

## PRODUCTPROFILE

**Catalogue number: 092A0011G657A1**

Partnumber: 777953

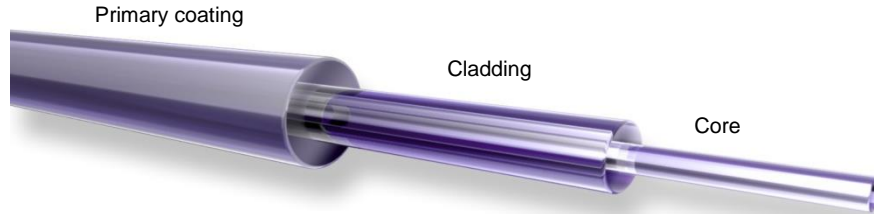
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Fiber optic duplex patchcord  
Connector side A: MDC Senior SM  
Connector side B: LC-COMPACT Push Pull Boot  
SM  
9/125µm, 1.6mm, yellow  
Polarity: crossed A to B  
Cable I-F(ZN)H2E9/125µm,G657A1



**Related documents:**

DS_FASER G657A1_OE	Fiber Data Sheet
DS_I-FZNH16_2X250_L_OE	Kabeldatenblatt
DS_LC_COMPACT_PPBNB_STECKER_C	Steckerdatenblatt
DS_MDC_SENIOR_STECKER_OE	Steckerdatenblatt



**Standards**

Stepped index fiber 9/125µm according to  
 -ISO/IEC 11801 und EN 50173-1 OS2  
 -IEC 60793-2-50 type B1.3  
 -ITU G.657.A1 und G.652.D

**Structure**

Silica fiber with two layer acrylate primary coating

**Geometrical properties**

Modefield diameter @1310 nm	9.2 µm +/- 0.4 µm
Modefield diameter @1550 nm	10.4 µm +/- 0.5 µm
Cladding diameter	125 µm +/- 0.07 µm
Cladding non-circularity	≤ 0.7 %
Core-Cladding concentricity	≤ 0.5 µm
Primary coating diameter	242 µm +/- 5 µm
Coating-Cladding concentricity	< 12 µm

**Mechanical properties**

Break strength SCREEN-Test 1 % strain for 1 s @100 kpsi

**Thermal properties**

Operating temperature range -60 to +85°C

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**Transmission characteristics**

Attenuation:

Cabled fiber tight buffered: @ 1310 nm max. 0.38 dB/km  
@ 1550 nm max. 0.28 dB/km

Cabled fiber loose tube: @ 1310 nm max. 0.36 dB/km  
@ 1550 nm max. 0.22 dB/km

Uncabled fiber: @ 1310 nm max. 0.32 dB/km  
@ 1383 nm max. 0.32 dB/km  
@ 1490 nm max. 0.21 dB/km  
@ 1550 nm max. 0.18 dB/km  
@ 1625 nm max. 0.20 dB/km

Macrobending, induced attenuation, uncabled fiber:

Radius 10 mm, 1 turn, @ 1550 nm ≤ 0.50 dB  
Radius 10 mm, 1 turn, @ 1625 nm ≤ 1.50 dB  
Radius 15 mm, 10 turns, @ 1550 nm . 0.05 dB  
Radius 15 mm, 10 turns, @ 1625 nm ≤ 0.30 dB  
Radius 25 mm, 100 turns, @ 1310, 1550 und 1625 nm ≤ 0.01 dB

Dispersion:

@ 1285 - 1330 nm ≤ 3.0 ps/(nm\*km)  
@ 1550 nm ≤ 18.0 ps/(nm\*km)  
@ 1625 nm ≤ 22.0 ps/(nm\*km)

Polarization Mode Dispersion (PMD):

PMD Link Design Value ≤ 0.04 ps/√km  
Maximum individual fiber PMD ≤ 0.1 ps/√km

Cut-off-Wavelength: ≤ 1260 nm

Effective group index of refraction:

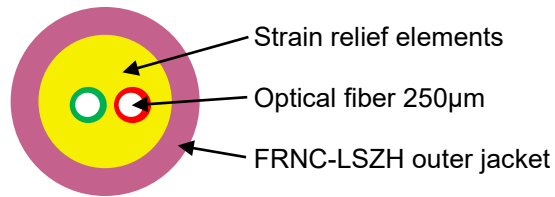
@ 1310 nm 1.4676  
@ 1550 nm 1.4682

Backscatter attenuation @ 1ns pulse width:

@ 1310 nm -77 dB  
@ 1550 nm -82 dB  
@ 1625 nm -83 dB

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Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
H. Jungbäck	12-04-15	P. Maier	12-04-15	001	without	H. Jungbäck	12-04-15



**Standards**

-IEC 60794-2

**Structure**

**Cable:**

-2 optical fibers 250µm within the cable jacket filled with Aramid strain relief elements  
 -fiber color code: One fiber red, the other fiber at singlemode yellow, at 50µm multimode green

**Outer jacket:**

-FRNC-LSZH flame-retardant and halogen-free material

-Standard jacket colors:

- Singlemode: yellow
- Multimode OM2: orange or green
- Multimode OM3: aqua (turquoise)
- Multimode OM4: violet
- Multimode OM5: fibrous green

-Wall thickness 0.3 mm

-Inkjet marking black acc. to separate drawing

**Geometrical properties**

Number of fibers	Outer diameter [mm]	Weight [kg/km]	Fire load [MJ/m]
2	1.6	2.9	0.07

**Mechanical properties**

- Min. bending radius fixed (static):
  - with G.657.A1 singlemode fiber 10 mm
  - with bend-insensitive OM3, OM4 and OM5 fiber 7.5 mm
- Min. bending radius during installation (dynamic):
  - with G.657.A1 singlemode fiber 30 mm
  - with bend-insensitive OM3, OM4 and OM5 fiber 25 mm
- Max. tensile force short term = 200 N
- Max. crush resistance long term = 150 N/dm
- Kink resistance: Equivalent loop diameter = 7.8 mm

**Thermal properties**

- Transport and storage - 25°C to + 70°C
- Installation - 5°C to + 50°C
- In use - 5°C to + 70°C

**Chemical properties**

- No resistance to oil, petrol, acid, leach and water

**Fire performance**

- Flame-retardant acc. to IEC 60332-1-2 and IEC 60332-3-22 Cat. A
- Smoke density acc. to IEC 61034
- Halogen-free acc. to IEC 60754-1
- Acidity of the combustion gases acc. to IEC 60754-2

**Transmission characteristics**

- See fiber data sheets

**Applications**

- Indoor cable particularly appropriate for short MDC Patchcords

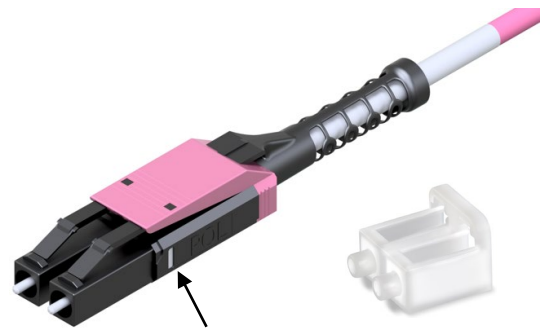
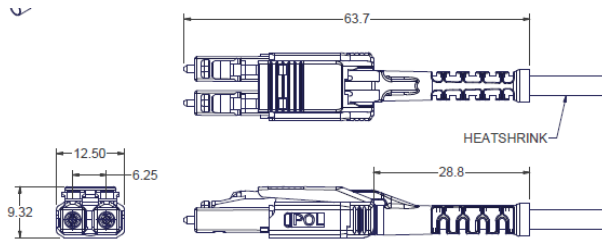
**Deliveryform**

- On one-way drums

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H. Jungbäck	2022-10-12	R. Mees	2022-10-12	001	without		

LC-COMPACT Push-Pull-Boot Connector Next Generation



Delivery status of polarity window POL:  
 - at this connector side (B) = white  
 - at the opposite connector side (A) = black

Properties and applications

- LC-Duplex Push-Pull connector with compact and rugged backshell with central strain relief and push-pull-boot, with which the connector can be plugged and un-plugged
- A/B polarity easy and secure, toolless changeable
- For HIGH-DENSITY (HD) and ULTRA-HIGH-DENSITY (UHD) applications required
- Translucence duplex protection cap, fast and secure to handle and permeable for the light of laser pointers (visual fault locators)

Standards

LC-Duplex acc. to IEC/DINEN 61754-20 and EIA/TIA 604-10

Material

- Ferrule: Zirconia ceramic, Ø 1.25 mm
- Body: PA, PBT and PTFE, flammability UL94-V0
- Push-Pull-Boot: PP, flammability UL94-V0
- Protection cap: TPE, flammability UL94-HB

Optical properties

The quality feature of the connector at your product is identified by the part number:

- BASIC: Part numbers like XXXAXXXX
- PURE: Part numbers with "P" at their end, XXXAXXXXP

Details about PURE see Produktinfo\_Qualitätsmerkmal-PURE\_od

Insertion Loss IL acc. to IEC61300-3-4, Method B, against reference, maximum [dB]:

	Quality feature	BASIC	PURE
- Singlemode SM, 9/125µm		0.30	0.20
- Multimode OM1, 62.5/125µm		0.30	---
- Multimode low IL OM2, OM3, OM4, OM5, 50/125µm		0.15	0.15

Insertion Loss IL „random mated“ acc. to IEC61300-3-34, Method 2, [dB]:

Quality feature	BASIC	mean value	maximum
- Singlemode SM, 9/125µm		0.13	0.50
- Multimode low IL OM2, OM3, OM4, OM5, 50/125µm		0.03	0.27

Insertion Loss IL quality feature PURE "random mated" application limit value, maximum [dB]:

- Singlemode SM, 9/125µm	97%	0.25
- Multimode low IL OM2, OM3, OM4, OM5, 50/125µm	100%	0.40

**GHMT PVP certificate**  
 No.: c6997X-XX  
 No.: c6998X-XX



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LC-COMPACT Push-Pull-Boot Connector Next Generation

**Optical properties**

Return Loss RL acc. to IEC61300-3-6, Method 1, against reference, minimum [dB]:

	Quality feature	BASIC	PURE
- Singlemode SM, 9/125µm, PC 0°		45	45
- Singlemode SM, 9/125µm, UPC 0°		55	55
- Singlemode SM, 9/125µm, APC 8°		65	70
- Multimode all classes		35	40

**Mechanical properties**

- Mating cycles	min. 500, IL increase < 0.2 dB
- Strain relief	max. 100 N, dependent on cable type

**Thermal properties**

- Operation temperature range	-40°C to +85°C, dependent on cable type
- Storage temperature range	-40°C to +85°C

**Cable diameters**

Round cable types	Ø 2.0 to 3.0 mm
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**Colors**

Connector body / boot:

- Singlemode SM, 9/125µm, PC and UPC 0°	black and blue / black
- Singlemode SM, 9/125µm, APC 8°	black and green / black
- Multimode OM3, 50/125µm	black and aqua / black
- Multimode OM4, 50/125µm	black and violet / black

**Polarity change**

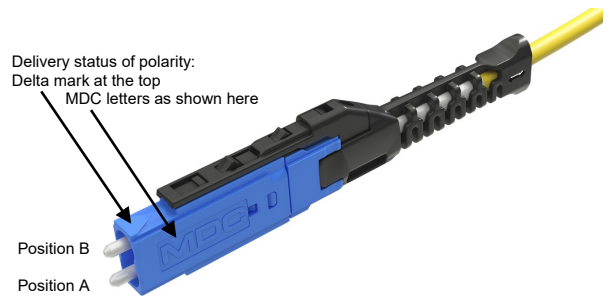
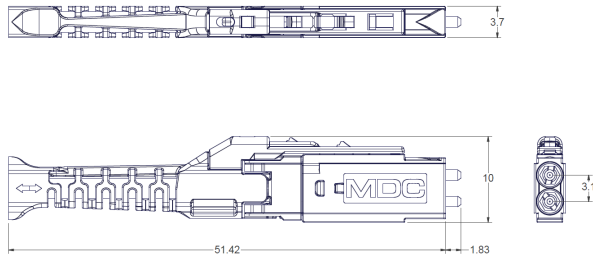
See our video



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Gezeichnet	Datum	Freigegeben	Datum	Rev.	Änderungsnummer	Name	Datum
H. Jungbäck	2022-01-20	R. Mees	2022-01-20	003	---	H. Jungbäck	2022-10-07

MDC Senior connector



Properties and applications

- MDC (Miniature Duplex Connector) of category Very-Small-Form-Faktor (VSFF) connector, Senior type
- Even of its miniature design the connector has a rugged housing with central strain relief and push-pull-boot, with which the connector can be plugged and un-plugged
- A/B polarity easy and secure, toolless changeable
- To attach transceivers with MDC interface and for MEGA-HIGH-DENSITY (MHD) infrastructure cabling

Standards

IEC 61754-37

Material

- Ferrule: Zirconia ceramic, Ø 1.25 mm
- Body: PEI, flammability UL94-V0
- Push-Pull-Boot: PP, flammability UL94-V0
- Protection cap: PC, flammability UL94-V0

Optical properties

The quality feature of the connector at your product is identified by the part number:

- BASIC: Part numbers like XXXAXXXX
- PURE: Part numbers with "P" at their end, XXXAXXXXP

Details about PURE see Produktinfo\_Qualitätsmerkmal-PURE\_od

Insertion Loss IL acc. to IEC61300-3-4, Method B, against reference, maximum [dB]:

	Quality feature	BASIC	PURE
- Singlemode SM, 9/125µm		0.30	0.20
- Multimode OM1, 62.5/125µm		0.30	---
- Multimode low IL OM2, OM3, OM4, OM5, 50/125µm		0.15	0.15

Insertion Loss IL „random mated“ acc. to IEC61300-3-34, Method 2, [dB]:

Quality feature	BASIC	mean value	maximum
- Singlemode SM, 9/125µm	0.13		0.50
- Multimode low IL OM2, OM3, OM4, OM5, 50/125µm	0.03		0.27

Insertion Loss IL quality feature PURE “random mated” application limit value, maximum [dB]:

- Singlemode SM, 9/125µm	97%	0.25
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MDC Senior connector

Optical properties

Return Loss RL acc. to IEC61300-3-6, Method 1, against reference, minimum [dB]:

	Quality feature	BASIC	PURE
- Singlemode SM, 9/125µm, PC 0°		45	45
- Singlemode SM, 9/125µm, UPC 0°		55	55
- Singlemode SM, 9/125µm, APC 8°		65	70
- Multimode all classes		35	40

Mechanical properties

- Mating cycles min. 500, IL increase < 0.2 dB
- Strain relief max. 70 N, dependent on cable type

Thermal properties

- Operation temperature range -40°C to +85°C, dependent on cable type
- Storage temperature range -40°C to +85°C

Cable diameters

- Round cable types Ø 1.2 to 2.0 mm

Colors

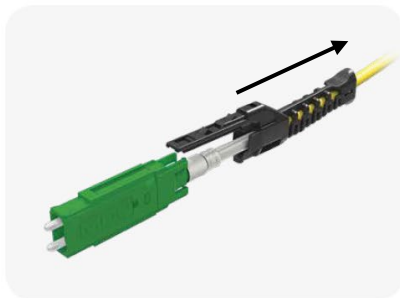
Connector body / boot:

- Singlemode SM, 9/125µm, PC and UPC 0° blue / black
- Singlemode SM, 9/125µm, APC 8° green / black
- Multimode OM4, 50/125µm violet / black

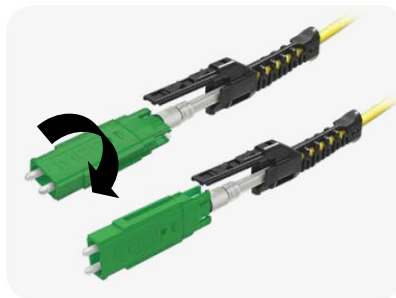
Polarity change

Source USCONEC Ltd. [www.usconec.com](http://www.usconec.com)

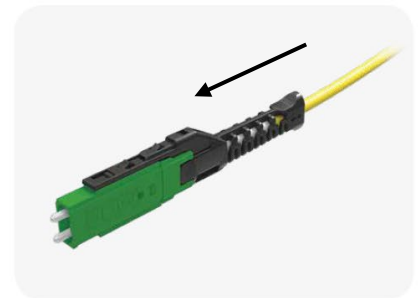
Pull of the push-pull-boot



rotate 180°



push on the push-pull-boot



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H. Jungbäck	2021-02-02	A. Burggraf	2021-02-02	003	----	H. Jungbäck	2022-10-07

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