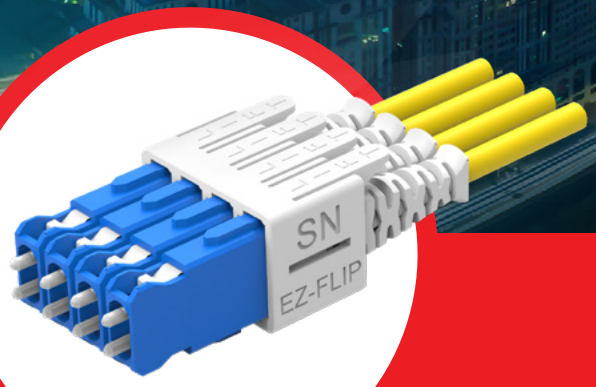
SENKO®
Advanced Components

# SN®
# SIMPLIFIED NETWORKS
## EDITION 1.0


senko.com

# SN® SERIES

SENKO®
Advanced Components



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

SENKO®
Advanced Components

# 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

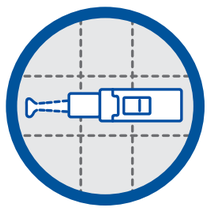
As markets continue to evolve, so do the requirements of fiber optic products. With over 30 years of experience and a highly skilled team of professionals, SENKO can resolve industry challenges quickly and effectively. With SENKO, the typical design and physical first prototyping takes weeks, not months. 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.

VSFF
VERY SMALL FORM FACTOR

## Patented Solutions

- SN®, SN®-MT, CS® are invented by SENKO Advanced Components and are standardized in the QSFP-DD MSA and OSFP-MSA specifications. The CS® currently a standardized connector in TIA as the TIA-604-19 and the SN® is in the process to standardization in IEC as the IEC 61754-36.
- SENKO is the global leader in VSFF connectivity, and our portfolio represents the broadest number of connectors, adapters and high-data-rate transceivers on the market.
- SENKO provides a licencing scheme to approved partners to manufacture SN®, and SN®-MT connectors and adapters without the risk of direct/indirect patent infringement

**90+**
**VSFF Patents**

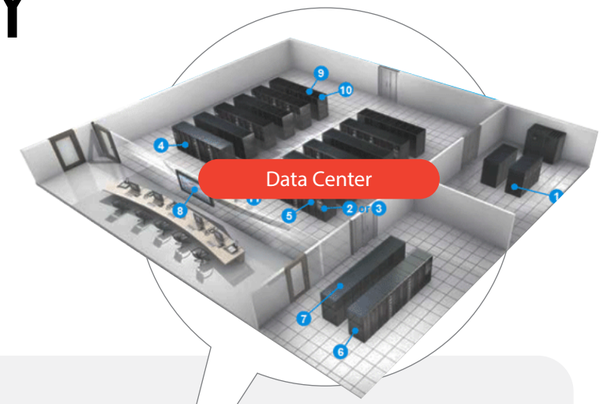
## Global Presence

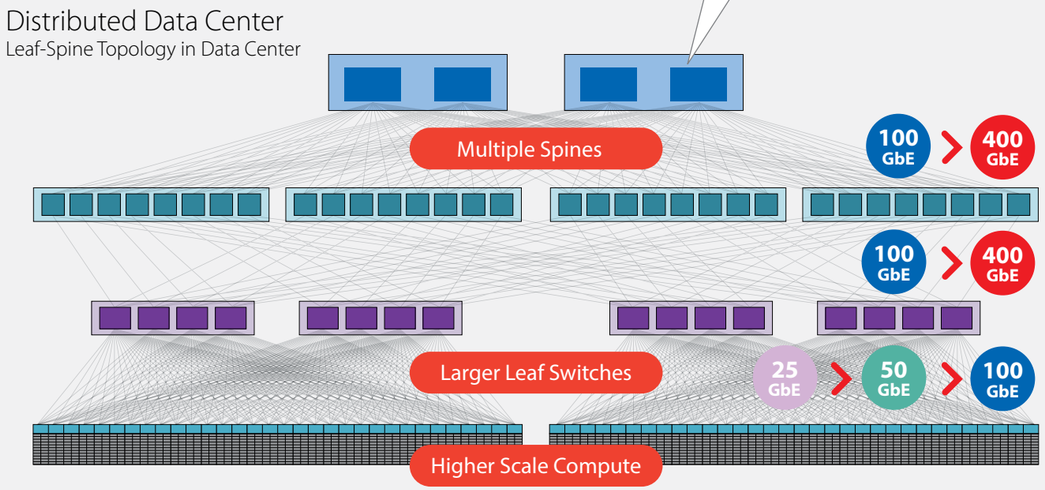
With offices all around the world, SENKO aims to provide local service on a Global footprint.

**Hyperscale** AVIATION
TELECOM **Data Centers**
**WIRELESS** INDUSTRIAL **Automotive** MEDICAL **and more...**

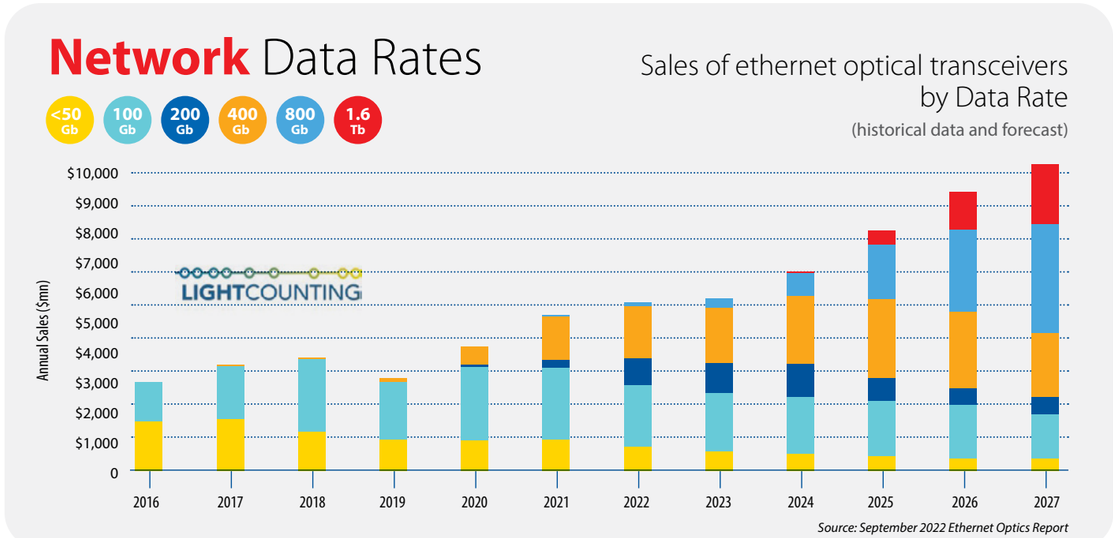
# NETWORK CONGESTION DENSIFICATION COMPLEXITY

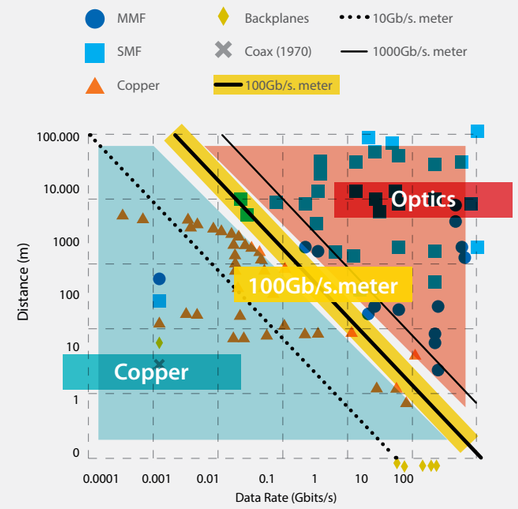
More and more fibers are required in Data Center applications. As the data traffic requirements and bandwidths grow, so does the need for new innovative interconnect solutions.




## Market Trends



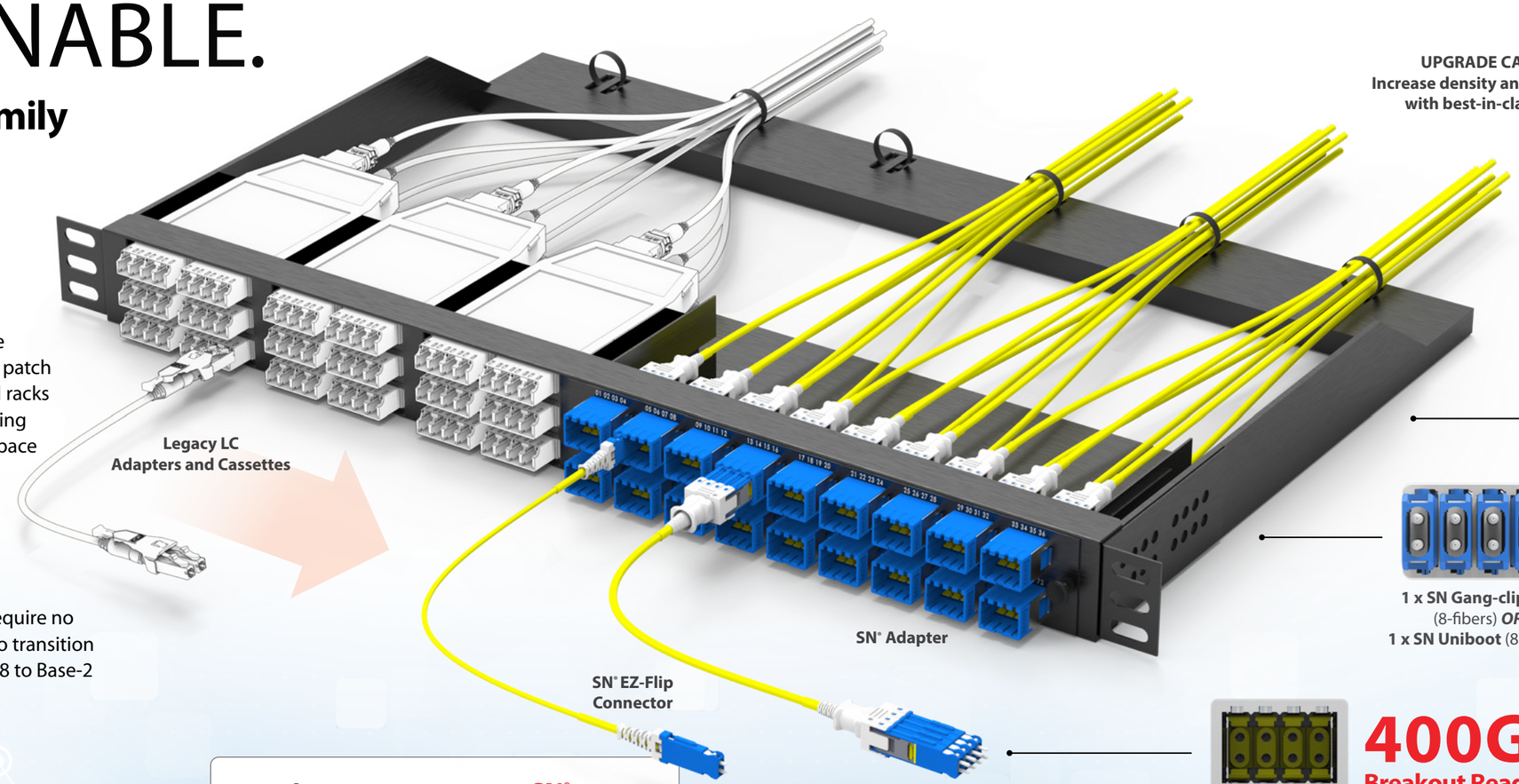

## Network Drive Toward Sustainability

SENKO®
Advanced Components

# SIMPLE.
# SCALABLE.
# SUSTAINABLE.

## Meet the SN® Family

Let Go of the Past. Connect With the Now.




**UPGRADE CABLE SYSTEMS**
**Increase density and improve reliability with best-in-class performance**

**3x Denser**
**3 x SN** (6-fibers)

**BASE-8**
**Speed & Flexiblity**
**1 x SN Gang-clipped** (8-fibers) ***OR***
**1 x SN Uniboot** (8-fibers)

**400G**
**Breakout Ready**
**1 x SN Gang-clipped** (8-fibers) ***OR***
**1 x SN Uniboot** (8-fibers)

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

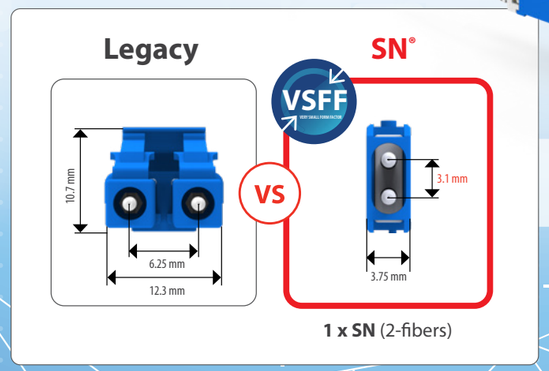
**40% DENSER THAN LC**

SN® links require no cassettes to transition from Base-8 to Base-2

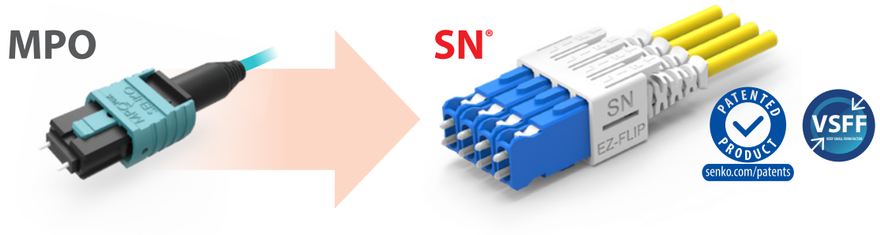
**MORE FLEXIBLITY, LESS HARDWARE**

Learn how SN® is used in the data center

**SCALABLE UP TO 1.6TB**



# SN® - Simplified Networks





- Reduce connection points
- Shuffle or fanout is not required for cross connection
- More stable performance and easier maintenance

**Simplified**

## Maintenance

SN® networks can be built with fewer mated pairs across the link. This equates to fewer connectors that need to be inspected, cleaned and mated.

**Simplified**

## Transceiver shuffle

Up to 4 x SN® connectors can be plugged to a QSFP-DD or OSFP transceiver. These duplex connections can be broken out into four different transceivers without the need for transition cassettes or fan-outs.

**Simplified**

## Installation

The pullable, flexible boot on the SN® connector means that access is always guaranteed to the connector even when stacked side by side in static patch panels.

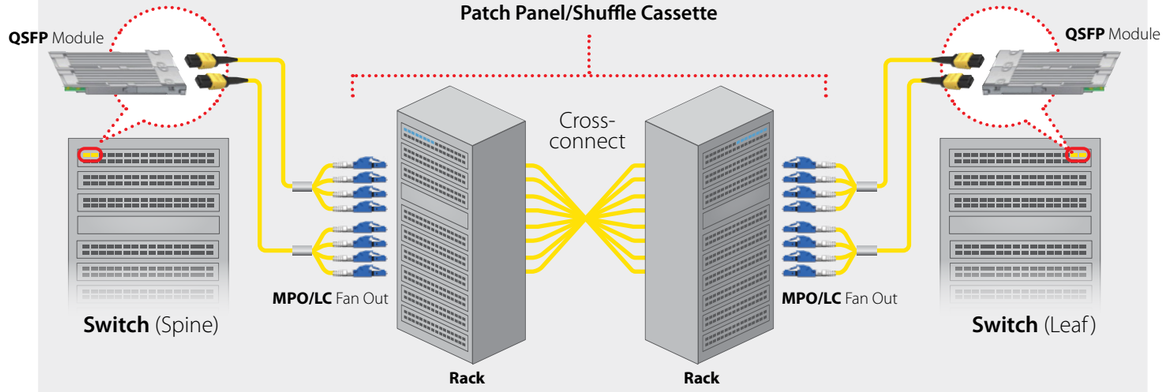
# Increase Efficiency with SN® Simplified Cabling

**Learn about SN®**

**Click to Watch Videos**

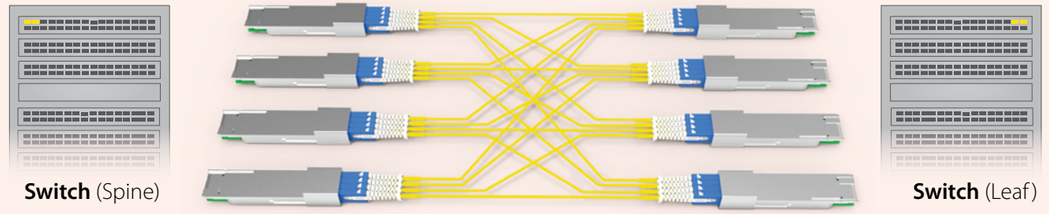
VIDEO

**Leaf-Spine Cross Connection** *Existing solution with MPO 8F based Transceiver*



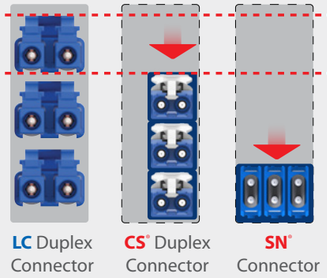

**New solution with 4x SN® based Transceiver**

Less connectivity points required
No fanout or breakout cables are required



# HYPER DENSITY

SN® allows operators to increase the patch panel density by a factor of 3 versus legacy LC connectivity



LC Duplex Connector | CS® Duplex Connector | SN® Connector

**Density +**

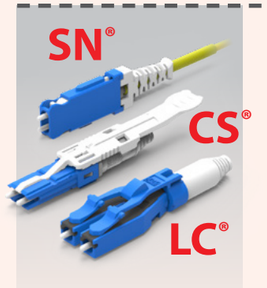
Improve port identification, connector access and cable management with SN®

## Utilize Available Rack Space for Revenue-Generating Servers or Switches

**HYPER**
360 fibers+

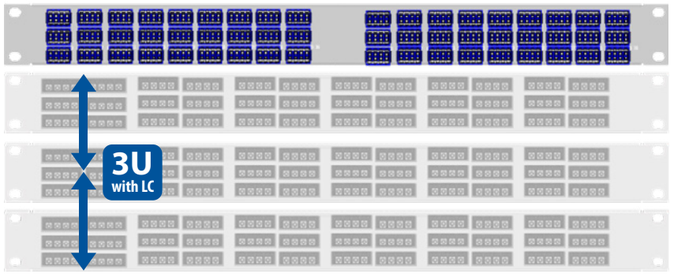

**MEGA**
<360 fibers


**ULTRA**
<144 fibers




### HYPER Density

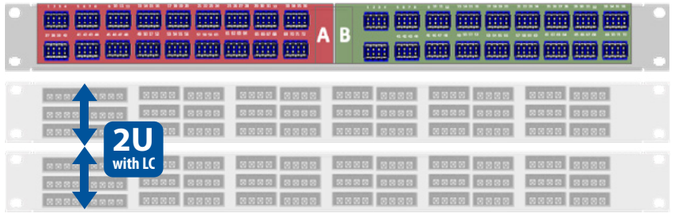
As much as 432 fibers per 1RU of rack space. Huge cost-per-port savings and significantly better rack utilization.




**56 x SN®**
Total Capacity
216 CH
432 F
(1RU single sided rack/ cabinet)

### MEGA Density

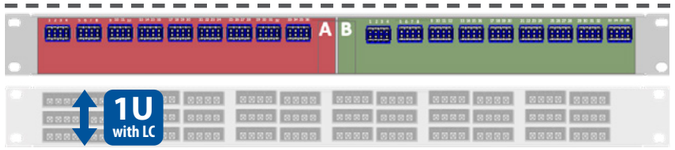
More than double the density of the current offering with LC connectivity. Significantly lower total cost per port.




**36 x SN®**
Total Capacity
144 CH
288 F
(1RU single sided rack/ cabinet)

### ULTRA Density

Industry bench-mark density per 1RU using engineered chassis and cassette systems.




**18 x SN®**
Total Capacity
72 CH
144 F
(1RU single sided rack/ cabinet)

SENKO®
Advanced Components

## What is the Industry Saying?

CABLING INNOVATORS AWARDS
PLATINUM HONOREE

2019 LIGHTWAVE INNOVATION REVIEWS

“Wirewerks has a long-established, collaborative relationship with SENKO, and we were pleased when our meticulous evaluation of next generation fiber connector technologies pointed to SENKO’s SN® product line.”

**Edouard Tabet,** ***Vice President of Engineering***
***WIREWERKS***

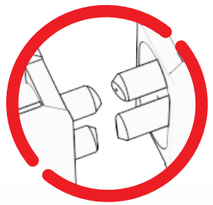
# SN® CONNECTOR

PATENTED PRODUCT senko.com/patents

RoHS Reach SVHC UL

SENKO Products are RoHS, Reach SVHC and UL 94 V-0 compliant.

A ceramic-based fiber optic connector so compact and flexible that it can be utilized either as a Base-8 trunk solution, a Base-2 patching interface or as a Base-8 connection to next-generation 200G, 400G and 800G transceivers



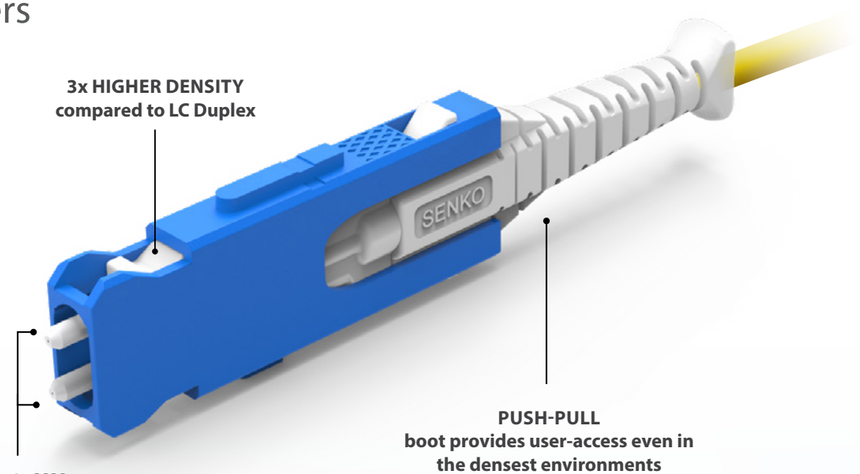
APC OPTION AVAILABLE

GANG CLIP COMPATIBLE

PREASSEMBLED KIT

SWITCH POLARITY

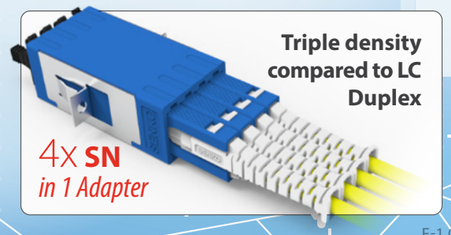
**3x HIGHER DENSITY compared to LC Duplex**




**2X 1.25MM CERAMIC FERRULES providing carrier-grade reliability and performance**

**PUSH-PULL boot provides user-access even in the densest environments**

- Most dense dual ferrule uniboot connector
- Mechanically stronger
- Allows better cable management/routing

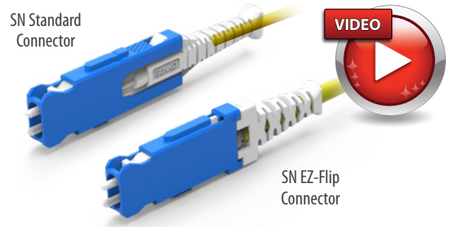



SENKO® Advanced Components

## SN® Connectors for Next-Generation Data Centers

### SN® CONNECTOR

Standard duplex SN® connectors for patch cord assemblies and breakouts






### SN® JUNIOR CONNECTOR

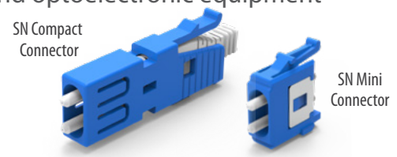
Standard SN® connector for BTW (Behind The Wall) applications



### SN® COMPACT/MINI CONNECTOR

Space-Saving Applications

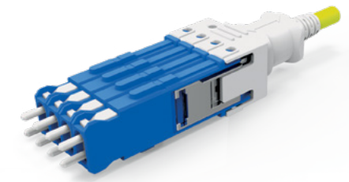
BTW connectors designed for cassettes and optoelectronic equipment






### SN® UNIBOOT CONNECTOR

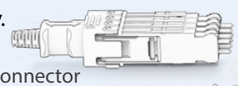
Base-8/Base-2 connector designed for high-density trunk applications



# SN® Application Guide

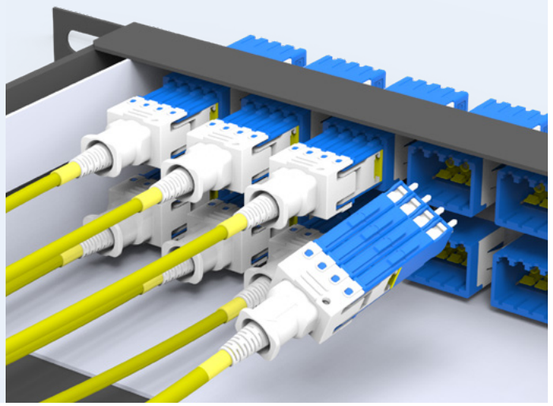
## Base-8 Structured Cabling

The SN® Uniboot is a logical choice when building high-density, Base-8 topologies. It speeds up installation time and reduces cable bulk dramatically. Alternatively, the SN® Standard or EZ-Flip can be ganged together using a plastic clip and breakout cables or fanouts can be deployed in the same way.



SN® Uniboot Connector


SN EZ-Flip Connector

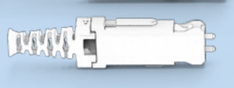


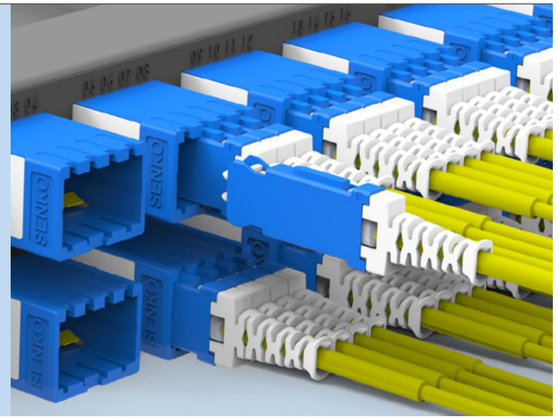
## Individual SN® Patching

The SN® Standard and EZ-Flip connector are the right choice for plugging into the front side of patch panels or transceivers. The EZ-Flip is the only option that allows polarity switching in the field.

SN® 1.6mm/
2.0mm Connector

SN® EZ-Flip Connector

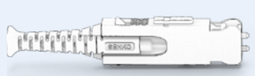




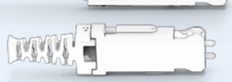
## Dual & Quad Transceiver Links

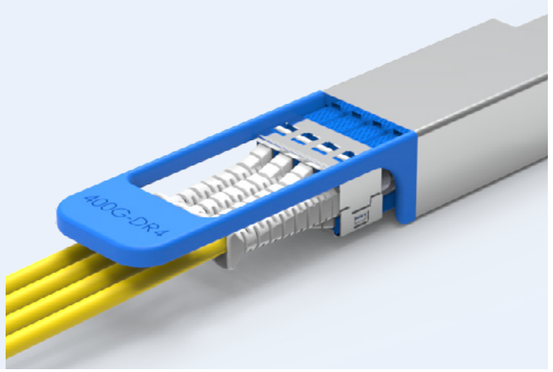
The SN® Standard and EZ-Flip connector can be joined together with special metal clips that allow two or four connectors to be patched simultaneously.

SN® 1.6mm/
2.0mm Connector



SN® EZ-Flip Connector







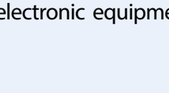


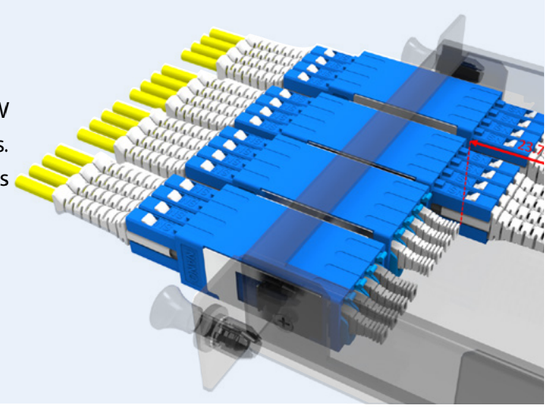

SN® Application Guide

## Standard BTW

The Junior connector is the right choice for most BTW applications such as transition panels and LGX-style modules. It is significantly smaller than the senior connectors and is compatibe with 900 micron buffered fibers.

SN® Junior Connector

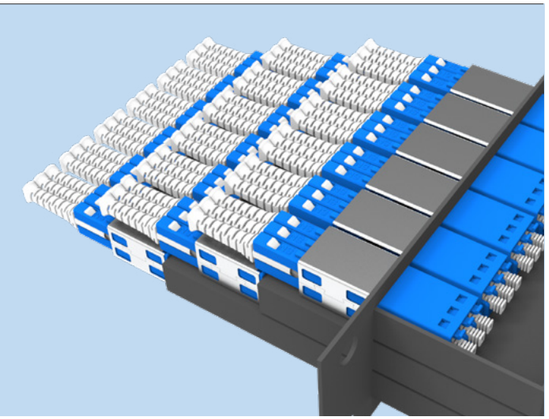




## Reduced Height BTW

The Compact connector has a reduced height which allows it to fit inside miniature cassettes that do not have space for the standard Junior connector. These cassettes are often stacked 3-high within 1RU chassis.

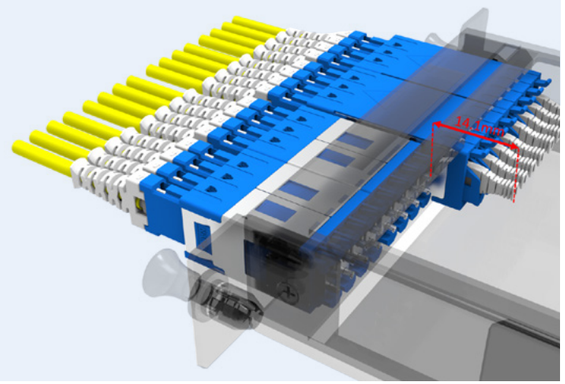
SN® Compact Connector



## Reduced Depth BTW

The Mini connector is the shortest connector for BTW applications is a great choice when you need to utilize BTW space for optoelectronic equipment or other vital system components.

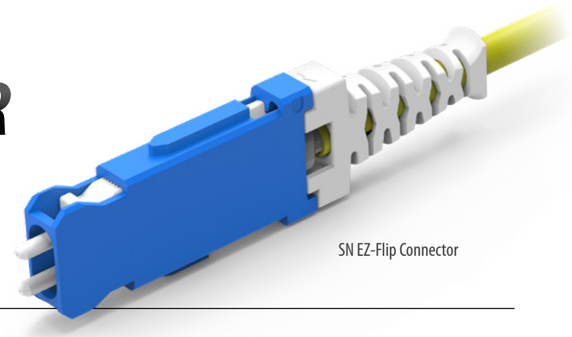
SN® Mini Connector



SENKO®
Advanced Components

# SN® EZ-FLIP CONNECTOR

## 1-Channel (2F)
## Switchable Polarity



SN EZ-Flip Connector

The SN® connector is the ultimate duplex connector combining 'best-in-class' packing density with carrier-grade performance and reliability. Designed and optimized for next-generation data rates, the SN® 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 SN® EZ-Flip connector is the latest addition to the SN® family, allowing technicians to switch polarity in the field without disrupting fibers or repositioning ferrules. Not only can the polarity be changed with UPC ferrules, but APC connectors can also be polarity-flipped thanks to the unique orientation of the angled ferrules.

The SN® EZ-Flip connector has an integrated 'push-pull' boot that simplifies insertion and removal of the connector even in high-density patch panels where finger access is limited. A gang-clip can be added to two or four individual SN® connectors allowing them to be patched simultaneously to compatible adapters and transceivers.

### FEATURES

- Meets IEC random mating Grade B
- Very Small Form Factor (VSFF) connector, 3 x fiber cabling density over duplex LC
- 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 SN® connectors per transceiver
- Direct 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

### APPLICATIONS

- High-density patching and equipment jumpers
- QSFP-DD, OSFP and SFP-DD transceiver links for higher data rates
- Hybrid duplex cable assemblies combining SN® and other duplex connector types
- Hyperscale, edge, enterprise, and colocation data centers

### MEDIA

**Click to Watch Videos**

VIDEO





## Mechanical Data

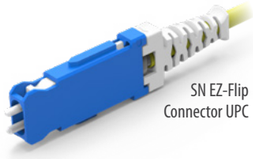
| | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fiber Count | Duplex *(2 fibers)* |
| Cable Suitablity | 1.6 mm/2.0 mm jacketed |
| Ferrule Material | Zirconia |
| Dust Protection Method | Removable dust plugs that encapsulate the ferrules |

## 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 Diameter (µm) | 125.5 | | | | 127 |

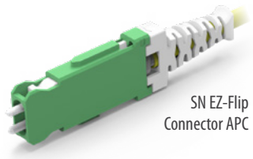
** Based on master grade jumper to low loss random mating test*

### ORDERING



SN EZ-Flip Connector UPC

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT TYPE | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|---|---|
| 6A5 | SN EZ-Flip Connector UPC Preassembled for 2 mm Cable | 151 | SM Premium | 1 | Blue | 4 | 44mm Boot (44T) | 1 | White |
| 6A6 | SN EZ-Flip Connector UPC Preassembled for 1.6 mm cable | 158 | SM Premium Low Loss | 5 | Aqua | | | | |
| 6B5 | SN EZ-Flip Connector UPC Unassembled for 2 mm Cable | 251 | MM Premium | 6 | Heather Violet | | | | |
| 6B6 | SN EZ-Flip Connector UPC Unassembled for 1.6 mm cable | | | | | | | | |

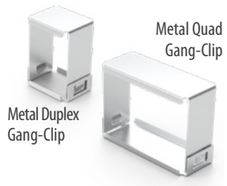


SN EZ-Flip Connector APC

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT TYPE | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|---|---|
| 6D5 | SN EZ-Flip Connector APC Unassembled for 2 mm Cable | 153 | APC Premium | 3 | Green | 4 | 44mm Boot (44T) | 1 | White |
| 6D6 | SN EZ-Flip Connector APC Unassembled for 1.6 mm Cable | 158 | APC Premium Low Loss | | | | | | |

6D5 - 153 - 341 ORDER CODE example

*Note: Connector supplied with protective dust-cap*



Metal Duplex Gang-Clip

Metal Quad Gang-Clip

| PART NUMBER | |
|---|---|
| 6A5-CLIP-QD-01 | Metal Quad Gang-clip for QSFP-DD and OSFP Transceivers *(SN EZ-Flip Connectors Only)* |
| 6A5-CLIP-DX-01 | Metal Duplex Gang-clip for SFP-DD Transceivers *(SN EZ-Flip Connectors Only)* |


Plastic Quad Gang-Clip

| PART NUMBER | |
|---|---|
| 6A5-CLIP-QD-02 | Plastic Quad Gang-clip for Shuttered Adapters or Adapters with Walls Between Each Port |

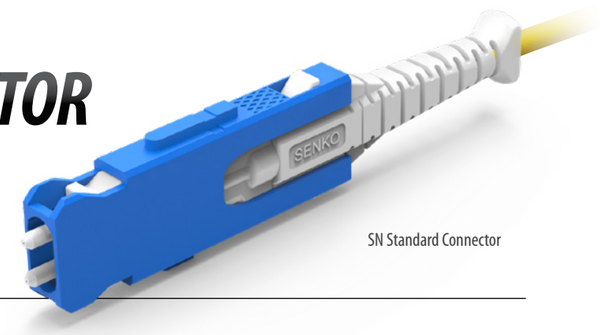
6A5-CLIP-QD-02 ORDER CODE example

*Note: Works with all SN EZ-Flip configurations*

SENKO®
Advanced Components

# SN® STANDARD CONNECTOR

## 1-Channel (2F)
## 1.6 mm Cable



SN Standard Connector

The SN® 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 SN® 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 SN® Standard connector is suitable for termination to 1.6 mm round cable that incorporates a ruggedized jacket and internal strain relief.

The SN® 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 SN® connectors allowing them to be patched simultaneously to either adapters or 4-channel (8 fibers) transceivers (subject to product selection).

### FEATURES

- Meets IEC random mating Grade B
- Very Small Form Factor (VSFF) connector, 3 x fiber cabling density over Duplex LC
- 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 SN® connectors per transceiver
- Direct transceiver breakout in spine/leaf architectures
- Combines two 1.25 mm ceramic ferrules
- Easy identification of the connector alignment key

### APPLICATIONS

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

### KEY BENEFITS

✔ **Optimized for patching**





## Mechanical Data

| | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fiber Count | Duplex *(2 fibers)* |
| Cable Suitablity | 1.6 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 Diameter (µm) | 125.5 | | | | 127 |

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

### ORDERING


SN Connector
UPC with Flex Angle Boot

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT TYPE | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|---|---|
| **602** | SN Connector UPC Unassembled for 1.6 mm Cable | **151** | SM Premium | **1** | Blue | **1** | 50 mm Boot (50T) | **1** | White |
| | | **158** | SM Premium Low Loss | **5** | Aqua | **B** | Flex-Angled Boot (57T) | | |
| | | **251** | MM Premium | **6** | Heather Violet | **C** | Flex-Angled Boot (63T) | | |
| | | | | | | **D** | Flex-Angled Boot (71T) | | |


SN Connector
APC for 1.6 mm Cable

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT TYPE | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|---|---|
| **612** | SN Connector APC Unassembled for 1.6 mm Cable | **153** | APC Premium | **3** | Green | **1** | 50 mm Boot (50T) | **1** | White |
| | | **158** | APC Premium Low Loss | | | **B** | Flex-Angled Boot (57T) | | |
| | | | | | | **C** | Flex-Angled Boot (63T) | | |
| | | | | | | **D** | Flex-Angled Boot (71T) | | |

*Note: Connector supplied with protective dust-cap*


Metal Quad
Gang-Clip

| PART NUMBER | |
|---|---|
| **602-CLIP-QD-01** | Metal Quad Gang-clip for QSFP-DD Transceivers |
| **602-CLIP-DX-01** | Metal Duplex Gang-clip for SFP-DD Transceivers |

Plastic Quad
Gang-Clip

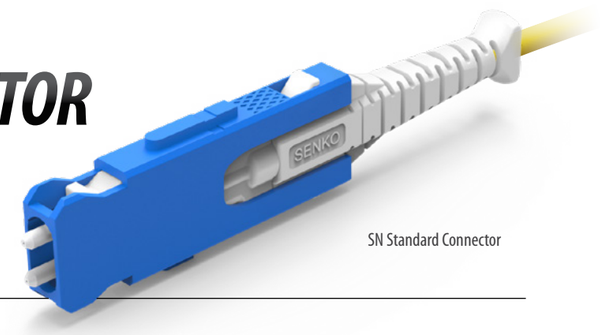
| PART NUMBER | |
|---|---|
| **602-CLIP-QD-02** | Plastic Quad Gang-clip for Shuttered Adapters or Adapters with Walls Between Each Port |

602-CLIP-QD-02 ORDER CODE example

SENKO®
Advanced Components

# SN® STANDARD CONNECTOR

## 1-Channel (2F)
## 2.0 mm Cable



SN Standard Connector

The SN® 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 SN® 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 SN® Standard connector is suitable for termination to 2.0 mm round cable that incorporates a ruggedized jacket and internal strain relief.

The SN® 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 SN® connectors allowing them to be patched simultaneously to either adapters or 4-channel (8 fibers) transceivers (subject to product selection).

### FEATURES

- Meets IEC random mating Grade B
- Very Small Form Factor (VSFF) connector, 3 x fiber cabling density over duplex LC
- 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 SN® connectors per transceiver
- Direct transceiver breakout in spine/leaf architectures
- Combines two 1.25 mm ceramic ferrules
- Easy identification of the connector alignment key

### APPLICATIONS

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

### KEY BENEFITS

✔ **Optimized for patching**





## Mechanical Data

| | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fiber Count | Duplex *(2 fibers)* |
| Cable Suitablity | 2.0 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 Diameter (µm) | 125.5 | | | | 127 |

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

### ORDERING


SN Connector
UPC with Flex Angle Boot

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT TYPE | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|---|---|
| **604** | SN Connector UPC Unassembled for 2 mm Cable | **151** | SM Premium | **1** | Blue | **1** | 50 mm Boot (50T) | **1** | White |
| | | **158** | SM Premium Low Loss | **5** | Aqua | | | | |
| | | **251** | MM Premium | **6** | Heather Violet | | | | |


SN Connector
APC for 2 mm Cable

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT TYPE | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|---|---|
| **614** | SN Connector APC Unassembled for 2 mm Cable | **153** | APC Premium | **3** | Green | **1** | 50 mm Boot (50T) | **1** | White |
| | | **158** | APC Premium Low Loss | | | | | | |

**614** - **153** - **311** ORDER CODE example

*Note: Connector supplied with protective dust-cap*


Metal Quad
Gang-Clip

| PART NUMBER | |
|---|---|
| **602-CLIP-QD-01** | Metal Quad Gang-clip for QSFP-DD Transceivers |
| **602-CLIP-DX-01** | Metal Duplex Gang-clip for SFP-DD Transceivers |

Plastic Quad
Gang-Clip

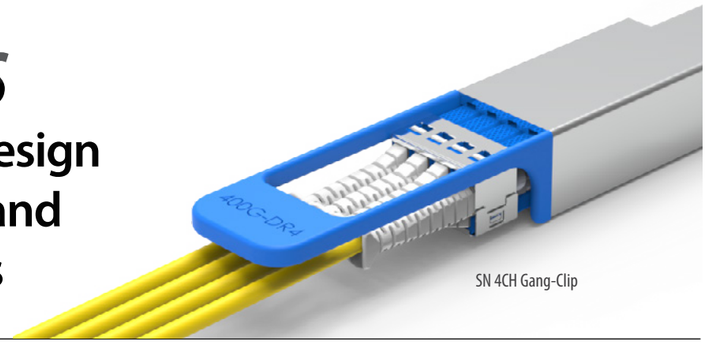
| PART NUMBER | |
|---|---|
| **602-CLIP-QD-02** | Plastic Quad Gang-clip for Shuttered Adapters or Adapters with Walls Between Each Port |

**602-CLIP-QD-02** ORDER CODE example

SENKO®
Advanced Components

# SN® GANG-CLIPS

## Quad and Duplex Design for QSFP-DD, OSFP and SFP-DD Transceivers



SN 4CH Gang-Clip

SENKO's SN® Gang-clips are designed to hold four individual SN® connectors side by side so they can be plugged into either 4-channel QSFP-DD, OSFP or 2-channel SFP-DD transceivers simultaneously. This speeds up the patching time and simplifies the process of patching mulitple connectors - it also allows the four 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 4 x 100G transceivers within spine-leaf architectures. The Quad Gang-clip is also compatible with non-shuttered SN® adapters that share the same footprint as QSFP-DD and OSFP transceivers.

### FEATURES

- Allows multiple SN® connectors to be patched simultaneously
- The compact design prevents interference with transceiver pull-tab
- Suitable for QSFP-DD, OSFP and SFP-DD transceivers

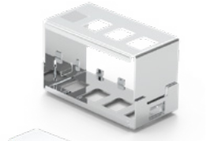
### APPLICATIONS

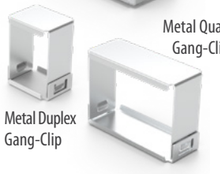
- Transceiver breakout applications
- Spine-leaf architectures
- Enterprise data centers
- Patching to standard SN® non-shuttered adapters

### KEY BENEFITS

- **Patch 4 x SN® simultaneously to QSFP-DD and OSFP**
- **Patch 2 x SN® simultaneously to SFP-DD**

### ORDERING


Metal Quad Gang-Clip


Metal Duplex Gang-Clip

| PART NUMBER | |
|---|---|
| **602-CLIP-QD-01** | Metal Quad Gang-clip for QSFP-DD and OSFP Transceiver Types *(Standard SN Connectors Only)* |
| **602-CLIP-DX-02** | Metal Duplex Gang-clip for SFP-DD Transceiver Types *(Standard SN Connectors Only)* |

| PART NUMBER | |
|---|---|
| **6A5-CLIP-QD-01** | Metal Quad Gang-clip for QSFP-DD and OSFP Transceivers *(SN EZ-Flip Connectors Only)* |
| **6A5-CLIP-DX-01** | Metal Duplex Gang-clip for SFP-DD Transceivers *(SN EZ-Flip Connectors Only)* |

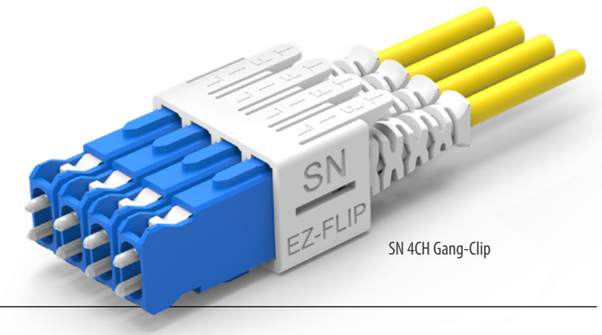
602-CLIP-DX-02 ORDER CODE example





# SN® GANG-CLIPS

## Quad Design for 4-Channel Shuttered Adapters



SN 4CH Gang-Clip

SENKO's SN® Gang-clips are designed to hold four individual SN® connectors side by side so they can be plugged into shuttered adapters (or adapters with walls between each channel) simultaneously. This unique functionality dramatically reduces the installation time required to patch multiple connectors to high-density patch panels, as well as allowing the four duplex connectors to act as one Base-8 connector.

The Gang-clip can be used to combine four individual connectors from duplex patch cords or alternatively, four connectors from a breakout cable or fanout cable. The Gang-clip is a critical solution in applications where multiple Base-8 connections are being patched to the rear side of a patch panels. Individual SN® connectors can be inserted or removed from the 4-way gang-clip thanks to flexible locking clips located on the upper face of the clip.

### FEATURES

- Allows multiple SN® connectors to be patched simultaneously
- Connectors can be individually inserted and removed without disruption to adjacent connectors
- Compact design
- Suitable for shuttered 4-channel SN® adapters

### APPLICATIONS

- Base-8 trunk deployment
- Patch cord consolidation
- Breakout and Fanout cable assemblies
- High fiber-count backbone trunks
- Enterprise data centers

### KEY BENEFITS

- **Add and remove individual connectors**
- **Allows 4 x SN® connectors to be patched simultaneously**

### ORDERING

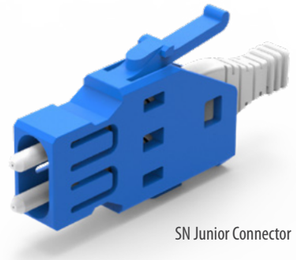
Plastic Quad Gang-Clip
SN EZ-Flip Connector

| PART NUMBER | |
|---|---|
| **6A5-CLIP-QD-02** | Plastic Quad Gang-clip for Shuttered Adapters or Adapters with Walls Between Each Port *(SN EZ-Flip Connectors Only)* - Color White |
| **602-CLIP-QD-02** | Plastic Quad Gang-clip for Shuttered Adapters or Adapters with Walls Between Each Port *(Standard SN Connectors Only)* - Color White |

6A5-CLIP-QD-02 ORDER CODE example

SENKO®
Advanced Components

# SN® JUNIOR CONNECTOR
## 1-Channel (2F)
## BTW (Behind The Wall)


SN Junior Connector

The SN® Junior connector is designed for applications that require less space consumption BTW (Behind The Wall) than conventional patch cord connectors. With a much shorter body length and boot length than conventional connectors, the SN® Junior offers users the chance to reduce the depth of transition cassettes and modules as well as free up valuable space within fiber management panels for additional hardware such as splice cassettes, coherent devices or optoelectronic equipment.

The SN® Junior connector has a latch on the upper side of the connector that provides an audible click when it is plugged into an adapter. At the rear of the connector is a boot that will accept two 600 or 900-micron buffered fibers. Junior connectors are most commonly used for applications such as pigtail splicing or transition assemblies where multi-fiber connectors break out to multiple duplex connectors within the same module or panel.

SN® Junior connectors are compatible with standard SN® adapters and SC Footprint SN® adapters.

### FEATURES

- Meets IEC random mating Grade B
- Upper latch mechanism with an audible click
- Reduced connector/boot length
- Single boot for 2 x 600/900µm buffered fibers
- UPC and APC versions available
- Proven LC ferrule technology
- Extra small for space-limited applications

### APPLICATIONS

- Pigtail splicing modules and panels
- Coherent and On-Board optics
- MPO/SN-MT to SN® transition modules
- Optoelectronic equipment
- Shallow-depth cassettes

### KEY BENEFITS

**Reduced connector length**





## Mechanical Data

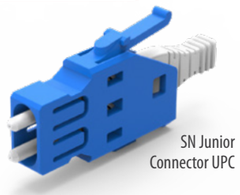
| | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fiber Count | Duplex *(2 fibers)* |
| Cable Suitablity | 2 x 600/900µm buffered fibers |
| Ferrule Material | Zirconia |
| Dust Protection Method | Removable dust plugs that encapsulate the ferrules |

## Optical Data

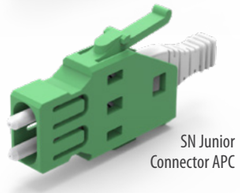
| | Singlemode | | | | Multimode |
|---|---|---|---|---|---|
| | UPC | | APC | | MM |
| | SM Premium Low Loss | SM Premium | SM Premium Low Loss | SM Premium | Premium |
| Typical Insertion Loss (dB)* | 0.05 | 0.08 | 0.07 | 0.12 | 0.05 |
| Max. Insertion Loss (dB)* | 0.15 | 0.20 | 0.15 | 0.25 | 0.15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

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

### ORDERING


SN Junior Connector UPC

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|
| **603** | SN Junior Connector UPC | **151** | SM Premium | **1** | Blue | **1** | White |
| | | **158** | SM Premium Low Loss | **5** | Aqua | | |
| | | **251** | MM Premium | **6** | Heather Violet | | |


SN Junior Connector APC

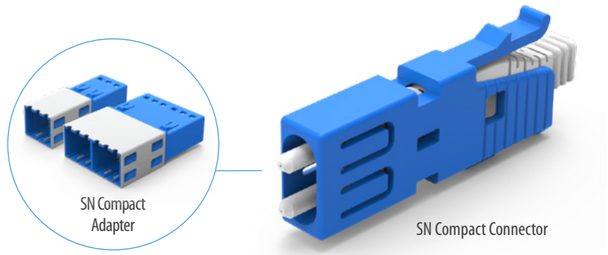
| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|
| **613** | SN Junior Connector APC | **153** | APC Premium | **3** | Green | **1** | White |
| | | **158** | APC Premium Low Loss | | | | |

613 - 153 - 31 ORDER CODE example

*Note: 1. The SN Junior Connector was previously called the BTW1 Connector*
*2. Connector supplied with protective dust-cap*

SENKO Advanced Components

# SN® CONNECTOR
## Compact
## 1-Channel (2F)
## BTW (Behind The Wall)




SENKO's SN® Compact connector is explicitly designed for the SN® Compact adapter series in BTW (Behind The Wall) applications and is often deployed inside miniature cassette systems with little or no space above or below the adapters. The compact series allows for 3-channel and 6-channel configurations to suit different cassette types and fiber counts.

The SN® Compact Connector features a latch-locking mechanism to confirm engagement with the adapter and uses industry-standard 1.25 mm ferrule technology that has been used in LC connectors for decades.

SENKO offers product development support for hardware vendors and solution providers that want to adapt the SN® compact series to fit their particular fiber-management system or application.

### FEATURES

- Meets IEC random mating Grade B
- Upper latch mechanism with an audible click
- Reduced connector height for low-profile cassette systems
- Works with SN® Compact adapters
- Single boot for 2 x 600/900 µm buffered fibers
- UPC and APC versions are available
- Proven LC ferrule technology

### APPLICATIONS

- Miniature low-profile cassettes
- High-density patch panels
- 1RU panels with three rows of adapters
- Front access fiber management systems

### KEY BENEFITS

✔ **Reduced connector height**





## Mechanical Data

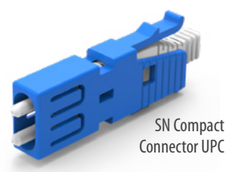
| | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fiber Count | Duplex *(2 fibers)* |
| Cable Suitablity | 2 x 600/900 µm buffered fibers |
| Ferrule Material | Zirconia |
| Dust Protection Method | Removable dust plugs that encapsulate the ferrules |

## Optical Data

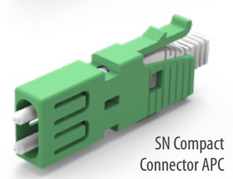
| | Singlemode | | | | Multimode |
|---|---|---|---|---|---|
| | UPC | | APC | | MM |
| | SM Premium Low Loss | SM Premium | SM Premium Low Loss | SM Premium | Premium |
| Typical Insertion Loss (dB)* | 0.05 | 0.08 | 0.07 | 0.12 | 0.05 |
| Max. Insertion Loss (dB)* | 0.15 | 0.20 | 0.15 | 0.25 | 0.15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

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

### ORDERING


SN Compact Connector UPC

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|
| **606** | SN Compact Connector UPC | **151** | SM Premium | **1** | Blue | **1** | White |
| | | **158** | SM Premium Low Loss | **5** | Aqua | | |
| | | **251** | MM Premium | **6** | Heather Violet | | |


SN Compact Connector APC

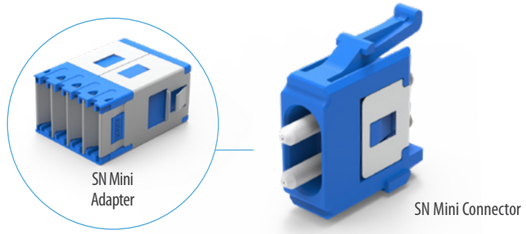
| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | | BOOT COLOR | |
|---|---|---|---|---|---|---|---|
| **616** | SN Compact Connector APC | **153** | APC Premium | **3** | Green | **1** | White |
| | | **158** | APC Premium Low Loss | | | | |

**616** - **153** - **31** ORDER CODE example

*Note: 1. The SN Compact connector was previously called the BTW2 Connector*
*2. Connector supplied with protective dust-cap*

SENKO®
Advanced Components

# SN® MINI CONNECTOR
## 1-Channel (2F)
## BTW (Behind The Wall)




The SN® Mini connector is the shortest connector in the SN® family and offers users the most space-efficient solution for applications demanding optimized BTW (Behind The Wall) space-saving. In combination with SN® Mini adapters, as much as 14.1 mm can be saved compared with standard adapters and connectors, making it the ideal solution for opto-electronic applications requiring circuit boards or other vital components to share the same BTW space as fiber optic connectivity.

The SN® Mini connector is a duplex design that combines two spring loaded 1.25 mm ceramic ferrules in a single miniature housing. On the upper face of the connector, there is a latch locking mechanism to maintain secure engagement to the adapter  providing users with the additional benefit of an audible click.

### FEATURES

- Up to 70% BTW space-saving compared with standard connectors
- Accepts 2 x 600/900 µm buffered fibers
- Uses proven LC ferrule technology
- Integrated upper latch for secure coupling
- Supports 200G/400G VSFF connectivity
- Telcordia, ANSI, TIA and IEC compliant
- Color-code for to denote optical performance

### APPLICATIONS

- Coherent optic systems
- WDM systems
- Optoelectronic devices
- Automated robotic switches
- Ultra-short cassettes and modules

### KEY BENEFITS

✔ **Maximum BTW space**





## Mechanical Data

| | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fiber Count | Duplex *(2 fibers)* |
| Cable Suitablity | 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 Diameter (µm) | 125.5 | | | | 127 |

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

### ORDERING

SN Mini Connector UPC

| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | |
|---|---|---|---|---|---|
| **609** | SN Mini Connector | **151** | SM Premium | **1** | Blue |
| | | **158** | SM Premium Low Loss | **5** | Aqua |
| | | **251** | MM Premium | **6** | Heather Violet |

SN Mini Connector APC

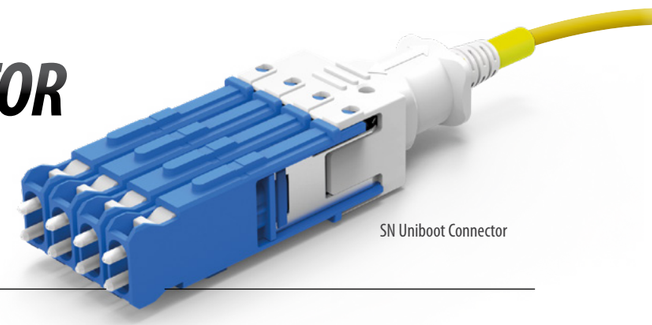
| CONNECTOR TYPE | | PERFORMANCE | | HOUSING COLOR | |
|---|---|---|---|---|---|
| **619** | SN Mini APC Connector | **153** | APC Premium | **3** | Green |
| | | **158** | APC Premium Low Loss | | |

**619** - **153** - **3** ORDER CODE example

*Note: 1. SN Mini Connector has no boot*
*2. Connector supplied with protective dust-cap*

SENKO®
Advanced Components

# SN® UNIBOOT CONNECTOR
## 4-Channel (8F)
## Variable Pitch


SN Uniboot Connector

The SN® Uniboot is a revolutionary connector that allows four duplex SN® connectors to be patched simultaneously in one operation. Subsequently, the SN® Uniboot offers the same degree of flexibility as an MPO 8-fiber connector but without the need for breakout cassettes or fan-out cables to transition from Base-8 to Base-2. This dual functionality makes the SN® Uniboot granular enough for duplex server connections, optimized for high-density trunks and the perfect match to high data rate transceivers utilizing four optical lanes (8 fibers).

The SN® Uniboot is the first telco-grade connector that combines the performance and reliability of ceramic ferrules with the modularity and scalability of the MPO connector. Network operators can now build networks that are more cost effective, more flexible and provide extended reach at higher data rates.

### FEATURES

- Fast patching with uniboot design
- Base-8 and Base-2 compatibility
- Allows up to 432 fibers per 1RU (Rack Unit)
- Eliminates the need for fan-outs and cassettes
- Provides ferrule-based alternative to MPO
- Increased flexibility and extended reach
- Significantly lower total cost of ownership
- Telco grade optics with zirconia ferrules
- Less complexity versus MPO

### APPLICATIONS

- Base-2 server consolidation
- Base-8 switch replication
- Telco exchanges
- Broadcast
- Enterprise network
- Colocation data centers
- Finance data centers

### MEDIA

**Click to Watch Videos**

VIDEO





## Mechanical Data

| | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fiber Count | Base-8 *(8 fibers)* |
| Cable Suitablity | 8-fiber micro cable |
| Ferrule Material | Zirconia |
| Dust Protection Method | Removable dust plugs that encapsulate the ferrules |

## Optical Data

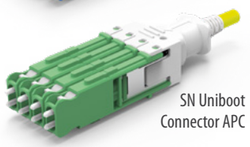
| | Singlemode | | | | Multimode |
|---|---|---|---|---|---|
| | UPC | | APC | | MM |
| | SM Premium Low Loss | SM Premium | SM Premium Low Loss | SM Premium | Premium |
| Typical Insertion Loss (dB)* | 0.05 | 0.08 | 0.07 | 0.12 | 0.05 |
| Max. Insertion Loss (dB)* | 0.15 | 0.20 | 0.15 | 0.25 | 0.15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

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

### ORDERING


SN Uniboot Connector UPC

| CONNECTOR TYPE |
|---|
| SN Uniboot Connector UPC Unassembled |


SN Uniboot Connector APC

| CONNECTOR TYPE |
|---|
| SN Uniboot Connector APC |

*Note: Connector supplied with protective dust-cap*

*Contact sales@senko.com for availability and to learn more*

Contact SENKO

SENKO®
Advanced Components

## 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

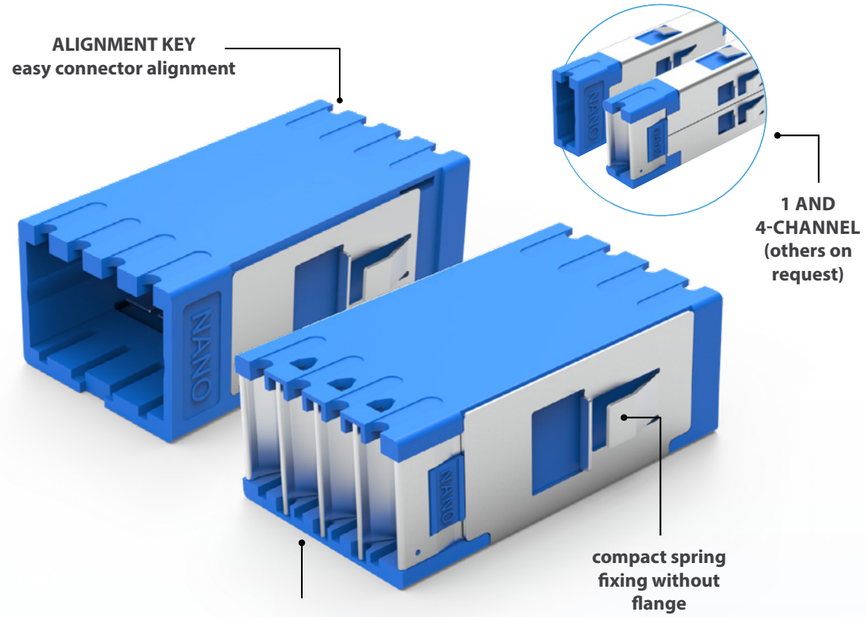
# SN® ADAPTER

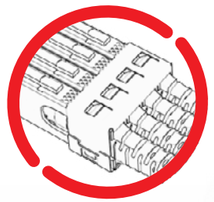
PATENTED PRODUCT senko.com/patents

RoHS Reach SVHC UL

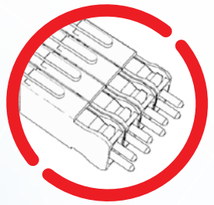
SENKO Products are RoHS, Reach SVHC and UL 94 V-0 compliant.

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



GANG CLIP COMPATIBLE

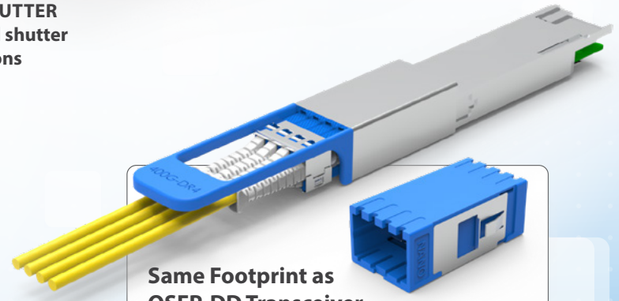


UNIBOOT COMPATIBLE


432 FIBERS PER 1RU

VIDEO

SN STANDARD ADAPTERS



**Same Footprint as QSFP-DD Transceiver**

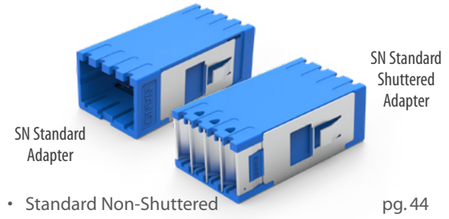
The non-shuttered SN® adapter has the same footprint as the 4-port QSFP-DD transceiver making it the perfect choice for switch replication at the patch panel.

SENKO®
Advanced Components

## SENKO's Adapters Designed for the Next Generation Data Centers

### SN® ADAPTER Standard

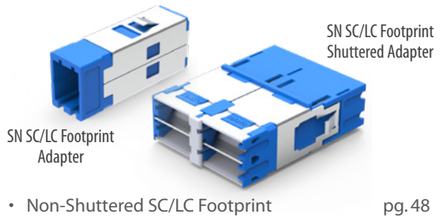
Standard 1 and 4-channel adapters for high-density patch panels






### SN® ADAPTER SC/LC Footprint

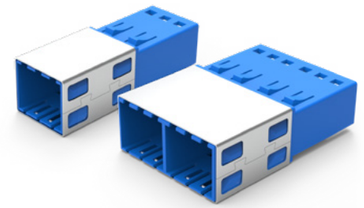
SC/LC footprint adapters for easy upgrades of legacy systems






### SN® ADAPTER Compact

Compact adapters for low-profile miniature cassette systems

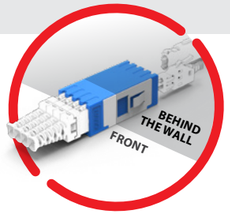




### SN® MINI ADAPTER

Mini adapters for maximum BTW space-saving

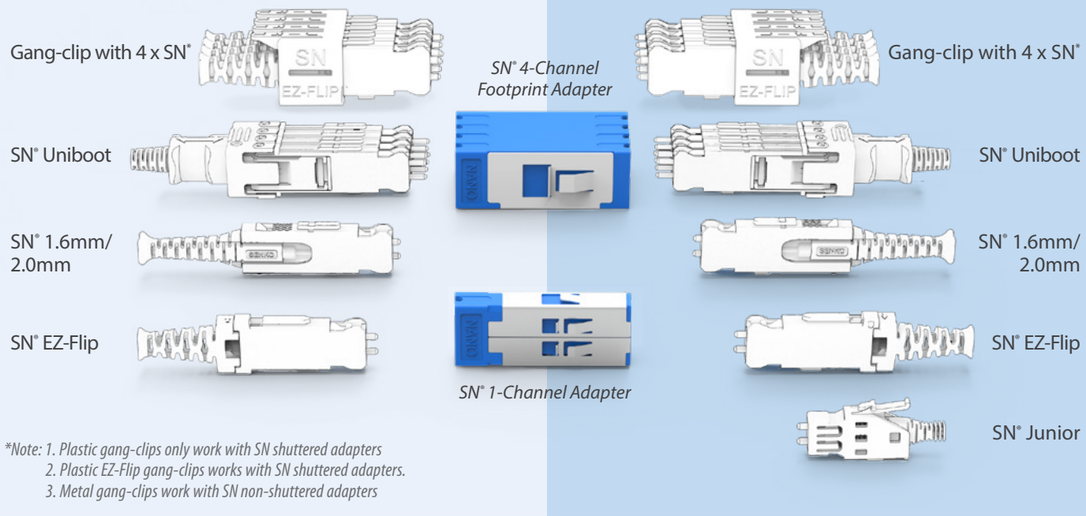
# Adapter Selection Guide




## FRONT Connector Options

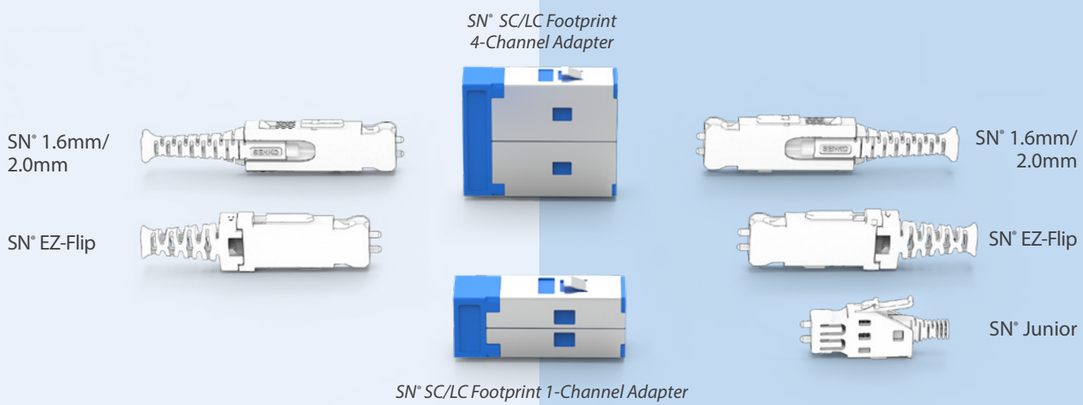
## BTW Connector Options

### SN® Shuttered and Non-Shuttered Adapter




*Note: 1. Plastic gang-clips only work with SN shuttered adapters
2. Plastic EZ-Flip gang-clips works with SN shuttered adapters.
3. Metal gang-clips work with SN non-shuttered adapters

### SN® SC/LC Footprint Shuttered and Non-Shuttered Adapter

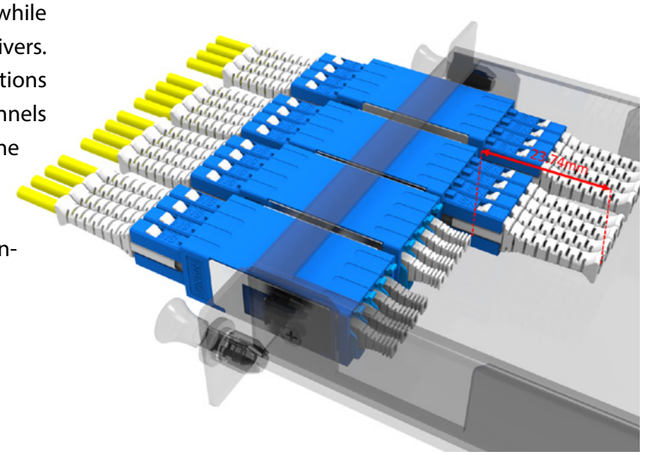





# Real World Applications

## SN® ADAPTER
### Suitable for Most Applications

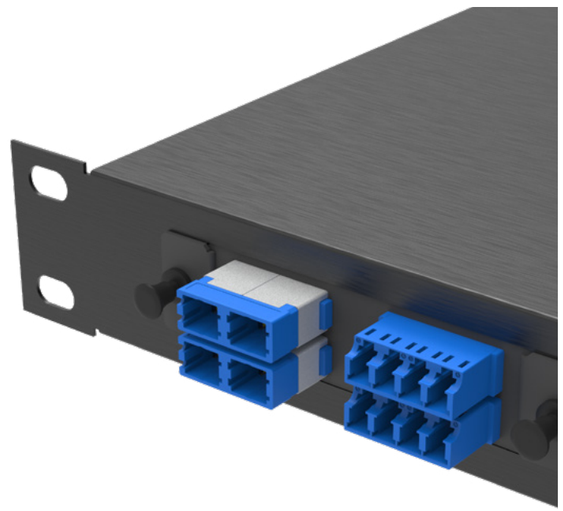
The SN® adapters can maximize port density while having the same footprint size as QSFP-DD transceivers. The 1-channel (2 fibers) is designed for applications requiring the separation of individual optical channels such as coherent optics or wave-splitting. The 4-channel (8 fibers) version allows operators to replicate switch-ports with inter-connected patch panels on a 1:1 basis. Shuttered and non-shuttered configurations available.



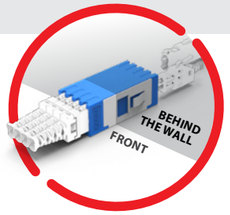

## SN® SC/LC FOOTPRINT ADAPTER
### Retro-Fittable to SC/LC Footprint

Upgrade your system to SN®hyper-density without re-designing your current panels or hardware. The SC/LC footprint adapters are designed to fit legacy hardware incorporating an SC/LC cut-out, maximizing your current set-up without a costly overhaul.

These retro-fittable adapters are the ideal choice for cabling providers or equipment manufacturers. The 2-channel adapter fits into legacy hardware incorporating the SC duplex (LC quad) cut-out, while the 4-channel version incorporates the SC duplex (LC quad) cut-out.



# Adapter Selection Guide



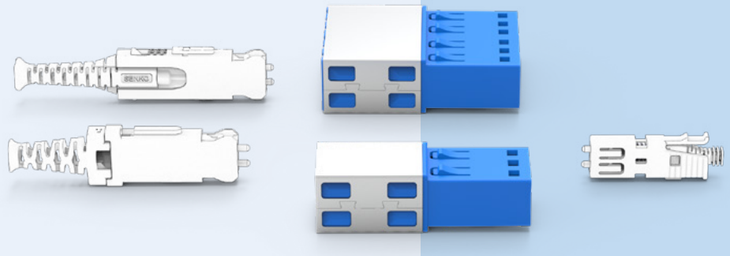

## FRONT Connector Options

## BTW Connector Options

### SN® Compact Adapter

SN® 1.6mm/ 2.0mm

SN® EZ-Flip



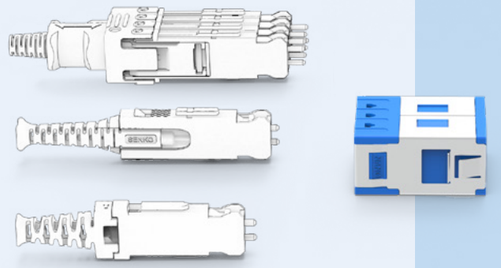
SN® Compact ONLY

### SN® Mini Adapter

SN® Uniboot

SN® 1.6mm/ 2.0mm

SN® EZ-Flip



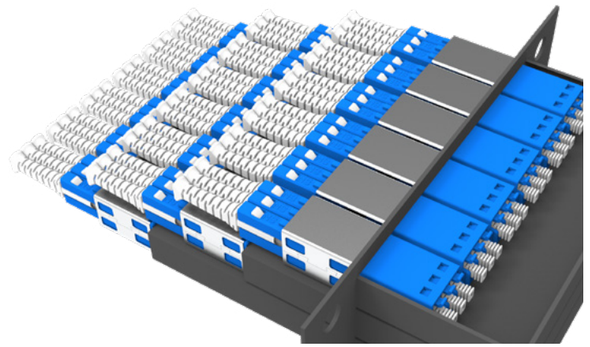
SN® Mini ONLY

# Real World Applications

## SN® COMPACT ADAPTER

### Lowest Height for BTW Cassettes

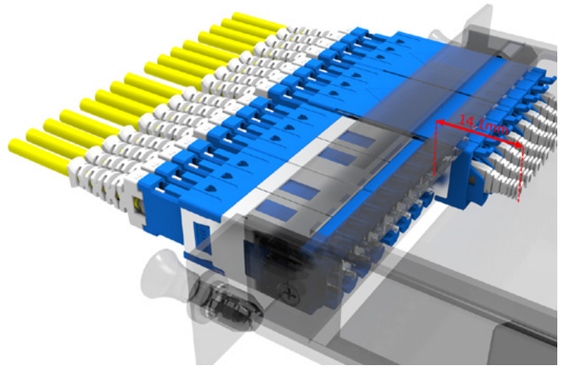
These compact adapters are designed for low-profile modular cassette systems that have little or no space above or below the adapter for fixing elements. It is held in place by the base and top cover of the cassette with sprung clips on the upper and lower face of the adapter. The 3-channel type fits legacy hardware incorporates the SC simplex (LC duplex) cut-out, and the 6-channel version is designed to fit the SC duplex (LC quad) cut-out.



## SN® MINI ADAPTER

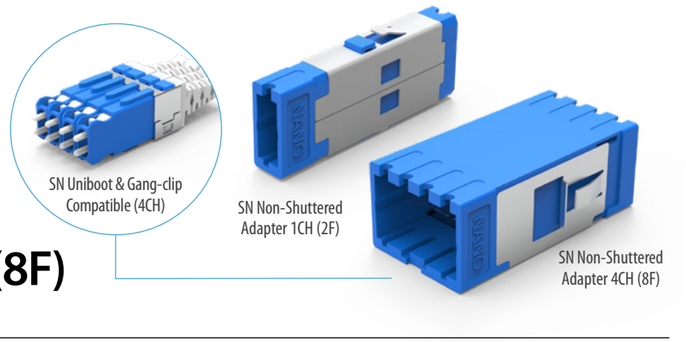
### Most Space-effecient BTW

Maximize packing density and save space all at once with the SN® Mini adapter. Designed to increase the packing density at the front of patch panels whilst significantly reducing the space consumption at the rear of the panel for BTW (Behind The Wall), this small adapter serves a big purpose. In combination with SN® Mini connectors, as much as 14.1mm can be saved compared with standard adapters and connectors, making it the ideal solution for optoelectronic applications.



SENKO Advanced Components

# SN® ADAPTER
## Standard Non-Shuttered 1 (2F) and 4-Channel (8F)




SENKO's SN® non-shuttered adapters are available either as a 1-channel (2 fibers) or 4-channel variant (8 fibers). The single channel is designed for applications requiring the separation of individual optical channels such as coherent optics or wave-splitting. The 4-channel version is designed to maximize port density within patch panels.

This adapter is slightly smaller than the shuttered version. Having the same footprint size as QSFP-DD transceivers, operators can now replicate switch-ports with inter-connected patch panels on a 1:1 basis. Due to its compact size, the SN® 4-channel adapter allows users to achieve the highest possible density within patch panels and optical distribution frames. Up to 432 fibers can be presented in a single 1RU (Rack Unit) subject to cable management and connector-access limitations.

All of SENKO's SN® adapters are designed either to be snapped into panel cut-outs or screwed into place using an appropriate bolt and nut. Adapters incorporating an integrated fixing flange will require additional space between each cut-out.

### FEATURES

- Premium one-piece body design
- Up to 432 fibers per 1RU (Rack Unit)
- Same footprint as QSFP-DD transceiver
- Accepts SN® standard and junior connectors
- Supports 200G/400G VSFF connectivity
- Color coded for rapid identification of fiber-type
- Telcordia, ANSI, TIA and IEC Compliant
- Identification marking for fast and simple connector alignment

### APPLICATIONS

- High-density patch panels
- Spine/leaf architectures
- Switch replication
- Opto-electronic equipment
- WDM equipment
- MUX and DEMUX equipment
- Mass server consolidation EoR, MoR

### KEY BENEFITS

- **OSFP-DD footprint**
- **Optimum panel packing density**





## 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

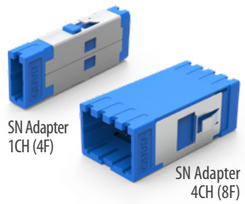
| Optical Data | Value |
|---|---|
| Typical Insertion Loss (dB)* | 0.10 |
| Max. Insertion Loss (dB)* | 0.20 |

* *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



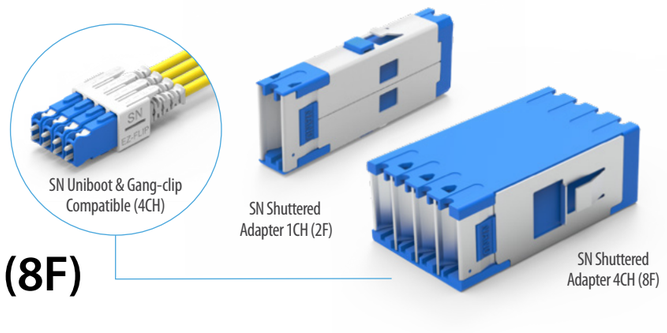

| SN FOOTPRINT TYPE | | FLANGE | | HOUSING COLOR | |
|---|---|---|---|---|---|
| **691** | SN 1-Channel (2F) Non-Shuttered Adapter | **1** | With Flange | **1** | Blue (SM PC/UPC) |
| **694** | SN 4-Channel (8F) Non-Shuttered Adapter | **2** | Without Flange | **3** | Green (SM APC) |
| | | | | **7** | Heather Violet (MM OM4) |
| | | | | **9** | Aqua (MM OM3) |

691 - 17 ORDER CODE example

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

SENKO®
Advanced Components

# SN® ADAPTER
## Standard Shuttered 1 (2F) and 4-Channel (8F)




SENKO's SN® shuttered adapters are available either as a 1-channel (2 fibers) or 4-channel variant (8 fibers). The single channel is designed for applications requiring the separation of individual optical channels such as coherent optics or wave-splitting. The 4-channel (8 fibers) version is designed for maximizing port density within patch panels.

This adapter is slightly larger than the non-shuttered version due to the addition of dividing walls that support the integrated shutters. When the connector is inserted into the adapter, the body of the connector (not the ferrule) pushes the shutter open so that the ferrules can be guided into the adapter sleeve.

All of SENKO's SN® adapters are designed either to be snapped into panel cut-outs or screwed into place using an appropriate screw and nut. Adapters incorporating an integrated fixing flange will require additional space between each cut-out.

### FEATURES

- Premium one-piece body design
- Maximum density 216CH/432F in 1RU
- Integrated shutter reduces the impact of contaminents
- Accepts SN® standard and junior connectors
- Supports 200G/400G VSFF connectivity
- Color-coded for rapid identification of fiber-type
- Telcordia, ANSI, TIA, and IEC compliant
- Identification marking for fast and simple connector alignment

### APPLICATIONS

- High-density patch panels
- Spine/leaf architectures
- High-density cross-connects
- Switch replication
- Opto-electronic equipment
- MUX and DEMUX equipment
- Mass server consolidation EoR, MoR

### KEY BENEFITS

- **Integrated shutter**
- **Optimum panel packing density**





## 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 |
| Shutter Material Type | Metal stainless steel |
| Sleeve Material | Zirconia |
| Dust Protection Method | Integrated shutter mechanism *(operated by connector insertion)* |

## Optical Data

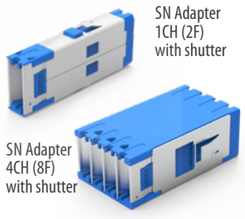
| | Value |
|---|---|
| Typical Insertion Loss (dB)* | 0.10 |
| Max. Insertion Loss (dB)* | 0.20 |

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

## Environmental Data

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

### ORDERING




| SN FOOTPRINT TYPE | | FLANGE | | HOUSING COLOR | |
|---|---|---|---|---|---|
| 69A | SN 1-Channel (2F) Shuttered Adapter | 1 | With Flange | 1 | Blue (SM PC/UPC) |
| 69D | SN 4-Channel (8F) Shuttered Adapter | 2 | Without Flange | 3 | Green (SM APC) |
| | | | | 7 | Heather Violet (MM OM4) |
| | | | | 9 | Aqua (MM OM3) |

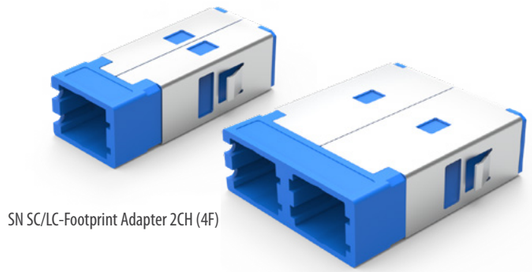
69D - 17 ORDER CODE example

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

SENKO® Advanced Components

# SN® ADAPTER

## Non-Shuttered SC/LC-Footprint 2 (4F) and 4-Channel (8F)



SN SC/LC-Footprint Adapter 2CH (4F)

SN SC/LC-Footprint Adapter 4CH (8F)

SENKO's SN® SC/LC-footprint non-shuttered adapters are available either as a 2-channel (4 fibers) or 4-channel (8 fibers) variant. The 2-channel type is designed to fit to legacy hardware incorporating an SC simplex (LC duplex) cut-out. The 4-channel version is designed to fit into legacy hardware incorporating the SC duplex (LC quad) cut-out.

These retro-fittable adapters are the ideal choice for cabling providers or equipment manufacturers that want to upgrade their existing systems to SN® hyper-density without redesigning new panels or hardware. Each adapter will double the density of existing LC-based hardware and subsequently reduce the total cost per port of the overall system. Operators can benefit from significantly reduced rack consumption and improve their RU (Rack Unit) revenue-efficiency accordingly.

SC/LC-footprint, non-shuttered adapters can be stacked side-by-side within extended multi-adapter panel cut-outs without consuming additional space beyond the SC/LC footprint size. For example 6x adapters could be place in one elongated slot if necessary.

### FEATURES

- Retro-fittable to standard SC/LC panel cut-outs
- Double the patch-panel density of LC
- Accepts SN® 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 SN®
- Improved rack-space utilization in Brownfield data centers
- High-density centralized cross-connects and patch panels
- Mixed fiber panels combining different connector types

### KEY BENEFITS

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

**Stackable side by side within SC/LC footprint**





## 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

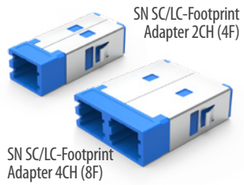
| Optical Data | Value |
|---|---|
| Typical Insertion Loss (dB)* | 0.10 |
| Max. Insertion Loss (dB)* | 0.20 |

* *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



SN SC/LC-Footprint Adapter 2CH (4F)

SN SC/LC-Footprint Adapter 4CH (8F)

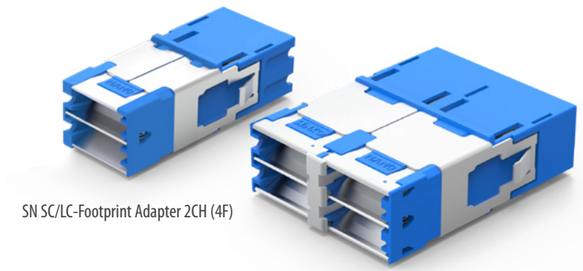
| SC/LC FOOTPRINT TYPE | | FLANGE | | HOUSING COLOR | |
|---|---|---|---|---|---|
| **672** | SN 2-Channel (4F) Adapter | **1** | With Flange | **1** | Blue (SM PC/UPC) |
| **674** | SN 4-Channel (8F) Adapter | **2** | Without Flange | **3** | Green (SM APC) |
| | | | | **7** | Heather Violet (MM OM4) |
| | | | | **9** | Aqua (MM OM3) |

672 17 ORDER CODE example

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

SENKO® Advanced Components

# SN® ADAPTER
## Shuttered SC/LC-Footprint 2 (4F) and 4-Channel (8F)



SN SC/LC-Footprint Adapter 2CH (4F)

SN SC/LC-Footprint Adapter 4CH (8F)

SENKO's SN® SC/LC-footprint shuttered adapters are available either as a 2-channel (4 fibers) or 4-channel (8 fibers) variant. The 2-channel type is designed to fit to legacy hardware incorporating an SC simplex (LC duplex) cut-out. The 4-channel version is designed to fit into legacy hardware incorporating the SC duplex (LC quad) cut-out.

These retro-fittable adapters are the ideal choice for cabling providers or equipment manufacturers that want to upgrade their existing systems to SN® hyper-density without redesigning new panels or hardware. Each adapter will double the density of existing SC/LC-based systems and subsequently reduce the total cost per port of the overall system. Operators can benefit from significantly reduced rack consumption and improve their RU (Rack Unit) revenue-efficiency accordingly.

### FEATURES

- Retro-fittable to standard SC/LC panel cut-outs
- Double the patch-panel density of LC
- Integrated shutter reduces impact of dust and dirt ingress
- Accepts SN® 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 SN®
- Improved rack-space utilization in Brownfield data centers
- High-density centralized cross-connects and patch panels
- Mixed fiber panels combining different connector types

### KEY BENEFITS

**Integrated shutter**
**Retro-fittable to SC/LC cut-outs**





## 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 | Integrated shutter mechanism *(operated by connector insertion)* |

## 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

SN SC/LC-Footprint Shuttered Adapter 2CH (4F)

SN SC/LC-Footprint Shuttered Adapter 4CH (8F)

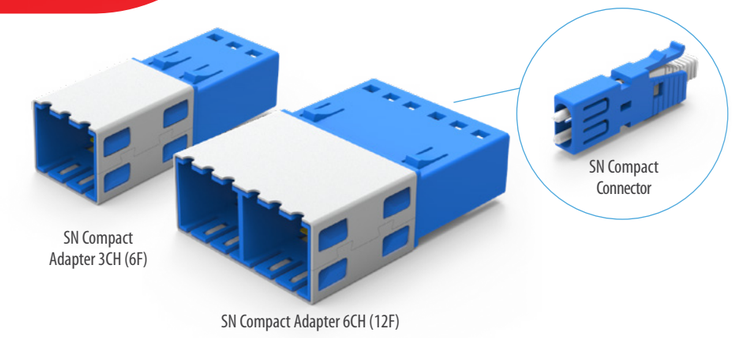
| SC/LC FOOTPRINT TYPE | | FLANGE | | HOUSING COLOR | |
|---|---|---|---|---|---|
| 67B | SN 2-Channel (4F) Shuttered Adapter | 1 | With Flange | 1 | Blue (SM PC/UPC) |
| 67D | SN 4-Channel (8F) Shuttered Adapter | 2 | Without Flange | 3 | Green (SM APC) |
| | | | | 7 | Heather Violet (MM OM4) |
| | | | | 9 | Aqua (MM OM3) |

67B - 17 ORDER CODE example

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

SENKO®
Advanced Components

# SN® ADAPTER
## Compact 3 (6F) and 6-Channel (12F)




SN® compact adapters are available either as a 3-channel (6 fibers) or 6-channel variant (12 fibers). The 3-channel type is designed to fit to legacy hardware incorporating the SC simplex (LC duplex) cut-out, and the 6-channel version is designed to fit legacy hardware incorporating the SC duplex (LC quad) cut-out.

These compact adapters are designed to be placed side by side in low-profile modular cassette systems that have little or no space above or below the adapter for fixing elements. The compact adapter is held in place by the base and top cover of the cassette, and therefore spring clips are placed on the upper and lower face of the adapter. The BTW (Behind The Wall) side of the adapter is lower in height than the front of the adapter to compensate for the material wall thickness of the cassette.

To achieve this reduced adapter height on the inside of the cassette, SENKO has designed the complimentary SN® compact connector which is an essential component when integrating this adapter into your system.

### FEATURES

- Triple the patch-panel density of LC
- Designed for lowest profile modular cassette systems
- Accepts SN® compact connector (BTW side) and SN® standard connector (front side)
- Supports 200G/400G VSFF connectivity
- Color coded for rapid identification of fiber-type
- 3-channel and 6-channel variants available
- Telcordia, ANSI, TIA and IEC compliant

### APPLICATIONS

- 1RU chassis with 3x rows of adapters
- Spine/leaf architectures within hyperscale data centers
- Modular low-profile fiber optic cassette systems
- Spine/leaf architectures within hyperscale data centers
- High-density centralized cross-connects
- Mass server consolidation EoR, MoR

### KEY BENEFITS

**Suitable for low-profile cassettes**
**Side by side stacking of adapters**





## Mechanical Data

| Mechanical Data | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fixing Method | Snap-fit |
| Housing Material Type | Plastic |
| Fixing Spring Material Type | Integrated plastic spring clips |
| Sleeve Material | Zirconia |
| Dust Protection Method | Removable dust pPlugs |

## Optical Data

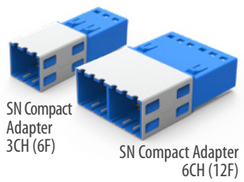
| Optical Data | Value |
|---|---|
| Typical Insertion Loss (dB)* | 0.10 |
| Max. Insertion Loss (dB)* | 0.20 |

** 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




| SN FOOTPRINT TYPE | |
|---|---|
| 693 | SN 3-Channel (6F) Non-Shuttered Adapter |
| 696 | SN 6-Channel (12F) Non-Shuttered Adapter |

| FLANGE TYPE | |
|---|---|
| 3 | Top Mount |

| HOUSING COLOR | |
|---|---|
| 1 | Blue (SM PC/UPC) |
| 3 | Green (SM APC) |
| 7 | Heather Violet (MM OM4) |
| 9 | Aqua (MM OM3) |

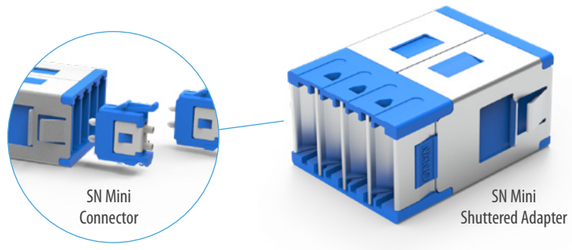
693 - 37 ORDER CODE example

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

SENKO Advanced Components

# SN® MINI ADAPTER

## Shuttered
## SN-Footprint
## 4-Channel (8F)




SENKO's SN® Mini, shuttered, 4-channel (8 fibers) adapters are designed to offer 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. In combination with SN® Mini connectors, as much as 14.1mm can be saved compared with standard adapters and connectors, making it the ideal solution for opto-electronic applications requiring circuit boards or other vital components to share the same space as fiber the optic connectivity. The SN® Mini adapter incorporates integrated dust shutters on the front side to prevent unwanted contaminants entering the adapter during operation. When the connector is patched to the adapter, the body of the connector (not the ferrule) pushes the shutter open allowing the ferrules to be guided into the adapter sleeve.

All of SENKO's SN® adapters are designed either to be snapped into panel cut-outs or screwed into place. Adapters incorporating an integrated fixing flange will require additional space between each cut-out and the maximum density per 1 RU (Rack Unit) will be lower.

### FEATURES

- Up to 70% BTW space saving compared with standard adapters and connectors
- Maximum density 216CH/432F in 1RU
- Integrated shutter reduces impact of dust and dirt ingress
- Accepts SN® standard and Mini connectors
- Supports 200G/400G VSFF connectivity
- Color coded for rapid Identification of fiber-type
- Telcordia, ANSI, TIA and IEC compliant
- Identification marking for fast and simple connector alignment

### APPLICATIONS

- Customized opto-electronic equipment
- Highest packing density within patch panels
- Spine/Leaf architectures within hyperscale data centers
- High-density switch replication
- High-density centralized cross-connects
- Mass server consolidation EoR, MoR

### KEY BENEFITS

**Integrated dust shutter**
**Maximum BTW space**





## Mechanical Data

| Mechanical Data | Value |
|---|---|
| Durability | 500 matings per TIA-568 |
| Fixing Method | Snap-fit |
| Housing Material Type | Plastic |
| Shutter Material Type | Metal stainless steel |
| Sleeve Material | Zirconia |
| Dust Protection Method | Integrated shutter mechanism *(operated by connector insertion)* |

## Optical Data

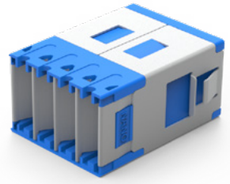
| Optical Data | Value |
|---|---|
| Typical Insertion Loss (dB)* | 0.10 |
| Max. Insertion Loss (dB)* | 0.20 |

* *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



| SN FOOTPRINT TYPE | | FLANGE TYPE | | HOUSING COLOR | |
|---|---|---|---|---|---|
| 6MD | SN 4-Channel (8F) Mini Shuttered Adapter | 1 | With Flange | 1 | Blue (SM PC/UPC) |
| | | 2 | Without Flange | 3 | Green (SM APC) |
| | | | | 7 | Heather Violet (MM OM4) |
| | | | | 9 | Aqua (MM OM3) |

6MD - 27 ORDER CODE example

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

SENKO®
Advanced Components

## Sustainability

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

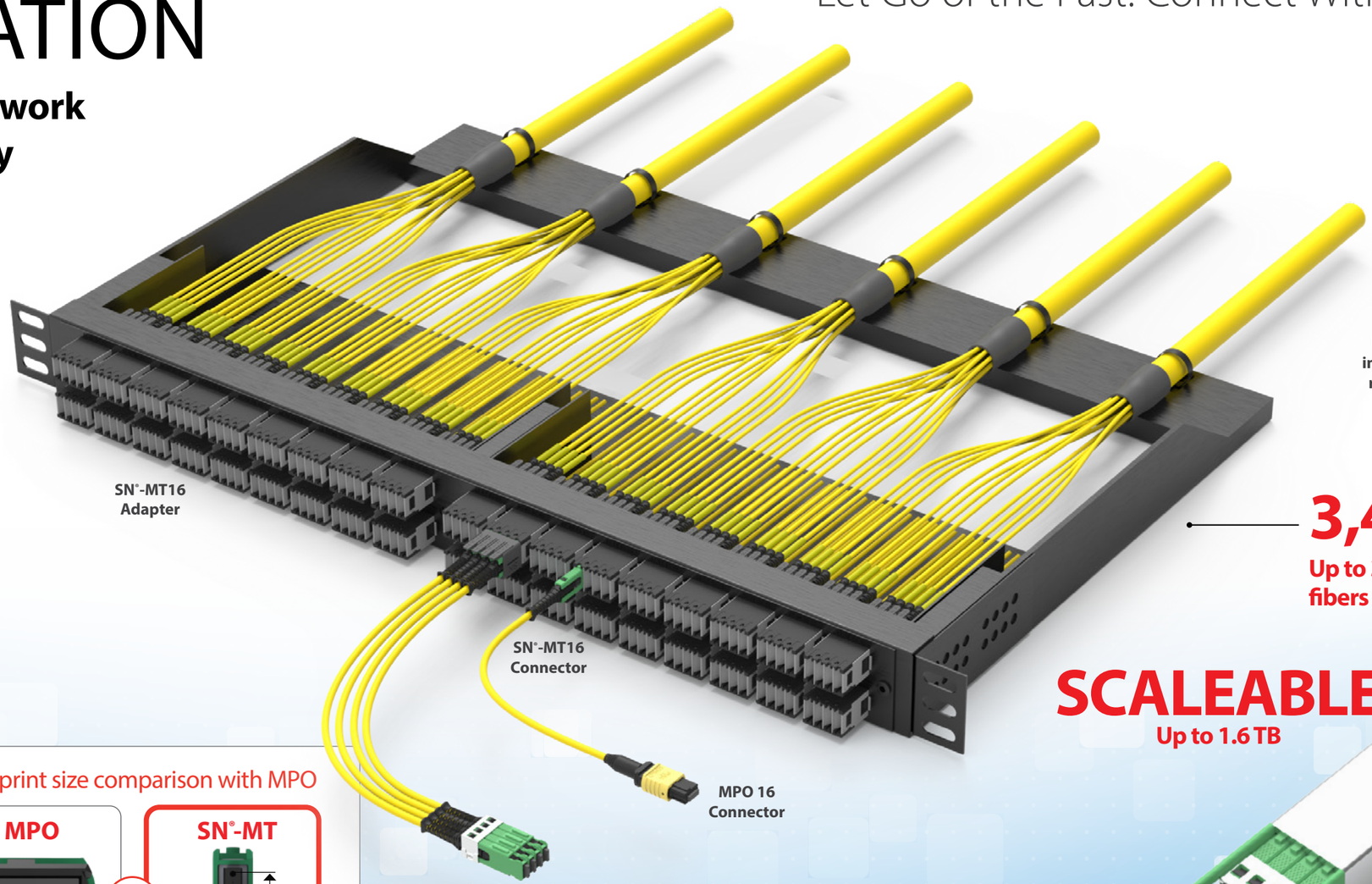
SENKO®
Advanced Components

Let Go of the Past. Connect With the Now.

# HYPERSCALE DENSIFICATION

## Future-proof your network with the SN®-MT Family

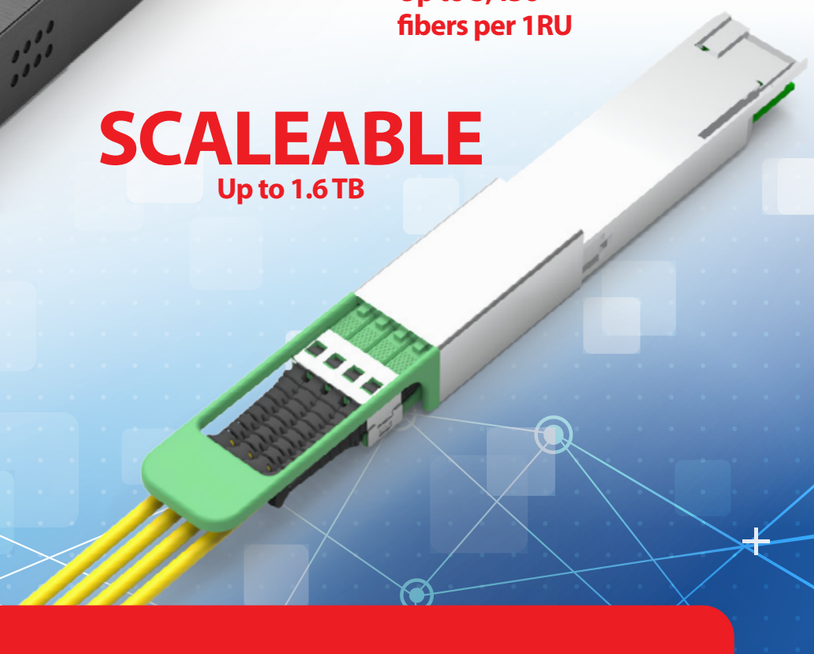
SN®-MT can be used in high-density patch panels to connect legacy MPO-based transceivers today, and then in the future, they can be redeployed to connect next-generation transceivers using the SN®-MT interface.




**UPGRADE CABLE SYSTEMS increase density and improve reliability with best-in-class performance**

**3,456**
**Up to 3,456 fibers per 1RU**

**SCALEABLE**
**Up to 1.6 TB**

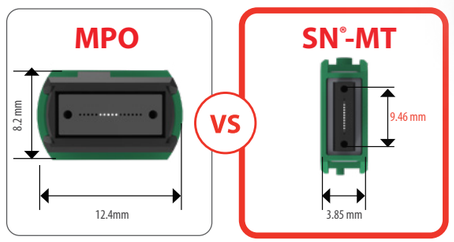


**2.7x Density Increase** Compared to MPO-16F

**HYPER DENSE**

**Same Footprint** As SN® Connector

Footprint size comparison with MPO




**1 x SN-MT** (16-fibers)

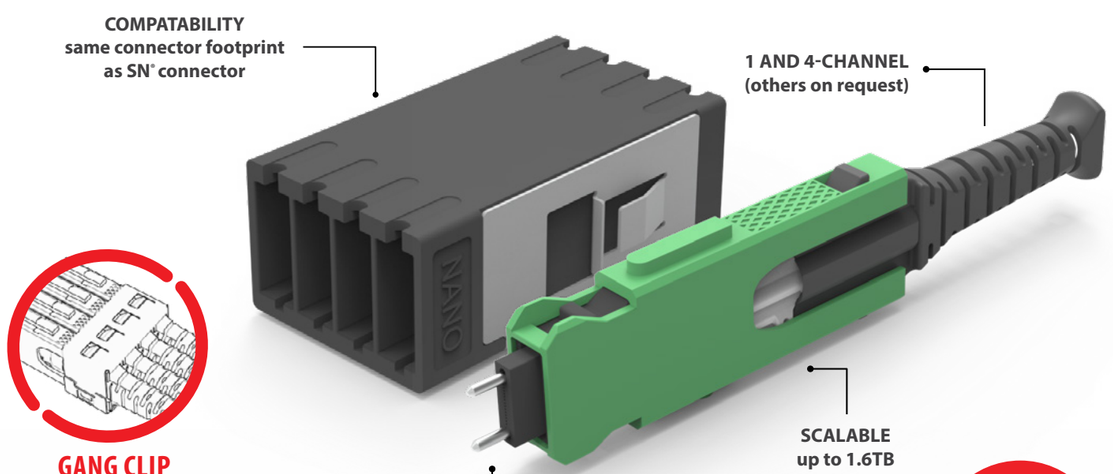
# SN®-MT SERIES

PATENTED PRODUCT senko.com/patents

RoHS Reach SVHC UL

SENKO Products are RoHS, Reach SVHC and UL 94 V-0 compliant.

## Connect with the now - the journey to 1.6TB has already begun






GANG CLIP COMPATIBLE

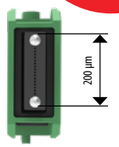
ROLLABLE RIBBON COMPATIBLE


3,456 FIBERS PER 1RU

**1.6 TB**

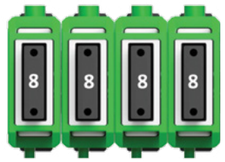
**16 x 200 µm in a Single Row**

Introducing the industry's highest density connector featuring up to 16 fibers in a single row. 2.7x denser than the MPO-16f.

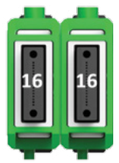



**SN®-MT8/16 Multi-Channel**

**4x 400G DR4**




**2x 800G DR8**

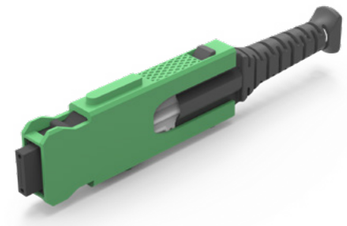



SENKO®
Advanced Components

## SENKO's SN®-MT for Hyperscale Density

### SN®-MT16 CONNECTOR
Standard

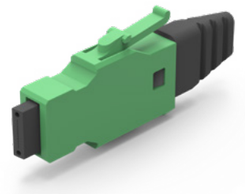
Standard SN®-MT connector for patch cord assemblies and breakouts



- SN-MT16 Connector pg. 62

### SN®-MT16 JUNIOR CONNECTOR

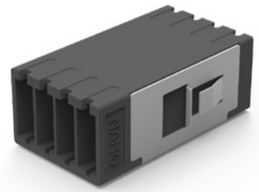
Standard SN®-MT connector for BTW (Behind The Wall) applications



- SN-MT16 Junior Connector pg. 66

### SN®-MT16 ADAPTER
Non-Shuttered

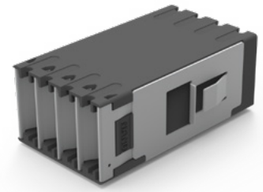
Standard 1 and 4-port adapters for high-density patch panels




- SN-MT16 Non-Shuttered Adapter pg. 68

### SN®-MT16 ADAPTER
Shuttered

Shuttered 1 and 4-port adapters for enhanced ingress protection

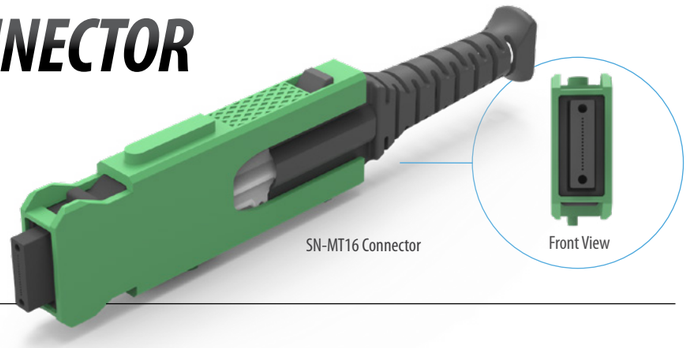


- SN-MT16 Shuttered Adapter pg. 70

SENKO®
Advanced Components

# SN®-MT16 CONNECTOR

## 16-Fiber, 200 µm
## Single Row
## 2.0 mm Cable




SENKO's SN®-MT16 is an extension of the SN® range and incorporates a single, compact SN®-MT ferrule with 16 x 200 µm fibers in a single row. Subsequently, the SN®-MT ferrule can achieve 2.7 times the density of MPO16 whilst leveraging the same proven alignment methods. This combination ensures low-loss performance for singlemode and multimode APC applications whilst delivering optimized patch-panel density required in today's Hyperscale data centers.

The SN®-MT16 further increases the density capabilities of the SN® family by providing a patch panel density of 3,456 fibers per 1RU. This is as much as 3 x the density of MPO16 connectors occupying the same rack space. Additionally, the SN®-MT16 is compatible with next-generation 200 µm 'rollable ribbon' cables that significantly reduce the cable congestion within cable pathways and trunks. The SN®-MT16 connector is also suitable for ganged installations where as many as four connectors can be patched simultaneously to a 4-port adapter. This function converts the connector from a 16f connector to a 64f connector and makes it ideal for high-density trunk applications.

### FEATURES

- Compatible with 200 µm rollable ribbon cables
- Allows up to 3,456 fibers per 1RU
- Low-loss, compact SN-MT ferrule
- 2.7 x denser than MPO16 per 1RU
- 1.3 x denser than MPO32 per 1RU
- Max. insertion loss 0.35 dB
- Push-pull boot for fast and simple MACs
- Optimized for 800G data rates with QSFP-DD, OSFP and SFP-DD transceivers
- Up to 4 x SN®-MT connectors per transceiver
- Wide range of connector and adapter types for legacy upgrades or greenfield applications

### APPLICATIONS

- High-density trunks and patching
- Co-packaged optics
- High-density, high-data rate switches
- AI and super-compute clusters
- QSFP-DD and OSFP transceiver links
- Hyperscale, edge, enterprise and colocation data centers

### KEY BENEFITS

✔ **2.7 x denser than MPO**
✔ **Future-proofed for next-gen data rates**





## Mechanical Data

| | Value |
|---|---|
| Durability | 50 matings per GR-1435-Core |
| Fiber Count | Multi-fiber *(16 Fibers)* |
| Cable Suitablity | 2.0 mm jacketed |
| Ferrule Material | Polymer |
| Dust Protection Method | Removable dust plugs that encapsulate the ferrules |

## Optical Data

| | Singlemode | Multimode |
|---|---|---|
| | APC | MM (APC) |
| | SM Premium Low Loss | Premium |
| Typical Insertion Loss (dB)* | 0.15 | 0.15 |
| Max. Insertion Loss (dB)* | 0.35 | 0.35 |
| Typical Return Loss (dB)* | ≥60 | ≥45 |
| Ferrule Diameter (µm) | SN-MT ferrule 16-fiber, 200 µm in a single row | |

** Specifications provided are target only based on master grade jumper to low loss random mating test*

### ORDERING

SN-MT16 SM Connector
APC for up to 2 mm Cable

| CONNECTOR TYPE | |
|---|---|
| **641-XXX-XXX** | SN-MT16 Singlemode Connector APC Unassembled for up to 2mm Cable |

SN-MT16 MM Connector
APC for up to 2 mm Cable

| CONNECTOR TYPE | |
|---|---|
| **641-XXX-XXX** | SN-MT16 Multimode Connector APC Unassembled for up to 2mm Cable |

*Note: Connector supplied with protective dust-cap*

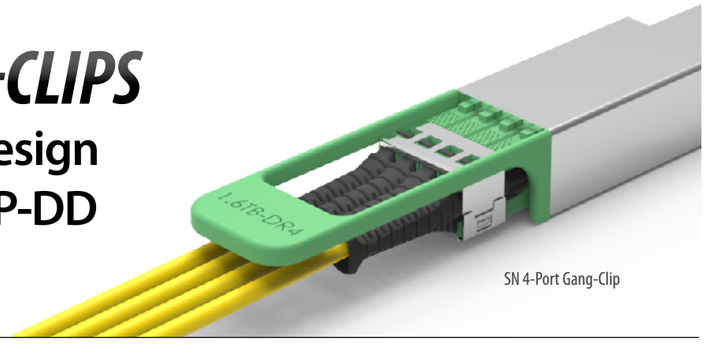
*Contact sales@senko.com for availability and to learn more*

**Contact SENKO**

SENKO
Advanced Components

# SN®-MT GANG-CLIPS

## Quad and Duplex Design for QSFP-DD and SFP-DD Transceivers



SN 4-Port Gang-Clip

SENKO's SN®-MT Gang-clips are designed to hold two or four individual SN®-MT connectors side by side so they can be plugged into either 4-port QSFP-DD, OSFP or 2-port SFP-DD transceivers simultaneously. This speeds up the patching time and simplifies the process of patching mulitple connectors - it also allows the four 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 4 x 100G transceivers within spine-leaf architectures.

### FEATURES

- Allows multiple SN®-MT connectors to be patched simultaneously
- The compact design prevents interference with transceiver pull-tab
- Suitable for QSFP-DD, OSFP and SFP-DD transceivers

### APPLICATIONS

- Transceiver breakout applications
- Spine-leaf architectures
- Hyperscale data centers
- Patching to standard SN®-MT non-shuttered adapters

### ORDERING

| PART NUMBER | |
|---|---|
| **602-CLIP-QD-01** | Metal Quad Gang-clip for QSFP-DD and OSFP Transceiver Types |
| **602-CLIP-DX-02** | Metal Duplex Gang-clip for SFP-DD Transceiver Types |

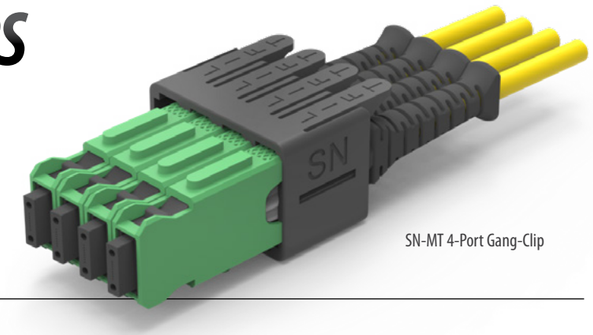
602-CLIP-DX-02 ORDER CODE example





# SN®-MT GANG-CLIPS

## Quad Design for 4-Port Shuttered Adapters



SN-MT 4-Port Gang-Clip

SENKO's SN®-MT Gang-clips are designed to hold four individual SN®-MT connectors side by side so they can be plugged into shuttered adapters (or adapters with walls between each channel) simultaneously. This unique functionality dramatically reduces the installation time required to patch multiple connectors to high-density patch panels, as well as allowing the four SN®-MT connectors to act as one Base-64 connector (subject to connector-fiber count).

The Gang-clip can be used to combine four individual connectors from SN®-MT cords or alternatively, four connectors from a breakout cable or fanout cable. The Gang-clip is a critical solution in applications where multiple connectors are being patched to the rear side of patch panels. Individual SN®-MT connectors can be inserted or removed from the 4-port gang-clip thanks to flexible locking clips located on the upper face of the clip.

### FEATURES

- Allows multiple SN®-MT connectors to be patched simultaneously
- Connectors can be individually inserted and removed without disruption to adjacent connectors
- Compact design
- Suitable for shuttered 4-channel SN®-MT adapters

### APPLICATIONS

- Spine-Leaf switch connections
- Patch cord consolidation
- Breakout and fanout cable assemblies
- High fiber-count backbone trunks
- Hyperscale data centers

### ORDERING

Plastic Quad Gang-Clip SN-MT Connector

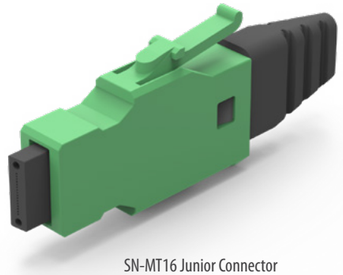
| PART NUMBER | |
|---|---|
| **641-CLIP-QD-02** | Plastic Quad Gang-clip for Shuttered Adapters or Adapters with Walls Between Each Port - Color Black |

641-CLIP-QD-02 ORDER CODE example

SENKO®
Advanced Components

# SN®-MT16 JUNIOR CONNECTOR

## Multi-fiber (16f), 200 µm
## Single Row, BTW (Behind The Wall)



SN-MT16 Junior Connector

The SN®-MT16 Junior connector is designed for applications that require less space consumption BTW (Behind The Wall) than conventional cable-based connectors. With a much shorter body length and boot length than conventional connectors, the SN®-MT16 Junior offers users the chance to reduce the depth of cassettes and modules as well as free up valuable space within fiber management panels for additional hardware such as coherent devices or electronic equipment.

The SN®-MT16 Junior connector has a latch on the upper side of the connector that provides an audible click when it is plugged into an adapter. At the rear of the connector is a boot that will accept 16-fiber ribbon with a 200 µm construction. Junior connectors are most commonly used for applications such as high fiber-count ribbon splicing or optoelectronic applications where additional space is required BTW.

The SN®-MT16 Junior connector is compatible with standard SN®-MT adapters.

### FEATURES

- Compatible with 200 µm rollable ribbon cables
- Upper latch mechanism with an audible click
- Reduced connector/boot length
- Low-loss, compact SN-MT ferrule
- 2.7 x denser than MPO16 per 1RU
- 1.3 x denser than MPO32 per 1RU
- Max. Insertion loss 0.35 dB
- No special adapter required

### APPLICATIONS

- High-density ribbon splicing
- Pre-terminated fiber-management
- Co-packaged optics
- Coherent optics
- Optoelectronic equipment panels

### KEY BENEFITS

✔ **2.7 x denser than MPO**
✔ **High fiber-count ribbon splicing**





### Mechanical Data

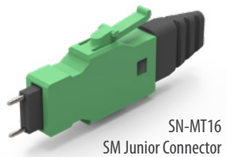
| | Value |
|---|---|
| Durability | 50 matings per GR-1435-Core |
| Fiber Count | Multi-fiber *(16 Fibers)* |
| Cable Suitablity | 16-fiber, 200 µm ribbon |
| Ferrule Material | Polymer |
| Dust Protection Method | Removable dust plugs that encapsulate the ferrules |

### Optical Data

| | Singlemode | Multimode |
|---|---|---|
| | APC | MM (APC) |
| | SM Premium Low Loss | Premium |
| Typical Insertion Loss (dB)* | 0.15 | 0.15 |
| Max. Insertion Loss (dB)* | 0.35 | 0.35 |
| Typical Return Loss (dB)* | ≥60 | ≥45 |
| Ferrule Diameter (µm) | SN-MT ferrule 16-fiber, 200 µm in a single row | |

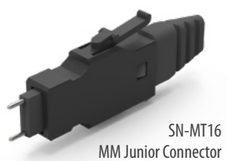
** Specifications provided are target only based on master grade jumper to low loss random mating test*

### ORDERING



SN-MT16
SM Junior Connector
APC for 16-fiber 200 µm ribbon

| CONNECTOR TYPE | |
|---|---|
| **643-XXX-XXX** | BTW SN-MT16 Junior Singlemode Connector APC |



SN-MT16
MM Junior Connector
APC for 16-fiber 200 µm ribbon

| CONNECTOR TYPE | |
|---|---|
| **643-XXX-XXX** | BTW SN-MT16 Junior Multimode Connector APC |

*Note: Connector supplied with protective dust-cap*

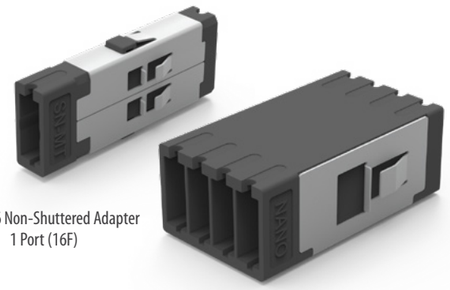
*Contact sales@senko.com for availability and to learn more*

**Contact SENKO**

SENKO®
Advanced Components

# SN®-MT16 ADAPTER

## Non-Shuttered
## SN Footprint
## 1 (16F) and 4-Port (64F)



SN-MT16 Non-Shuttered Adapter
1 Port (16F)

SN-MT16 Non-Shuttered Adapter
4 Port (64F)

SENKO's SN®-MT16 non-shuttered adapters are available either as a 1-port (16 fibers) or 4-port variant (64 fibers). The single port is designed for applications such as BASE-16 to Base-2 transitions where the adapter is placed at the rear of fiber management cassettes or panels. The 4-port version is designed to maximize port density within high-density patch panels or active equipment. The 4-port adapter has individual walls between each port for clearer separation and improved connector alignment.

Due to its compact size, the SN®-MT16, 4-port adapter allows users to achieve the highest possible density within patch panels and optical distribution frames. Up to 3,456 fibers can be presented in a single 1RU (Rack Unit) subject to cable management and connector-access limitations. These adapters can either to be snapped into panel cut-outs or screwed into place using an appropriate bolt and nut. Adapters incorporating an integrated fixing flange will require additional space between each cut-out, and the maximum density per RU will be lower.

### FEATURES

- Premium one-piece body design
- Up to 3,456 fibers per 1RU (Rack Unit)
- Accepts SN®-MT16 standard and Junior connectors
- Individual port separation
- Supports 800G VSFF connectivity
- Telcordia, ANSI, TIA and IEC compliant
- Identification marking for fast and simple connector alignment

### APPLICATIONS

- High-density patch panels
- Backbone trunks
- Base-16 transition modules
- Spine/Leaf architectures
- High-density cross-connects
- Switch replication
- Opto-electronic equipment

### KEY BENEFITS

**Up to 3,456f per 1RU**
**Optimum panel packing density**





## Mechanical Data

| Mechanical Data | Value |
|---|---|
| Durability | 50 matings per GR-1435-Core |
| 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 | Plastic *(alignment achieved with male/female connectors)* |
| Dust Protection Method | Removable dust plugs |

## Optical Data

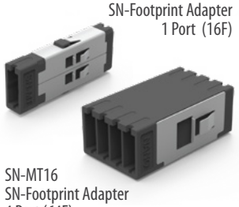
| Optical Data | Value |
|---|---|
| Typical Insertion Loss (dB)* | 0.10 |
| Max. Insertion Loss (dB)* | 0.20 |

** 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



SN-MT16
SN-Footprint Adapter
1 Port (16F)

SN-MT16
SN-Footprint Adapter
4 Port (64F)

| SN FOOTPRINT TYPE | |
|---|---|
| **65A-XXX-XX-X** | SN 1 Port (16F) Non-Shuttered Adapter |
| **65B-XXX-XX-X** | SN 4 Port (64F) Non-Shuttered Adapter |

| FLANGE | |
|---|---|
| **1** | With Flange |
| **2** | Without Flange |

| HOUSING COLOR | |
|---|---|
| **X** | Black (Multimode) |

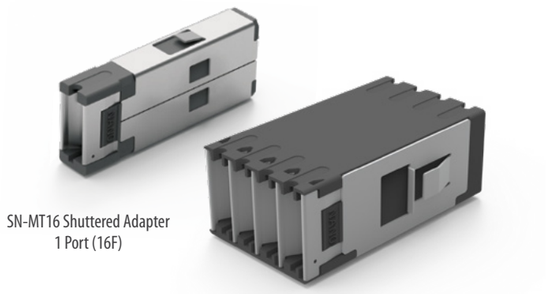
*Note: Adapter supplied with protective dust-cap on both sides*

**Contact SENKO**

SENKO®
Advanced Components

# SN®-MT16 ADAPTER

## Shuttered
## SN Footprint
## 1 (16F) and 4-Port (64F)



SN-MT16 Shuttered Adapter
1 Port (16F)

SN-MT16 Shuttered Adapter
4 Port (64F)

SENKO's SN®-MT16 shuttered adapters are available either as a 1-port (16 fibers) or 4-port variant (64 fibers). The single port is designed for applications such as BASE-16 to Base-2 transitions, where the adapter is placed at the rear of fiber management cassettes or panels. The 4-port version is designed to maximize port density within high-density patch panels or active equipment.

Due to its compact size, the SN®-MT16, 4-port adapter allows users to achieve the highest possible density within patch panels and optical distribution frames. Up to 3,456 fibers can be presented in a single 1RU (Rack Unit) subject to cable management and connector-access limitations. These adapters feature integrated shutters on each port that reduces the impact of dirt and dust ingress and offers a degree of laser protection for the user. When the connector is inserted into the adapter, the body of the connector (not the ferrule) pushes the shutter open so that the ferrules can be guided into the adapter. Shuttered SN®-MT16 adapters can either be snapped into panel cut-outs or screwed into place using an appropriate bolt and nut (with flange type). Adapters incorporating an integrated fixing flange will require additional space between each cut-out, and the maximum density per RU may be reduced.

### FEATURES

- Premium one-piece body design
- Up to 3,456 fibers per 1RU (Rack Unit)
- Accepts SN®-MT16 standard and junior connectors
- Integrated port shutters
- Supports 800G VSFF connectivity
- Telcordia, ANSI, TIA and IEC compliant
- Identification marking for fast and simple connector alignment

### APPLICATIONS

- High-density patch panels
- Backbone trunks
- Base-16 transition modules
- Spine/leaf architectures
- High-density cross-connects
- Switch replication
- Opto-electronic equipment

### KEY BENEFITS

- **Up to 3,456f per 1RU**
- **Optimum Panel Packing Density**





## Mechanical Data

| Mechanical Data | Value |
|---|---|
| Durability | 50 matings per GR-1435-Core |
| 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 | Plastic *(alignment achieved with male/female connectors)* |
| Dust Protection Method | Integrated shutter |

## Optical Data

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

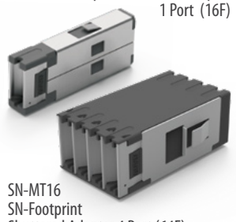
** Based on master grade jumper to low loss random mating test*

## 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

SN-MT16
SN-Footprint Shuttered Adapter
1 Port (16F)



SN-MT16
SN-Footprint
Shuttered Adapter 4 Port (64F)

| SN FOOTPRINT TYPE | | FLANGE | | HOUSING COLOR | |
|---|---|---|---|---|---|
| **65A-XXX-XX-X** | SN-MT16, 1 Port (16F) Shuttered Adapter | **1** | With Flange | **X** | Black (Multimode) |
| **65B-XXX-XX-X** | SN-MT16, 4 Port (64F) Shuttered Adapter | **2** | Without Flange | **X** | Black (Multimode) |

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

**Contact SENKO**

SENKO®
Advanced Components

# SN® Maintenance

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

SENKO® Advanced Components



# SN® Click Cleaners for In-Adapter and Mated

## One Click
### Duplex SN

The ONE-CLICK DUPLEX SN tool effectively cleans residue and dust-based contamination from fiber optic end-faces. The dual cleaning tips clean both end faces of the SN connector simultaneously.

*ORDERING*

| SN CLEANING | |
|---|---|
| **SCK-DC-SN** | ONE-CLICK DUPLEX SN<br>1000 end faces *(500 connectors)* |

## Smart Cleaner™
### Mini 1.25mm

The SMART CLEANER MINI 1.25MM tool (SCK-SS-M-C125) 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<br>Tight Spaces Cleaning *(500 connectors)* |

# SN® Cassette Cleaners for Un-Mated

## Smart Cleaner™
### 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<br>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*

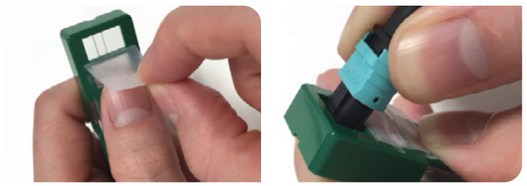
| ORDERING | |
|---|---|
| **CRE-01** | OPTIPOP R Single Slot Unpinned MT and Single Fiber *Refill CRC-RS-01)* |
| **CRC-RS-01** | Refill for 800 duplex connector end end faces |

SENKO®
Advanced Components



# Cleaning Consumables and Sticks

## OPTRES Gel Cleaner

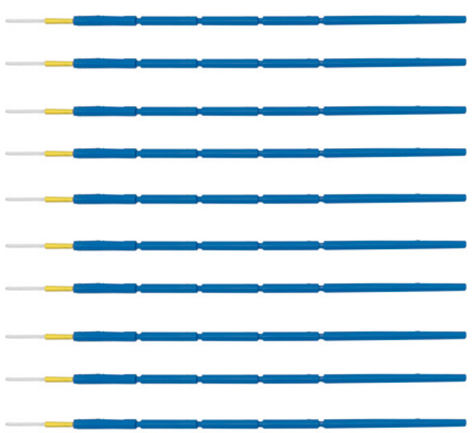


The OPTRES Gel Cleaning Pad by Tomoegawa uses optical-grade cleaning gel. The cleaning process is as simple as pulling back the cover and touching the end face of the connector onto the gel. The OPTRES Gel Cleaning Pad's compact size makes it ideal for use with test equipment and network installation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

ORDERING

| SN CLEANING | |
|---|---|
| **SCK-PT-MPO-01** | OPTRES GEL Cleaning Pad with 10 windows |

## NEOCLEAN Stick
1.25 MM



The 1.25MM NEOCLEAN effectively cleans residue and dust-based contamination from fiber optic end-faces. Its fabric cleaning tip enables cleaning without the need for solvents. The notched handle is customizable for working in tight spaces.

ORDERING

| ORDERING | |
|---|---|
| **CSK-01** | 1.25 MM NEOCLEAN Stick |

**Note:** Sticks are sold individually in increments of 10



# Cleaning Consumables and Sticks

## 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.

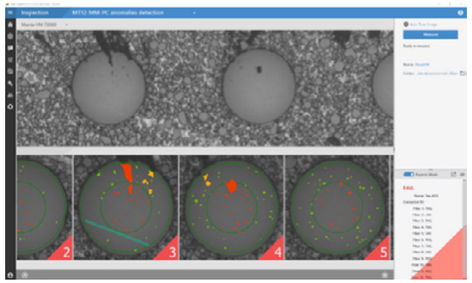
ORDERING

| 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. 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.

### 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

| ACCESSORIES | |
|---|---|
| **SMX-Manta-W+** | SUMIX Manta Benchtop Inspection Scope |
| **SMX-Manta-W+** | SUMIX Manta with Benchtop Holder |

| ACCESSORIES | |
|---|---|
| **SMX-T-1.25/PC-M** | Un-mated Inspection Tip for SN Connectors |
| **MNT-W-MPO-PC-M-V2-L** | Un-mated Inspection Tip for SN Connectors |
| **MNT-SN-PC-F-A** | In-Adapter Inspection Tip for SN Connectors |



# Verify End Face Surface Quality

## Smart Probe II WiFi Inspection Scope


The SMART PROBE 2 WIFI inspection scope helps users to verify the end face surface quality of fiber optic connectors across the network. The VUE3 inspection and reporting software is easy to use and provides reliable and accurate measurements on the surface of the end face to the pass-fail criteria of IEC 61300-3-35 Ed 2.

### ORDERING

| ORDERING | |
|---|---|
| **SCK-VM3000-01** | SMART PROBE WiFi Inspection Scope |

| ACCESSORIES | |
|---|---|
| **SCK-SPT2-PC125-M** | Un-mated Inspection Tip for SN UPC Connectors |
| **SCK-SPT2-APC125-M** | Un-mated Inspection Tip for SN APC Connectors |
| **SCK-SPT2-SN-UPC-F** | In-Adapter Inspection Tip for SN UPC Connectors |

## 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 0.75µm on the end face of ferrule.

### ORDERING

| ORDERING | |
|---|---|
| **MAX-Quantum** | SUMIX Manta Quantum Interferometer |

SENKO®
Advanced Components



# SN® Tools Make the Job Easier

## SN Insert-Extract Tool


Insert and extract SN® assemblies into tight spaces. A spring grip securely holds onto the SN assembly's push-pull boot. The ergonomic design of the handles make it comfortable to use by both left or right handed operators.

*ORDERING*

| SN CLEANING | |
|---|---|
| **RMT-203** | Insert-Extract Tool |




## SN Crimp Tool

The SN® Crimp Tool is designed to allow users to crimp SN connectors during the factory assembly process.

*ORDERING*

| ACCESSORIES | |
|---|---|
| **CRT-201** | SN Crimp Tool |
| **CRT-202** | SN EZ-Flip Crimp Tool |



# SN® Cleaning Product Comparison

## Smart Checker™ Visual Fault Locator (VFL)


The Visual Fault Locator (VFL) is an effective tool for verifying the polarity of fiber optic cable assemblies and sliced fibers, locating broken fibers and for identifying micro and macro bending points with optic assemblies.

*ORDERING*

| ACCESSORIES | |
|---|---|
| **AFT-G-FC** | Visual Fault Locator 1.25mm Adapter |


## APC Ferrule Alignment Tool

The APC ferrule alignment tool allows technicians to align the APC ferrules after the connector polishing process. The gel material is non-toxic and non-flammable.

*ORDERING*

| SN CLEANING | |
|---|---|
| **TL-611-APC-1 APC** | APC Ferrule Alignment Tool |

SENKO®
Advanced Components

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

**senko.com/contact**