

## Protection for 48 V Mobile Broadband DC Power Supply

Up to IEC 61000-4-5 Level 4 Solution

### Solution Products



[1320-S-48](#)

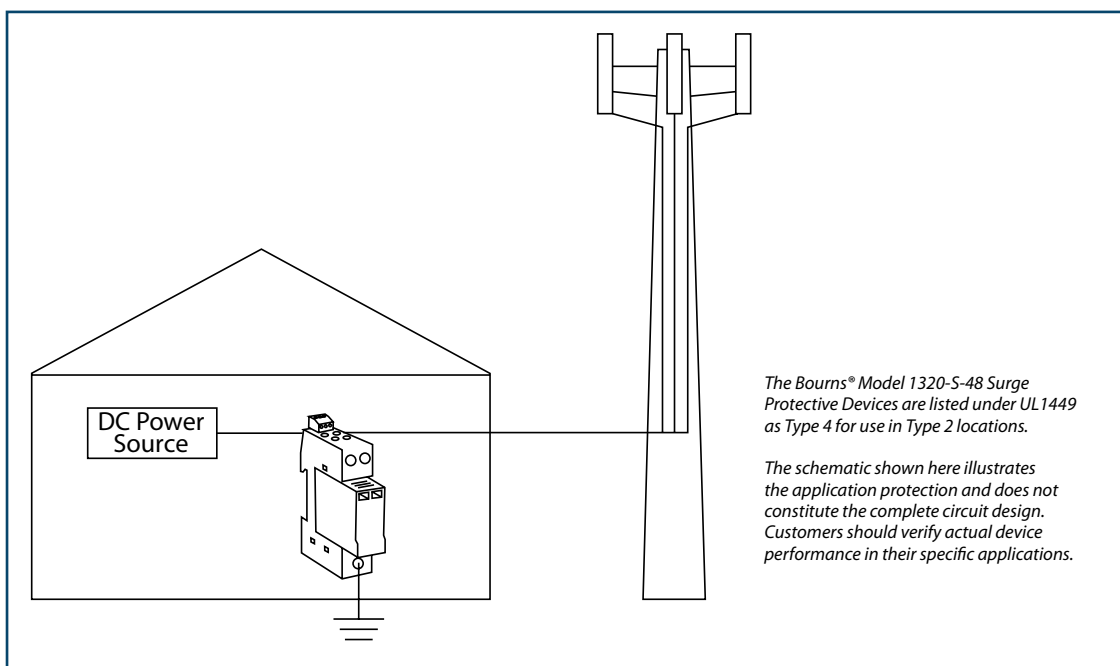
### Situation

Typically, mobile broadband base transceivers are powered by 48 VDC and are often located in harsh environments on top of towers or rooftops that can be threatened by lightning or other transient surge events. Many of these installations only provide protection from the AC input, which does not address the 48 V power extending beyond the installation premises. Consequently, the power supplies for these transceivers need protection for the DC line input and power distribution of the power supply to maintain service to the customer. Integrating protection is also important to help mitigate power system degradation that can lead to costly downtime and maintenance or repair calls.

This Bourns® Power Play Solution™ presents a proven power scheme for the DC input/output in a mobile broadband power supply system. The solution employs the Bourns® Model 1320 Series DC Surge Protective Device (SPD) which is listed under UL 1449 as Type 4 for use in Type 2 locations. With the rating of 15 kA nominal surge current and 30 kA maximum surge rating, the Bourns® Model 1320 Series SPD meets DC power supply protection requirements.

### Bourns® Power Play Solution™

The circuit shown below illustrates Bourns' DC power supply protection solution utilizing Bourns® Model 1320 Series SPDs.



*The Bourns® Model 1320-S-48 Surge Protective Devices are listed under UL1449 as Type 4 for use in Type 2 locations.*

*The schematic shown here illustrates the application protection and does not constitute the complete circuit design. Customers should verify actual device performance in their specific applications.*

Qty.	Component Description	Part Number & Data Sheet Link	Distributor Inventory
1	General Duty Surge Protective Device	<a href="#">Model 1320 Series SPD</a>	<a href="#">Check Stock</a>

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### Summary

**Industry:** Mobile Broadband

**Application:** 48 VDC Power Supply Surge Protection

**Product:** [Bourns® Model 1320 SPD](#)

**Benefits:** Ease of installation and replacement

### Compliance

This Bourns® Power Play Solution™ employs the Bourns® Model 1320 Series DC Surge Protective Device (SPD), which is listed under UL 1449 as Type 4 for use in Type 2 locations.

### Benefits

An additional benefit of the Bourns® Power Play Solution™ for 48 V mobile broadband DC power supplies is that it offers an external protection approach, thereby making it an easier and lower cost alternative to replacing the entire power system if it fails. It is also Din-Rail mountable for easy installation.

### Bourns® Power Play Solution™

As a general duty DC surge protective device, Bourns® Model 1320 Series SPDs are designed to be installed on the load side at the front end of the installation in the main switchboard and positioned close to sensitive terminals or in installations without LPS (Lightning Protection System, such as lightning rods). Because this solution is passive until a transient occurs, it should not affect other components or system operation. The only caveat to this is if the power supply has built-in protection, which would require the designer to review coordination between the two protection methods.

This modular-designed SPD offers 15 kA nominal surge current, 30 kA maximum discharge, 300 V protection level and is temperature rated from -40 °C to +85 °C. Power supply protection is enhanced with MOV high energy technology and a solution that features a thermal disconnect that reduces the risk of failure.

### Additional Resources

The following related resources are also available from Bourns:

- [Bourns® Power Play Solution™: Remote Radio Unit \(RRU\) Power Supply](#)
- [Bourns® Power Play Solution™: Universal AC Power \(UACP\) Protection](#)
- [New Product Brief: Bourns® PF-N Series Telecom Power Fuses](#)
- [Application Note: Designing Effective Surge Protection for AC and DC Powered Systems](#)
- [Application Note: Surface Mount Power TVS Diodes Deliver Optimal Protection for Power Supplies](#)

[www.bourns.com](http://www.bourns.com)

# BOURNS®

Americas: Tel +1-951 781-5500  
Email [americus@bourns.com](mailto:americus@bourns.com)

EMEA: Tel +36 88 520 390  
Email [eurocus@bourns.com](mailto:eurocus@bourns.com)

Asia-Pacific: Tel +886-2 256 241 17  
Email [asiacus@bourns.com](mailto:asiacus@bourns.com)