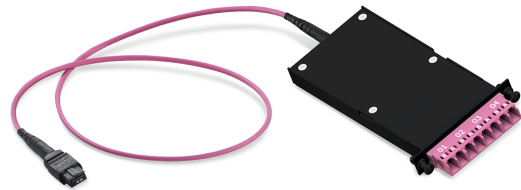


PRODUCTPROFILE

Catalogue number: 170H8000OM4-1000

Partnumber: 779727

SMAP-G2 HD Port-Breakout-Unit
MTP-LC, OCTO 8 fiber OM4, 1/3HU 1/6
Front: 4 LC-Duplex (1xLC8) OM4 violet
Back plane: 1 cable pigtail MTP OCTO female
Length: 1m
Polarity: Rx to Tx
RAL9005 black



Related documents:

DS_FASER OM4BI_OE	Fiber Data Sheet
DS_I-FZNH_L_OE	Cable Data Sheet
DS_LC_SIMPLEXDUPLEX_STECKER_OI	Steckerdatenblatt
DS_LC8_KUPPLUNG_K04_OE	LC8 Kupplung
DS_MTPNX12_STECKER_OE	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⁾

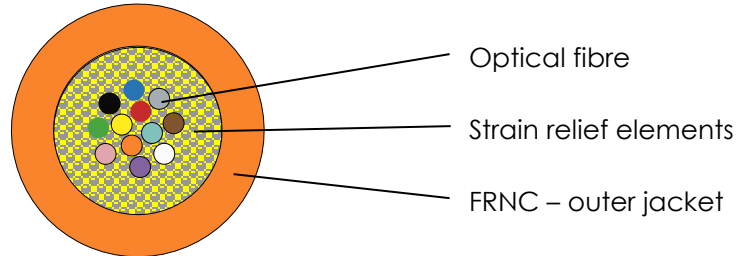
Fibre Channel:

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



Standards

- IEC 60794-2
- EN 50575:2014 +A1:2016 Number of Declaration of Performance:
 - 24 fibers B2ca CDEAL0000098-V1
 - 8, 12, 16 fibers not tested

Structure

- Cable:**
- Up to 24 optical fibers within the cable jacket filled with Aramid strain relief elements
 - Fiber color code 1 to 12: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink
 - Fiber color code 13 to 24: red, green, blue, yellow, white, grey, brown, violet, turquoise, transparent, orange, pink, all with black ring-marking

- 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 see geometrical properties
 - Inkjet marking black acc. to separate drawing

Geometrical properties

Number of fibers	Outer diameter [mm]	Jacket wall thickness [mm]	Weight [kg/km]	Fire load [MJ/m]
8	2,0	0,25	3,8	0,05
8	3.0	0.55	8	0.14
12	3.0	0.55	8	0.14
16	3.0	0.55	8	0.14
24	3.7	0.60	12	0.21

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Mechanical properties

- Min. bending radius fixed (static) acc. IEC 60794-1-2 E11A
15 x outside diameter
- Min. bending radius during installation (dynamic) with additional tensile strain acc. IEC 60794-1-2 E6
20 x outside diameter
- Max. tensile force acc. IEC 60794-1-21 E1 long term = 300 N
- Max. crush resistance acc. IEC 60794-1-21 E3 long term = 200 N/dm

Thermal properties

- Transport and storage - 25°C to + 70°C
- Installation - 5°C to + 50°C
- In use acc. IEC 60794-1-2 F1 - 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 Class according EN 13501-6: 24 fibers B2_{CA}/s1a/d1/a1, 8, 12, 16 fibers not tested

Transmission characteristics

See fiber data sheets

Applications

Indoor cable particularly appropriate for short MTP®/MPO Patchcords and Harnesses

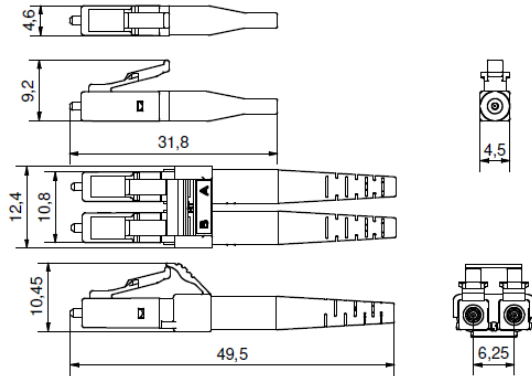
Deliveryform

On one-way drums

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Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
H. Jungbäck	2015-11-02	P. Maier	2015-11-02	004	without	H. Jungbäck	2022-06-15

LC-Simplex/Duplex connector



Properties and applications

- LC-Simplex/Duplex connectors for fiber optic cabling in broadband networks (telecom, MAN, WAN, CATV, GPON, FTTA, FTTx), building cabling (LAN, campus), data center, industry, laboratory and medical technology
- for cables with single core elements 600/900µm (e.g. buffered fiber for pigtails, breakout, mini breakout, figure "0" and figure "8" cables)
- A/B polarity of duplex connectors easily changeable without tools
- Translucence protection cap, fast and secure to handle and permeable for the light of laser pointers (visual fault locators)

Standards

LC-Simplex/Duplex connector according to IEC/DINEN 61754-20 and EIA/TIA 604-10

Material

- Ferrule: Zirconia ceramic, Ø 1.25 mm
- Body: PEI, flammability UL94-V0
- Boot: TPE, flammability UL94-V0
- Protection cap: POM, 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 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]:

Qualitätsmerkmal BASIC	Mittelwert	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.: c5711X-XX
No.: c5937X-XX



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LC-Simplex/Duplex 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 50µ OM classes		35	40

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 bis 3.0 mm
- Hotmelt Duplex Ø 4,8 ~ 7.0mm

Colors

Connector body / boot:

- Singlemode SM, 9/125µm, PC and UPC 0° blue / blue
- Singlemode SM, 9/125µm, APC 8° green / green
- Multimode OM2, OM3, OM4, OM5, 50/125µm black / black

Polarity change

Step 1: Remove duplex clip

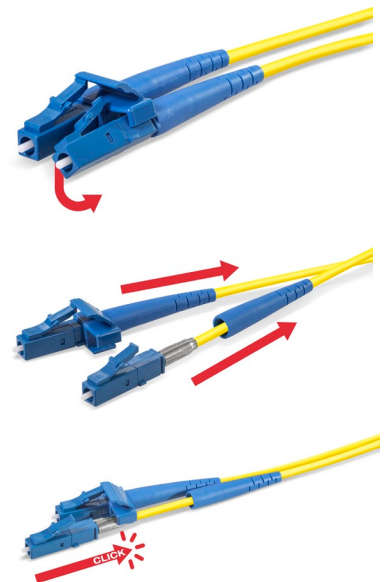
- When changing polarity, the release levers should be facing up as shown in the picture.
- Remove one of two simplex connectors from the duplex clip by pressing down and out, supported by a slight tilt movement.
- Then release the second simplex connector from the duplex clip in a similar manner.

Step 2: Reattach duplex clip

- Push back the boot of both simplex connectors
- Reattach the duplex clip over the simplex connectors that have been changed in position and insert the simplex connectors (a click is noticeable).

Step 3: Final assembly duplex connector

- Slide the boot of both simplex connectors to their original position.

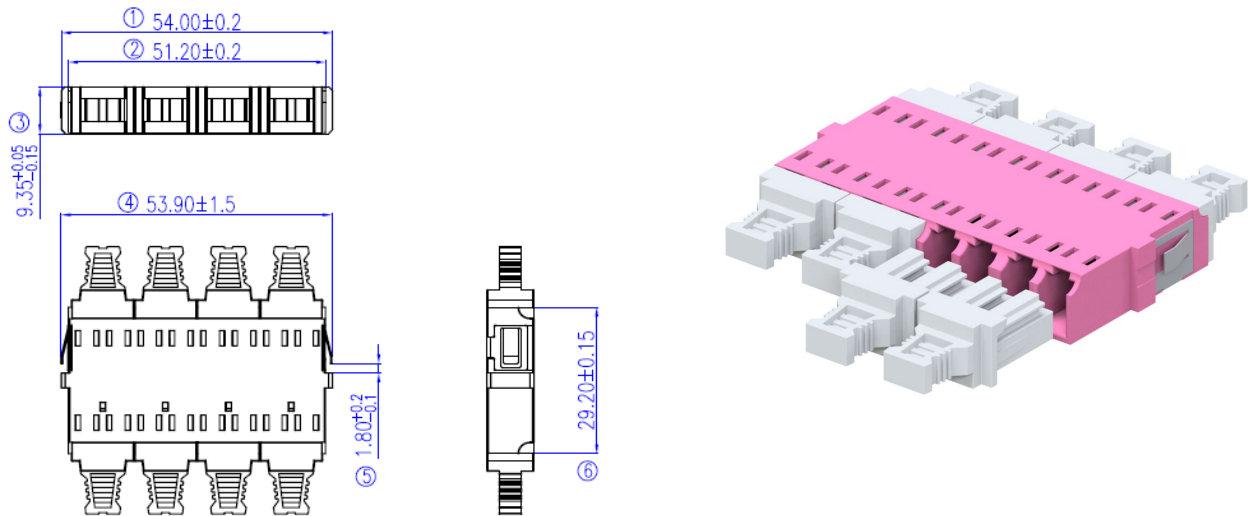


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Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
S. Wiener	16.03.2021	H. Jungbäck	2021-03-16	003		H. Jungbäck	2022-10-07

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LC8 adapter
senior/senior, without flanges



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

Properties and applications

- LC adapter connect LC-Simplex, LC-Duplex and LC-COMPACT connectors
- senior / senior = at both sides maximum long guidance of the LC connectors within the adapter
- One-piece break-proof adapter body
- Screwless mounting by mounting clip
- In particular appropriate for HIGH-DENSITY (HD) and ULTRA-HIGH-DENSITY (UHD) applications
- Translucence duplex protection cap, even at HD and UHD port densities fast and secure to handle and permeable for the light of laser pointers (visual fault locators)

Standards

IEC/EN 61754-20, TIA/EIA 604-10, REACH and RoHS compliant

Material

- C-Sleeve Zirconia ceramic
- Adapter body PEI, flammability UL94 V-0
- Mounting clip Stainless spring steel
- Duplex protection cap PVC, flammability UL94 V-0

Optical data

Insertion loss Change over mating cycles Max. 0.2 dB

Mechanical data

Mating cycles Min. 500

Thermal properties

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

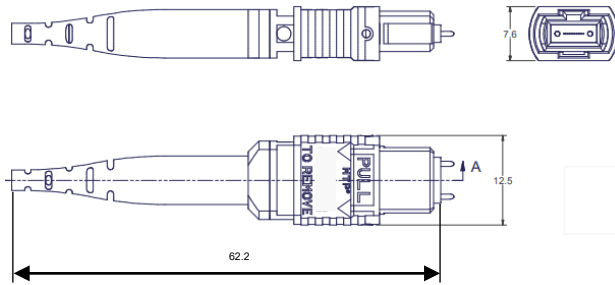
Colors

aqua for OM3 / violet for OM4 / lime green for OM5 / blue for SM-PC 0° / green for SM-APC 8°

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Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
H. Jungbäck	2021-01-25	R. Mees	2021-01-25	001	---	---	---

MTP® (MPO) connector n x 12 fibers



Properties and applications

- MTP® (MPO) multi-fiber connector up to 72 fibers, based on n x 12 fiber MT ferrules, with strain relief and boot for round cable
- Centric coding-key
- Multimode MTP® (MPO) are acc. to world standard PC 0° polished, Singlemode APC 8°
- Polarity and gender can be changed acc. to USCONEC AEN-1405
- 1) With MTP® PRO protection cap, debris-repellent (better than anti-static), non-outgassing, halogen-free

Standards

IEC 61754-7 and EIA/TIA 604-5

Material

- Ferrule: PPS filled with glass particles
- Body: PBT, flammability UL94-V0
- Boot: TPO, flammability UL94-V0
- Protection cap: TPO, 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

Applied USCONEC ferrule qualities:

	Quality features	BASIC	PURE
- Singlemode SM, 9/125µm all numbers of fibers		Standard	Elite
- Multimode OM2, OM3, OM4, OM5, 50/125µm up to 12 fibers		Elite	Elite
- Multimode OM2, OM3, OM4, OM5, 50/125µm larger 12 fibers		Standard	Elite

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

	Quality features	BASIC	PURE
- Singlemode SM, 9/125µm, Standard ferrule		0,40	---
- Singlemode SM, 9/125µm, Elite ferrule		0.35	0.25
- Multimode OM2, OM3, OM4, OM5, 50/125µm, Elite ferrule		0.35	0.25
- Multimode OM2, OM3, OM4, OM5, 50/125µm, Standard ferrule		0.60	---

Insertion Loss IL „random mated“ in application

Multimode OM2, OM3, OM4, OM5, 50/125µm, Elite ferrule [dB]:

- 12 fibers and OCTO 4+4	89% lower 0.25
- 24 fibers	80% lower 0.25

GHMT PVP certificates
 No.: c6955X-XX
 No.: c6956X-XX



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MTP® (MPO) connector n x 12 fibers

Optical properties

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

- Singlemode SM, 9/125µm 0.15
- Multimode OM2, OM3, OM4, OM5, 50/125µm 0.15

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

	Quality feature	BASIC	PURE
- Singlemode SM, 9/125µm, APC 8°		55	70
- Multimode all OM classes, PC 0°		30	30

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 4.5 mm

Colors

Connector body / boot:

- Singlemode SM, 9/125µm, APC 8° green / black
- Multimode OM2, OM3, OM4, OM5, 50/125µm black / black

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Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
Y. Zhang	2017-03-31	H. Jungbäck	2017-03-31	005	---	H. Jungbäck	2022-10-07

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