



EXPANDED BEAM ASSEMBLIES

VERSATILE OPTION FOR RUGGEDIZED FIBER OPTIC CONNECTIVITY

OCC's Expanded Beam Cable Assemblies provide proven reliability and optical performance for military and harsh environment applications. Available in 2- and 4-channel variations, the OCC Expanded Beam assemblies utilize a unique termination process that simplifies ferrule alignment and makes field repairs and terminations much quicker. Its hermaphroditic design allows this connector to be easily mated without regard for male or female gender of the interfacing connector.

And as a natural complement to OCC's existing family of ruggedized connectors and cable assemblies, the Expanded Beam product line offers just another versatile option for fiber optic communications in adverse environments.

PERFORMANCE SPECIFICATIONS

PARAMETER	SPECIFICATION	PERFORMANCE
Insertion Loss (Multimode)	TIA-455-171	0.70dB – Typical, 1.50dB – Maximum
Insertion Loss (Single-Mode)	TIA-455-171	1.00dB – Typical, 2.00dB – Maximum
Return Loss	TIA-455-171	>32dB (Typical 40dB) Single-Mode ; >20dB Multimode
Operating Temperature	TIA-455-5	-46°C to +85°C
Storage Temperature	TIA-455-5	-55°C to +85°C
Mating Durability	TIA-455-21	3,000 cycles
Cable Retention (Mil. Req.)	TIA-455-6	300 lbs. min. (Cable Dependant)
Crush Resistance	TIA-455-26	1,500 lbs.
Vibration	TIA-455-1	10-500Hz, 3 directions, 0.75mm amp @ 10g acceleration
Water Submersion	IEC 60529 IP68	1 meter



EXPANDED BEAM APPLICATIONS

- > Military Communication
- > Deployed Broadcast Systems
- > Oil & Gas Applications
- > Military Applications
- > Mining Applications

- » Ideal for reliable optical performance in challenging environments. OCC's Expanded Beam connectors are designed to meet MIL-DTL-83526/20/21 and are capable of withstanding extreme environmental conditions in mated or un-mated states. By utilizing lenses to expand and then collect the light beam, these connectors are less sensitive to dust particles, vibration and temperature changes. This increased durability and better reliability in adverse climates enables OCC's Expanded Beam assemblies to allow more mating cycles, decrease signal deterioration and overall extend the product life cycle.
- » Easy maintenance and field repair. Using standard fiber optic termination tools, the OCC Expanded Beam connector family is factory terminated using industry standard epoxy and polishing techniques. This enables the polished ferrules to be easily removed from the Expanded Beam insert for connector re-use or repair. In the unlikely event that the insert should become damaged in service, it can be replaced quickly and simply without the need to re-terminate the fibers.
- » Hermaphroditic design enables uncomplicated connections. The genderless mating or hermaphroditic design of the Expanded Beam connector allows plugs and receptacles to be mated easily without regard to the gender. This design also allows two plugs to be mated together for end-to-end connections. These features make the Expanded Beam product line an ideal choice for military tactical communications, mining, deployable broadcast and other applications where quick connections are essential.
- » Versatile options for a full solution. OCC's Expanded Beam offerings are a natural complement to the existing family of ruggedized and harsh environment components and assemblies OCC has to offer. Available in single-mode or multimode, 2- or 4-channels, the Expanded Beam cable assembly can be provisioned to suit a wide range of environments and applications. Coupled with OCC's proven Mil-Tac and harsh environment fiber optic cable as well as the diverse set of MARS Reels and accessories, the Expanded Beam product family provides a high-performing solution designed to take on the most demanding applications.

WHAT TO KNOW WHEN ORDERING

HOW MANY CHANNELS WILL I NEED?

The OCC Expanded Beam can accommodate 2 and 4 channel counts.

DO YOU REQUIRE A PLUG-TO-PLUG ASSEMBLY OR A PLUG OR BULKHEAD TO DISCRETE CONNECTOR ASSEMBLY?

OCC has the capabilities to provision each type of assemblies. If you are requiring an Expanded Beam plug to plug assembly, simply contact us with the channel counts and information about the installation environment. If you require a plug or bulkhead to discrete connector assembly, we will need to know what type of connector (LC, SC, ST, etc.) you require. If you have questions about how to order these types of assemblies, give us a call and we can walk you through the process to find the best solution for your need.

WHAT TYPE OF CABLE IS REQUIRED?

Various cable types are available to meet any application and OCC can provision any assembly to the specific length that meets your need. Contact OCC Sales for help determining the best cable for your application.

DO YOU NEED EASY FIELD DEPLOYMENT?

Do you need easy field deployment? OCC has a variety of options to help with deploying your Expanded Beam cable assemblies. Contact OCC Sales to learn about our MARS reels, Integrated Cleaning Kits for Expanded Beam Connectors and all the deployable accessories for the MARS Reel. Together we can find the right options for your requirements.

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