

## BEYONDTECH 10G SFP+ Direct Attach Cable (DAC) Application Guide

Beyondtech recently started its Series of SFP DAC Cabling with the launch of our 10G SFP+ Direct Attach Cable (DAC): a high-performance, cost-effective and versatile solution for network applications.

Built with first-class manufacturers, our DAC Cable comes with 10G SFP+ to 10G SFP+ adapters on both ends. It has also been made with #30 AWG, a small diameter cable design that offers convenient flexibility when it comes to handling its installation and usage.

This configuration also makes our DAC more efficient and durable than regular Fiber Patch Cords, enabling the user to set up a firmer - and hence more robust- connection between his devices.

Versatility was one of our guiding principles throughout the design of this product, so our DAC was built following the SFF-8431, SFF-8432 and SFF-8472 specifications, which makes it compatible with a vast number of devices made by the most reputable brands in switches, routers and networks servers.

### 10G SFP+ DAC Cable Typical Applications

Amongst DAC Cable's most typical applications, the following ones should be remarked: Switches, Networking (servers, routers and hubs), Enterprise storage, Telecommunication equipment, and Network Interface Cards (NIC's)

The most common application of 10G SFP+ DAC's consists of connecting switches/servers to switches that are in the rack or very close to them in any case. That being said, these 10G DAC cables could be effectively employed as an option for what are called ToR (or Top of Rack) connections between switch and servers.



**Low Smoke  
Zero Halogen**

10G SFP+ DAC's perform in an optimal way for data transmission lengths of around (or less than) 7 meters that ask for low power consumption and latency. This scenario is very convenient for the use of 10G SFP+ DAC's in connections within a relatively small range between servers and switches.

There is another beneficial scenario for the use of 10G SFP+ DAC's: they offer more access for equipments that comprise high densities of data and that are stored in reduced storage spaces like a single cabinet. While this may represent a limitation in terms of maintenance and management of the switches in the long term, the easy access makes for a simpler and more effective Telecom connection.

## Additional Considerations for Potential Applications

While 10G SFP+ DACs and 10G SFP+ AOCs are mainly used in data centers because of the high-performance they bring in computing connectivities, there are other considerations we suggest taking before you design and implement potential and effective solutions for your deployment:

**Application:** Consider the type of application the DAC will be ultimately used for: Top of Rack, Middle of Row or End of row.

**Cabling:** Think of the cabling equipment that you have available. Also you need to take into account the amount of space available in your rack and the possible cable routes that you need to outline.

**Length:** Consider the distances between the switches and the servers.

**Consumption:** Think about the power requirements of your project.

**Budget:** It is always advisable to have a clear idea on the costs that your project will bring.

## Safety Information



The cables can only be installed or replaced by qualified personnel.



Please wear antistatic gloves.



Caution against moisture.



Do not disassemble or modify the cables



Do not approach or look directly at the optical fiber exit with naked eyes.



Excessive bending is strictly prohibited.

## Compatibility Guide

The following table summarizes how the most important Telecom manufacturers stand on the issue of compatibility with third-party companies.

**WARNING:** Even when you find the manufacturer of your equipment on this list, we strongly suggest going to their respective website to double check if any changes have been made in their specifications.

Brand	Type	Compatibility Notes
Arista	Switch	Arista does not restrict the use of third-party copper cables.
Avaya	Switch	Avaya switches only work with Avaya-qualified transceivers.
Brocade	Switch	Brocade switches only work with Brocade-qualified transceivers.
Cisco	Switch/ NIC	Cisco believes the fault or defect can be traced to the use of third-party memory products.
Dell	Switch/ NIC	DAC compatible on all models.
D-Link	Switch/ NIC	DAC's are compatible on DGS-1510, DGS-3420, DGS-3620, DGS-6600, DGS-3600 series.
ECI Telecom	Switch	DAC compatible on all models.
EMC	NIC	DAC compatible on all models.
Ericsson	NIC	DAC compatible on all models.
Extreme	Switch	DAC compatible on all models.
Fortinet	Switch	DAC compatible on 1024D, 1048D, 3032D series
Gigamon	NIC	Not compatible with third-party products.
HPE	Switch/ NIC	DAC compatible on switches using Comware Operating System.
Huawei	Switch	DAC compatible on all models.
IBM	Switch/ NIC	DAC compatible on all models.
Intel	NIC	DAC compatible on all models.
Juniper	Switch	DAC compatible on all models.
Lenovo	NIC	DAC compatible on all models.
Mellanox	Switch/ NIC	DAC compatible on all models.
NETAPP	NIC	DAC compatible on all models.
Netgear	NIC	DAC compatible on all models.
Nutanix	NIC	DAC compatible on all models.
Oracle	Switch/ NIC	DAC compatible on all models.
Palo Alto	NIC	DAC compatible on all models.
SuperMicro	NIC	DAC compatible on all models.

## FAQ / Frequently Asked Questions:

### What are the requirements for the cable assembly?

Beyondtech's 10G SFP+ DAC Cables meet the signal integrity requirements defined by the MSA SFF-8431 industry standard. We could also design and build customized solutions to meet the requirements of a customer's special requirements.

### What wire gauge is required?

Beyondtech offers SFP+ cable assemblies in wire gauges #30 to support our customers' specific cable requirements.

### What cable lengths are required?

Cable length and wire gauge are related to the performance characteristics of the cable assembly. Longer cable lengths require heavier wire gauge, while shorter cable lengths can utilize a smaller gauge cable.

### Could you build custom solutions?

Yes, Beyondtech can design and build custom solutions for our customers. Please contact us and describe your special requirements and our Production Department will do their best to meet your needs.

### Troubleshooting Typical SFP+ Problems

If you are using our 10G SFP+ DAC cable with an equipment that you have previously confirmed that is compatible and the connection is not working, then you might run a quick check: plug in a different SFP+ cable assembly between the same two ports.

If the connection is now working, it could be a problem with the first SFP+ cable assembly. If the connection is still not working, then it could be a problem with the configuration of the ports or incompatibility between server and switch.

## Beyondtech Technical Assistance.

If you have any questions regarding the information posted on this guide, or something is not entirely clear and you need additional support, please do not hesitate to contact us directly via email or phone call. We will be happy to assist you.

