

PRODUCTPROFILE

Catalogue number: 087A20780M4

Partnumber: 745716

Fiber optic duplex patchcord
Connector side A: LC-Duplex MM
Connector side B: SC-Duplex
50/125µmOM4, Zipcord 2x2.8mm, violet
Polarity: crossed A to B
Cable I-V(ZN)H2x2,8G50/125µm,OM4



Related documents:

DS_FASER OM4BI_OE

DS_I-VZNH2X28_900_L_OE

DS_LC_STECKER_OE

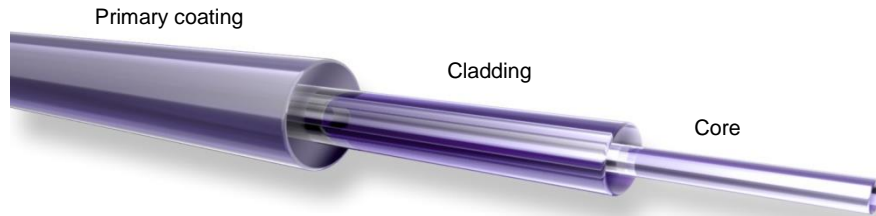
DS_SC_STECKER_OE

Fiber Data Sheet

Cable Data Sheet

Connector Data Sheet

Steckerdatenblatt



Standards

Graded index fiber 50/125µm according to
 -ISO/IEC 11801 und EN 50173-1 OM4
 -IEC 60793-2-10 type A1a.3
 -ITU G.651.1
 -TIA/EIA 492AAAD

Structure

Silica fiber with two layer acrylate primary coating

Geometrical properties

Core diameter	50 µm +/- 2.5 µm
Cladding diameter	125 µm +/- 1 µm
Core non-concentricity	< 5 %
Cladding non-circularity	< 1 %
Core-Cladding concentricity	< 1.5 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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Optical fiber OM4
bend insensitive

059A0381OM4BI

Transmission characteristics

Attenuation:

@ 850 nm max. 2.3 dB/km
@ 1300 nm max. 0.6 dB/km

Macrobending, induced attenuation:

100 turns, 37.5 mm \leq 0.05 dB @ 850 nm
100 turns, 37.5 mm \leq 0.15 dB @ 1300 nm
2 turns, 15 mm \leq 0.1 dB @ 850 nm
2 turns, 15 mm \leq 0.3 dB @ 1300 nm
2 turns, 7.5 mm \leq 0.2 dB @ 850 nm
2 turns, 7.5 mm \leq 0.5 dB @ 1300 nm

Bandwidth (Overfilled launch):

@ 850 nm min. 3500 MHz x km
@ 1300 nm min. 500 MHz x km

Effective modal Bandwidth-length-product (EMB):

@ 850 nm min. 4700 MHz x km

Numerical aperture: 0.200 +/- 0.015

Effective group index of refraction:

@ 850 nm 1.480
@ 1300 nm 1.479

Backscatter attenuation @ 1ns pulse width:

@ 850 nm -68 dB
@ 1300 nm -76 dB

Maximum possible transmission channels lengths:

Ethernet:

1 GBE 100GBASE-SX: min. 1100 m @ max. 3.56 dB channel attenuation ¹⁾
10 GBE 10GBASE-SR: min. 550 m @ max. 2.60 dB channel attenuation ¹⁾
40 GBE 40GBASE-SR4: min. 170 m @ max. 1.50 dB channel attenuation ¹⁾
100 GBE 100GBASE-SR10: min. 170 m @ max. 1.50 dB channel attenuation ¹⁾

Fibre Channel:

8 GFC (800-SN): min. 245 m @ max. 1.76 dB channel attenuation ¹⁾
16 GFC (1600-SN): min. 165 m @ max. 1.51 dB channel attenuation ¹⁾

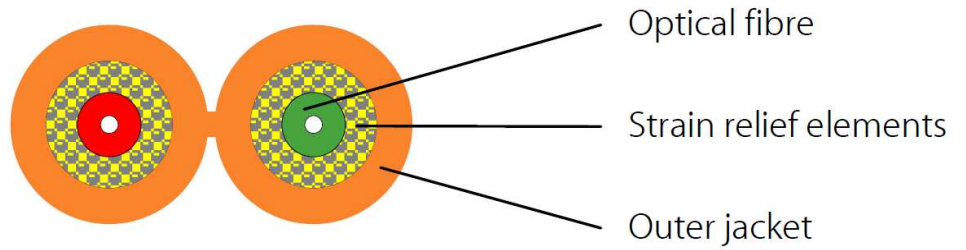
¹⁾ Inclusive max. 1.0 dB for connections (connectors and splices)

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Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
H. Jungbäck	26-10-15	P. Maier	26-10-15	004	without	H. Jungbäck	26-10-15

Fiber Optic Cable
I-V(ZN)H 2x 2.8mm... 900µm

033AXXXX



Standards

IEC 60794-2

Structure

Cable core:
buffered optical fiber, outer diameter 0.9 mm
colour: red, other core yellow (E9/125), green (G50/125), blue (G62.5/125)
Strain relief elements (aramid)

Outer jacket:
Halogen-free and flame-retardant material (FRNC)
Standard colours:

Singlemode:	yellow
Multimode 50 µm:	orange or green
Multimode OM3:	aqua (turquoise)
Multimode 62.5 µm:	orange
Multimode OM4:	violet
Wall thickness 0.5 mm	

Inkjet marking black acc. to separate drawing

Geometrical properties

Number of fibers	Outer diameter [mm]	Weight [kg/km]	Fire load [MJ/m]
2	2.8 x 5.7	15.8	0.36

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Mechanical properties

Min. bending radius (over the flat side) only for bending resistant fibers	
static	15mm
dynamic	30mm
Min. bending radius (over the flat side) for cables with standard fibers	
static	30mm
dynamic	60mm
Max. pull force	600 N
Max. crush resistance long term	600 N/dm

Thermal properties

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

Transmission characteristics

See fiber data sheets

Applications

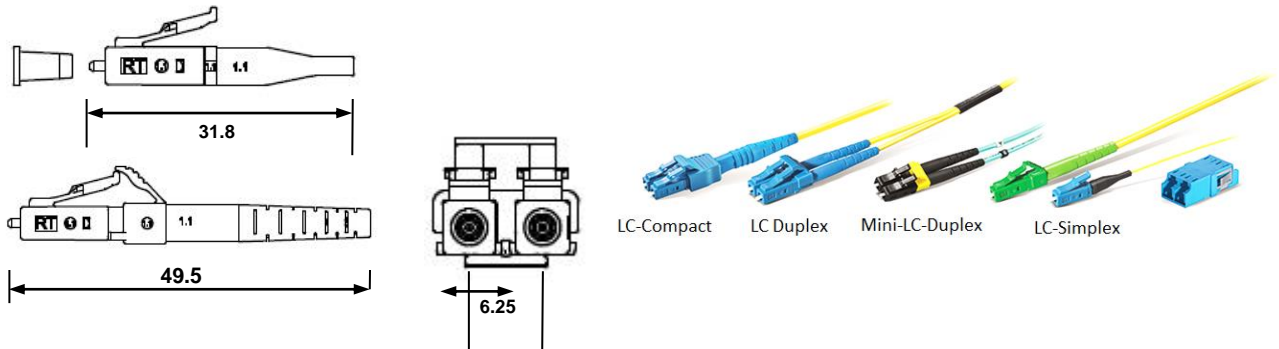
Indoor cable for the installation in cable ducts and in tubes and also suitable for interconnections
For direct connector assembly

Deliveryform

Disposable drums

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Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
P. Maier	02.02.2016	H. Jungbäck	02.02.2016	001	without	Y. Zhang	22.06.2017



Properties

Small-Form-Factor Connector for high-end cabling systems in Telecommunication, data center, LAN as interface for active components.

The surfaces of the connectors in the quality level LOTUS are coated in order to achieve a dust-, grease- and humidity repellent characteristic. In the unlikely case cleaning might be necessary it has to be carried out in a contact-free way by compressed air, only. Abrasive cleaning tools like reel cleaner or click cleaner must not be applied.

Interface

LC, acc. To DIN EN 61754-20

Material for connectors

Ferrule: Zirconia ceramic, 2 x Ø1.25 mm
 Body: Plastics
 Boot: Plastics

Optical data

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

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

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

Quality level BASIC and LOTUS	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 level PURE “random mated” application limit value, maximum [dB]:

- Singlemode SM, 9/125µm	97%	0.25
- Multimode low IL OM2, OM3, OM4, OM5, 50/125µm0,03	100%	0.40

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

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

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Mechanical data

- | | |
|--|--------------------------------------|
| - Mating cycles quality level BASIC and PURE | min. 500, IL increase < 0.2 dB |
| - Mating cycles quality level LOTUS | min. 150, IL increase < 0.2 dB |
| - Strain relief | > 70 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

- | | |
|-------------------|---------------|
| Round Cable Types | Ø0.9 ~ 3.0 mm |
| Hotmelt | Ø4.8 ~ 7.0 mm |

LC Duplex pitch

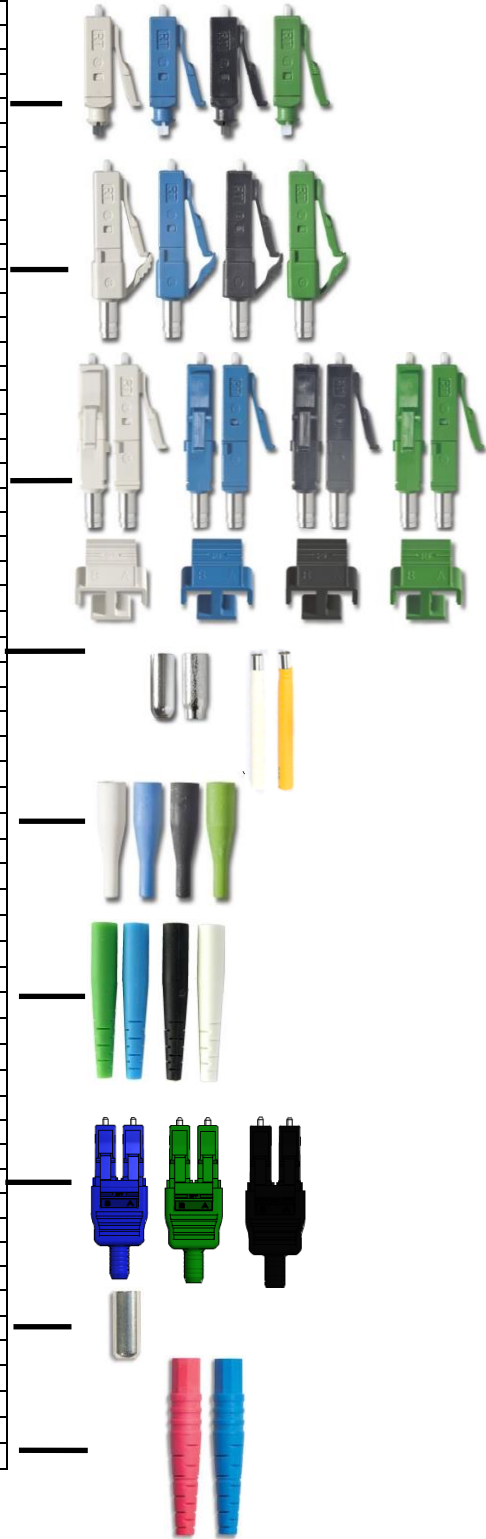
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|--------------------|---------|
| Standard LC Duplex | 6.25 mm |
| Mini LC Duplex | 5.25 mm |

Packaging

Standard Packaging.

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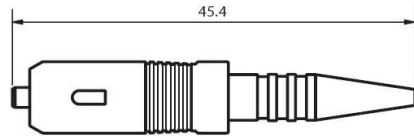
Connector part		Part No.
Connector Body, simplex, buffer Ø 0.9		
Singlemode, PC	blue	98 LCS 120-101
Singlemode, APC	green	98 LCS 110-101
Multimode, 50 µm	black	98 LCS 130-101
Multimode, 50 µm	black, low-loss	98 LCS 130-109
Multimode, 62.5 µm	beige	98 LCS 130-102
Connector Body, simplex, cable		
Singlemode, PC	blue	98 LCS 120-102
Singlemode, APC	green	98 LCS 110-102
Multimode, 50 µm	black	98 LCS 130-103
Multimode, 50 µm	black, low-loss	98 LCS 130-110
Multimode, 62.5 µm	beige	98 LCS 130-104
Connector Body, duplex, with duplex Clip		
Singlemode, PC	blue	98 LCS 120-103
Singlemode, APC	green	98 LCS 110-103
Multimode, 50 µm	black	98 LCS 130-105
Multimode, 50 µm	black, low-loss	98 LCS 130-107
Multimode, 62.5 µm	beige	98 LCS 130-106
Crimp Ring		
Ø 1.6-1.8		98 ZC 13-000
Ø 2.0-2.2		98 ZC 02-000
Ø 2.4-3.0		98 ZC 03-000
Cable Boot		
Ø 0.9 mm	black	98 ZB 01-0BK
Ø 0.9 mm	blue	98 ZB 01-0BU
Ø 0.9 mm	green	98 ZB 01-0GN
Ø 0.9 mm	white	98 ZB 01-0WH
Ø 2.0-2.2 mm	black	98 ZB 02-0BK
Ø 2.0-2.2 mm	blue	98 ZB 02-0BU
Ø 2.0-2.2 mm	green	98 ZB 02-0GN
Ø 2.0-2.2 mm	white	98 ZB 02-0WH
Ø 1.6-1.8mm and 2.4-3.0 mm	black	98 ZB 03-0BK
Ø 1.6-1.8mm and 2.4-3.0 mm	blue	98 ZB 03-0BU
Ø 1.6-1.8mm and 2.4-3.0 mm	green	98 ZB 03-0GN
Ø 1.6-1.8mm and 2.4-3.0 mm	white	98 ZB 03-0WH
Connector Body, compact, LCcp		
Singlemode, PC	blue	98 LCS 120-205
Singlemode, APC	green	98 LCS 110-205
Multimode, 50 µm	black	98 LCS 130-207
Multimode, 50 µm	black, low-loss	98 LCS 130-209
Multimode, 62.5 µm	beige	98 LCS 130-208
Crimp Ring(Compact)		
Ø 2.4-3.0		98 ZC 04-000
Cable Boot(Compact)		
Ø 2.4-3.0 mm	black	98 ZB 04-0BK
Ø 2.4-3.0 mm	blue	98 ZB 04-0BU
Ø 2.4-3.0 mm	green	98 ZB 04-0GN
Ø 2.4-3.0 mm	yellow	98 ZB 04-0YE



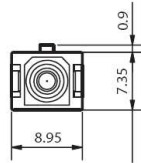
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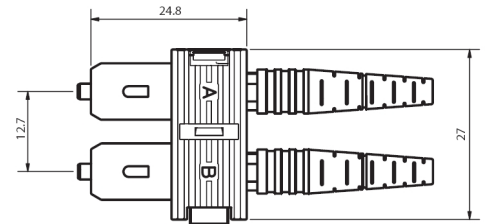
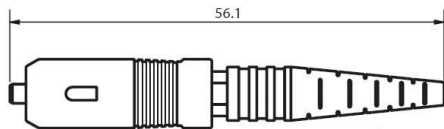
Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
Y. Zhang	07.02.2017	H. Jungbäck	07.02.2017	007		H. Jungbäck	13.05.2019



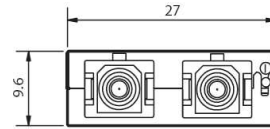
SC-simplex, buffered fiber



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
Connector Body	
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
Duplex clip, black	98 ZD 02-0BK
Crimp sleeve	
for Ø 2.1	98 ZC 05-000
for Ø 2.8-3.5	98 ZC 04-000
Boot, Ø 0.9 mm buffered fiber	
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
Boot, Ø 2.1 mm cable	
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
Boot, Ø 2.8-3.5 mm cable	
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