

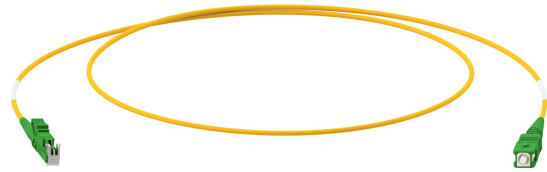
## PRODUCTPROFILE

**Catalogue number: 069A4013G657A1**

Partnumber: 20102012

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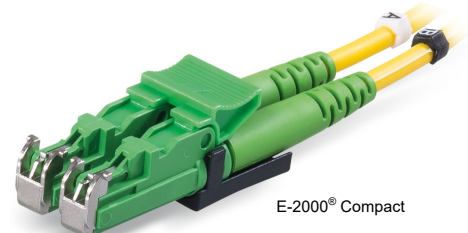
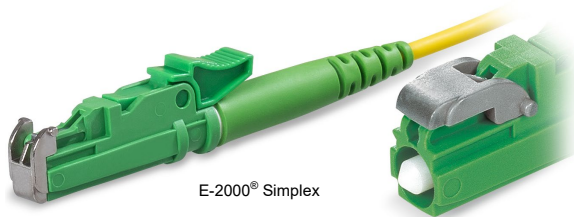
Fiber optic simplex patchcord  
Connector side A: E2000HRL Simplex ceramic  
Connector side B: SC-Simplex APC 8 degree  
2.8mm, yellow  
Cable I-V(ZN)H1x2,8E9/125µm,G657A1



**Related documents:**

DS_E2000HRL_STECKER_R_SM_OE	Steckerdatenblatt
DS_FASER G657A1_OE	Fiber Data Sheet
DS_I-VZNH1X28STB900_L_OE	Cable Data Sheet
DS_SC_STECKER_OE	Steckerdatenblatt

E-2000® HRL (APC 8°) connector



E-2000® is a registered trademark of DIAMOND SA

**Properties and applications**

- Our E-2000® HRL is a singlemode APC 8° fiber optic connector with solid-ceramic ferrule for all singlemode applications with high requirements on optical transmission quality and protection of the connector ferrule, e.g. LAN backbone, metropolitan (MAN) fiber optic networks, FTTx and industrial applications.
- Through its precision ferrule and its tuning with excentricity limit according to DINEN 61755-3-2 grade B specification, our E-2000® HRL reaches low insertion loss IL and high return loss RL values at „each-to-each“ (random-mated) connections.
- With automatically closing metal shutter for protection against laser light and contamination of the connector ferrule, protection class IP40

**Standards**

IEC 61754-15 (LSH), tuning with excentricity limit according to DINEN 61755-3-2 grade B specification

**Material**

- Ferrule: Zirconia ceramic, Ø 2.50 mm
- Connector body: PBT, flammability UL94-V0
- Boot: TPR, flammability UL94-V0
- Protection shutter: Metal, not flammable

**Optical properties**

- Insertion Loss IL acc. to IEC61300-3-4, Method B, against reference, maximum [dB]: 0.25
- Insertion Loss IL „random mated“ acc. to IEC61300-3-34, Method 2, [dB]: Mean 0.12 / Maximum 0.28
- Return Loss RL acc. to IEC61300-3-6, Method 1, against reference, minimum [dB]: 70

**Mechanical properties**

- Mating cycles: min. 1000, 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 0.9 to 3.0 mm

**Colors**

- Connector body: Green
- Boot: Green
- Protection shutter: Silver

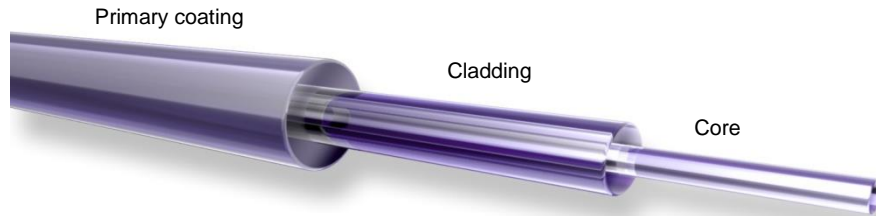
**GHMT PVP certificate  
No.: c5803X-XX**



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Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
H. Jungbäck	2022-11-21	M. Komarow	2022-11-21	009		---	---



**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

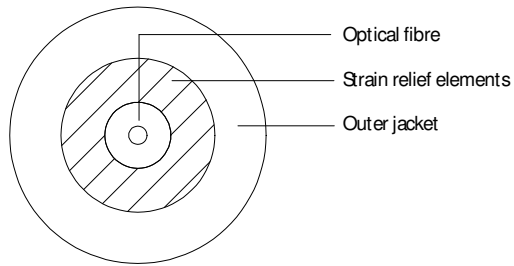
Backscatter attenuation @ 1ns pulse width:

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

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H. Jungbäck	12-04-15	P. Maier	12-04-15	001	without	H. Jungbäck	12-04-15

Fiber Optic Cable  
I-V(ZN)H 1x 2.8mm... STB900



**Standards**

IEC 60794-2

**Structure**

**Cable core** STB900 = Semi tight buffered optical fibre, gel-filled, outer diameter 900 µm  
colour: yellow (E9/125), green (G50/125), blue (G62.5/125)  
Strain relief elements (aramid)

**Outer jacket:** Halogen-free and flame-retardant material, approx. 0.5 mm wall,  
Standard colours: Singlemode: yellow  
Multimode 50 µm: orange or green  
Multimode OM3: aqua (turquoise)  
Multimode 62,5 µm: orange  
Multimode OM4: violet

Other colours on request  
Outer diameter 2.8 mm  
Marking see separate drawing

**Mechanical properties**

<b>Min. bending radius</b>	static	30mm
	dynamic	60mm
<b>Min. bending radius with G657A</b>	static	15mm
	dynamic	30mm
<b>Max. pull force</b>		400 N
<b>Max. crush resistance long term</b>		150 N/dm
<b>Weight</b>		7.9 kg/km approx.

**Thermal properties**

<b>Transport and storage</b>	- 25°C to + 70°C
<b>Installation</b>	- 5°C to + 50°C
<b>In use</b>	- 10°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
- Fire Load 0.18 MJ/m

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**Fiber Optic Cable**  
I-V(ZN)H 1x 2.8mm... STB900

**Transmission characteristics**

See fiber data sheets

**Applications**

**Indoor cable for the installation in cable ducts and in tubes and also suitable for interconnections  
For direct connector assembly**

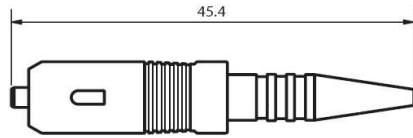
**Deliveryform**

**Disposable drums**

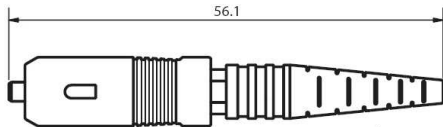
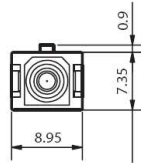
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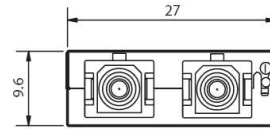
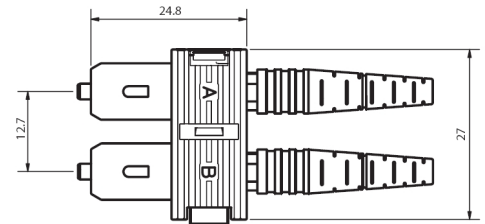
Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
H. Jungbäck	02.09.2005	DE	13.07.2015	004	without	Y. Zhang	22.06.2017



SC-simplex, buffered fiber



SC-simplex, cable



SC-duplex

All dimensions are in mm; tolerances acc. ISO 2768 m-H

**Properties**

Standard SC connectors for applications in telecommunications, data center, cabling and LAN, connections to active components.

**Interface**

SC, acc. to IEC 61754-4

**Material for connectors**

Ferrule : Zirconia ceramic, Ø 2.5 mm  
 Body : Plastics  
 Boot : Plastics

**Optical data**

	Typical	max.
Insertion Loss : S/M	0.20 dB	0.40 dB
M/M	0.20 dB	0.40 dB
Return Loss : S/M	≥45 dB(PC), ≥55 dB(UPC), ≥65 dB(APC)	
M/M	≥30 dB	

**Mechanical data**

Mating cycle ≥ 1000  
 Strain relief 100 N(dependent on the cable type)

**Environmental data**

Operation temperature range -40°C to +85°C  
 Storage temperature range -40°C to +85°C

**Suitable cables**

Cable Types : Ø 0.9 ~ 3.5 mm

**Packaging**

Standard Packaging.

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Connector Part	Part No
<b>Connector Body</b>	
Singlemode, PC, blue	98 SCS 120-101
Singlemode, APC, green	98 SCS 110-101
Multimode, 50 µm, black	98 SCS 130-101
Multimode, 62.5 µm, beige	98 SCS 130-102
<b>Duplex clip, black</b>	98 ZD 02-0BK
<b>Crimp sleeve</b>	
for Ø 2.1	98 ZC 05-000
for Ø 2.8-3.5	98 ZC 04-000
<b>Boot, Ø 0.9 mm buffered fiber</b>	
blue	98 ZB 06-0BU
green	98 ZB 06-0GN
black	98 ZB 06-0BK
yellow	98 ZB 06-0YE
red	98 ZB 06-0RD
<b>Boot, Ø 2.1 mm cable</b>	
blue	98 ZB 05-0BU
green	98 ZB 05-0GN
black	98 ZB 05-0BK
yellow	98 ZB 05-0YE
red	98 ZB 05-0RD
<b>Boot, Ø 2.8-3.5 mm cable</b>	
blue	98 ZB 04-0BU
green	98 ZB 04-0GN
black	98 ZB 04-0BK
yellow	98 ZB 04-0YE
red	98 ZB 04-0RD



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Y.Zhang	29.03.2017	H.Jungbäck	29.03.2017	002	---	Y.Zhang	29.03.2017