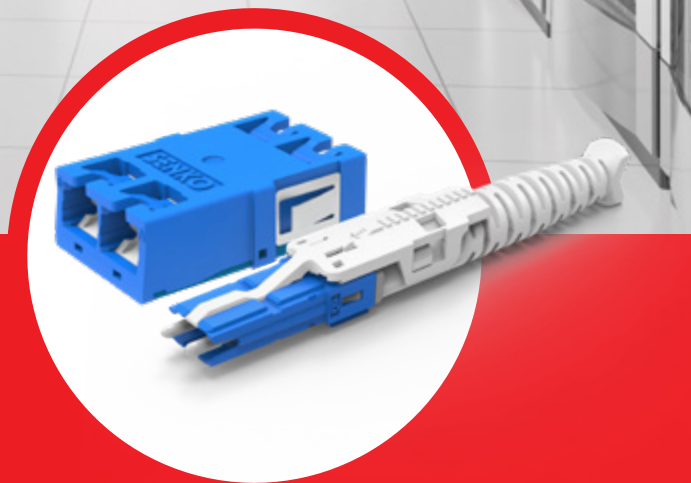




400G
800G



CS[®] SERIES

SENKO[®]
Advanced Components

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**Let go of the past.
Connect with the now.**



Innovative Optical Connectivity Solutions

SENKO Advanced Components design and manufacture precise, user-friendly, and application-focused fiber optic connectors that allow network operators to achieve the performance and reliability necessary to support the world's unquenchable demand for data. As you would expect from a Japanese company, precision is paramount to our offering, and we take pride in providing the global communications market with reliable and repeatable components that guarantee business-critical, error-free transmission.

We understand the challenges that network operators face in building networks that are not just quick and easy to construct, but also easy to manage and maintain over the complete life-cycle of the network. For this reason, SENKO pays special attention in developing connectors that are easy to identify and access even in when placed in the densest and demanding of applications. The world demands high-performance connectivity "always and everywhere". Our application-focused approach ensures that connectors are optimized for the environment whether it be inside a controlled data center, or high up on a remote antenna mast.

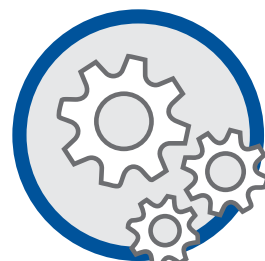
Resolving Industry Challenges

As markets continue to evolve, so do the requirements of fiber optic products. With over 30 years of experience and a highly skilled team of professionals, SENKO can resolve industry challenges quickly and effectively. With SENKO, the typical design and physical first prototyping takes weeks, not months. The majority of products are stocked and ready to be delivered in the same week. SENKO has fully embraced the idea that your success is our success.



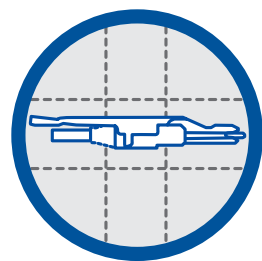
Design

Working with our customers, SENKO helps define product application, functionality, and manufacturability



Prototype

SENKO has the capability to create in-house functional prototyping



Refine

SENKO continuously strives to enhance performance, reliability, usability, and cost



Validate

Products verified against established industry standards

Your success is our success

VSFF Pioneer and Technology Leader with 90+ Patents

SENKO connectivity is driving next-generation applications that consume unparalleled amounts of data. Super-computing, AI and Big Data are just a few of the applications that demand data rates as high as 400G, 800G, 1,6TB or beyond. Our VSFF (Very Small Form Factor) connectivity is the first of its kind to deliver twice as many optical channels within the standard footprint of legacy transceivers. Whatever your connector requirements or application, SENKO is here to help you. We value every connection.



Patented Solutions

- SN[®], SN[®]-MT, and CS[®] connectors are invented by SENKO Advanced Components and standardized in the QSFP-DD MSA and OSFP-MSA specifications. The CS[®] is currently standardized within TIA under TIA-604-19, and the SN[®] is in the process of standardization within IEC under IEC 61754-36.
- SENKO is the global leader in VSFF connectivity, and our portfolio represents the broadest range of application-focused connectors and adapters on the market.
- SENKO provides a licensing program to approved partners to manufacture SN[®], SN[®]-MT and CS[®] connectors and adapters without the risk of direct/indirect patent infringement

590
patents
globally

Global Presence

With offices all around the world, SENKO aims to provide local service on a Global footprint.



AVIATION **Data Centers**
TELECOM MEDICAL
WIRELESS INDUSTRIAL SILICON PHOTONICS
Automotive Hyperscale
On-Board Optics SECURITY FTTx and more...

Leading the Fiber Optic Revolution

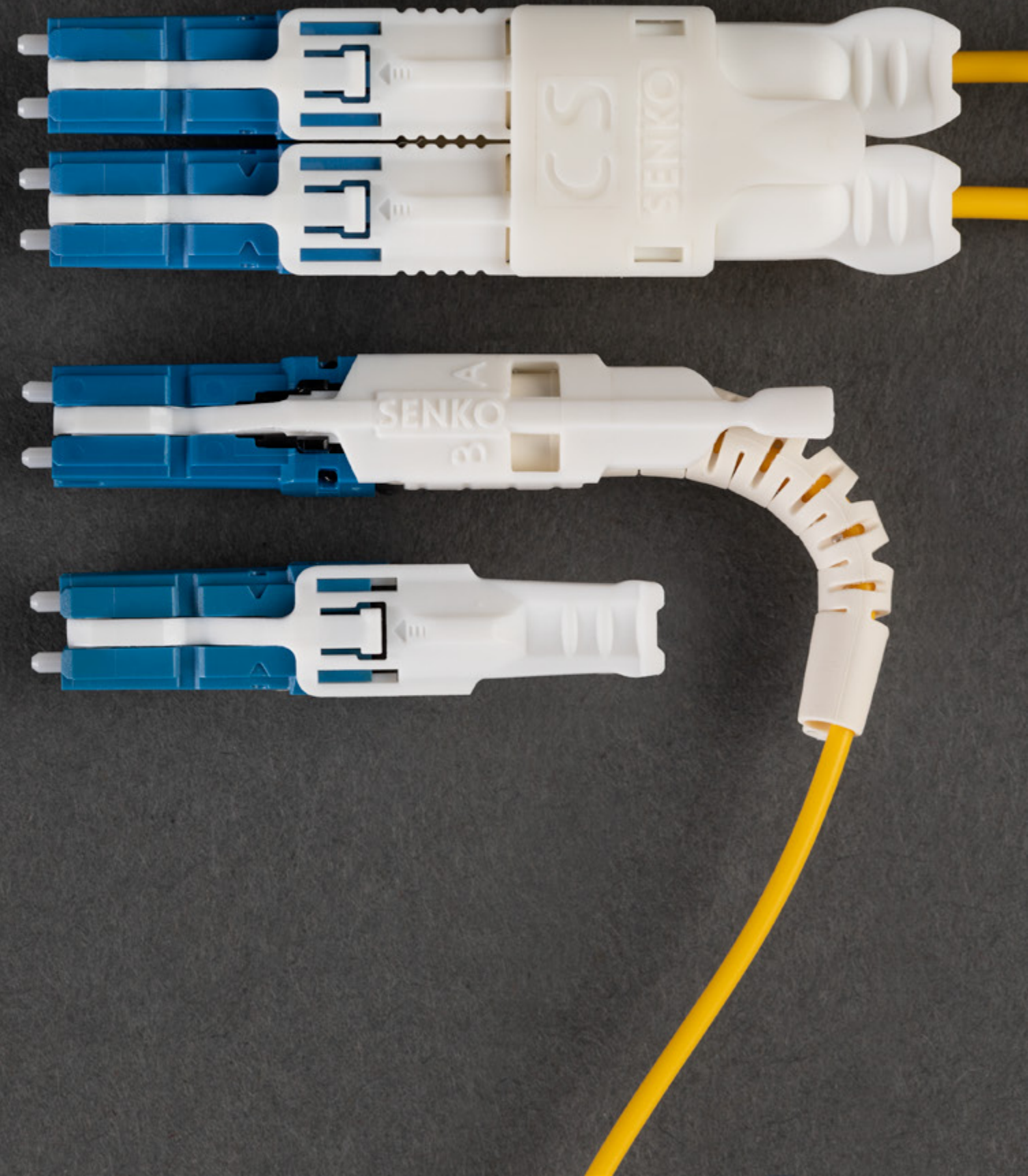
885+ million connectors deployed globally

97+ million connectors sold in 2022

15 new products released in 2020

590 patents granted globally

90+ VSFF patents globally



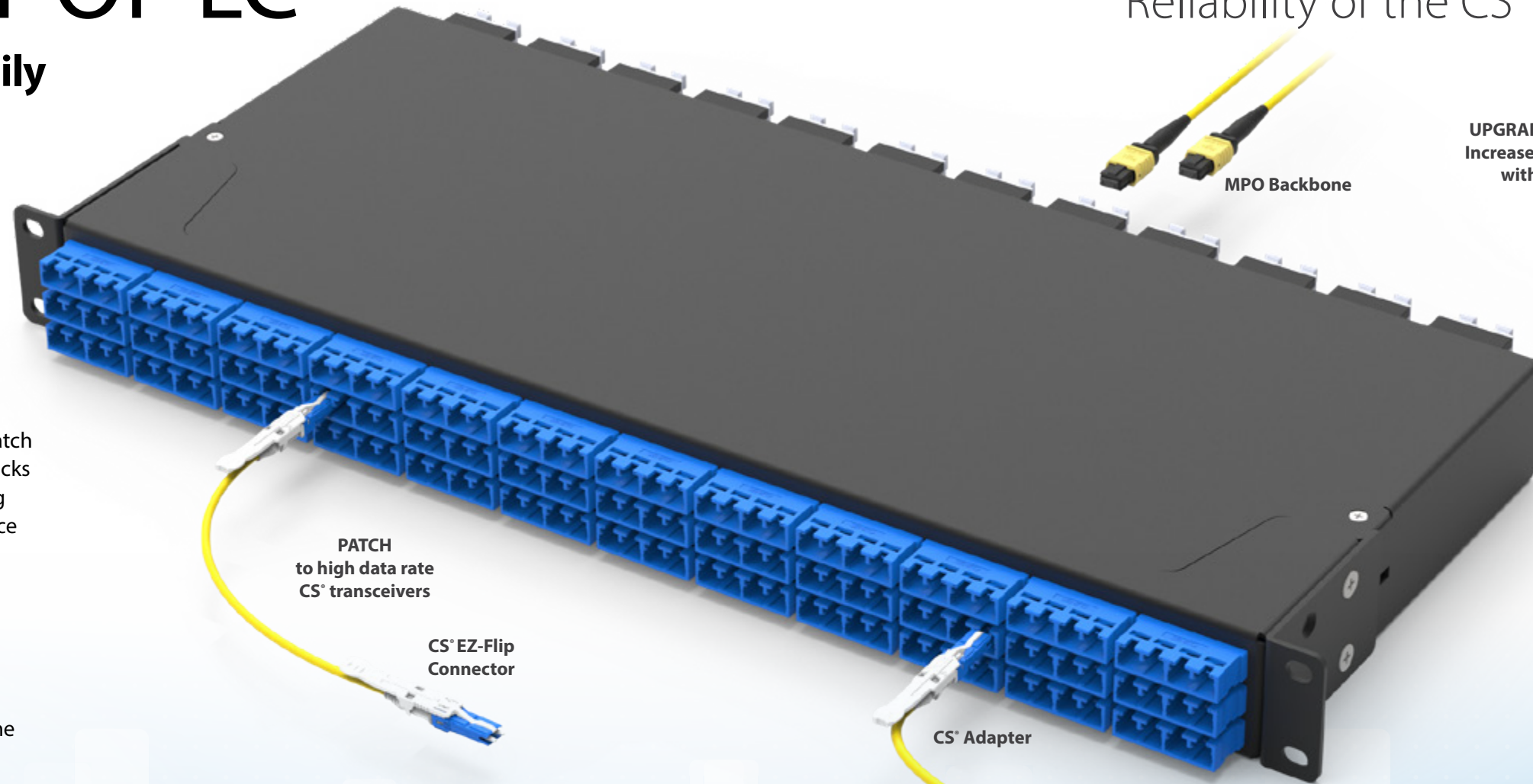


DOUBLING THE DENSITY OF LC

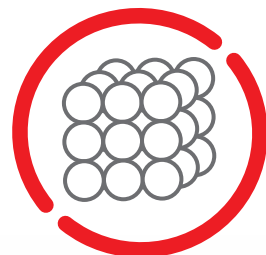
Meet the CS[®] Family

Telco-Grade Performance in a VSFF Footprint

Experience the Performance and Reliability of the CS[®] Connector

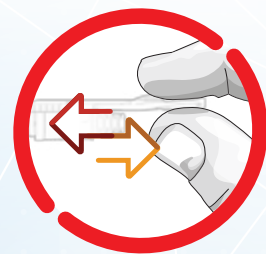


UPGRADE EXISTING INFRASTRUCTURE
Increase density and improve reliability with best-in-class performance



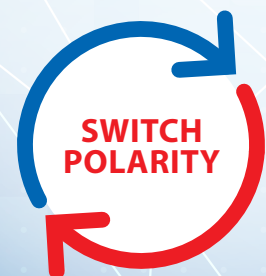
Reduce the number of patch panels and racks by optimizing available space

2X DENSER THAN LC



Fast and easy access with the push-pull tab

PUSH-PULL TAB



Fast, easy and safe switchable polarity

EZ-FLIP

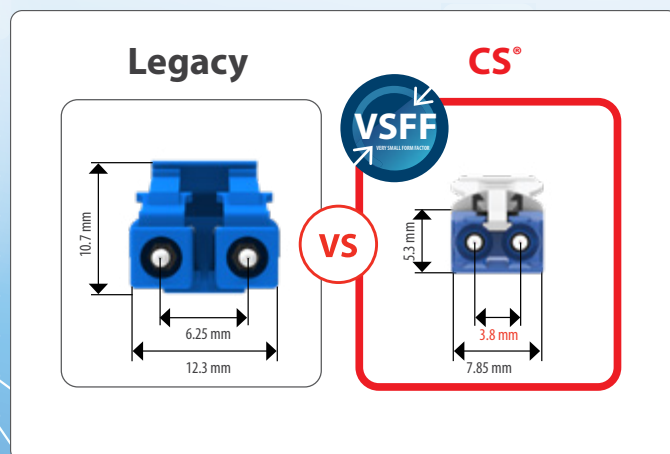
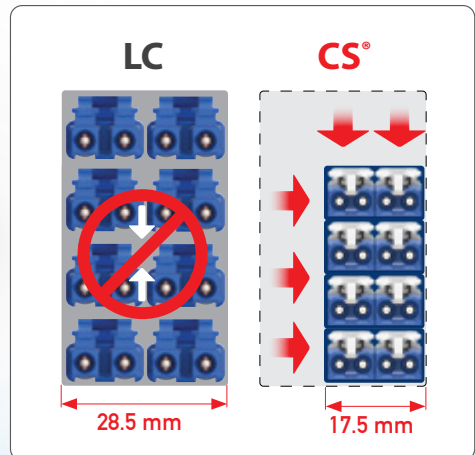
PATCH to high data rate CS[®] transceivers

CS[®] EZ-Flip Connector

CS[®] Adapter

LC EZ-Flip

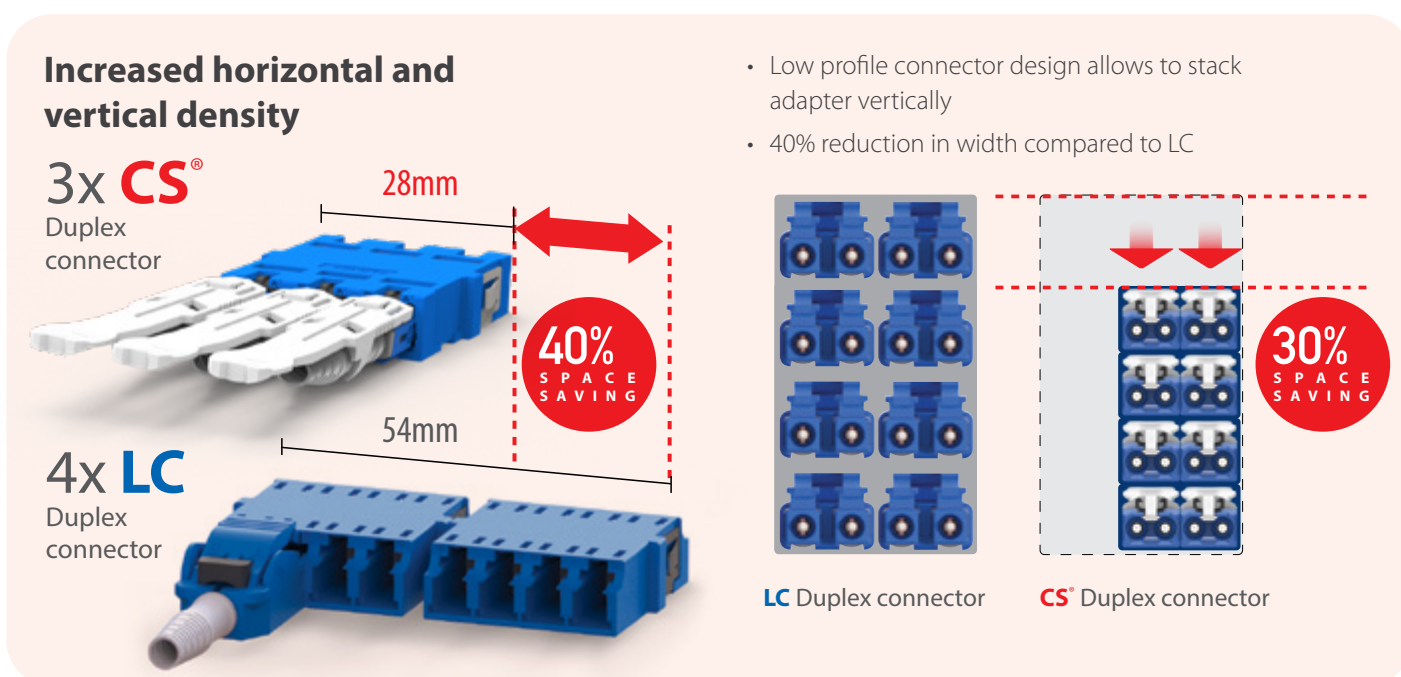
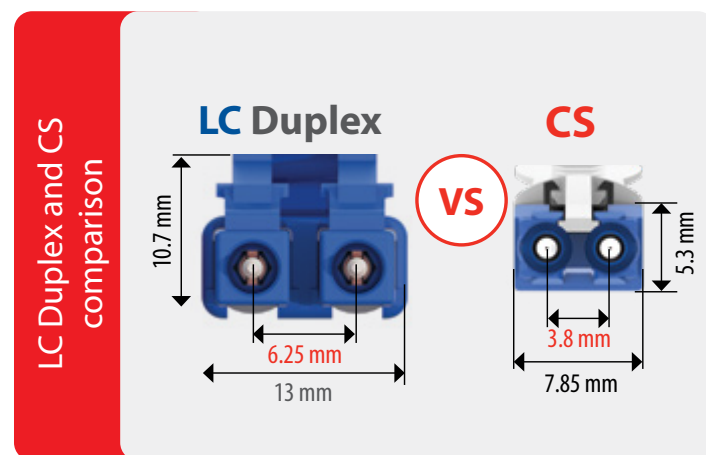
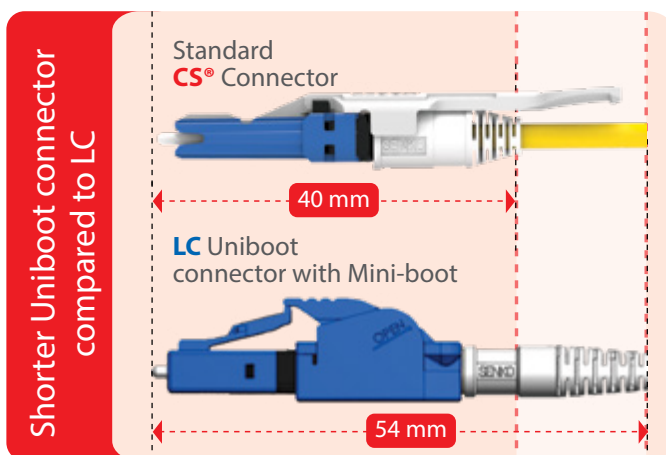
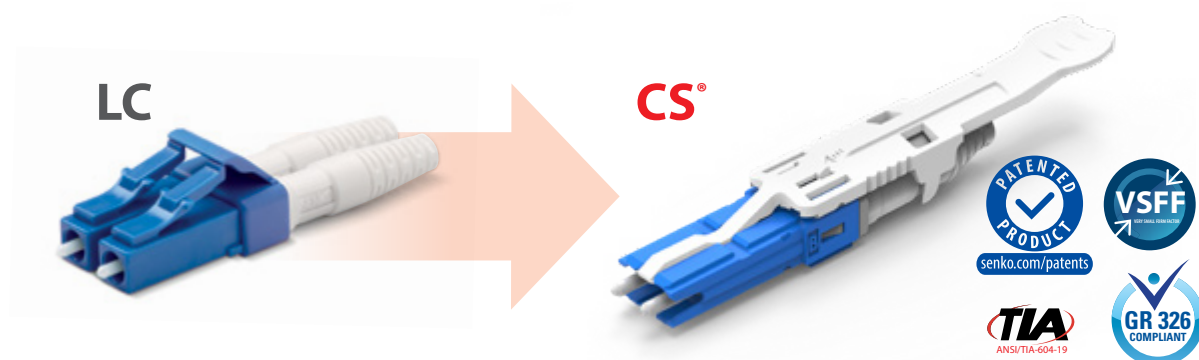
MAXIMIZE Consolidation of LC-based server connections



2x 200G CWDM 4 QSFP-DD/OSFP

400G
Breakout Ready
2x Duplex in 1 Transceiver

Double the Density with CS[®]

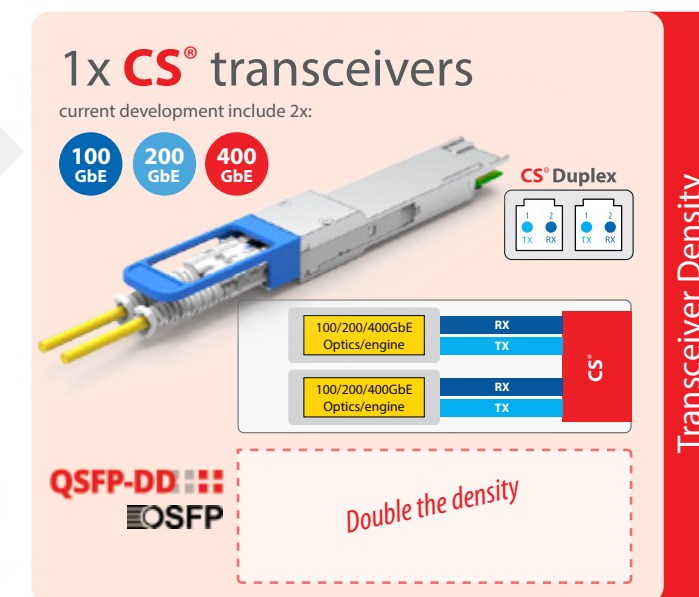
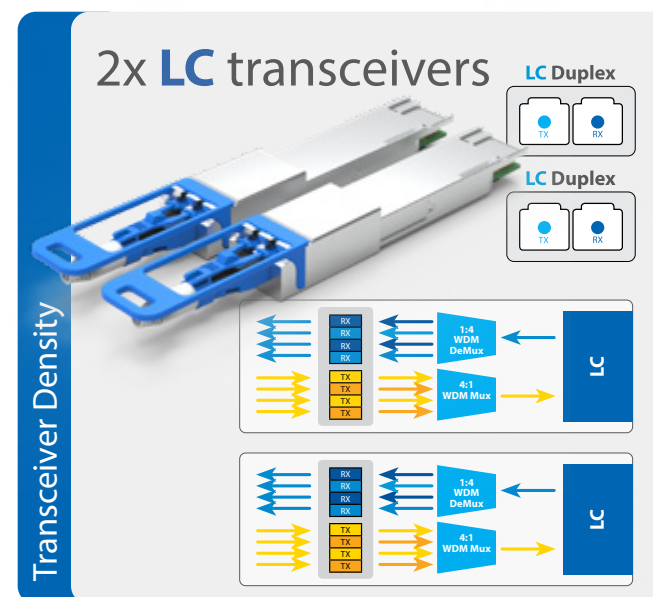


Double the Density from LC

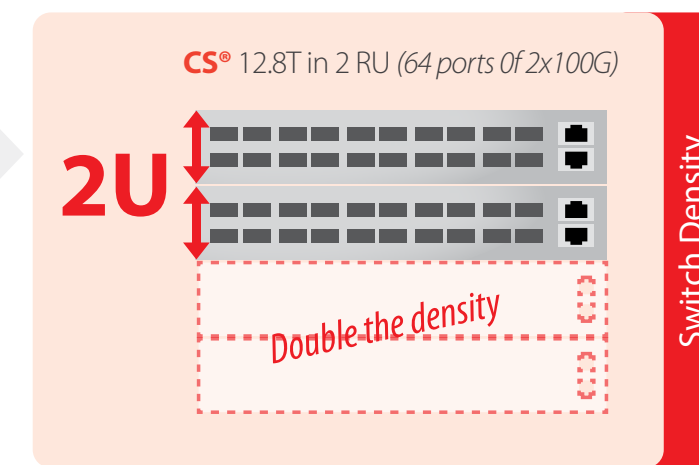
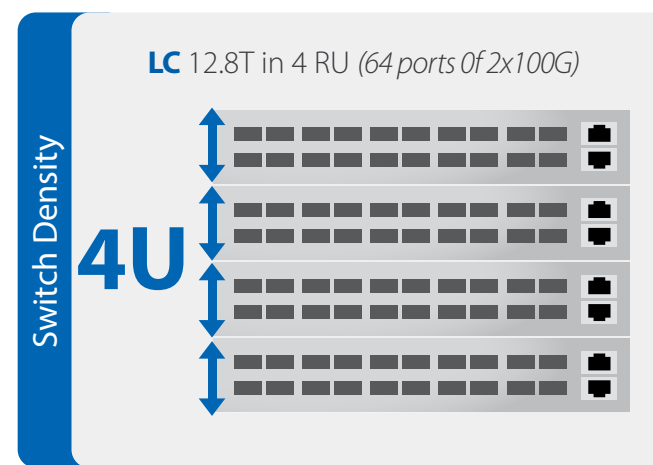
Learn about CS[®]
Click to Watch Videos



Doubling Transceiver Density/Capacity



Doubling Switch Density/Capacity



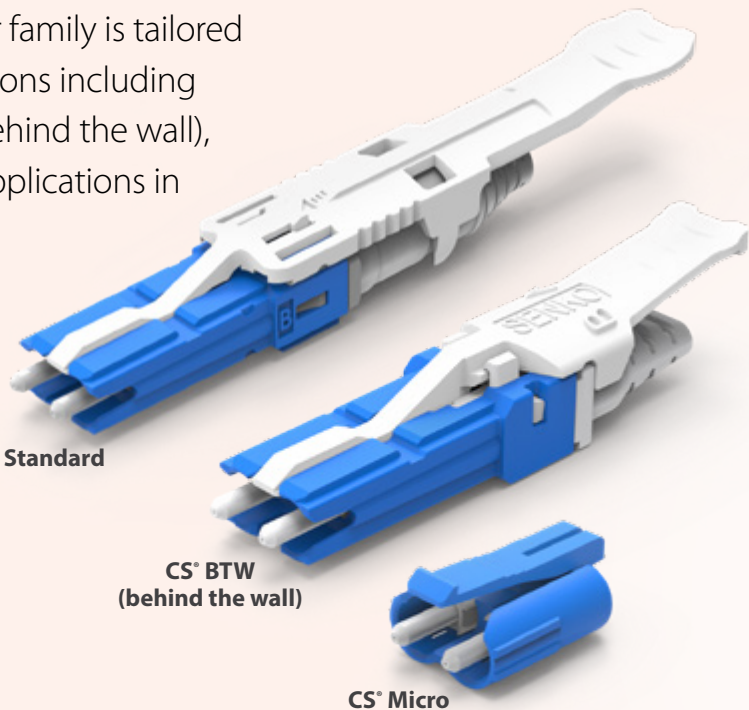
THE ULTIMATE PATCHING CONNECTOR

The **CS[®]** is optimized for frequent Moves, Adds, and Changes

SENKO[®]
Advanced Components



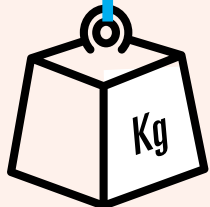
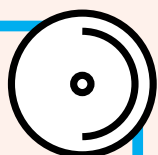
The CS[®] connector family is tailored to suit all applications including patching, BTW (behind the wall), or space saving applications in optoelectronics.



CS[®] Standard

CS[®] BTW
(behind the wall)

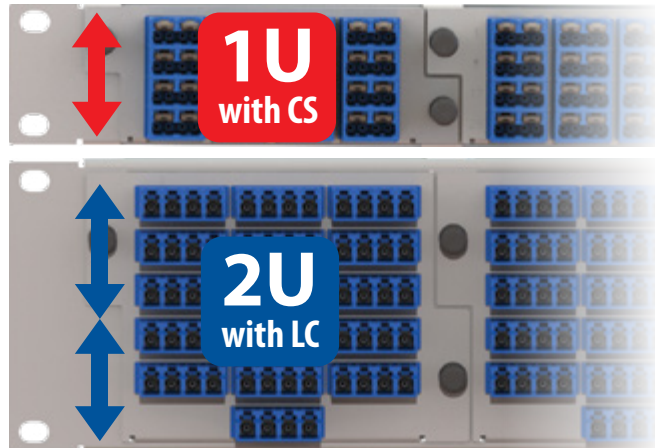
CS[®] Micro



Meets GR-326 Mechanical Standards for mechanical load objectives

MEGA DENSITY

CS® 128CH/256F Cassette Panel in 1RU



LC 128CH/256F Cassette Panel in 2RU

MEGA <288 fibers



MEGA Density

Double the density of the current offering with LC connectivity. Significantly lower total cost per port.

ULTRA <144 fibers



ULTRA Density

Industry benchmark density per 1RU using engineered chassis and cassette systems.

Improve port identification, connector access and cable management with CS®

+ Density

45RU Rack Comparison

Double your density with CS® CONNECTOR

Generic LC

with LC
Total Capacity
2048 CH
4096 F

(single sided rack/cabinet)

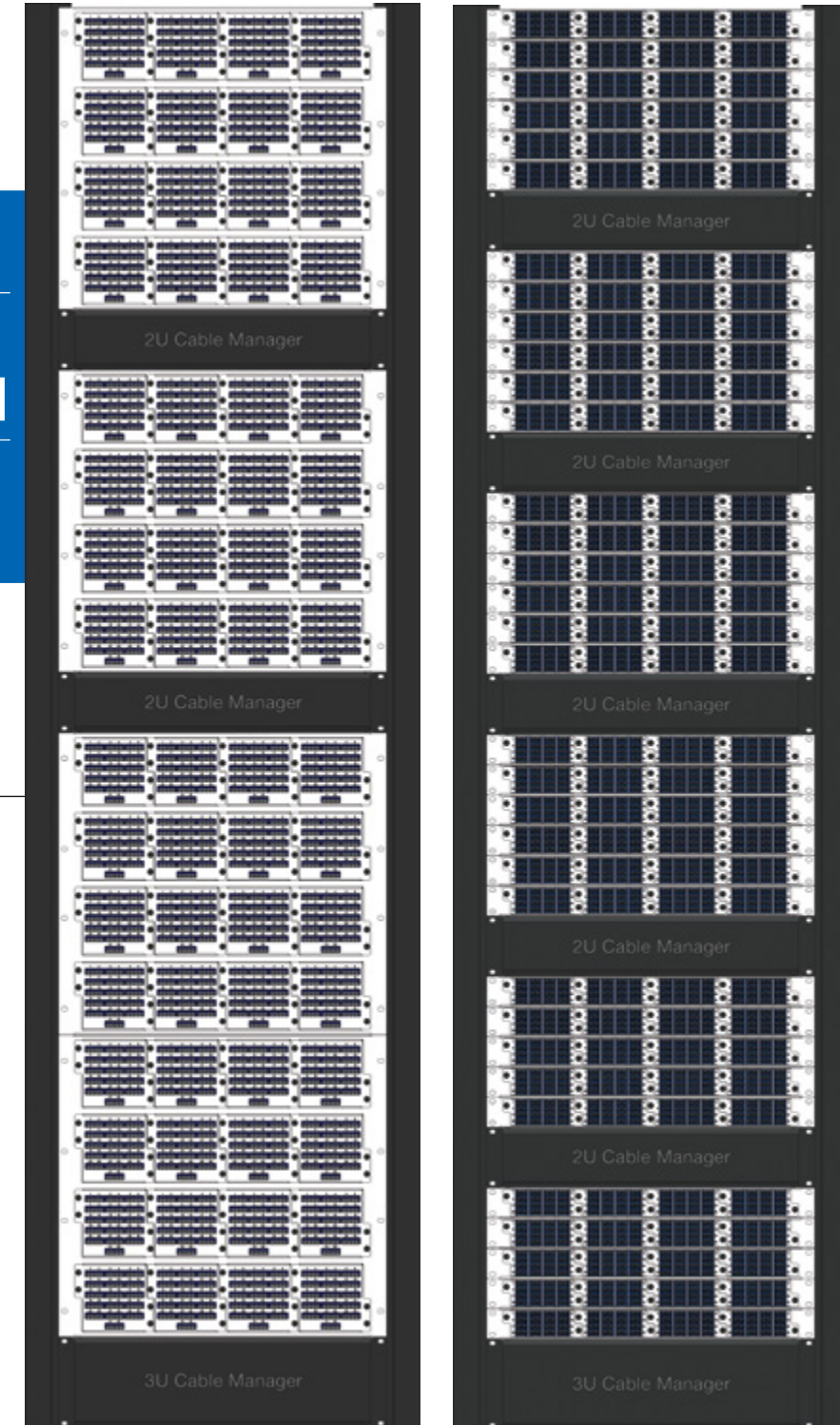
Total **7RU** Cable Management Space

CS® CONNECTOR

with CS®
Total Capacity
4352 CH
8704 F

(single sided rack/cabinet)

Total **13RU** Cable Management Space



*Note that the 3 RU wire manager is installed on the bottom rack base plate and the remaining 1 RU space at the bottom of the rack.

PANDUIT[™]



Strong Ecosystem Partnerships

“ As the transition to 400Gb backbones occur, standards bodies created the new CS[®] connector specification which increases the number of duplex optical links by approximately 40% per rack unit (RU) designation.

”
Bob Wagner, Senior Business Development Manager – Data Center
PANDUIT

CS[®] CONNECTOR



The CS connector is a ceramic-based VSFF connector that offers twice the density of legacy LC hardware while optimizing the network for next-generation data rates such as 200G, 400G or even 800G

40% SMALLER compared to LC Connector

2 mm ruggedized cable

PUSH-PULL TAB for superior usability in high density applications and are available in various lengths and styles

GRADE B Can achieve IEC random mating Grade B performance

2 x LC STYLE FERRULE using proven 1.25 mm ferrule technology

Optimized for EZ Access
Push-pull simplicity for easy access in the densest of panels.

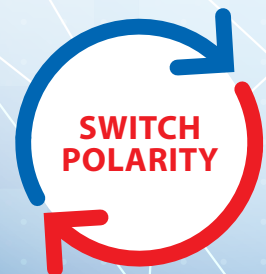
APC Polarity Change



MEETS SC MECHANICAL STANDARDS



GANG CLIP COMPATIBLE



CS[®] Connectors for Optimized Patching Performance

CS[®] EZ-WAY[™] CONNECTOR

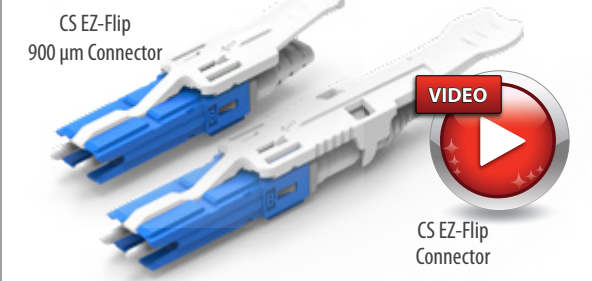
Optimize networks for next-generation data rates, including 200G, 400G, and 800G



• CS EZ-Way Connector pg. 24

CS[®] EZ-FLIP CONNECTOR

Polarity switchable duplex CS[®] assemblies for patch cords and breakouts



• CS EZ-Flip Connector pg. 26
• CS EZ-Flip 900 μm BTW Connector pg. 28

CS[®] CONNECTOR

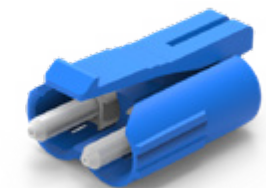
Standard duplex CS[®] assemblies for patch cords and breakouts



• CS Standard Connector pg. 30
• CS 900 μm BTW Connector pg. 32

Micro CS[®] CONNECTOR

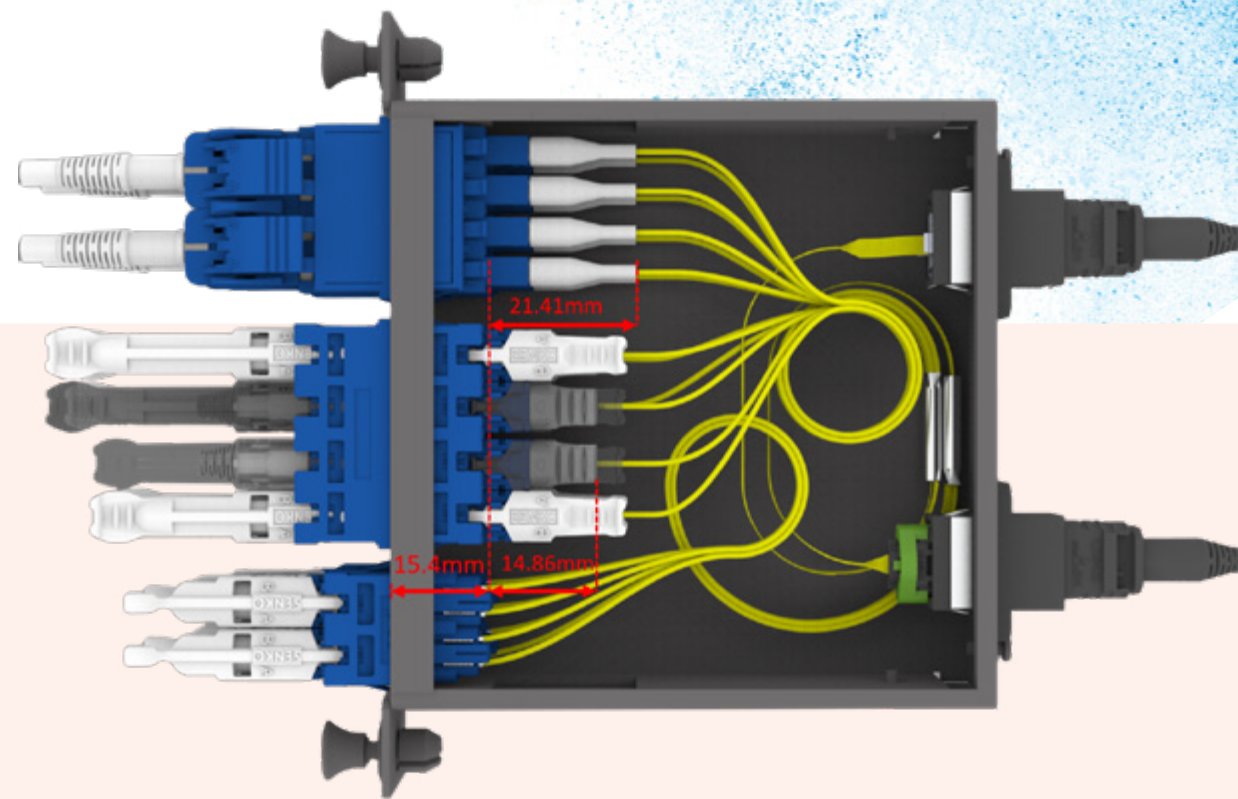
Miniature CS[®] connectors for maximum space-saving within cassettes and panels



• CS Micro Connector pg. 34

COMPACT CASSETTES

CS® is the perfect upgrade from LC because it optimizes fiber management hardware to offer increased speed and agility.

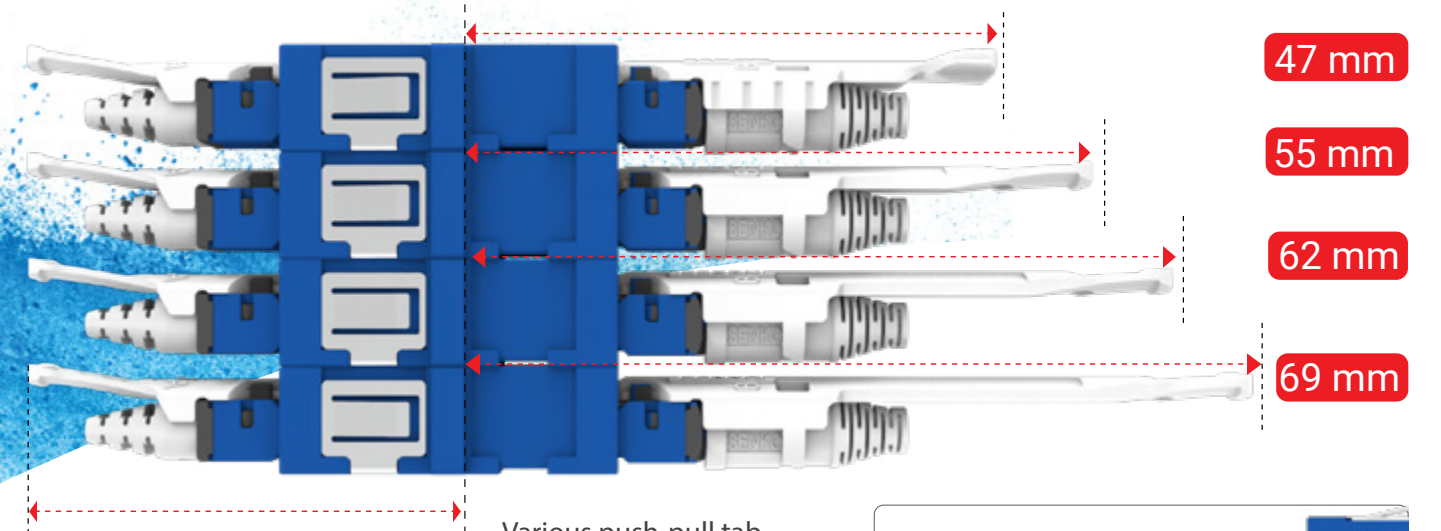


CS® Space Saving

The micro CS® connector family allow cassettes to be manufactured that are extremely compact. This optimizes the space for cable management behind the cassette and improves the access to backbone connectivity from the front of the rack.

Build smaller and better

CS® Connectors for the Ultimate in Space Savings

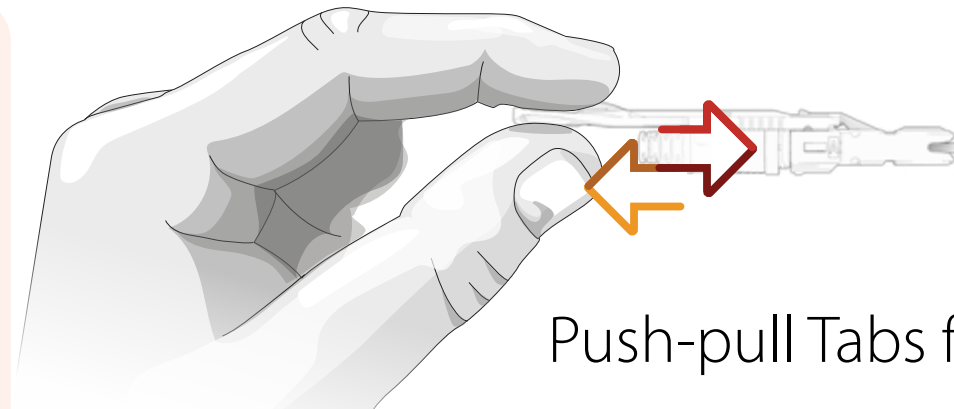


36 mm
900 µm BTW option

Various push-pull tab lengths for staggered dressing or custom applications.

11 mm extra savings with the BTW Tab

Space Saving



Push-pull Tabs for Easy Access

Push-pull tabs of different lengths can be utilized to improve the accessibility of connectors in different applications and environments.

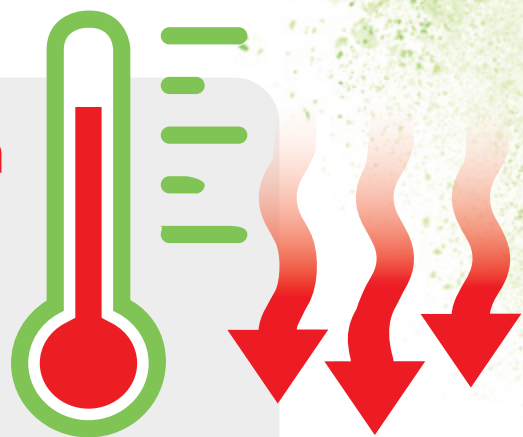
Push-pull tabs can be staggered if necessary so that the shorter tabs are at the top of the panel and longer ones are at the bottom of the panel. This cascaded approach improves accessibility still further.

SUSTAINABLE NETWORKS

Driving change through innovation

Turn down the heat

Improve air flow to equipment and reduce energy consumption with CS®



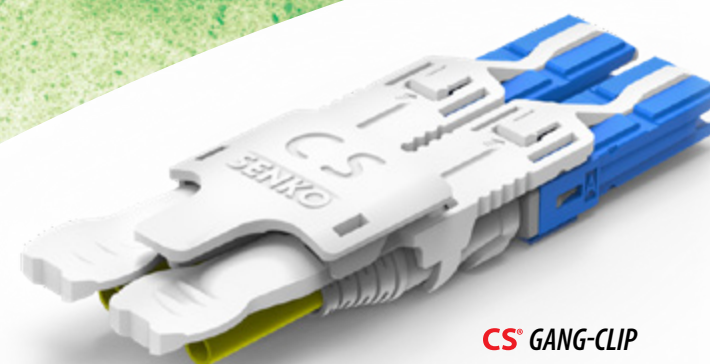
Increased efficiency, less waste

CS® connectors are less than half the size of an LC duplex connector.



67%
Reduction in plastic

Optimize Network Space and Eliminate Unnecessary Materials



CS® GANG-CLIP

Sustainability has become the primary focus of SENKO's corporate mission. We strive to make our products environmentally friendly and also economically and socially sustainable. This approach includes using eco-friendly materials and reducing waste during production, promoting energy-efficient usage of our products, and recycling them at the end of their life cycle.

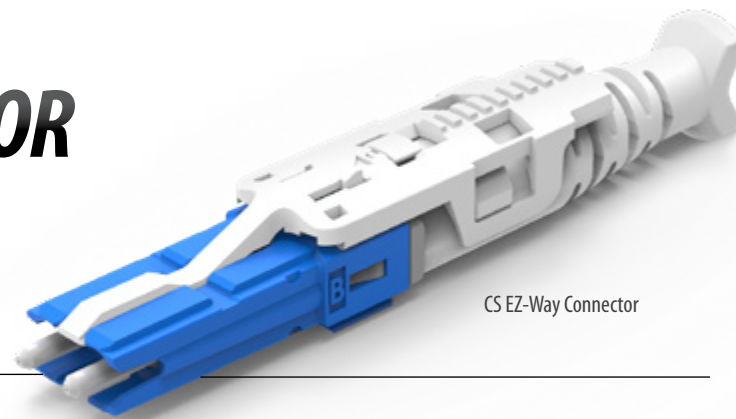
Smaller Footprint

Increased patch panel density reduces the number of racks required to support the network and eliminates the need for additional data centers.



CS® EZ-WAY™ CONNECTOR

1-Channel (2F) 2.0 mm and 3.0 mm Cable



CS EZ-Way Connector

The CS® EZ-Way™ connector is an advanced Base-2 connector that offers network operators the ability to increase the packing density of their LC-based infrastructure while optimizing their network for next-generation data rates, including 200G, 400G, and 800G.

This recent expansion of the CS® family allows technicians to switch polarity in the field without disrupting fibers or repositioning ferrules. With its unique orientation of angled ferrules, the EZ-Way™ connector can flip polarity even with APC connectors. Additionally, an integrated push-pull boot simplifies connector insertion and removal, making operating easy even in dense patch panels with limited finger access space.

In addition to its polarity-flipping capability, the EZ-Way™ connector offers versatile patching options. Two individual CS® connectors can be joined with a gang clip, enabling simultaneous patching to transceivers that have two ports side by side. This flexibility simplifies the patching process, and reduces the time required to get the network operational.

FEATURES

- IEC random mating Grade B
- Very Small Form Factor (VSFF) connector, 2 x cabling density versus duplex LC
- Duplex design utilizes a unique push-pull boot for simple installation and removal
- Optimized for up to 800G data rates with QSFP-DD, OSFP and SFP-DD transceivers
- Up to 2 x CS® connectors per transceiver
- Allows simple transceiver breakout in spine/leaf architectures
- Fast and easy polarity reversal of both UPC and APC connectors in the field
- Combines two 1.25 mm ceramic ferrules
- Pre-assembled design for fast assembly (UPC only)

APPLICATIONS

- Enterprise, telco and data centers
- High-density patch panels
- Server consolidation
- High-density cross connects
- Equipment cords to CS® transceivers
- Harnesses and breakout cable assemblies
- Central office/head-end ODF

KEY BENEFITS

- ✓ **Push-pull boot for easy installation/extraction**
- ✓ **Polarity changeable (UPC and APC)**

CS® EZ-WAY™ CONNECTOR

1-channel (2F), 2.0 mm and 3.0 mm cable

CS® HIGH DENSITY SOLUTIONS

Mechanical Data

	Value
Durability	500 matings per TIA-568
Fiber Count	Duplex (2 fibers)
Cable Suitability	2.0 mm/3.0 mm jacketed
Ferrule Material	Zirconia
Dust Protection Method	Removable dust plugs that encapsulate the ferrules

Optical Data

	Singlemode				Multimode
	UPC		APC		MM
	SM Premium Low Loss	SM Premium	SM Premium Low Loss	SM Premium	Premium
Typical Insertion Loss (dB)*	0.05	0.08	0.07	0.12	0.05
Max. Insertion Loss (dB)*	0.15	0.20	0.15	0.25	0.15
Typical Return Loss (dB)*	≥55		≥65		≥25
Ferrule (µm)	125.5				127

* Based on master grade jumper to low loss random mating test

ORDERING

CONNECTOR TYPE	FERRULE TYPE	HOUSING COLOR	CABLE SIZE	BOOT LENGTH	BOOT COLOR
6E5 CS UPC EZ-Way Pre-assembled Connector	151 SM Premium (PRE)	1 Blue	2 2 mm	A 51 mm	1 White
	158 SM Premium Low Loss (SLC)	5 Aqua	3 3 mm	B 63 mm	
	251 MM Premium (PRE)	6 Heather Violet		C 71 mm	
6F5 CS UPC EZ-Way Unassembled Connector Kit					
6H5 CS APC EZ-Way Unassembled Connector Kit	153 SM Premium (PRE)	3 Green	2 2 mm	A 51 mm	1 White
	158 SM Premium Low Loss (SLC)		3 3 mm	B 63 mm	6 Green
				C 71 mm	

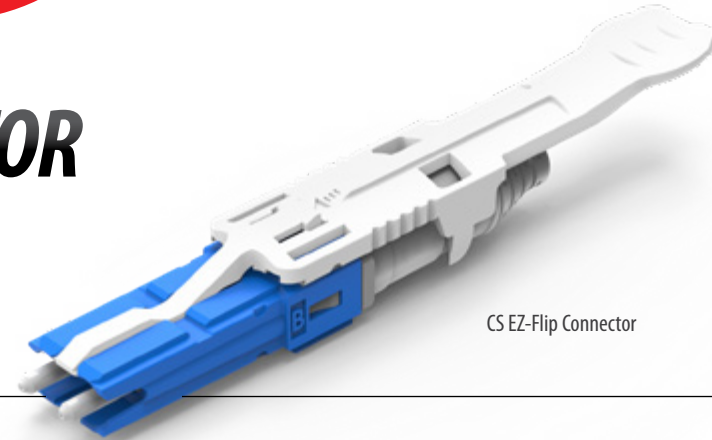


6H5 - 151 - 32A1 ORDER CODE example

CS® EZ-FLIP CONNECTOR

1-Channel (2F)

2.0 mm and 3.0 mm Cable



CS EZ-Flip Connector

The CS® EZ-Flip connector is an advanced Base-2 connector that offers network operators the ability to increase the packing density of their LC-based infrastructure while optimizing their network for next-generation data rates, including 200G and 400G.

This recent expansion of the CS® family allows technicians to switch polarity in the field without disrupting fibers or repositioning ferrules. With its unique orientation of angled ferrules, the EZ-Flip connector can flip polarity even with APC connectors. Additionally, an integrated push-pull tab simplifies connector insertion and removal, making operating easy even in dense patch panels with limited finger access space.

In addition to its polarity-flipping capability, the EZ-Flip connector offers versatile patching options. Two individual CS® connectors can be joined with a gang clip, enabling simultaneous patching to transceivers that have two ports side by side. This flexibility simplifies the patching process, and reduces the time required to get the network operational.

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- High-density patch panels
- Server consolidation
- High-density cross connects
- Equipment cords to CS® transceivers
- Harnesses and breakout cable assemblies
- Central office/head-end ODF

MEDIA

Click to Watch Videos



CS® EZ-FLIP CONNECTOR

1-channel (2F), 2.0 mm and 3.0 mm cable

CS® HIGH DENSITY SOLUTIONS

Mechanical Data



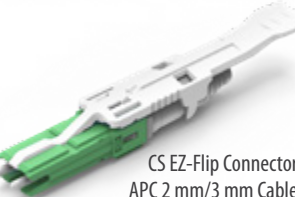
	Value
Durability	500 matings per TIA-568
Fiber Count	Duplex (2 fibers)
Cable Suitability	2.0 mm/3.0 mm jacketed
Ferrule Material	Zirconia
Dust Protection Method	Removable dust plugs that encapsulate the ferrules

Optical Data

	Singlemode				Multimode
	UPC		APC		MM
	SM Premium Low Loss	SM Premium	SM Premium Low Loss	SM Premium	Premium
Typical Insertion Loss (dB)*	0.05	0.08	0.07	0.12	0.05
Max. Insertion Loss (dB)*	0.15	0.20	0.15	0.25	0.15
Typical Return Loss (dB)*	≥55		≥65		≥25
Ferrule (µm)	125.5				127

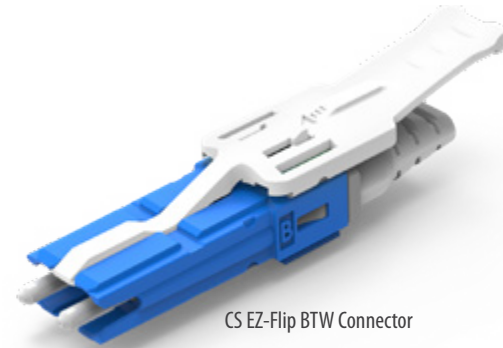
* Based on master grade jumper to low loss random mating test

ORDERING

 <p>CS EZ-Flip Connector with 47 mm tab</p>	CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR	
	6E4	CS EZ-Flip UPC Connector Pre-assembled for 2 mm/3 mm Cable	151 SM Premium	1 Blue	2 2.0 mm	1 White	47 47 mm	W White
			158 SM Premium Low Loss	5 Aqua	3 3.0 mm		55 55 mm	
			251 MM Premium	6 Heather Violet	4 2.0 mm Flex Boot		62 62 mm	
				5 3.0 mm Flex Boot		69 69 mm		
 <p>CS EZ-Flip Connector UPC with Flex Angle Boot</p>	CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR	
	6F4	CS EZ-Flip UPC Connector Unassembled Kit for 2 mm/3 mm Cable	151 SM Premium	1 Blue	2 2.0 mm	1 White	47 47 mm	W White
			158 SM Premium Low Loss	5 Aqua	4 2.0 mm Flex Boot		55 55 mm	
			251 MM Premium	6 Heather Violet			62 62 mm	
						69 69 mm		
 <p>CS EZ-Flip Connector APC 2 mm/3 mm Cable</p>	CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR	
	6H4	CS EZ-Flip Connector APC Unassembled Kit for 2 mm/3 mm Cable	153 APC Premium	3 Green (APC)	2 2.0 mm	1 White	47 47 mm	W White
			158 SM Premium Low Loss		4 2.0 mm Flex Boot	6 Green	55 55 mm	
							62 62 mm	
						69 69 mm		

Note: Pre-assembled version is currently offered only in UPC configuration.

CS[®] EZ-FLIP BTW CONNECTOR 1-Channel (2F) BTW (Behind The Wall)



The CS[®] EZ Flip connector designed for up to 900 μm cable is the ideal option for modular cassettes or splicing panels requiring a shorter connector length, especially for installations behind the wall (BTW). The benefit of this reduced connector length is that it enables hardware providers to decrease the overall depth of their equipment, thereby creating more space for efficient cable management, splice protectors, and other passive devices. By utilizing the CS[®] connector, these hardware providers can maximize their use of available space and improve the overall organization and management of cables and other components.

The CS[®] EZ Flip connector allows technicians to switch polarity in the field without disrupting fibers or repositioning ferrules. With its unique orientation of angled ferrules, the EZ-Flip connector can flip polarity even with APC connectors.

The compact pull tab located at the rear of the connector offers users convenient access to the connector, even in dense patch panels or areas where there is limited finger access space.

FEATURES

- Meets IEC random mating Grade B
- Robust design
- Reduced connector/boot length
- Single boot for 2 x 600/900 μm buffered fibers
- UPC and APC versions available
- Proven LC ferrule technology
- Extra small for space-limited applications
- Integrated pull-tab for improved access

APPLICATIONS

- Pigtail splicing modules and panels
- MPO/CS[®] transition modules
- Patching modules and patch panels
- High-density cross connects
- High-density zone distribution
- Central office/head-end ODF
- Hydra assemblies

KEY BENEFITS

- ✓ **Reduced connector length**

CS[®] EZ-FLIP BTW CONNECTOR

1-channel (2F)

CS[®] - HIGH DENSITY SOLUTIONS

Mechanical Data

	Value
Durability	500 matings per TIA-568
Fiber Count	Duplex (2 fibers)
Cable Suitability	2 x 600/900 μm buffered fibers
Ferrule Material	Zirconia
Dust Protection Method	Removable dust plugs that encapsulate the ferrules

Optical Data

	Singlemode				Multimode
	UPC		APC		MM
	SM Premium Low Loss	SM Premium	SM Premium Low Loss	SM Premium	Premium
Typical Insertion Loss (dB)*	0.05	0.08	0.07	0.12	0.05
Max. Insertion Loss (dB)*	0.15	0.20	0.15	0.25	0.15
Typical Return Loss (dB)*	≥55		≥65		≥25
Ferrule (μm)	125.5				127

* Based on master grade jumper to low loss random mating test

ORDERING



CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR
6E4 CS EZ-Flip UPC Connector Pre-assembled for up to 900 μm Cable	151 SM Premium	1 Blue	1 900 μm BTW	1 White	36 36 mm	W White
	158 SM Premium Low Loss	5 Aqua				
	251 MM Premium	6 Heather Violet				



CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR
6F4 CS EZ Flip UPC Connector Unassembled Kit for up to 900 μm Cable	151 SM Premium	1 Blue	1 900 μm BTW	1 White	36 36 mm	W White
	158 SM Premium Low Loss	5 Aqua				
	251 MM Premium	6 Heather Violet				



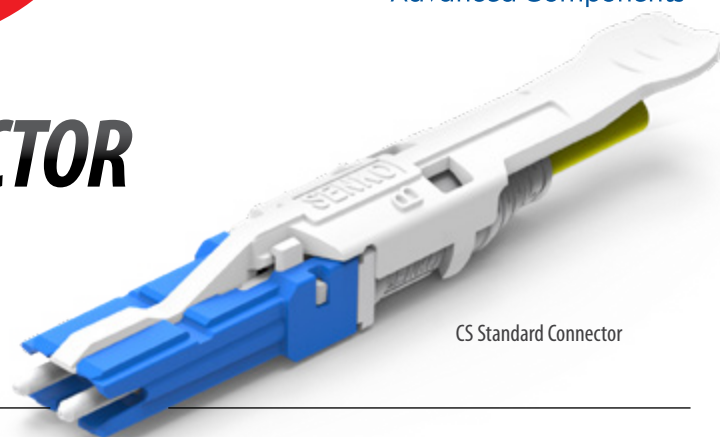
CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR
6H4 CS EZ-Flip APC Connector Unassembled Kit for up to 900 μm Cable	153 APC Premium	3 Green (APC)	1 900 μm BTW	1 White	36 36 mm	W White
	158 APC Premium Low Loss			6 Green		

6H4 - 153 - 311 - 36W ORDER CODE example

Note: Pre-assembled version is currently offered only in UPC configuration.

CS[®] STANDARD CONNECTOR

1-Channel (2F) 2.0 mm and 3.0 mm Cable



The CS[®] connector is the ultimate Base-2 connector combining 'best-in-class' packing density with carrier-grade performance and reliability. Designed and optimized for next-generation data rates, the CS[®] connector offers network operators the chance to densify their existing legacy infrastructure whilst at the same time providing an upgrade path to 400G and beyond.

The CS[®] Standard connector is suitable for termination to either 2.0 mm or 3.0 mm round cable that incorporates a ruggedized jacket and internal strain relief.

The CS[®] Standard connector has an integrated 'push-pull' boot that simplifies insertion and removal of the connector even in dense patch panels where finger access is limited. A gang-clip can be added to four individual CS[®] connectors allowing them to be patched simultaneously to either adapters or 4-channel transceivers (*subject to product selection*).

FEATURES

- IEC random mating Grade B
- Very Small Form Factor (VSFF) connector, 4 times fiber cabling density over duplex LC
- Duplex design utilizes a unique push-pull boot for simple installation and removal
- Optimized for 400G data rates with QSFP-DD, OSFP and SFP-DD transceivers
- Up to 4 x CS[®] connectors per transceiver
- Allows simple transceiver breakout in spine/leaf architectures
- Combines two 1.25 mm ceramic ferrules
- Pre-assembled design for fast assembly

APPLICATIONS

- High-density patching
- QSFP-DD, OSFP and SFP-DD transceiver links for higher data rates
- Hybrid Base-2 cable assemblies combining CS[®] and other duplex connector types
- Hyperscale, edge, enterprise and colocation data centers

MEDIA

Click to Watch Videos



CS[®] STANDARD CONNECTOR

1-channel (2F), 2.0 mm and 3.0 mm cable

CS[®] - HIGH DENSITY SOLUTIONS

Mechanical Data

	Value
Durability	500 matings per TIA-568
Fiber Count	Duplex (2 fibers)
Cable Suitability	2.0 mm/3.0 mm jacketed
Ferrule Material	Zirconia
Dust Protection Method	Removable dust plugs that encapsulate the ferrules

Optical Data

	Singlemode				Multimode
	UPC		APC		MM
	SM Premium Low Loss	SM Premium	SM Premium Low Loss	SM Premium	Premium
Typical Insertion Loss (dB)*	0.05	0.08	0.07	0.12	0.05
Max. Insertion Loss (dB)*	0.15	0.20	0.15	0.25	0.15
Typical Return Loss (dB)*	≥55		≥65		≥25
Ferrule (µm)	125.5				127

* Based on master grade jumper to low loss random mating test

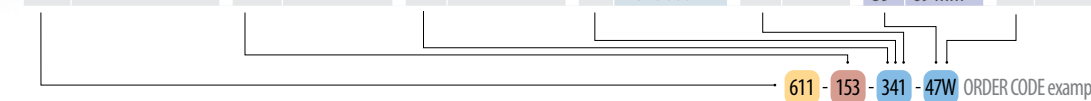
ORDERING



CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR
601 CS Connector UPC Unassembled for 2 mm/3 mm Cable	151 SM Premium	1 Blue	2 2.0 mm	1 White	47 47 mm	W White
	158 SM Premium Low Loss	5 Aqua	3 3.0 mm		55 55 mm	
		6 Heather violet	4 2.0 mm		62 62 mm	
	251 MM Premium		Flex Boot		69 69 mm	



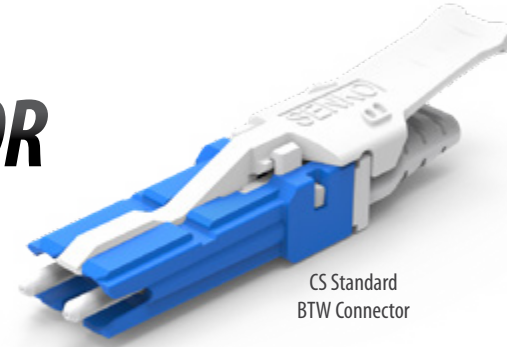
CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR
611 CS Connector APC Unassembled for 2 mm/3 mm Cable	153 APC Premium	3 Green (APC)	2 2.0 mm	1 White	47 47 mm	W White
	158 APC Premium Low Loss		3 3.0 mm		55 55 mm	
			4 2.0 mm		62 62 mm	
			Flex Boot		69 69 mm	



PART NUMBER	
601-CLPP-01-W	Plastic Duplex Gang-clip for CS EZ-Flip Connectors or CS Standard Connectors

601-CLPP-01-W ORDER CODE example

CS[®] BTW STANDARD CONNECTOR 1-Channel (2F) BTW (Behind The Wall)



The CS[®] connector designed for 900 μm cable is the ideal option for modular cassettes or splicing panels requiring a shorter connector length, especially for installations behind the wall (BTW). The benefit of this reduced connector length is that it enables hardware providers to decrease the overall depth of their equipment, thereby creating more space for efficient cable management, splice protectors, and other passive devices. By utilizing the CS[®] connector, these hardware providers can maximize their use of available space and improve the overall organization and management of cables and other components.

The compact pull tab located at the rear of the connector offers users convenient access to the connector, even in dense patch panels or areas where there is limited finger access space.

FEATURES

- Meets IEC random mating Grade B
- Robust design
- Reduced connector/boot length
- Single boot for 2 x 600/900 μm buffered fibers
- UPC and APC versions available
- Proven LC ferrule technology
- Extra small for space-limited applications
- Integrated pull-tab for improved access

APPLICATIONS

- Pigtail splicing modules and panels
- MPO/CS transition modules
- Patching modules and patch panels
- High-density cross connects
- High-density zone distribution
- Central office/head-end ODF
- Hydra assemblies

KEY BENEFITS

- ✓ **Reduced connector length**

CS[®] BTW STANDARD CONNECTOR 1-channel (2F)

CS[®] - HIGH DENSITY SOLUTIONS

Mechanical Data

	Value
Durability	500 matings per TIA-568
Fiber Count	Duplex (2 fibers)
Cable Suitability	2 x 600/900 μm buffered fibers
Ferrule Material	Zirconia
Dust Protection Method	Removable dust plugs that encapsulate the ferrules

Optical Data

	Singlemode				Multimode
	UPC		APC		MM
	SM Premium Low Loss	SM Premium	SM Premium Low Loss	SM Premium	Premium
Typical Insertion Loss (dB)*	0.05	0.08	0.07	0.12	0.05
Max. Insertion Loss (dB)*	0.15	0.20	0.15	0.25	0.15
Typical Return Loss (dB)*	≥55		≥65		≥25
Ferrule (μm)	125.5				127

* Based on master grade jumper to low loss random mating test

ORDERING



CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR
601 CS Connector UPC Unassembled for up to 900 μm Cable	151 SM Premium	1 Blue	1 900 μm BTW	1 White	36 36 mm	W White
	158 SM Premium Low Loss	5 Aqua				
	251 MM Premium	6 Heather violet				

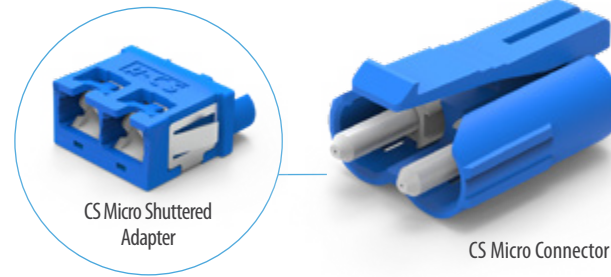
CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR	BOOT TYPE	BOOT COLOR	TAB LENGTH	TAB COLOR
611 CS Connector APC Unassembled for up to 900 μm Cable	153 APC Premium	3 Green (APC)	1 900 μm BTW	1 White	36 36 mm	W White
	158 APC Premium Low Loss					

611 - 153 - 311 - 36W ORDER CODE example

PART NUMBER	
601-CLPP-01-W	Plastic Duplex Gang-clip for CS EZ-Flip Connectors or CS Standard Connectors

601-CLPP-01-W ORDER CODE example

Micro CS[®] CONNECTOR 1-Channel (2F) BTW (Behind The Wall)



The Micro CS[®] connector is the most compact option within the CS[®] connector family, delivering an optimal solution for space-saving requirements, particularly in BTW (Behind The Wall) applications. When used with Micro CS[®] adapters, it enables significant space reduction of up to 22.5 mm compared to standard adapters and connectors. This makes it an ideal choice for optoelectronic applications where sharing BTW space with fiber optic connectivity is crucial, allowing circuit boards and other essential components to coexist efficiently.

The Micro CS[®] connector follows a duplex design that combines two spring-loaded 1.25 mm ceramic ferrules within a single miniature structure. The upper face of the connector features a latch-locking mechanism, ensuring secure engagement with the adapter. Moreover, users benefit from an audible click, providing reassurance of a properly secured connection.

FEATURES

- Meets IEC random mating Grade B
- Robust design
- Reduced connector/boot length
- Single boot for 2 x 600/900 μm buffered fibers
- Proven LC ferrule technology
- Extra small for space-limited applications
- Integrated pull-tab for improved access

APPLICATIONS

- Pigtail splicing modules and panels
- MPO/CS[®] transition modules
- Patching modules and patch panels
- High-density cross connects
- High-density zone distribution
- Central office/head-end ODF
- Hydra assemblies

KEY BENEFITS

- ✓ **Reduced connector length**

Micro CS[®] CONNECTOR

1-channel (2F)

CS[®] - HIGH DENSITY SOLUTIONS

Mechanical Data

	Value
Durability	500 matings per TIA-568
Fiber Count	Duplex (2 fibers)
Cable Suitability	2 x 600/900 μm buffered fibers
Ferrule Material	Zirconia
Dust Protection Method	Removable dust plugs that encapsulate the ferrules

Optical Data

	Singlemode		Multimode
	UPC		MM
	SM Premium Low Loss	SM Premium	Premium
Typical Insertion Loss (dB)*	0.05	0.08	0.05
Max. Insertion Loss (dB)*	0.15	0.20	0.15
Typical Return Loss (dB)*	≥55	≥65	≥25
Ferrule (μm)	125.5		127

* Based on master grade jumper to low loss random mating test

Environmental Data

	Value
Operating Temperature	-40°C to +75°C
RoHS Compliance	2015/863 RoHS
REACH Compliance	Yes
Free of Halogen	Yes
Humidity Resistance	95%

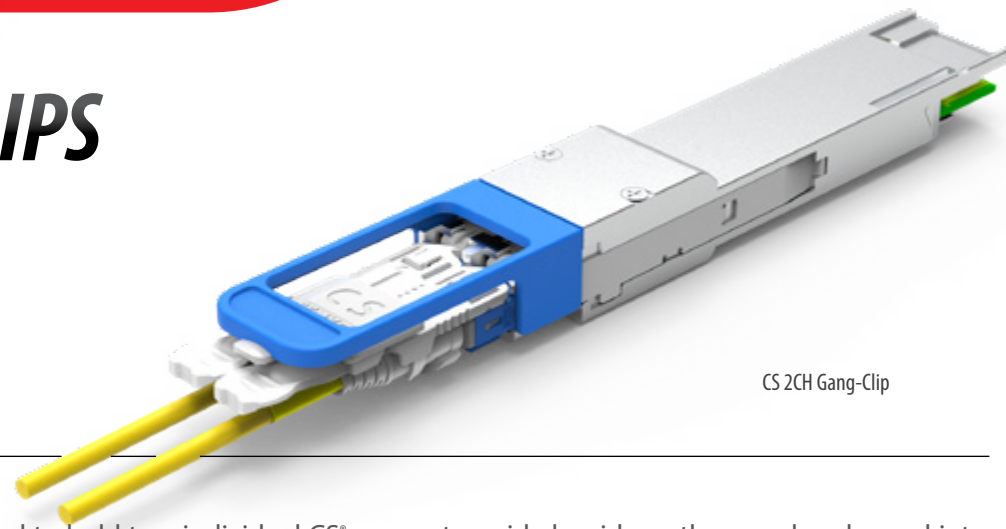
ORDERING



CONNECTOR TYPE	PERFORMANCE	HOUSING COLOR
60B Micro CS 1-Channel (2F) UPC Connector	151 SM Premium	1 Blue
	158 SM Premium Low Loss	5 Aqua
	251 MM Premium	6 Heather Violet

CS® GANG-CLIPS

Duplex Design for QSFP-DD Transceivers



CS 2CH Gang-Clip

SENKO's CS® Gang-clips are designed to hold two individual CS® connectors side by side so they can be plugged into either 2-channel QSFP-DD transceivers simultaneously. This speeds up the patching time and simplifies the process of patching multiple connectors - it also allows the two duplex connectors to act as a single Base-4 or Base-8 connector.

The Gang-clip is generally deployed in transceiver breakout applications where, for example, a single 400G transceiver is broken out to 2 x 200G transceivers within spine-leaf architectures. The Quad Gang-clip is also compatible with non-shuttered CS® adapters that share the same footprint as QSFP-DD and OSFP transceivers.

FEATURES

- Allows multiple CS® connectors to be patched simultaneously
- The compact design prevents interference with transceiver pull-tab
- Suitable for QSFP-DD transceivers
- Compatible with CS® EZ-Flip and CS® Standard Connectors
- Compatible with all CS® tab lengths and variants

APPLICATIONS

- Transceiver breakout applications
- Spine-leaf architectures
- Enterprise data centers
- Patching to standard CS® non-shuttered adapters

KEY BENEFITS

- ✓ Patch 2 x CS® simultaneously to QSFP-DD

ORDERING



Plastic Duplex Gang-Clip

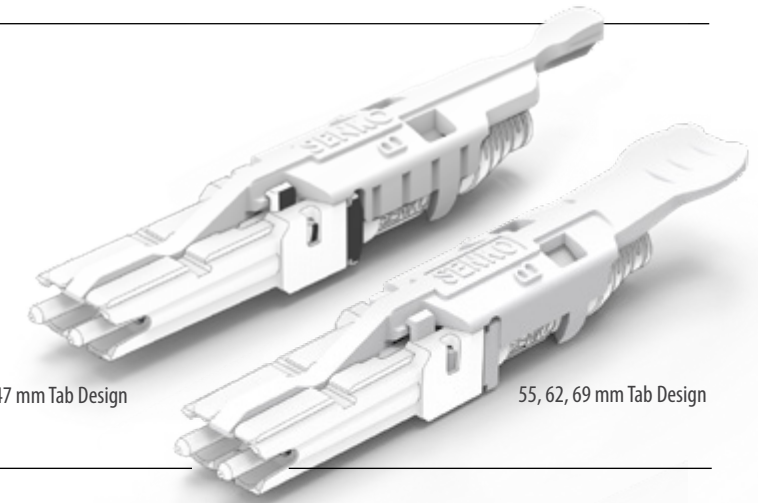
PART NUMBER

601-CLPP-01-W Plastic Duplex Gang-clip for CS EZ-Flip Connectors or CS Standard Connectors

601-CLPP-01-W ORDER CODE example

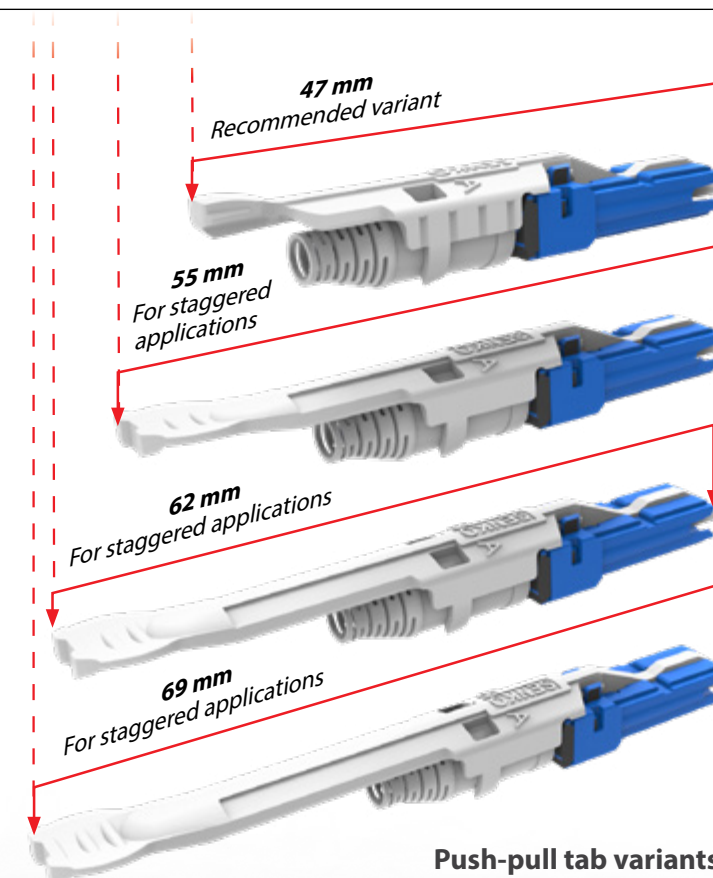
CS® PULL TABS

Pull Tabs Uniquely Optimized for Boot Length and Accessibility



47 mm Tab Design

55, 62, 69 mm Tab Design



Push-pull tab variants

Push pull tabs can be ordered to suit the particular application and environment. The 47 mm tab is a standard length that suits most applications, however the longer tabs offer the ability to cascade tabs (shorter to longer) if necessary.

Tabs vary in design depending on length. The 47 mm tab has a slightly different grip design in order to optimise finger access in dense deployments.





SENKO[®]
Advanced Components



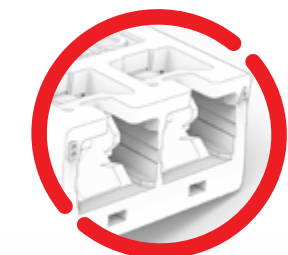
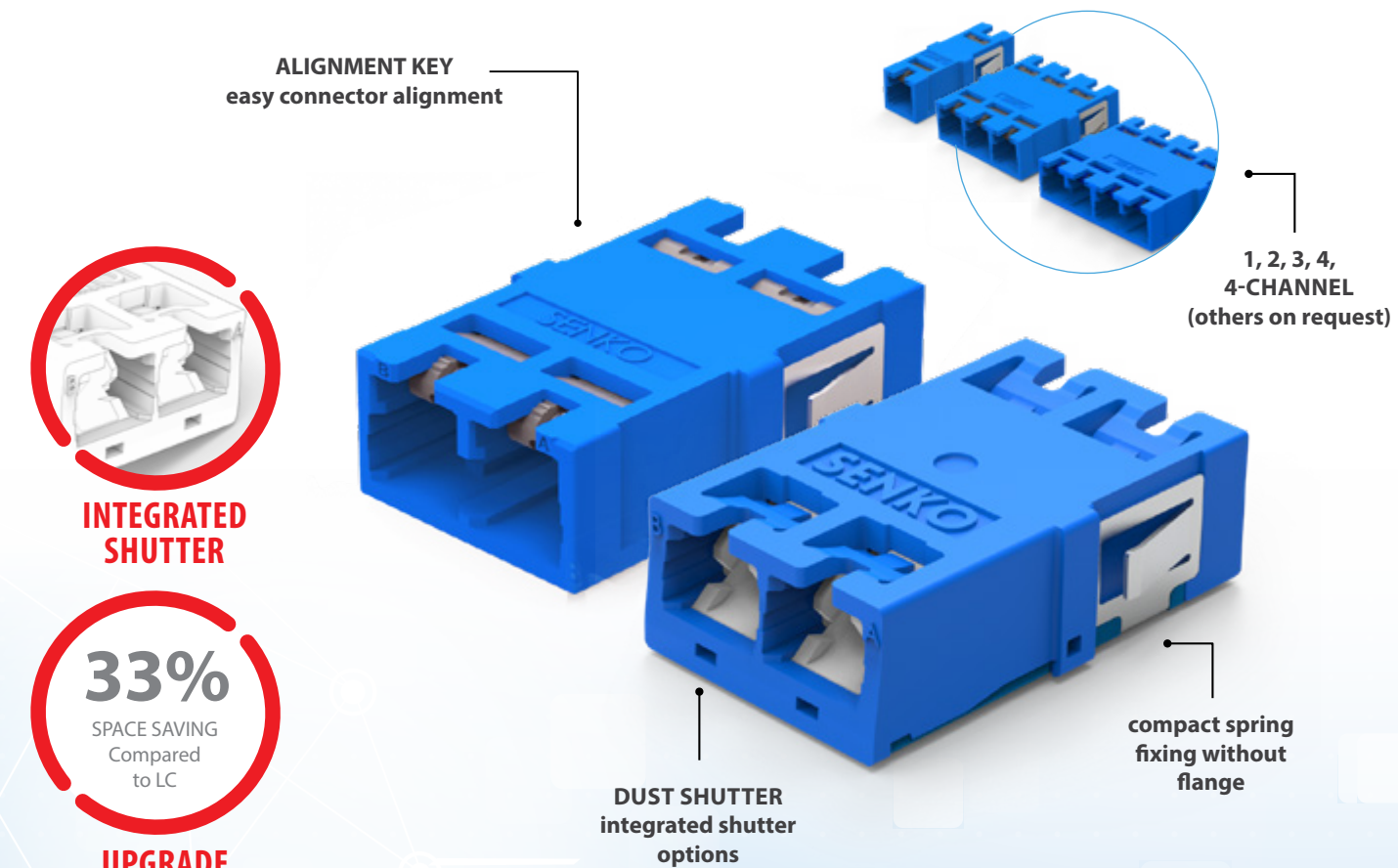
Sustainability

The density of CS[®] connectors allows operators to reduce the number of transceivers, switches, power-consumption, and racks needed to operate their data centers or telecom exchanges.

CS[®] ADAPTER



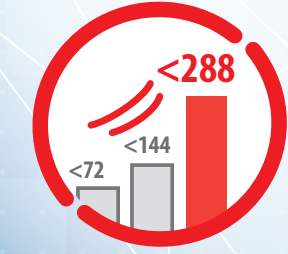
Compact and modular adapters in a wide range of footprints to deliver maximum patch panel density across the network



INTEGRATED SHUTTER



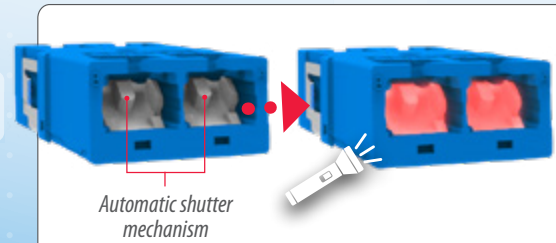
UPGRADE FROM LC



288 FIBERS PER 1RU



VISIBLE LIGHT TRACE



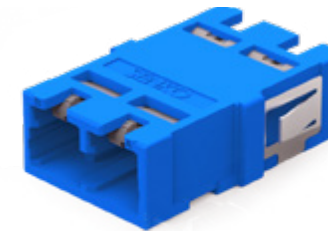
CS Adapter Traceability

When trying to trace the adapter using a visible light source, you can see the red light glowing through the adapter sleeve.

CS[®] for Density Upgrade of Legacy Networks

CS[®] ADAPTER Standard

1CH, 2CH and 4CH adapters for patch panel and module integration



• Standard Non-Shuttered

pg. 38

CS[®] ADAPTER Shuttered

2CH shuttered adapters for patch panel and module integration

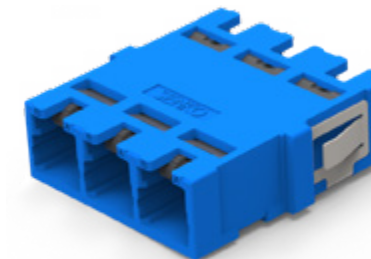


• Standard Internal Shutters

pg. 40

CS[®] ADAPTER SC/LC Footprint

SC/LC footprint adapters for easy upgrades of legacy systems



• SC/LC Footprint Non-Shuttered

pg. 44

Micro CS[®] ADAPTER Non-Shuttered & Shuttered

2CH Micro adapters for maximum BTW space-saving



• μCS[®] Non-Shuttered
• μCS[®] Shuttered

pg. 54
pg. 54

CS® Application Guide

CS® Application Guide - V-Panel and Flat Panel

Total Capacity

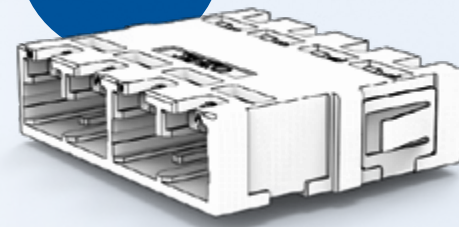
144 CH

288 F

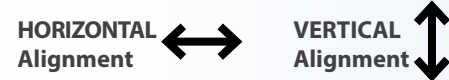
(1RU single sided rack/
cabinet)

Effortlessly double the density of 144f UHD LC patch panels by opting for CS. Whether you align the 4-port adapter vertically or horizontally, you'll gain the advantage of distributing 8f blocks with gaps between each adapter, resulting in an impressive 288f per 1RU configuration.

36 x CS®



8-port Non-shuttered Adapter



V-Panel



Panel Type: V-Panel 1RU
Total Density: 288 fibers
Qty of Adapters: 36 x 4-PORT

Flat Panel



Panel Type: Flat-Panel 1RU
Total Density: 288 fibers
Qty of Adapters: 36 x 4-PORT

Total Capacity

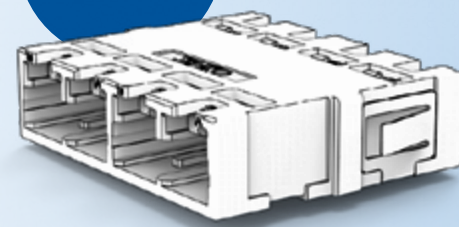
96 CH

192 F

(1RU single sided rack/
cabinet)

Enhance panel density by up to 33% compared to traditional systems, while achieving exceptional port identification and ensuring convenient access to connectors. Achieve an impressive panel density of 192f, which can be evenly divided into building blocks of 8, 12, 26, or 24f.

24 x CS®



8-port Non-shuttered Adapter

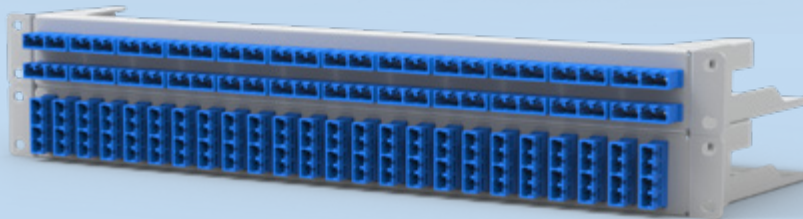


V-Panel



Panel Type: V-Panel 1RU
Total Density: 192 fibers
Qty of Adapters: 24 x 4-PORT

Flat Panel



Panel Type: Flat-Panel 1RU
Total Density: 192 fibers
Qty of Adapters: 24 x 4-PORT

Total Capacity

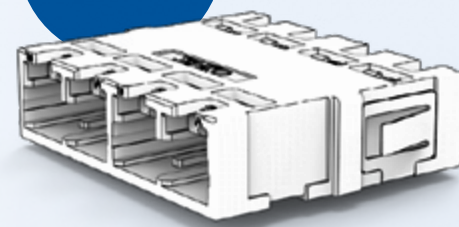
72 CH

144 F

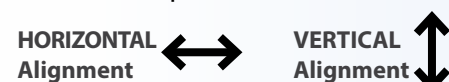
(1RU single sided rack/
cabinet)

Switching from LC to CS not only maintains a density of 144f per 1RU, but also enhances port identification, traceability, and connector accessibility. This change facilitates the use of more straightforward and cost-effective hardware, and introduces the possibility of creating front-access systems, where MPO backbone adapters coexists on the same side as the CS adapters.

18 x CS®



8-port Non-shuttered Adapter



V-Panel



Panel Type: V-Panel 1RU
Total Density: 144 fibers
Qty of Adapters: 18x4-PORT

Flat Panel



Panel Type: Flat-Panel 1RU
Total Density: 144 fibers
Qty of Adapters: 18x4-PORT

CS® Application Guide

CS® Application Guide - LGX Module

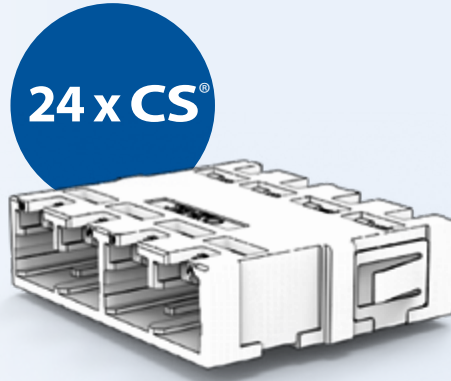
Total Capacity

96 CH

192 F

(1RU single sided rack/
cabinet)

Enhance panel density by up to 33% compared to traditional systems, whilst achieving the flexibility and scalability offered by 'plug & play' LGX modules. A maximum of 4 x 48f modules can be integrated in a 1RU panel giving a total density of 196f overall. Adapters can be orientated vertically or horizontally subject to preference.



24 x CS®

8-port Non-shuttered Adapter



LGX Module



Panel Type: LGX Module 1RU
Total Density: 192 fibers
Qty of Adapters: 24 x 4-PORT

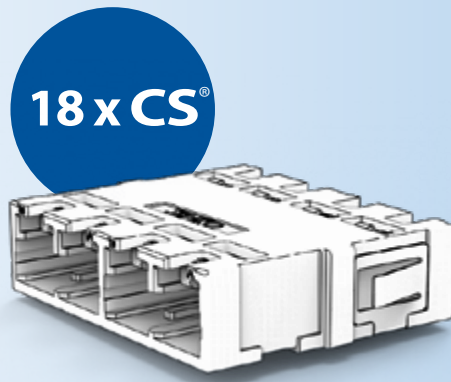
Total Capacity

72 CH

144 F

(1RU single sided rack/
cabinet)

Match the 144f density of leading LC-based patch panels but optimize port identification and connector accessibility. LGX modules are more cost-effective to manufacture than injection-molded plastic cassettes and they offer a higher degree of customization. A maximum of 3 x 48f CS modules can be integrated with a horizontal adapter alignment.



18 x CS®

8-port Non-shuttered Adapter



LGX Module



Panel Type: LGX Module 1RU
Total Density: 192 fibers
Qty of Adapters: 24 x 4-PORT

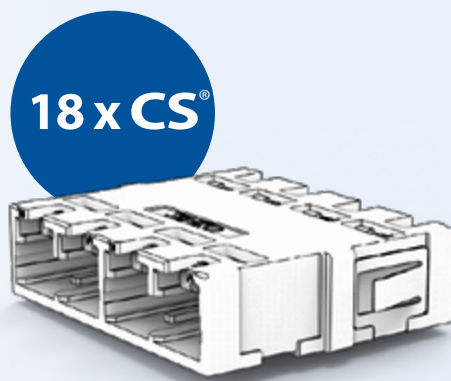
Total Capacity

72 CH

144 F

(1RU single sided rack/
cabinet)

Increase scalability and granularity by integrating up to 6 x 24f CS modules into a 1RU panel. The vertical orientation of the adapters allows this modularity and still delivers the 144f bench-mark that operators have come to expect. Some degree of port identification can still be achieved with this configuration but numbering directly adjacent to the every port will not be possible.



18 x CS®

8-port Non-shuttered Adapter

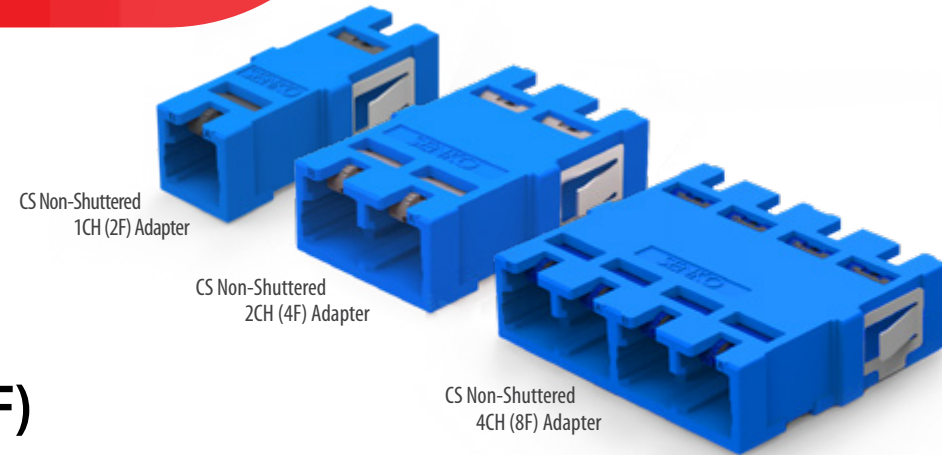


LGX Module



Panel Type: LGX Module 1RU
Total Density: 144 fibers
Qty of Adapters: 18 x 4-PORT

CS[®] ADAPTER Non-Shuttered 1 (2F), 2 (4F), and 4-Channel (8F)



SENKO's CS[®] adapters offer a range of non-shuttered options to cater to various fiber channel requirements. These adapters are available in three configurations: 1-channel (accommodating 2 fibers), 2-channel (accommodating 4 fibers), and 4-channel (accommodating 8 fibers).

The 1-channel adapter is specifically designed for applications that necessitate the segregation of individual optical channels, such as coherent optics or wave-splitting. On the other hand, the 2-channel and 4-channel variants prioritize maximizing patch panel density. The 4-channel adapter is particularly compatible with Base-8 applications, which are commonly deployed in data centers. These CS[®] adapters can be mounted horizontally or vertically, allowing for flexible configurations and density levels per 1RU (rack unit). This versatility enables the achievement of various density levels, ranging from 144 fibers per 1RU to an impressive 288 fibers per 1RU. This density is twice that of traditional LC-based patch panels.

It's important to note that these CS adapters are not retro-fittable to standard SC/LC cut-outs. Instead, they require a special aperture for installation. A metal spring clip securely holds the adapter in place, while large apertures in the upper face of the adapter clearly indicate the correct key alignment for connector insertion.

FEATURES

- Premium one-piece body design
- Up to 360 fibers per 1RU
- Accepts CS[®] standard and junior connectors
- Supports 200G/400G VSFF connectivity
- Color-coded for rapid identification of fiber-type
- Telcordia, ANSI, TIA and IEC compliant
- Identification aperture for fast and simple connector alignment

APPLICATIONS

- High-density patch panels
- LGX patching modules
- MPO-CS[®] transition modules and panels
- Opto-electronic equipment
- WDM equipment
- MUX and DEMUX equipment
- Mass server consolidation EoR, MoR

CS[®] ADAPTER

1-channel (2F), 2-channel (4F) and 4-channel (8F)

CS[®] HIGH DENSITY SOLUTIONS

Mechanical Data

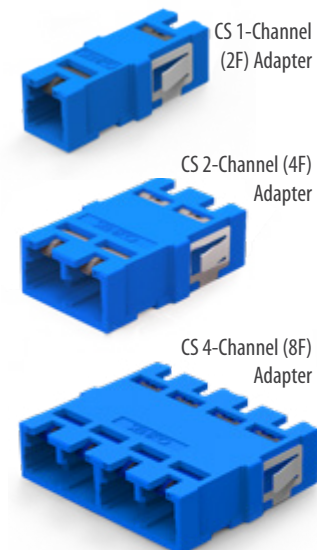
Mechanical Data	Value
Durability	500 matings per TIA-568
Fixing Method	Snap-fit (<i>adapter without flange</i>) or screw and nut (<i>adapter with flange</i>)
Housing Material Type	Plastic
Fixing Spring Material Type	Metal stainless steel
Sleeve Material	Zirconia
Dust Protection Method	Removable dust plugs

Optical Data

Optical Data	Value
Typical Insertion Loss (dB)*	0.10
Max. Insertion Loss (dB)*	0.20

* Based on master grade jumper to low loss random mating test

ORDERING

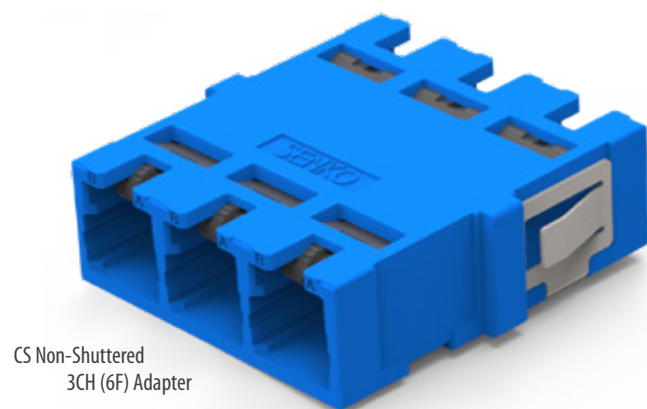


ADAPTER TYPE	FLANGE	HOUSING COLOR
681 CS 1-Channel (2F) Adapter	1 With Flange	1 Blue
682 CS 2-Channel (4F) Adapter	2 Without Flange	3 Green
684 CS 4-Channel (8F) Adapter		7 Heather Violet
		9 Aqua

682 - 11 ORDER CODE example

Note: Adapter supplied with protective dust-cap on both sides

CS® ADAPTER Non-Shuttered SC/LC-Footprint 3-Channel (6F)



CS Non-Shuttered
3CH (6F) Adapter

SENKO's 3-channel (6f) SC/LC-footprint adapter is designed to offer backward compatibility with patch panels or modules incorporating SC duplex or LC Quad-sized cut-outs. This retro-fittable adapter is an excellent choice for cabling providers or equipment manufacturers seeking to upgrade their existing systems to CS® without redesigning new panels or hardware.

By incorporating this adapter, the density of LC-based hardware can be increased by an impressive 33%. This means that an LC Quad adapter supporting four LC connectors can be upgraded to an adapter capable of delivering six CS® connections.

In response to the increasing demand for enhanced patch panel density and reduced total cost per port, network operators are actively seeking fresh solutions. Upgrading from LC to CS® presents an ideal opportunity to achieve these goals while freeing up valuable rack space for other critical applications.

The non-shuttered SC/LC-footprint adapters can be conveniently stacked side-by-side within extended multi-adapter panel cut-outs without consuming additional space beyond the SC/LC footprint size. For instance, it is possible to place 6 adapters in one elongated slot if required, maximizing the utilization of available space.

FEATURES

- Retro-fittable to standard SC/LC panel cut-outs
- 33% more density than LC
- Accepts CS® standard and junior connectors
- Supports 200G/400G VSFF connectivity
- Color-coded for rapid identification of fiber-type
- Telcordia, ANSI, TIA and IEC compliant

APPLICATIONS

- Upgrading existing fiber management hardware from SC/LC to CS®
- Improved rack-space utilization in Brownfield data centers
- High-density patch panels
- LGX patching modules
- MPO-CS® transition modules and panels

KEY BENEFITS

- ✓ **Retro-fittable to SC/LC cut-outs**

CS® ADAPTER

Non-shuttered, SC/LC-footprint, 3-channel (6F)

CS® - HIGH DENSITY SOLUTIONS

Mechanical Data

Mechanical Data	Value
Durability	500 matings per TIA-568
Fixing Method	Snap-fit (<i>adapter without flange</i>) or screw and nut (<i>adapter with flange</i>)
Housing Material Type	Plastic
Fixing Spring Material Type	Metal stainless steel
Sleeve Material	Zirconia
Dust Protection Method	Removable dust plugs

Optical Data

Optical Data	Value
Typical Insertion Loss (dB)*	0.10
Max. Insertion Loss (dB)*	0.20

* Based on master grade jumper to low loss random mating test

Environmental Data

Environmental Data	Value
Operating Temperature	-40°C to +75°C
RoHS Compliance	2015/863 RoHS
REACH Compliance	Yes
Free of Halogen	Yes
Humidity Resistance	95%

ORDERING



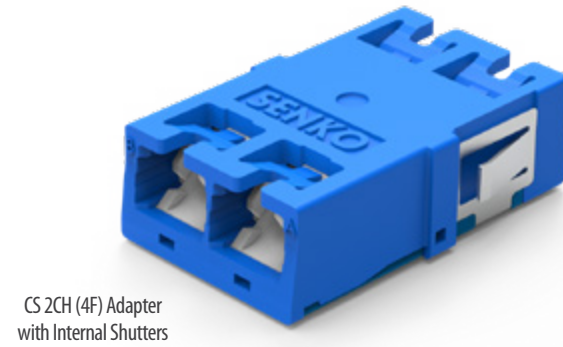
ADAPTER TYPE	FLANGE	HOUSING COLOR
683 CS 3-Channel (6F) Adapter	1 With Flange	1 Blue
	2 Without Flange	3 Green
		7 Heather Violet
		9 Aqua

683 - 11 ORDER CODE example

Note: Adapter supplied with protective dust-cap on both sides

CS[®] ADAPTER

Standard Internal Shutters 2-Channel (4F)



CS 2CH (4F) Adapter with Internal Shutters

SENKO's 2-Channel (4f) shuttered adapter is specifically designed to enhance ingress protection and laser safety during regular Moves, Adds, and Changes (MACs) in network operations. The adapter incorporates an internal shutter that only opens when the outer body of the CS[®] connector makes contact during insertion. This automatic operation streamlines the patching process and eliminates the need for individual dust plugs that are often misplaced or lost.

The shutter material is crafted from a special translucent substance, enabling technicians to trace the adapter port using a visible light source from the other end of the link. Additionally, this material possesses a low refractive index, effectively reducing the amount of harmful light that may emanate from the adapter during operation.

Offering exceptional flexibility, the 2-channel adapter can be mounted horizontally or vertically, allowing for a multitude of patch panel configurations. This versatility facilitates different density levels, ranging from an impressive 144 fibers per 1RU to an even more remarkable 288 fibers per 1RU. This density is twice that of traditional LC-based patch panels.

FEATURES

- Premium one-piece body design
- Up to 360 fibers per 1RU
- Integrated shutter reduces impact of dust and dirt ingress
- Accepts CS[®] standard and junior connectors
- Supports 200G/400G VSFF connectivity
- Color-coded for rapid identification of fiber-type
- Telcordia, ANSI, TIA and IEC compliant
- Identification aperture for fast and simple connector alignment

APPLICATIONS

- High-density patch panels
- LGX patching modules
- MPO-CS[®] transition modules and panels
- Opto-electronic equipment
- WDM equipment
- MUX and DEMUX equipment
- Mass server consolidation EoR, MoR

KEY BENEFITS

- ✓ **Integrated shutter**

CS[®] ADAPTER

Standard, internal shutters, 2-channel (4F)

CS[®] - HIGH DENSITY SOLUTIONS

Mechanical Data

Mechanical Data	Value
Durability	500 matings per TIA-568
Fixing Method	Snap-fit (<i>adapter without flange</i>) or screw and nut (<i>adapter with flange</i>)
Housing Material Type	Plastic
Fixing Spring Material Type	Metal stainless steel
Sleeve Material	Zirconia
Dust Protection Method	Integrated shutter mechanism (<i>operated by connector insertion</i>)

Optical Data

Optical Data	Value
Typical Insertion Loss (dB)*	0.10
Max. Insertion Loss (dB)*	0.20

* Based on master grade jumper to low loss random mating test

Environmental Data

Environmental Data	Value
Operating Temperature	-40°C to +75°C
RoHS Compliance	2015/863 RoHS
REACH Compliance	Yes
Free of Halogen	Yes
Humidity Resistance	95%

ORDERING



CS Adapter with Internal Shutters

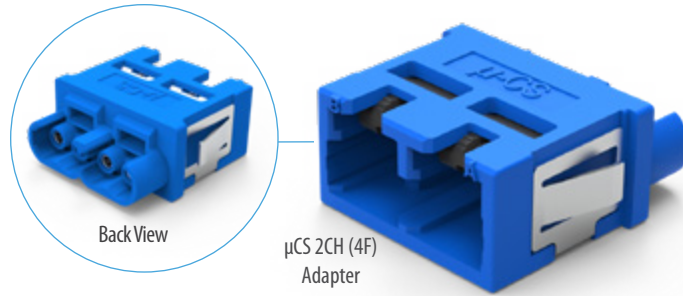
ADAPTER TYPE	FLANGE	HOUSING COLOR
6825 CS 2-Channel (4F) Shuttered Adapter	1 With Flange	1 Blue
	2 Without Flange	3 Green
		7 Heather Violet OM4
		9 Aqua OM3

Note: Adapter supplied with protective dust-cap on both sides
Contact sales@senko.com for other channel configurations

Contact SENKO

6825-11 ORDER CODE example

Micro CS[®] ADAPTER Non-Shuttered 2-Channel (4F)



SENKO's 2-Channel (4f), non-shuttered, Micro CS[®] adapter is designed to provide maximum packing density at the front of patch panels while significantly reducing the space consumption at the rear of the panel for BTW (Behind The Wall) connectivity. Combined with Micro CS[®] connectors, as much as 20 mm can be saved compared with standard adapters and connectors, making it the ideal solution for optoelectronic applications requiring circuit boards or other vital components to share the same space as fiber optic connectivity.

Offering exceptional flexibility, the 2-channel adapter can be mounted horizontally or vertically, allowing for many patch panel configurations. This versatility facilitates different density levels, ranging from an impressive 144 fibers per 1RU to an even more remarkable 288 fibers per 1RU. This density is twice that of traditional LC-based patch panels.

It's worth noting that this CS[®] adapter cannot be retro-fitted into standard SC/LC cut-outs. Instead, it requires a special aperture for installation. To secure the adapter in place, a metal spring clip is utilized, while large apertures on the upper face of the adapter indicate the correct key alignment for connector insertion.

FEATURES

- Premium one-piece body design
- Up to 360 fibers per 1RU
- Integrated shutter reduces impact of dust and dirt ingress
- Accepts CS[®] standard and junior connectors
- Supports 200G/400G VSFF connectivity
- Color-coded for rapid identification of fiber-type
- Telcordia, ANSI, TIA and IEC compliant
- Identification aperture for fast and simple connector alignment

APPLICATIONS

- High-density patch panels
- LGX patching modules
- MPO-CS[®] transition modules and panels
- Opto-electronic equipment
- WDM equipment
- MUX and DEMUX equipment
- Mass server consolidation EoR, MoR

KEY BENEFITS

- ✓ **Maximum BTW space-saving**

Micro CS[®] ADAPTER

Standard, non-shuttered, 2-channel (4F)

CS[®] - HIGH DENSITY SOLUTIONS

Mechanical Data

Mechanical Data	Value
Durability	500 matings per TIA-568
Fixing Method	Snap-fit (adapter without flange) or screw and nut (adapter with flange)
Housing Material Type	Plastic
Fixing Spring Material Type	Metal stainless steel
Sleeve Material	Zirconia
Dust Protection Method	Removable dust plugs

Optical Data

Optical Data	Value
Typical Insertion Loss (dB)*	0.10
Max. Insertion Loss (dB)*	0.20

* Based on master grade jumper to low loss random mating test

Environmental Data

Environmental Data	Value
Operating Temperature	-40°C to +75°C
RoHS Compliance	2015/863 RoHS
REACH Compliance	Yes
Free of Halogen	Yes
Humidity Resistance	95%

ORDERING

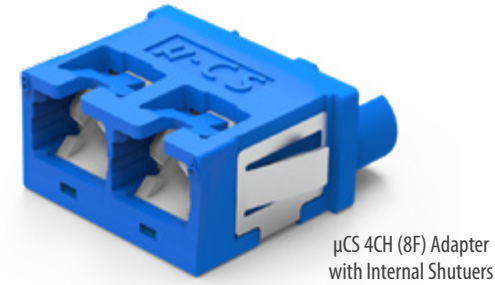


ADAPTER TYPE	FLANGE	HOUSING COLOR
682U μCS 2-Channel (4F) Adapter	1 With Flange	1 Blue
	2 Without Flange	7 Heather Violet
		9 Aqua

Note: Adapter supplied with protective dust-cap on both sides

682U - 11 ORDER CODE example

Micro CS[®] ADAPTER Internal Shutters 2-Channel (4F)



SENKO's 2-Channel (4f), shuttered, Micro CS[®] adapter is designed to provide maximum packing density at the front of patch panels while significantly reducing the space consumption at the rear of the panel for BTW (Behind The Wall) connectivity. Combined with Micro CS[®] connectors, as much as 20 mm can be saved compared with standard adapters and connectors, making it the ideal solution for optoelectronic applications requiring circuit boards or other vital components to share the same space as fiber optic connectivity.

This shuttered adapter enhances ingress protection and laser safety during regular Moves, Adds, and Changes (MACs) in network operations. The adapter incorporates an internal shutter that only opens when the outer body of the CS[®] connector makes contact during insertion. This automatic operation streamlines the patching process and eliminates the need for individual dust plugs that are often misplaced or lost. The shutter material is crafted from a special translucent substance, enabling technicians to trace the adapter port using a visible light source from the other end of the link. Additionally, this material possesses a low refractive index, effectively reducing the harmful light that may emanate from the adapter during operation.

FEATURES

- Premium one-piece body design
- Up to 360 fibers per 1RU
- Integrated shutter reduces impact of dust and dirt ingress
- Accepts CS[®] standard and junior connectors
- Supports 200G/400G VSFF connectivity
- Color-coded for rapid identification of fiber-type
- Telcordia, ANSI, TIA and IEC compliant
- Identification aperture for fast and simple connector alignment

APPLICATIONS

- High-density patch panels
- LGX patching modules
- MPO-CS[®] transition modules and panels
- Opto-electronic equipment
- WDM equipment
- MUX and DEMUX equipment
- Mass server consolidation EoR, MoR

KEY BENEFITS

- ✓ **Maximum BTW space-saving**
- ✓ **Integrated shutters**

Micro CS[®] ADAPTER Internal shutters, 2-channel (4F)

CS[®] - HIGH DENSITY SOLUTIONS

Mechanical Data

Mechanical Data	Value
Durability	500 matings per TIA-568
Fixing Method	Snap-fit (<i>adapter without flange</i>) or screw and nut (<i>adapter with flange</i>)
Housing Material Type	Plastic
Fixing Spring Material Type	Metal stainless steel
Sleeve Material	Zirconia
Dust Protection Method	Integrated shutter mechanism (<i>operated by connector insertion</i>)

Optical Data

Optical Data	Value
Typical Insertion Loss (dB)*	0.10
Max. Insertion Loss (dB)*	0.20

* Based on master grade jumper to low loss random mating test

Environmental Data

Environmental Data	Value
Operating Temperature	-40°C to +75°C
RoHS Compliance	2015/863 RoHS
REACH Compliance	Yes
Free of Halogen	Yes
Humidity Resistance	95%

ORDERING



Micro 2-Channel (4F) Shuttered Adapter

ADAPTER TYPE	FLANGE	HOUSING COLOR
682US Micro CS 2-Channel (4F) Shuttered Adapter	1 With Flange	1 Blue
	2 Without Flange	3 Green
		7 Heather Violet
		9 Aqua

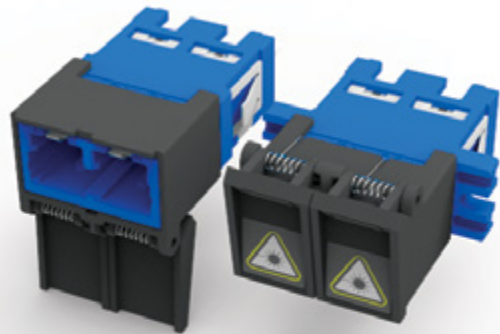
Note: Adapter supplied with protective dust-cap on both sides

682US - 11 ORDER CODE example

Complimentary Products in the CS[®] Family

Complimentary Products in the CS[®] Family

CS[®] ADAPTER External Shutters 2-Channel (4F)



Upgrade your 2-Channel CS adapters with these retrofittable external dust shutters to ensure optimal performance, cleanliness, and laser safety. Experience enhanced protection and preserve the integrity of your optical connections with this valuable accessory.

ORDERING

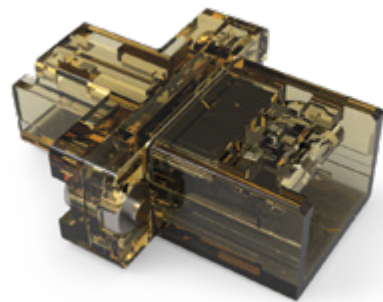
PART NUMBER

682-XX-E22 CS Adapter with External Shutters

682-XX-E22 ORDER CODE example

Note: Adapter supplied with protective dust-cap on both sides

CS[®]-LC HYBRID TESTING ADAPTER 1-Channel LC (2F)



The Hybrid Testing Adapter is a versatile solution that allows operators to seamlessly connect a simplex LC test cord to a CS duplex assembly. This adapter offers flexibility by allowing the LC connector to be repositioned based on the specific CS ferrule being tested.

ORDERING

PART NUMBER

680-0 CS-LC Hybrid Testing Adapter - Single LC Channel

680-0 ORDER CODE example

Note: Adapter supplied with protective dust-cap on both sides

CS[®] LOOPBACK



The CS Loopback allows network operators, technicians, and equipment manufacturers to validate the functionality and performance of CS interfaces. By creating a loop within the connector itself, the CS Loopback facilitates the transmission of signals back to the source without requiring an external loopback cable or additional equipment.

ORDERING

PART NUMBER

LBP-CS-XXX-XX CS Loopback

LBP-CS-XXX-XX ORDER CODE example

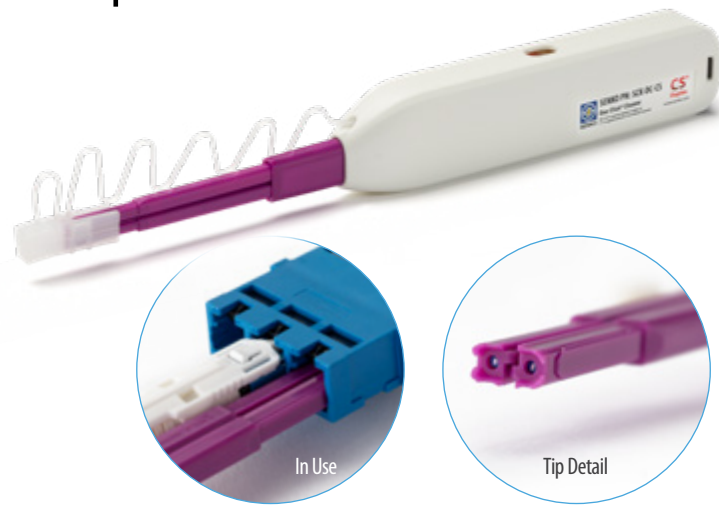
CS[®] Maintenance

SENKO provides a comprehensive portfolio of 'factory-based' and 'field-based' tools and accessories to support the assembly, deployment and maintenance of CS[®] connectivity.



CS® Click Cleaners for In-Adapter and Mated

One Click Duplex CS



The ONE-CLICK DUPLEX CS CLEANER is effective for wiping away residues and dust contamination from CS/UPC and CS/APC end faces. The dual cleaning tips clean both end-faces with each engagement. This makes this cleaner ideal for high density applications including hyperscale data centers and central offices.

ORDERING

SN CLEANING	
SCK-DC-CS	ONE-CLICK DUPLEX CS 1000 end faces (500 cleanings)



Smart Cleaner™ Mini 1.25mm



The SMART CLEANER MINI 1.25MM tool effectively cleans residue and dust-based contamination from fiber optic end-faces. Its small form factor allows for cleaning in tight spaces while still allowing up to 400 connectors to be cleaned.

ORDERING

ORDERING	
SCK-SS-M-C125	SMART CLEANER MINI 1.25MM (400 cleanings)



CS® Click and Stick Cleaners

Smart Cleaner™ CS-LC



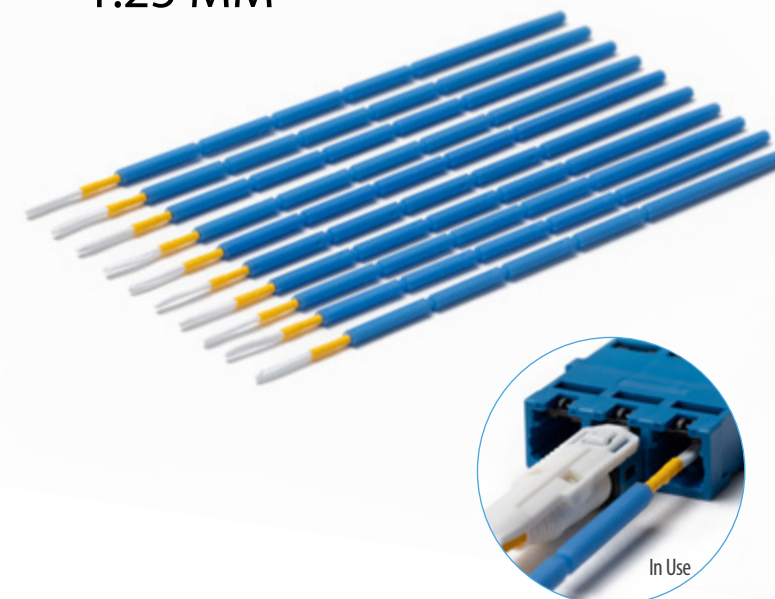
SENKO SMART CLEANER CS-LC is an effective option for cleaning residues and dust from the end faces. The key feature on the cleaning tip enables the cleaner to clean in adapter and unmated CS and LC connectors. This cleaner opens the internal shutter LC adapters.

ORDERING

ORDERING	
SCK-SS-CS	SMART CLEANER CS-LC (750 cleanings)
SCK-SS-CS-R	Refill for 750 cleanings



NEOCLEAN Stick 1.25 MM



The 1.25MM NEOCLEAN sticks are an effectively option for wiping away residue and dust contamination from the CS end-faces of in adapter assemblies and transceiver ports. The fabric cleaning tip enables cleaning without the need for solvents. The hexagon shaped handle with notches prevent accidental roll aways and shortening the handle for use in confined spaces.

ORDERING

ORDERING	
CSK-01	1.25 MM NEOCLEAN Stick

Note: Sticks are sold individually in increments of 10



Cassette for Unmated CS®

Smart CleanerTM Cassette



The SMART CLEANER CASSETTE is an economical cleaning device that utilizes a micro-woven fabric cleaning ribbon for wiping away residue and dust-based contamination from fiber optic end faces. A manual advance of the cleaning ribbon allows operators to maximize the efficiency of the product in operation.

ORDERING

ORDERING

SCK-CC-100 SMART CLEANER CASSETTE Cleans Unpinned MT and Single Fiber

Optipop R Cassette



The OPTIPOP R cassette effectively wipes residue, and dust-based contamination from ferrule end faces. The cassettes feature an ergonomic trigger for advancing a fresh section of the micro woven cleaning ribbon with engagement. Using replacement cleaning spools will lower your overall cleaning costs.

ORDERING

ORDERING

CRE-01 OPTIPOP R Single Slot Cleans Unpinned MT and Single Fiber

CRC-RS-01 Refill for 800 Duplex Connector End Faces

Cleaning Consumables

OPTRES Gel Cleaner



The OPTRES Gel Cleaning Pad by Tomoegawa uses optical-grade cleaning gel. The cleaning process is as simple as pulling back the cover and touching the end face of the connector onto the gel. The OPTRES Gel Cleaning Pad's compact size makes it ideal for use with test equipment and network installation cleaning kits. The gel material is non-toxic and non-flammable. Compatible with SN, SN-MT, CS and MPO connectors.

ORDERING

SN CLEANING

SCK-PT-MPO-01 OPTRES GEL Cleaning Pad

Optical Grade Wipes



SENKO'S Optical Grade Wipes are ideal for cleaning your network's connectors end faces and bare fibers including ribbons for splicing. The wipes are lint free, soft and highly absorbent. There are 100 4X4 wipes in the resealable bag.

ORDERING

SN CLEANING

AFT-G-NW OPTICAL GRADE Wipes

Note: Wipes are sold in packs of 100

End Face Metrology & Polarity Management

SUMIX Manta Inspection Scope



The MANTA inspection scope is designed for high-performance inspection of all types of single fiber and multi-fiber optical connectors, patch cords and bulkheads. The MANTA inspection scope is used to detect scratches, contamination and other surface defects as small as 0.75µm on the end face of the connector.

FEATURES

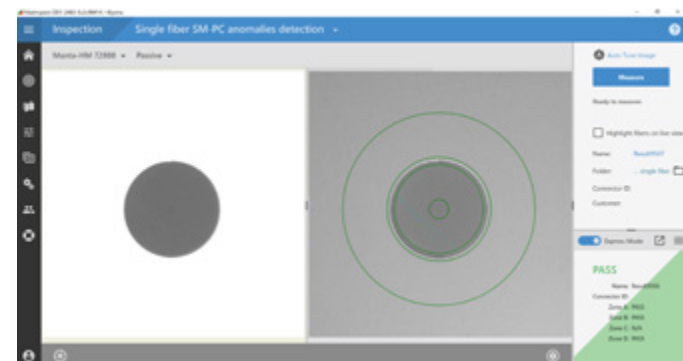
- Extremely fast inspection taking 2 seconds to check a standard MPO connector (12 or 16 fibers)
- Detailed high-resolution picture with 1.8 µm resolution and 0.75 µm defect size detection capability
- Large field of view (4.1 × 3.0 mm) and able to see beyond the guide pins and guide pin holes

ORDERING

ORDERING	
SMX-Manta-W+	SUMIX Manta Benchtop Inspection Scope
SMX-Manta-HM	SUMIX Manta-HM Benchtop Inspection Scope

ACCESSORIES

MNT-CS-LC-PC-F-A	Inspection of in adapter CS/UPC and QSFP transceivers
MNT-W-CS-PC-F	Inspection of CS/UPC duplex connectors in adapters with 2 ferrules visible at once
SMX-T-1.25/PC-M	Inspection of unmated CS/UPC assemblies
SMX-T-1.25/APC-M	Inspection of unmated CS/APC assemblies
MNT-ADP	Adapter for use with the SMX inspection tips
MNT-W-STAND	Benchtop stand for MANTA W+ and HM scopes



The MAXINSPECT inspection software has an autofocus feature and will perform highly accurate and repeatable measurements of the ferrule end face. The software default is set to IEC 61300-3-35 and offers the user the ability to customize the pass-fail measurements for customized reports.

End Face Metrology & Polarity Management

SUMIX MAX Quantum Interferometer



The MANTA inspection scope is designed for high-performance inspection of all types of single fiber and multi-fiber optical connectors, patch cords and bulkheads. The MANTA inspection scope is used to detect scratches, contamination and other surface defects as small as 0.75 µm on the end face of ferrule.

ORDERING

ACCESSORIES

MAX-F-1.25/PC-CS	Fixture for measuring CS/UPC
MAX-F-1.25/APC-CS-S	Fixture for CS/APC angles same direction
MAX-F-1.25/APC-CS-O	Fixture for CS/APC angles opposite direction

Smart Checker[™] Visual Fault Locator (VFL)



The Visual Fault Locator (VFL) is an effective tool for verifying continuity and polarity. The VFL has a range of >5KM with continuous wave or pulse mode.

ORDERING

ACCESSORIES

AFT-G-FC	Smart Checker VFL
AFT-G-CAC	1.25 mm Adapter

APC Ferrule Alignment Tool



The APC ferrule alignment tool allows technicians to align the APC ferrules after the connector polishing process.

ORDERING

SN CLEANING

TL-611-APC-1 APC	APC Ferrule Alignment Tool
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SENKO[®]

Advanced Components

sales@senko.com
1-858-623-3300

senko.com/contact