in order to help you better understand how it should be done.

[0m:48s] It is important to note that signal surge suppression is not needed in many different scenarios and also for certain signal types.

[0m:58s] Typically these types of suppressors are used on analog signals only, and only in situations where the instrument or sensor that is being used will be exposed to the elements.

[1m:13s] It is because of this exposure that there is a risk of a potential surge. This surge risk creates the need to protect the sensitive hardware in the panel such as the PLC. There is a specific method that should be followed when wiring one of these devices which we will explain. The first thing to keep in mind when wiring, one of these devices is to understand that it needs to be wired in series with the PLC,

[1m:42s] terminal blocks, and instrument or sensor that is being used. As you can see here, PLC, terminal block, our surge suppression device, and our instrument or sensor.

[1m:54s] By wiring this type of protection in series with other devices, you will ensure that any surge that occurs on that circuit will pass through the suppressor allowing it to perform its desired function.

How to Wire Signal Surge Suppression

- Needs to be wired in series with the PLC and instrument
 - This ensure any surge on the circuit will pass through the suppressor

[2m:8s] Not all signal surge protection devices are the same, and they are not all wired in exactly the same method, but in almost all cases, they are wired in series.

[2m:20s] The next factor you should consider when wiring one of these devices is to understand that there is a protected side of the device and an unprotected side of the device.

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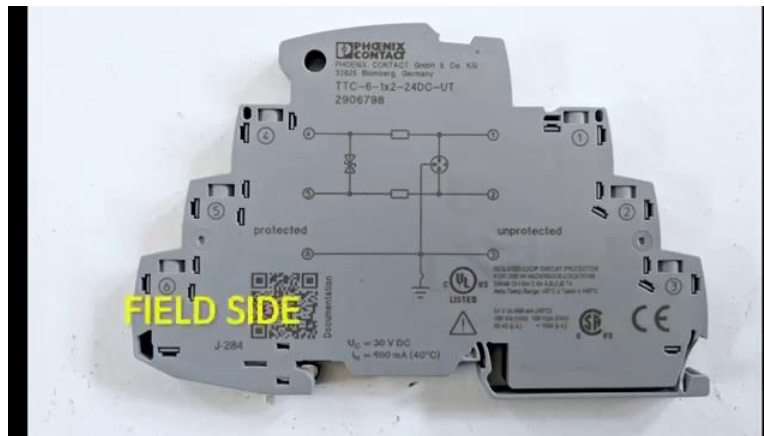
- Needs to be wired in series with the PLC and instrument
 - This ensure any surge on the circuit will pass through the suppressor
- Important to wire them correctly
 - Typically signal direction is important
 - Look for "Protected" or "Unprotected" side of suppressor to ensure it is wired correctly

[2m:30s] Another way to think about this would be the field side of the device or the internal or non field side of the device. In order for the surge suppressor to function properly, it is critical to make sure that the device is wired with the instrument or sensor connected to the unprotected side or field side of the device. The PLC or any internal hardware in the panel should be wired to the protected side of the device.

[3m:2s] These surge suppression devices are designed to protect against a surge in one direction, and if you wire the device incorrectly, it cannot protect against damaging surge events that may occur on that circuit. In the case of the device that we are using today, it is



very clear which side of the device is protected against a surge and which side is not. If you simply look at the device, it lists it right on here, protected and unprotected or again field side or non-field side.



[3m:37s] As with any electrical device, it is important to follow the directions that the manufacturer for your specific suppressor specifies.

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[3m:47s] As I mentioned before, not all of these devices will be wired in the same way. With that said they do, for the most part, function in the same way and need to be wired correctly to achieve the desired results.

[4m:3s] For a full line of signal surge suppression devices and thousands of other products, please go to our website. For more information or other educational videos, go to RSPSupply.com, the Internet's top source for industrial hardware. Also, don't forget: like and subscribe.

