DataLight

MTP® Trunk & Cable Assemblies

HES Cabling Systems
Connecting Networks™

Description

HCS DataLight MTP® Assemblies series contain a full range of high quality assemblies factory terminated with MTP® connectors. HCS DataLight MTP® Assemblies are available with most fiber types including Singlemode 9/125 microns, Multimode 50/125 microns (OM2, OM3, OM4 and OM5) and Multimode 62.5/125 microns fibers in any length required. The assemblies are available with different cable types and colors, including bare ribbon cables, jacketed ribbon cables, ruggedized (trunk) ribbon cables and indoor MTD cables, with 12 or 24 fibers. HCS DataLight Patch Cords and Pigtails comply with both major industry standards, ANSI/TIA-568.3-D (Optical Fiber Cabling Components Standard) and IEC 60874 (Connectors for optical fibers and cables) and they are supported by the DoubleSafe™ QA program as a part of complete HCS cabling system.

Applications

- ☑ Mission critical applications such as Data Centers and Storage Area Networks
- ☑ Applications where fast installation is paramount
- ☑ Environments where moves adds and changes are frequent or managed in-house
- ☑ FiberOptic cross connect, patch panels, and distribution point connection
- ☑ ODF connections
- ☑ Fiber to the desk connection
- ☑ Active FiberOptic equipment connection

Qualifications and Protocol Support

HCS DataLight components are supported by the DoubleSafe™ QA program as a part of complete HCS cabling system and comply to ANSI/TIA-568.3-D (Optical Fiber Cabling Components Standard) and IEC 60874 (Connectors for optical fibers and cables). HCS DataLight MTP® Assemblies are designed to support a variety of high-speed network topologies including:

- ☑ IEEE 802.3 10GBase-SR/SW 10Gbps
- ☑ IEEE 802.3 10GBase-LX4 10Gbps
- ☑ Fiber Channel 400-M5-SN-1 4Gbps
- ☑ Fiber Channel 1200-M5E-SN1 10Gbps
- ☑ Fiber Channel FC-PH 1Gbps
- ☑ IEEE 802.3 1000Base-SX/LX 1Gbps
- ☑ FDDI 100Mbps
- ☑ IEEE 802.3 FOIRL 10Mbps
- ☑ IEEE 802.3 10Base-F 10Mbps
- ☑ ATM 155 Mbps, 622 Mbps, 1.2 Gbps & 2.4 Gbps

Benefits & Features

- ➔ Premium factory-controlled optical performance - enables flexible system configuration and fast installation.
- ➔ Low Smoke Zero Halogen allows for routing cables in any indoor environment.
- ➔ Industry-leading low insertion loss and Ultra low insertion lost.
- ➔ Each and every assembly pre-tested before shipment.
- ➔ Round, flexible outer jacket is easy to bend, route and install.
- ➔ Full compliance to industry standards - providing high quality components.
- ➔ Available with all major fiber types - providing a wide range of products.
- ➔ Robust design - ensuring long life and short replacement rates.
- ➔ Unique DoubleSafe™ Quality Assurance Program - providing lowest rejection rate available.

TECHNICAL SPECIFICATIONS - MTP® CONNECTORS

Connector Housing	PET	
Connector Ferrule	PPS	
Boot	Silicone	
Flame Test	UL-94 V-0	
Max. Insertion Loss	Multimode @850nm Type 1: 0.50dB Type 2: 0.35dB Type 3: 0.25dB	Singlemode @1310nm Type 1: 0.75dB Type 2: 0.50dB Type 3: 0.35dB Type 4: 0.25dB

TECHNICAL SPECIFICATIONS - COMPLETE ASSEMBLIES

SM Return Loss	Min: 55 dB Mean: 60dB
MM Return Loss	Min: 25 dB
SM Connection Durability	Max IL Increase: 0.2dB
MM Connection Durability	Max IL Increase: 0.2 dB
SM Mating Cycles	500
MM Mating Cycles	500
Operating Temp.	-20 to +60C
Installation Temp.	-20 to +60C
Storage Temp.	-40 to +70C

DURABILITY TESTS - MAXIMUM ATTENUATION INCREASE AFTER TEST

Test	Max. Increase	Notes
Temperature Cycling: -40 to +85C	0.1 dB	10 Cycles
High Temp. Endurance: +85C	0.1 dB	96 Hours
Low Temp. Endurance: -40C	0.1 dB	96 Hours
High Humidity Endurance: 95% RH @ +40C	0.1 dB	96 Hours
Vibration Endurance: 10-55 Hz, 1.5 mm	0.1 dB	P to P
Tensile Endurance: 0-10 Kgf @ 1 minute	0.1 dB	-
Connection Durability: 1000 cycles	0.1 dB	-

Technical Specifications - Trunk & Cable Assemblies - Systems 8

Fiber count	Nom. Cable OD mm	Cable construction	Bending radius
8	3.0	Single Jacket - Assembly	15.0
8	4.3	Double Jacket -Trunk	21.0
16	3.0	Single Jacket - Assembly	15.0
16	5.2	Double Jacket -Trunk	26.0
24	4.5	Single Jacket - Assembly	23.0
24	7.0	Double Jacket -Trunk	35.0
32	7.0	Double Jacket -Trunk	35.0
48	8.7	Double Jacket -Trunk	43.0
72	9.4	Double Jacket -Trunk	47.0
96	10.8	Double Jacket -Trunk	54.0
144	10.8	Double Jacket -Trunk	54.0

Technical Specifications - Trunk & Cable Assemblies - Systems 12

Fiber count	Nom. Cable OD mm	Cable construction	Bending radius
12	3.0	Single Jacket - Assembly	15.0
12	4.5	Double Jacket -Trunk	45.0
24	4.5	Single Jacket - Assembly	45.0
24	5.2	Double Jacket -Trunk	26.0
48	7.6	Double Jacket -Trunk	38.0
72	9.4	Double Jacket -Trunk	47.0
96	10.0	Double Jacket -Trunk	50.0
144	11.1	Double Jacket -Trunk	55.0

Temp. range	-20 / +60C
Tensile strength - Assembly	100N
Tensile strength - Trunk	450N
Flame Standards	IEC 60332-1 (flame propagation) IEC 60754 (acid gas) IEC 61034 (smoke density)

HCS P/N SYSTEMS MTP® Trunk & Cable Assemblies

T	FO	X	NN	AB	XX	C	T	P	F	N	Rx
	Fiber Type	Cable Type	Fiber Count	Connectors	Length (dm)	Jacket Color	IL Level	Polarity	Flame Test	Pulling Eye	CPR Rating
	Fiber Options	D= Bare Ribbon LS0H cable F= Single Jacket LS0H cable H= Ruggedized (Trunk) LS0H cable N= Indoor LS0H MTD cable	NN NN NN NN	2=SC 3=SC/APC 4=FC 5=FC/APC 6=MT-RJ - Female 7=MTP 24F - Female 8=LC 9= MPO 24F - Female A=MPO 4F - Female B=MPO 6F - Female C=MPO 8F - Female D=MPO 12F - Female E=MPO 4F - Male F=MPO 6F - Male G=MPO 8F - Male H=MPO 12F - Male J=MT-RJ - Male K=LC Duplex + Comm. Pin L=SC Duplex + Comm. Pin M=LC/APC N=Mini-LC P=MTP 4F - Female Q=MTP 6F - Female R=MTP 8F - Female S=MTP 12F - Female T=MTP 4F - Male U=MTP 6F - Male V=MTP 8F - Male W=MTP 12F - Male	An=10m+ Bn=20m+ Cn=30m+ Dn=40m+ En=50m+ Fn=60m+ Gn=70m+ Hn=80m+ In=90m+ Jn=100m+ Kn=110m+ Ln=120m+ Mn=130m+ Nn=140m+ Pn=150m+ Qn=160m+ Rn=170m+ Sn=180m+ Tn=190m+ Un=200m+ W=250m Y=350m	0= Gray (RAL 7035 or RAL 9002) 1= Blue (RAL 5015) 2= Orange (RAL 2003 or 2000) 3= Green (RAL 6024) 4= Brown (RAL 8011) 8= Yellow (RAL 1021) 9= Violet (RAL 4005) T= Aqua (RAL 5018) G= Lime Green (RAL 6018)	**MM @850nm** 1=0.5dB 2=0.35dB 3=0.25dB **SM @1310nm** 1=0.75dB 2=0.5dB 3=0.35dB 4=0.25dB	A= Polarity A B= Polarity B C= Polarity C	0=IEC60332-1 C=IEC60332-3	1= One side 2= Both side N= None	R: may be B, C, D, E or F x: may be any letter from a to z

ORDERING INFORMATION

HCS P/N	Description	Length mm	Notes
TFO-X12SS-10C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	1	-
TFO-X12SS-20C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	2	-
TFO-X12SS-30C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	3	-
TFO-X12SS-50C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	5	-
TFO-X12SS-A0C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	10	-
TFO-X12SS-A5C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	15	-
TFO-X12SS-C0C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	30	-
TFO-X12SS-E5C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	55	-
TFO-X12SS-H0C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	80	-
TFO-X12SS-I9C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 12F LS0H FO Assembly	99	-
TFO-X24SS-10C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	1	-
TFO-X24SS-20C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	2	-
TFO-X24SS-30C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	3	-
TFO-X24SS-50C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	5	-
TFO-X24SS-A0C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	10	-
TFO-X24SS-A5C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	15	-
TFO-X24SS-C0C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	30	-
TFO-X24SS-E5C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	55	-
TFO-X24SS-H0C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	80	-
TFO-X24SS-I9C-TPFN-Rx	2xMTP-2xMTP (Female-Female) 24F LS0H FO Assembly	99	-
TFO-X2477-10C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	1	-
TFO-X2477-20C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	2	-
TFO-X2477-30C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	3	-
TFO-X2477-50C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	5	-
TFO-X2477-A0C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	10	-
TFO-X2477-A5C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	15	-
TFO-X2477-C0C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	30	-
TFO-X2477-E5C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	55	-
TFO-X2477-H0C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	80	-
TFO-X2477-I9C-TPFN-Rx	1xMTP-1xMTP (Female-Female) 24F LS0H FO Assembly	99	-

“FO” shall be replaced by the relevant Fiber P/N.
“X” shall be replaced by the relevant Cable Type.
“C” shall be replaced by the Jacket Color.
"T" shall be replaced the IL level (1,2,3 or 4)
“P” shall be replaced by the polarity method (A,B or C).
"F" shall be replaced by the fire behavior (0 or C)
"N" shall be replaced by the pulling eye (1,2 or N)
"Rx" shall be replaced by the CPR rating

DataLight Fiber Options

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Fiber P/N	Fiber Type	Multimode Fiber Grade & Standard	Cabled Attenuation (dB/km)				Min. Bandwidth (MHz•km)				Numerical Aperture
			850nm		1300nm		850nm		1300nm		
			Nom	Max	Nom	Max	OFL	EMB	OFL	EMB	
52	50/125µm Graded Index Multimode Optical Fiber	**Standard Grade** OM2 - ISO/IEC 11801 TIA 492AAAB A1a.1 - IEC 60793-2-10 TIA-568.3-D	2.8	3.5	0.8	1.5	500	NS	500	NS	0.200±0.02
54		**10G Grade** OM3 - ISO/IEC 11801 TIA-492AAAC-A A1a.2 - IEC 60793-2-10 TIA-568.3-D	2.8	3.5	0.8	1.5	1500	2000	500	500	0.200±0.02
55		**10G Grade** **Bend Insensitive** OM3 - ISO/IEC 11801 TIA-492AAAC-A A1a.2 - IEC 60793-2-10 TIA-568.3-D	2.8	3.0	0.8	1.5	1500	2000	500	500	0.200±0.02
56		**10G Grade** TIA-492AAAD OM4 - ISO/IEC 11801 A1a.3 - IEC 60793-2-10 TIA-568.3-D	2.3	3.0	0.5	1.5	3500	4700	500	500	0.200±0.015
57		**10G Grade** **Bend Insensitive** TIA-492AAAD OM4 - ISO/IEC 11801 A1a.3 - IEC 60793-2-10 TIA-568.3-D	2.3	3.0	0.5	1.5	3500	4700	500	500	0.200±0.015
58		**10G - WBMMF** TIA-492AAAE OM5 - ISO/IEC 11801 A1a.4b- IEC 60793-2-10 TIA-568.3-D	2.3	3.0 2.3@953nm	0.5	1.5	3500 1850@953nm	4700 2470@953nm	500	500	0.200±0.015
59		**10G – WBMMF** **Bend-Insensitive** TIA-492AAAE OM5 - ISO/IEC 11801 A1a.4b- IEC 60793-2-10 TIA-568.3-D	2.3	3.0 2.3@953nm	0.5	1.5	3500 1850@953nm	4700 2470@953nm	500	500	0.200±0.015
61	62.5/125µm Graded Index Multimode Optical Fiber	**Standard Grade** OM1 - ISO/IEC 11801 TIA-492AAAA TIA-568.3-D	3.0	3.5	0.7	1.5	200	NS	600	NS	0.275±0.015

Fiber P/N	Fiber Type	Singlemode Fiber Grade & Standard	Cabled Attenuation (dB/km)						MFD
			1310nm		1383nm		1550nm		
			Nom	Max	Nom	Max	Nom	Max	
91	9.3/125µm Single Mode Optical Fiber	**Standard Grade** OS1 - ISO/IEC 11801 TIA-568.3-D Inside Plant	0.4	1.0	NS	NS	0.4	1.0	9.3±0.5 µm@1310nm
92		**Premium Grade** OS2 - ISO/IEC 11801 TIA-568.3-D Outside Plant	0.31	0.40	0.30	0.40	0.22	0.4	9.3±0.5 µm@1310nm
93		**ITU-T G.652.C**	0.31	0.35	NS	NS	0.20	0.22	9.2±0.5 µm@1310nm
94		**ITU-T G.652.D** no water peak	0.31	0.35	0.31	0.35	0.20	0.22	9.2±0.5 µm@1310nm
95		**ITU-T G.655** Non-zero dispersion shifted	0.31	0.35	NS	NS	0.20	0.22	9.6±0.5 µm@1550nm
96		**ITU-T G.656** No water peak non-zero dispersion shifted	0.31	0.35	0.35	0.40	0.20	0.22	9.6±0.5 µm@1550nm
A1		ITU-T G.657.A1 Bend-insensitive Category A1 MBR: 10mm	0.31	0.40	0.35	0.40	0.20	0.30	8.6-9.5±0.4 µm@1310nm
A2		ITU-T G.657.A2 Bend-insensitive Category A2 MBR: 7.5mm	0.31	0.40	0.35	0.40	0.20	0.30	8.6-9.5±0.4 µm@1310nm
B2		ITU-T G.657.B2 Bend-insensitive Category B2 MBR: 7.5mm	0.40	0.50	0.4 max. @1625nm		0.20	0.30	6.3-9.5±0.4 µm@1310nm
B3		ITU-T G.657.B3 Bend-insensitive Category B3 MBR:5mm	0.40	0.50	0.4 max. @1625nm		0.20	0.30	6.3-9.5±0.4 µm@1310nm